

Orchids of Mars: Book One  
and  
Reading the Reader: Virtual Reality as Science Fiction Trope

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## Abstract

This paper investigates narrative from two standpoints: a creative one, comprising ten chapters of a science fiction novel, and a critical one, examining virtual reality as trope within three science fiction narratives. Creative and critical portions directly inform one another with regards to scrutiny and interrogation of the reader's ability and desire to construct meaning from text.

The creative portion opens a trilogy titled *Orchids of Mars* and follows three young characters as they attend school for the first time. The story depends upon several aspects of the virtual, including multiple, potential realities perceived and created by differing perspectives, as well as the illusory nature of the wards' childhood. As the story proceeds, their various allergic reactions are imparted to the reader via increasingly erratic typographical transformations. This is a deliberate attempt to deny the reader an 'easy' reading experience; by adjoining textual aberrations to narrative allergic reactions, the reader's uneasy reactions will closely mirror the characters' fictional experiences.

*Reading the Reader* is broad in scope, examining three aspects of the virtual as identified by Marie-Laure Ryan. Each aspect is studied over the course of one chapter, describing distinct formulations of the virtual reality trope made possible when accounting for Ryan's differing aspects; examination of the effects generated when the trope is deployed within narrative; and theorising of reader reaction to resulting departures from traditional narrative tendencies. These critical analyses are executed using close readings of novels by Tad Williams, Suzanne Collins, and Jeff Noon, as well as the critical theories belonging to the field of narratology.



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# Orchids of Mars: Book One

## Prologue

Picture a circle of land. At the centre of this plot lies a house – compact, single-story, white walls and ashen roof tiles – enveloped by a swathe of garden. This patchwork of herbs and vegetables extend for twenty feet on every side, at which point the land rises up and away, into hills that cradle and surround the house. The slopes are covered in wild lavender. The fragrant, permeating aroma of this flower infuses the entire region.

At the crest of the hills, ringing the house, is a forest. Thick in some places, thin in others, the trees act as a windbreak between the bowled centre and fields on the perimeter. Four fenced stretches of flat ground lie to the north, south, east, and west, each touching its neighbour with a hedgerow. Crops are grown and rotated here. Corn, oats, alfalfa, cows: as regular as the sun just now emerging over the horizon.

Hear the drum of hooves as cattle are herded up the lane between forest and fields. Hear the fieldhands shouting directions to one another. Hear...

...the high, clear call of a child.

It emerges from the forest, breaking free of the canopy to be driven briefly by the wind. A few fieldhands look over, as do some of the cows, but they are too far away from its point of origin to see anything. They are headed to the western field, the fallow field, while the child is fully east. Had the cry sounded panicked or pained someone might have broken away to check, but, as the sound comes again, the men and women hear only excitement.

‘Two! Come look!’

Within the forest, that interstitial zone between domestic and industrial pursuits, the only paths are those worn by children. Were someone to peek over the eastern strip of trees,

one such child would be visible, hands on knees, leaning over something he has found in a clearing.

‘Two! Hurry up!’

A second child scrambles into view, pulling himself free of a blackberry bush clutching at his ankles.

Unless that someone – the peeper, the spy – were to get much, much closer, he or she would have difficulty telling these children apart. They are both boys, both in their mid-teens, both bald. Their clothing is identical: grey jumpsuits that, despite their dark skin, turn them into pale ghosts gliding through the forest undergrowth. They move differently, but their footing and mannerisms are certain.

The forest is their place, after all.

‘What’s so interesting?’ the second boy grumbles. The brambles have ripped his jumpsuit in several places, meaning he’ll be in trouble later.

‘Look, I found some bugs.’

The second boy hops up beside the first, adopting the same bent posture, hands on knees.

‘They’re ants,’ he says.

‘But look what they’re doing,’ says the first.

Almost in unison, they drop to their knees.

The ants pour across the dirt, the combined weight of their tiny bodies carving a shallow channel in the soil. Their path is winding but efficient, passing through a gap beneath a fallen, rotting tree trunk, weaving around a clump of gorse. The first boy stands and follows the ants back to their source while the second bends even nearer to the earth.

‘They’re eating something,’ he reports.

‘They’re coming out of a hole in the ground!’ calls the other.

‘Who cares where they come from, they’re *eating* something!’

The first boy reappears, but he doesn’t re-enter the clearing.

‘I have an idea.’

The second boy says, without looking away from the grisly scene unfolding below him, ‘What?’

‘Stay there, I’ll be back.’

*This* makes the boy straighten up. ‘You’re the one who wanted to come out here and now you’re just leaving?’

‘Stay there!’

The boy thinks about this, looks at the ants, then shouts, ‘Leave Three alone! OK?’

His only reply is distant laughter, fading into the direction of the house. Not exactly comforted by this, the boy stares at the edge of the clearing for a time before his attention is pulled back to the insects.

The ants seethe across the carcass of a dead... something. Two thinks it is a cockroach, though he’s never seen one in real life before. It is much larger than the ants, brown, with many thin legs pulled in tight against its thorax. As he watches, one of these legs appears to float away, carried down the black river that wends its way back into the forest. Only then does he spot it: one ant among many, targeting the soft places between limbs and body. It moves to the next leg, begins chewing at the join.

‘They *are* eating it,’ he says to no one.

He bends closer, trying to see if they’ve hollowed out the creature. Insects, he knows, have exoskeletons: all the best parts will be inside. Unconsciously he pinches his own arm, feeling the meat of himself as he wonders if cockroaches have meat, too.

As his head nears the ground, two things happen. First, his breath disturbs the ants and they boil into a frenzy of activity: some anchoring themselves, others rushing back to the

corpse, still more halting at a distance and waving their antennae, as if rebuking him.

Second, a thin sheen of static passes *through* his brain, as if by lowering his head he also lowered himself through a cobweb.

Startled, he jerks away. The gauzy sensation clears. He looks around. The other boy hasn't returned yet.

He lowers himself again, more slowly this time, until he is bent almost double over his own knees. The wisping caress returns, enfolding his brain like cloth around a ball bearing.

So. Not real ants then.

The cockroach, however, *is* real, and he watches it being disassembled one piece at a time. Five more legs are detached and transported away, as are both antennae. The head is sawed off. Eventually tiny globules of meat appear, white dots held aloft and floating down the black river, serene lumps atop the mad scramble of limbs and bodies that make their movement possible.

He hears Four returning long before he sees him. While Two has grown length-ways, sprouting upwards like a vine who has found the sun, the other boy is beginning to bulk outwards. Over the past few months their scuffles have become more and more one-sided, as one body retained muscle while the other stayed lean. Puberty has made them both clumsy, unwieldy in the changing suit of themselves, but only one of them is clumsy *and* heavy.

Four calls out, 'Are they still there?'

'They're almost done.'

Something is wrong with the way his friend is moving. His progress is marked by the thunderous cracking of twigs, the swish and whirl of leaves and branches, but that progress is *slow*. Four is never slow. He bounds and barrels and bolts.

When Two sits up and twists around, he sees the other boy entering the clearing with a short, metallic cylinder held in both hands. His face is bobbing up and down, checking the ground in front of his feet, then the object in his hands, then the ground once again.

Two recognises the device from the medbay that morning. It is the technician's thermos, the one that had been off to one side of the cabinet into which the man had inserted his upper body. When asked, Dr. Yamata said he was servicing the infrastructure.

'You took his drink?' Two asks. 'Why?'

'It isn't a drink,' says Four.

He reaches the place where the ants are busy with the last of the cockroach, squats, and places the canister on the ground.

'Well, what is it?'

Grinning, Four begins to twist off the screwcap.

'It's the coolant for the computers.'

'Coolant? Why?'

The cap comes away. Despite himself, Two leans over and peers inside.

'It looks like water.'

'It isn't. See the steam?'

Four tips the canister and a sheet of fog cascades over the edge. It reaches the dirt and puffs into nothingness.

'That's the liquid nitrogen boiling away in the *air*,' he says. 'It's so cold, it burns. The guy was putting it into the computers.'

'Aleph's gonna be pissed.'

The other boy shrugs and grins. 'Yeah, and what else is new? It'll be worth it, though. Move back a little.'

Two shuffles backwards in the dirt, watching as Four lifts the canister. The sun glistens and slides along the polished exterior. A dense mist pours over the edge, silky and silent, obscuring the liquid that follows. Two can hear it spattering onto the dirt, onto the ants and what is left of the cockroach. He can hear a hissing noise, but everything is hidden behind vapour.

When it clears, bleeding away into the forest air, both boys lean in for a closer inspection. At first, it is as though nothing happened. There are no singe marks on the ground, nor any hoarfrost. The ants haven't turned into little balls of flame. Two doesn't know what he expected, but it wasn't this total lack of anything.

The longer he looks, the more he sees how much *has* changed. Before, the ants were a roiling carpet of exploration, probing and dismembering the cockroach from every available angle, teeming back and forth along their self-created avenue in the dirt. Now everything is still. One corpse has been joined by dozens more, each ant curled around itself, individualised by stillness.

Lowering himself until his nose is a mere inch from the scene, Two waits for that wispy fuzz to wrap around his brain. It does not.

'They're dead,' he says, sitting up.

'No shit.'

Two watches as ants further down the clearing – those who'd been far enough away to escape the sudden clutch of liquid nitrogen – push forward. The corpses of their fallen comrades slow them only a little.

'They're not real,' he says.

He reaches forward and pinches up one of the tiny back bodies.

'Look, they were fake all along.'

Before he can show Four what he's found, both boys catch the sound of someone moving through the forest behind them. They look at each other, one frowning, the other smiling.

'There you are.'

Aleph emerges into the sunlit clearing, expression dark enough to make Two edge away from the abandoned thermos, just a little.

'We've talked to you about stealing,' says the adult. 'Not everything in that house belongs to you, *especially* not things from the medbay.'

The boys rise, Two careful not to drop the ant. The carer strides forward and retrieves the canister, taking a second to peer inside.

'What have you done with it?' he asks. 'Have you hurt yourselves?'

Four rolls his eyes. 'We didn't pour it on *each other*.'

'What did you do with it?'

Four waves at the ground, inviting him to look. He does so, stepping between them and leaning over. The carer – larger, broader, and older than either of the boys – wears a jumpsuit much like theirs, except that it is blue rather than grey.

'You froze some ants,' the adult says at last, tone flat and inflectionless.

As he looks, he begins doing something very strange with his hands: loosening the thermos screwcap, tightening it, loosening it again. Over and over.

'Why were they eating the cockroach?' Two asks.

Aleph glances over, hands still working at the thermos as he says:

'They aerate the soil and clear... foreign matter. They're not eating the cockroach, just taking it away.'

'Oh.'

Two clenches his fist a little, just enough to shift the little ant body in his palm.

Good. He hasn't dropped it.

'They were setting off my allergy,' he says. 'Before we froze them.'

Aleph straightens up, hands tightening the screwcap again.

'Well, they would,' he says. 'Real ants use pheromones to communicate. These ones are networked.'

He pops the canister under his arm.

'You,' says the carer, pointing at Four, 'aren't allowed to use the wallscreen for a week – that's how long it will take the technician to order more coolant.'

Four shrugs.

'And you' –the finger swings around– 'are on radish duty for the next five days.'

'What? I didn't do anything!'

'Exactly. You sat there and let Four do something extremely stupid. Not just theft and wasting supplies. Do you realise how badly you might have been hurt?'

'Hey, I was careful.'

'I didn't know he was going to steal it. He just ran off.'

'Enough. I want both of you back at the house, now.'

Four folds his arms. 'Nuh uh. It's free time – Bet said so.'

Aleph shakes his head.

'Change of plan. Come on. Back to the house, or I'll make it two weeks' no wallscreen instead of one.'

Aleph herds them through the forest, his adult frame forcing them down routes the boys wouldn't have chosen for themselves. Two drifts to the back of the procession and then, when their carer is distracted trying to avoid a spiky bit of tree, lifts his hand.

The broken ant is a withered black dot in the centre of his palm. It is difficult to see under the forest canopy, but the damage goes beyond curled, retracted limbs and permanent stillness. Its exoskeleton, once sleek and smooth, has buckled in random places, the extreme cold of liquid nitrogen forcing the metal to contract inward upon whatever tiny vacuum existed inside the creature.

Two drops it. Others will find the debris, eventually, and clear it away.

‘Why do we have to go back?’ Four is asking. He is pushing, trying to get a rise out of Aleph, but the carer is gazing at the strong sunlight ahead. The edge of the forest.

‘We’re having a meeting, that’s why.’

‘Who’s we?’

‘All of us. Everyone. You, me, Bet, Three. The doctors.’

‘What? Why do the doctors need to be there?’

‘Because,’ says the carer, ‘in a few weeks’ time, we’re sending you to school. In the city.’

# Chapter One

## TWO

Aleph said an uber would arrive for them in the morning and it did, waiting on the edge of the gardens, the lowest point of the black sphere hovering an inch above the half-grown cabbages. It looked like a piece of reality gone missing, as though the hills and forest beyond were only a picture and someone had cut a hole in the canvas. Then the carer went and stood next to it. He did something and a piece of the black shell slid away, revealing a set of grey seats facing each other across a narrow aisle.

Approaching the vehicle was the hardest thing Two had done in a long time. It set fingernails scrabbling against the inside of his skull. As he ducked in and slid into a seat, the nails turned to needles, as though he'd just forced himself into the centre of a large pincushion.

'How long?' he asked, trying to keep his words from turning into a gasp.

'Thirty minutes,' said Aleph. He'd chosen the seat opposite Two and Four, and was helping Three fasten the buckle on her harness. 'Give or take a little, depending on traffic.'

Two set his teeth and closed his eyes. He could feel when the uber stopped idling and started working for real: the allergic reaction that gouged deep holes in his brain began churning and chopping. He whimpered.

'Two?' asked the carer.

'What?' he whispered.

'How are you doing?'

'It hurts.'

His eyes were stinging. He chewed the side of his lip, willing himself not to cry.

'It shouldn't get any worse,' Aleph said. 'The uber is networked. Guidance systems, traffic apps. Once it's all up and running, there isn't a lot to them.'

A dense texture crashed over him, joining with the needling sensation of the uber. Two felt himself cry out but his mind was far too occupied by the new dimensions of his allergy to do much more.

Not pain, exactly. The uber continued to scratch and dig at him, but that was close up, mere feet away from his head. Behind that... lurked something larger. More powerful signals reached toward him, pushing through the sharp touch of the uber, skittering across the surface of his mind. The barrage was above him, then around, on every side.

He'd been hoisted into the middle of it.

'It's the city,' Aleph was saying, responding to something Four had asked. 'I think he can feel the city.'

'Are we there already?' Three asked.

'Our home is directly under the city – underground. All the uber had to do was fly up a ways.'

'The city is,' Two said, drawing an unsteady breath, 'in the sky?'

'Above the sky,' Aleph corrected. 'You know about the holographic panels. Now you're going to see what's on the other side.'

The texture didn't grow closer or more intense, although Two thought he could feel more variation the longer he concentrated. Beyond the walls of the uber, something large and multi-faceted shifted against itself, generating a single, all-pervasive sensation pressing in upon him.

The whole compartment shuddered, the seats, floor, and spherical walls gimbaling back and forth. A small lurch in Two's stomach accompanied the movement.

'Is it stopping?' Three asked.

Aleph unbuckled his harness. He leant forward into the centre of the uber, looking from one ward to the next, then repeating the circle as he began speaking.

‘We’ve arrived,’ he said. ‘Now. I’m going to open the door and we’ll go out but it’s very important you don’t panic. There will be a lot of people. A lot of noise. A lot of... everything. It’s fine to be nervous, to be disoriented. But whatever you do, stay with me.’

This, of course, set off a fluttering motion in Two’s stomach. He swallowed. Aleph hadn’t moved yet. He continued looking around the circle of faces, only two of which looked back. Three was struggling with the buckle on her harness. Aleph leant over and extracted her from the safety equipment, checked that the boys were also free, then crouched in the aisle between seats and palmed the door open.

Noise flooded the small interior. Four lunged out of his seat as soon as Aleph had dismounted and moved aside, but Two found himself frozen by warring reactions: move forward, away from his allergic reaction to the uber? Or hide from that terrible noise?

Three hadn’t moved toward the opening either. Her hands clutched and kneaded the cushioning beside her knees, anchoring herself to the uber.

‘Is it the noise?’ he asked.

‘What?’

Her head swivelled away from the door, eyes shooting past his own by several degrees. They danced around a point just over his right shoulder.

Two tried again. ‘Is the noise throwing you off?’

She pressed her lips together. ‘A lot of it is echoes,’ she said. ‘Can you hear it?’

‘Not really.’

‘I won’t be able to navigate.’

‘It’s OK,’ he said. ‘We can guide you.’

When he clambered out, Two could only stand with his back to the uber, slack-jawed. The world was... shiny and fast. Everywhere he looked, something glimmered or moved.

Often, objects did both. He found himself losing track of one thing to stare at the next, and the next, attention pulled away before getting more than a cursory look.

They were in a large room with vaulted ceilings and tall windows. More people than he'd seen in his entire life flowed across the shining floor, clumped into small groups, came into view around nearby columns, disappeared into the most crowded sections of the room.

Most bewilderingly, no person wore the same thing as anyone else. It looked as though everyone had risen that morning with the express purpose of wearing a different colour to anyone else. Blues and greens, purples and yellows, all smeared across the silvered floors of the room. By comparison, Aleph's blue jumpsuit was a sad attempt. Two couldn't even look at the grey version worn by himself and the other wards.

'Is... this the school?' Four asked.

'No,' said Aleph. He wasn't looking at the room. Instead, he was watching them intently. 'This is an uber station. People come here and call for ubers, which take them elsewhere in the dome.'

'Is it all like this?' Three asked. She sounded faint.

'Like what?' Aleph asked.

'So... loud? Busy?'

'Not all.' Then, 'A lot of the city is, though.'

Two's eyes swept the space again. Flat, colourful images danced on the floor beneath people's feet. Decorative shapes were carved into the walls and etched across glass. Some of the people in the crowd glowed faintly, a fact which made him furrow his brow until he saw someone walk *through* one of these figures.

'Shall we?' Aleph asked. 'I imagine it will be a little less crowded outside.'

He proffered his elbow and, after a little nudge, Three placed her palm upon it.

‘Stay close,’ he told the boys. ‘And tell me if you get dizzy. We can stop if you need.’

The noise folded around them as they slid into the crowds. A thousand tiny pinpricks lit up the surface of Two’s brain, as if he were a magnet attracting all the iron filings in a dish. He kept his eyes trained on Aleph’s back, the cloth blocking most of the visual insanity around him.

Until they exited the building.

The sky above the uber station... wasn’t a sky. No sun, no clouds, no vast stretches of blue. Instead, the horizon was filled with metal shapes, winking lights, and burred objects zooming in many directions. He blinked, but the hallucination didn’t change. A number of gargantuan grey shapes floated here and there, their sides marked by holographic images, or windows, or tiny pathways upon which he thought he could see moving figures. Pedestrians. Like him.

He started to release the air in his lungs – maybe to scream, maybe just gasp – but Aleph turned and began speaking.

‘Don’t panic. Remember, I told you not to panic.’

‘Who’s panicking?’ Four asked. His voice was faint, his face tipped upwards.

‘What is it?’ Three asked. ‘What’s wrong?’

‘There’s no sky,’ Two said. ‘It’s just...’

‘There *is* a sky,’ Aleph said, ‘but it’s very far away. We’re in the centre of Crus Cerberus. Remember? We told you about the dome.’

Looking at a slash of neon suspended between two of the nearest, floating objects, Two tried to remember what he’d been told. ‘How far beneath the dome are we? How... much city is above us?’

‘We’re near the centre – roughly equidistant from the surface of Mars and the highest point of the dome.’

‘How far?’ Two repeated.

It was difficult to tear his eyes away from the sight of people crossing some kind of walkway slung between their building and the next one over, but Two managed it.

‘How far?’

Aleph looked like he didn’t want to tell them.

‘About ten miles.’

He felt his eyes bulge from their sockets. Ten miles between him and the ground, and another ten miles of architecture waiting to fall on top of him. He wanted to flee outward, toward some kind of open ground, but it was impossible; any direction he might choose contained more city.

‘That explains the wind,’ said Three.

For the first time, Two found himself envying her blindness. Because she couldn’t see the structures of metal and glass, they might as well not exist.

‘What about the wind?’ Aleph asked.

‘It’s carrying sound a lot further than it does at home,’ she replied. ‘From below as well as above.’

‘Four, come back!’ the carer shouted.

The boy had drifted away from the main group. Crowds were drifting between Aleph and his ward. Whole seconds passed in which the bald head and grey jumpsuit disappeared behind strangers.

He was heading toward the walkway Two had just seen a group of people using. ‘I want to see!’ he shouted over his shoulder. ‘Not listen to some blather about the wind!’

His words, which would have been loud in the hills or fields at home, barely rose above the conversations going on around them. Aleph looked at his remaining charges.

‘Do you want to see?’ he asked.

Two shook his head. Then, after a moment’s thought: ‘Can you see all ten miles down?’

‘No. There are no ten mile drops in the city. Probably he’ll only see to the next level – a gardening display, or housing complex, or something.’

The word “drop” sent a flutter through Two’s stomach. He shook his head.

‘Stay here.’

Aleph sidled off to retrieve the other boy and Two examined the crowds through which he moved. Most were adults, but a good number could have been his own age, or a little older. It was difficult to tell because–

‘They have hair,’ he told Three.

‘What?’

‘Everyone has hair.’

Now that he’d spotted the difference, he couldn’t understand how it had eluded him for so long. Hair was everywhere: brightly coloured, oddly-shaped, threaded with glowing trinkets. Some of it looked shorn close to the scalp, but he, Three and Four were the only ones with actual, bald heads. The fluttering in his stomach increased.

Aleph returned with Four in tow and, as a group, they left the uber station. Two looked back for as long as it was in view, trying to memorise the shape of its glass doors, the high-peaked, metallic roof. Then they drew back far enough that the cityscape appeared overhead, and he stopped looking.

Another building loomed ahead of them, which their carer pointed out as the school. It looked like a pill capsule half-buried in the earth: a complete contrast to the station they’d

just departed. It had none of the usual features that would distinguish it as a building; no windows, no door. The smooth, unblemished wall that made up the majority of the shape curved around and upwards into a spherical top, so it didn't even have a proper roof. The only remarkable thing about it was a spill of green-coloured glass at the rear, which made it look as though the pill's insides were leaking.

'It's ugly,' Two reported.

His fists clasped around a pair of black iron bars, face pressing into the gap. Beside him, Three was running a hand up and down another of these bars, inspecting the only portion of the fence readily available to her. 'Ugly how?' she asked.

'Ugly like... a brainfreeze,' he said. 'It's like staring into a brainfreeze and waiting for the cold to go away, only it never does.'

On his other side, Four laughed. 'Who cares about the school,' he said. 'Look at all those people!'

With great effort, Two shifted his attention away from the squat shape looming over them and instead cast an eye over the multitude of smaller, brighter shapes teeming across the grass. In truth, he'd been avoiding looking at them too closely.

'It hurts my eyes,' Four admitted.

'What does?' asked Three.

Softly, Four emitted high-pitched mumble, mimicking the cadence of her question.

Two kicked him in the shin.

'Ow!'

'All the people in there,' Two said, 'are wearing too many colours. Six or seven each, I reckon. Makes my eyes go funny trying to look at them.'

Four's grin disappeared. He turned his head back toward the school. 'And they have hair.'

So he'd noticed, too. He raised a hand to his own head, palm drifting over the curve of his skull.

'How are they supposed to pay attention with all that stuff on their heads?' Four asked. 'Wouldn't it be itchy?'

Scar tissue twisted over the back and right side of his scalp, interfering with the lights reflecting from the city above. Hair had always been something *other* people had, like the doctors and the fieldhands. Now, though...

'What colour hair would you have?' he asked.

Four rolled his eyes. Not even breaking his gaze away from the crowd, he tapped one of his own black eyebrows. Two blushed and looked away.

The other boy reached out and planted a palm on the back of Two's head. 'Reckon yours'd be brown,' he said, 'considering you've got shit for brains.'

With that, he clonked Two's head into the bars.

'Four! Stop that.'

Two broke off his half-outraged retort, turning away from the school and its tall metal fence. Aleph was making his way toward them, one hand closed in a fist. As he neared, he held it out and spread his fingers.

'Here are your student IDs,' he said.

A trio of metal buttons sat on his palm, gleaming. Two reached out to take one of them, then withdrew his hand.

'They're electronic,' he said.

His allergy had spiked sharply when he reached toward the buttons. The sensation receded when he took a step away from the carer.

Aleph was watching him. He didn't pull his hand back, only continued to proffer the objects.

‘I’m sorry,’ he said. ‘You’ve got to.’

Two shook his head. ‘It hurts.’

‘It’s this or no school,’ the carer said.

‘Easy,’ said Four. ‘Take me back home then.’

But he was laughing and taking one of the metal buttons before Aleph could scowl. Four turned it over and over in his hand, his handling of the thing easy. It flashed between his fingers, smooth to all outer appearances, yet sharp as needles against Two’s brain.

‘What do I do with it?’ Four asked.

Aleph tapped the collar of his jumpsuit.

‘Press it here,’ he said. ‘Or anywhere,’ he amended, shifting his eyes to look at Two.

‘It will adhere to the cloth.’

Two shook his head again. ‘I can’t.’

‘You have to.’

He held the man’s gaze. Aleph was unyielding, his hand steady as he held out the remaining buttons.

Three appeared in the corner of his vision, taking small steps toward the carer. Her own hand was extended and, for a moment, it looked as though she was reaching out to take Aleph’s. But, no: she was sweeping the air for unseen obstacles. The carer reached out and clasped Three’s wrist, then guided her fingers toward a button. She lifted it free.

Leaving only one remaining on Aleph’s palm, which swung in his direction.

The prick-prick-pricking increased several notches. Two winced and stepped away. ‘It feels like my whole head has fallen asleep,’ he said. ‘I can’t wear that thing. Make one of the others wear mine.’

Aleph shook his head. ‘It’s cleverer than that. On the first day, each ID is locked to a single heartbeat, and each heartbeat is unique. These IDs are networked with the school, so

the server knows if a student tries to wear someone else's, or is assigned two. You'll both be marked truant if you try that.'

'They're *networked*?' Two gaped. 'And you want me to wear it?'

The carer didn't look angry. He wasn't even raising his voice to state these unpleasant things, just looking at him and holding out the button. Waiting. As if Two didn't have a *choice*.

'I don't want you to wear it, Two. I don't want to make you do anything that will cause you pain. But the school won't let you inside its perimeter if it can't identify who you are.'

Four stepped toward him, possibly to offer comfort, possibly to tell him to get on with it. A violent itching shivered its way through Two's head. He automatically stepped away from the larger boy, but this took him toward Three, who had already attached her ID. His scalp throbbed, and an element of heat crept into the needling sensation.

Two yelped and stumbled backwards, away from all parties. His back collided with the fence.

Aleph was shaking his head again, hand still extended with its hateful metal dot. 'I'm sorry,' he said.

Two clenched his teeth, allowing air to seethe between them and into his cheeks. 'I hate this,' he said. 'You never said I'd have to wear something electronic.'

'We weren't sure it would be necessary – Bet thought it might be possible to talk the school out of it, in this special instance. But the building is hardwired for identification. No way around it.'

'I *hate* this,' Two spat.

Aleph looked down, but he didn't lower the hand.

With something like a howl, Two pushed himself away from the fence and snatched the metal disk. It didn't burn his skin or cause anything visibly dramatic, but the contact set off tiny flares behind his eyes. He glared and hissed, clenching it between his fingers as if he could strangle it to death. Finally, assured that the popping sensation in his skull was growing no worse, he slapped it against his upper thigh.

'I'm not wearing it on my collar,' he said.

Aleph nodded. The man didn't look relieved, exactly, but some tenseness had gone out of his frame. 'If the school doesn't recognise you,' he said, 'try moving it to the back of your thigh. There's a major artery near there, which should be enough to get a lock.'

Two scowled and looked away from the man. Already he wanted to detach the metal button and throw it as far away from himself as possible; it was making his head feel as though bubbles – *sharp* bubbles – were bursting against the inside of his skull. He reached up and rubbed at his temples, but allergies weren't a physical itch that could be soothed so easily.

Four was watching him. Two fought back the meanest thing that sprang to mind, and when the larger, darker boy spoke, it was to ask a question.

'How do we know if the school recognises us?'

Gaze never leaving Two's face, Aleph waved off to the right, at a point behind the wards. Two and Four turned. Three did not.

The black fence, which was about twice the height of an adult, circled the school completely. There was only one entrance, although it took a moment to recognise it as such. Like the school itself, it looking nothing like any kind of doorway he'd seen before. Rather than a flat surface that opened and closed on a hinge, this device was made of three intersecting planes. It spun around a central point, allowing users into the school one at a time and confining them in a small triangular space while they pushed through.

Two watched several young people approach; they slowed, drifted into a line and, one after another, pushed their way into the school grounds. The entrance spun and spun, disgorging students on the lawn before circling back around for another passenger.

‘The gate will lock if you’re not wearing your ID,’ Aleph explained.

Two cast his gaze further left, once again examining the ugly building that awaited them. The mass of students on the grass had grown somewhat, colours seeming to ripple and pulse in time with the pain in his head. ‘How do we know where to go?’ he heard Three ask. ‘Once we’re inside?’

‘You’re all in classroom 7C,’ said the carer. ‘In the city, the first part of a room number is usually the floor – so find a way up to the seventh floor. There will be a leva somewhere. After that it should be easy to find the room marked “C”.’

Two tried to unfurrow his brow, failed. ‘And we just... sit there? In room 7C? All day?’

Aleph laughed. ‘There’s a little more to it than that, but... yes.’

Four emitted a sound that was half-sigh, half-groan. ‘That sounds really, really boring.’

A moment of silence. ‘You’d better get going. Not long until class starts – you should give yourselves time to find the room.’

Despite himself, Two whipped his head back around. ‘You’re not coming?’

The carer shook his head.

‘No ID,’ he said.

‘But...’ Two felt as though he were slipping, even though the ground beneath his feet was quite steady. ‘What if something happens?’

‘What if we have an allergy attack?’ Four asked.

He sounded interested rather than alarmed, and Aleph’s expression hardened.

‘Let’s try not to do that, shall we?’

Four smirked.

Two’s insides were turning to ice.

‘But,’ he said, ‘I can’t control it. What if there are too many electronics? What if I–’

In a single, graceful movement, Aleph knelt down in front of him. The gesture was unnecessary now – over the past few months, Two had grown almost to the man’s shoulder – but the urge to comfort wasn’t yet uncoupled from the physical act of lowering his line of sight. Two found himself looking down into the man’s face. He could see his own bald head reflected in the man’s irises.

‘The important thing is not to panic,’ the carer said again. ‘The first few hours might hurt. They might hurt a lot,’ he admitted. ‘But the doctors would never have approved this if they thought you couldn’t handle it.’

‘How do they know?’ Two asked. It came out as a whisper.

‘They know,’ Aleph said. ‘They’ve been tracking this thing for years and years. If they weren’t *very* certain of your ability to adjust, they wouldn’t have approved the decision.’

Two found himself nodding along with the adult.

‘You can do it,’ said Aleph.

He waited a moment, then lifted an eyebrow.

‘I can do it,’ Two said.

Aleph nodded once more, then levered himself back into a standing position. ‘If it gets to be too much, go to the school’s medical station.’ He looked from side to side, taking in Three and Four with his gaze. ‘You’ll all be fine,’ he said.

Three was nodding to herself, already reaching out to find someone’s elbow. Four was performing the slowest eye roll he could manage; it looked like he’d been doing this all throughout Aleph’s pep talk. Two didn’t have the heart to poke him in the ribs.

‘Go on,’ Aleph said. He lifted his hands, gently shooing them toward the gate. ‘I’ll meet you here after school. You’ll be fine.’

It felt needlessly cruel. Two wanted to step away from the ugly building, not toward it. He wanted to rip the metal button off his jumpsuit and flee back the way they’d come. What was the point of this? Hadn’t they been just fine at home?

Instead of doing or saying any of these things, he reached out and took Three’s hand. He let it snake down to his elbow, made sure she was ready, and starting walking. He didn’t look back.

It was a very long walk to the gate, made longer by the fact that none of the strangers seemed interested in making way for the wards. Two found himself performing awkward half-steps to avoid knocking into adults who barely glanced up from their own hands. He gritted his teeth and pushed forward, trying to replicate the movements Aleph had used to forge a path through the crowds. It didn’t work, or not quite; the carer was a lot taller and broader.

As if moving wasn’t hard enough, Two struggled to think around the needling fog lodged in his brain. Again and again he winced and shook his head, trying to clear a sensation he knew couldn’t be cleared. He was having an allergic reaction, and it was worse than he’d hoped it would be. At home, the carers had told him the city contained many more electronics than their tiny house.

‘People wear them,’ Bet had said.

‘What do you mean? How do you wear an electronic?’

‘You’ve seen what they look like in the medbay? Well, that’s only one form an electronic device can take. They can be woven into clothes, turned into jewellery, inserted under the skin. In the city, people do all these things. And more.’

Three stumbled and nearly fell. Two stopped and waited beside her, realising too late that he'd been speeding up as he approached the school's front gate.

'Sorry,' he said.

She shook her head. At first it looked like a negation, a way of telling him he didn't need to apologise. When she kept doing it, however, Two realised she was having some kind of reaction to the crowd.

'Hey, what's wrong?' he asked, stepping even closer. This near, he could smell the faintest hint of lavender clinging to her skin.

'It's so...' she started to say, then choked. For a brief moment her eyes rolled wildly onto the city above them. Then they steadied, fastening on something in the middle distance.

'It's so loud,' she whispered. 'So loud and... big.'

He leant back, eyes watering as a particularly intense wave of prickles swept through him. 'It's louder than at home,' he agreed.

'Not *just* loud,' she said, grimacing. 'The bigness is in the loud.' She broke off to shake her head again. 'I'm not making sense.'

Two gripped her by the shoulders. 'Is this a blindness thing?'

She bit her lip. 'I think so. Try it.'

He closed his eyes. The swing of limbs and flashing colours disappeared, replaced by the black of his own eyelids. He waited, but before his brain could push through to his other senses – hearing, smell, touch – something collided with his shoulder.

'You heard the task master,' Four said into his ear. 'Get to school, find the classroom.'

Two's eyes snapped open. 'I heard.'

'Come on then. Stop messing around with Blindy and get through that gate.'

He sidled off toward the school with a smirk and a wink.

‘We should do what he says,’ Three whispered. ‘Maybe it won’t be as loud inside.’

Two replaced the girl’s hand on his elbow and used his free arm to wave them through the other pedestrians, saying, ‘He doesn’t have to be such an arse about it. He didn’t even want to go to school in the first place – now he’s telling us to hurry up?’

‘He’s nervous, too.’

Space opened up around the gate, giving Two an opportunity to describe the apparatus and what movements Three would have to make to pass through. He watched her go. Four was already inside, a grey smudge winding through the other students. He didn’t *look* nervous. If anything, he looked eager.

‘Bet you he tries to find a rock,’ Two said, coming up alongside Three.

‘He wouldn’t. Not on the first day.’

‘You can’t see what I’m seeing,’ he said.

Four’s height and bare scalp made him easy to spot in the crowd. Although Two couldn’t make out his scar tissue from this angle, the light jumped across the back of the boy’s head, winking every now and then. He wasn’t scanning the crowd; Two knew him well enough to know that.

‘He’s searching the ground already.’

Three sighed. ‘Let’s catch up.’

It wasn’t any less crowded inside the school’s fence, but Two found it easier to move around. The students didn’t seem in any kind of hurry. They drifted back and forth like grazing cattle: idling in groups of three or four, breaking away to join a different cluster, standing off to one side, alone, before returning to the fold.

Cows weren’t quite so hard on the senses, though. He felt like he’d been tossed into the centre of a kaleidoscope, colours shifting and fighting with his allergies. Clothing choices jangled, demanding he look in this direction or that. The shifts in texture and pattern were



verge of fainting: so white he could almost see *through* her, except for two angry blotches high on her cheekbones. Sweat glistened on her brow, reflecting light from the neon tubes looping high overhead.

Two opened his mouth, probably to repeat his question. A series of shouts, from back in the crowd, interrupted him. Four turned toward the disturbance.

A girl, shorter than average and with dark hair, pelted free of the other students. She looked like anyone else on the lawn: neon clothing, black accessories curling up one bare arm. He barely spotted her before she was slipping through a pair of large double doors.

Four blinked. The entrance hadn't been there a moment before.

'I guess we use-' he tried to say, but the noise hadn't died down after the girl's disappearance. More shapes – boys – leapt free of the crowd.

They were the source of the shouting. They ran without the same concentration as the girl had done, veering and waving their arms, putting as much effort into drawing attention as they were into actually giving chase.

'Got us a cuckoo!'

'Cuck, cuck, lucky-lucky-cuck-cuck!'

'Cuckoo! Cuckoo!'

Some of the crowd joined in, but only during the brief moments in which the trio were passing. The majority watched and shuffled on the spot, sniggering or trading comments with neighbours.

When the building had swallowed up the last of the shouters, Four asked, 'What do you think a cuckoo is?'

Two didn't answer. He was trudging toward the closing school doors. Three followed, her hand extended to maintain contact with the boy's elbow. Four held back a little, comparing these new versions to the wards he'd boarded the uber with... an hour ago?

Less? They hadn't been turning cartwheels, exactly, but they hadn't looked so downtrodden, either.

He wanted to share the buoyant, glowing feeling that spread through him when he realised the carer wouldn't be joining them on school grounds. The words nestled in his throat, trying to burst out: *Don't you realise? We're alone! Alone and free!*

Alright, he admitted, stepping through the front doors, not *completely* free. There was still actual school to attend, but there were no doctors breathing down their necks, datapads and test results to hand, no carers demanding *this* lesson or *that* chore. Whatever or whoever decided how school was supposed to work, it would be different from the ones who decided how home worked.

And it was different. Four drifted along behind while Two chose their path, gaze bouncing around the hallway. Electronic noticeboards dotted the walls every ten feet or so, each scrolling through the same announcements: a schedule for lunch, sign-ups for after-school clubs and societies, a "polite reminder" that pilot workarounds were strictly forbidden. The floor wasn't carpeted, and all of their footsteps resounded with satisfying echoes. The ceiling alternated between white panels and glowing ones, filling the space with an even, bright light. It was brighter here than outside, under the multiple, diffuse lights of the city.

His gaze drifted onto the back of Two and Three's heads. 'Problem, maybe,' he called.

'What,' Two said. No inflection, no interest. The electronics inside the building must be worse than the ones on the lawn.

'People will be able to see our wires.'

He pulled a hand from his pocket, one finger pointing at the ceiling. Two's face tipped back and he squinted into the light, jaw slack and mouth gaping. For a moment he

looked like a shell only, like someone had stolen his brain and left the motor functions flailing.

Then his chin came back down. His eyes, when they darted to look at the back of Three's head, had lost their lethargy.

'Shit,' he said.

Whole sections of gleaming thread were visible in Three's head, especially at her crown and temples, where wires came close to the surface. They crissed and crossed before diving out of sight, mostly into the unseen fissures between skull plates. It was the same with Two, the only difference being unique patterns. Four ran a hand over his own scalp, fingers finding the place where smooth skin became scar tissue. Felt worse than it looked, probably, but the loops and knots would be thick enough to hide the metal beneath.

'The carers didn't think of that,' Four said.

'Why are you grinning?' Two snapped.

He shrugged. 'Why are you so upset? It's not like it has to mean anything.'

'Of course it means something.'

Three roused herself from whatever dreamworld she'd been staring into. 'Are they that obvious?' she asked.

'Did you see those people out there?' Four said. 'All that shit they were wearing?'

'Yeah,' Two said, although it wasn't obvious which ward he was answering. His gaze flickered between Three and Four, looking more and more upset with each repetition.

'So?' Four said. 'You think they're going to care about a little wiring? We can just say they're for decoration.'

'Decoration,' Two repeated.

'Yeah. Like their hair. Only wires.'

'Under our skin.'

Four shrugged.

‘He’s right.’

Three lifted her hands, searching the air and then finding Two’s shoulder. ‘If anyone asks,’ she went on, ‘we don’t have to tell them what the wires are really for. Just like the carers said we didn’t have to talk about our allergies.’

‘*Our* allergies?’ Four scoffed. ‘*We* don’t have to talk about *our* allergies? Like all of *us* have allergies?’

‘Oh, give it a rest,’ said Two. The tired look was coming back into his eyes. ‘You know what she meant.’

He started up the hall again, Three stumbling to keep up. Four stayed behind them, close enough to hear what they were saying.

‘It’s just,’ Two muttered, ‘another way we’re different. Another way we *look* different. You know?’

Three hummed her agreement. Four tried not to grind his teeth. How could she possibly know how different they *looked*? She couldn’t see anything. ‘Why do you care what we look like?’ he asked.

The other boy hunched away from the question. He even sped up a little and, although Four kept pace behind them, he didn’t push the point. Two could mope over the fact all he wanted but it was a good thing, really. For the first time he could remember, they were somewhere new. The hair and the weird clothes and the awful cityscape only proved *how* new everything really was.

It wasn’t until they’d found a leva – another new thing, described in advance by Aleph – and figured out the control panel that Two answered the question. ‘I thought we’d blend in a little more,’ he said. He put his hand to the side of his head, pushing, flexing his

fingers as if about to scratch, then pushing again. ‘I didn’t think... we were that different. But we are.’ He wrenched his hand back down to his side. ‘I don’t want to be different.’

Four stared at the control panel, where a glowing number slowly cycled upwards: 3 4 5. It was probably the allergy talking. He opened his mouth to say so, then thought better of it. Two already looked like someone running a low-grade fever, and the urge to scratch was never a good sign. There were still eight hours before school was over, before Aleph came back with the uber. Eight hours of itchiness and stabbing pains. He really should get a pass, even if–

‘Maybe different is better.’

It was only a whisper, but both boys heard. They glanced at each other, Four checking Two’s reaction and – he realised a second later – vice versa. Three’s face remained impassive on the far side of the leva, apparently satisfied to lob the sentiment without seeing its effects.

Two scratched the side of his head for a few seconds, fingers flying over scalp, then stopped. ‘You think different is better?’ he asked. The marks left by his nails made the underlying wires even more obvious.

‘Blindy likes being blind,’ Four said.

Two cuffed him on the shoulder. Four stuck out his tongue, first at Two, then at the girl. He flipped her off for good measure, laughing when Two hit him again. So the allergies hadn’t sapped him completely, at least.

The leva doors opened. Four stepped into a hall as deserted as the entrance had been. He turned to ask why none of the other students were coming inside – more as a distraction than anything else, Two wouldn’t know – and caught sight of the windows on either side of the leva. The cityscape glowered at him, pinning the words in his throat.

Metal and glass shapes cluttered the sky, held immobile by unknown means. These immense objects crowded into the middle distance, blocking whatever horizon might exist on the other side. Each was garlanded in all manner of lights: strands of neon, glowing panels, floodlights pointing at neighbouring surfaces, flashing screens.

As far around as the windows stretched, the city stretched further. It unfurled in every compass direction. Looking over the railing had made him feel sick: there was no ground. Apart from Aleph's word, it was impossible to know how far their platform was suspended above the ground, or how far below the actual dome. There were only more metal shapes, more glass, more neon and glow.

Movement caught his eye, momentarily freeing him from the view. 'Don't throw up,' he warned Two, who had started guiding Three out of the leva.

'Oh.'

And now Four watched his own reaction play over the other boy's features: the stiffening limbs, the widened eyes, a quiet intake of breath. Then the staring. Two's eyes darted this way and that, trying to take in the whole view at once.

'How can they stand it?' he asked. 'Every day they wake up and go out into this. How can they *stand* it?'

Four didn't bother replying. The object opposite the school, a massive cube made of glass rectangles, caught a reflection from some unknown source. Windows rippled a brilliant gold, then blue, before fading back to its previous appearance.

He poked Two in the arm. 'Come on. Maybe the trick is to just ignore it.'

They followed the hall around, keeping the cityscape to their right. A doorway came into view, its featureless metal door sliding open at their approach. Inside, a woman with dark hair sat in front of a desk, pushing and swiping at its surface.

'7A,' Two said.

The woman looked up at them, then went back to whatever she was doing. Two pointed at a metal plaque set into the wall: 7A

‘What was the room we needed to go to?’

Three said, ‘7C,’ and they continued. Another doorway, which opened to reveal an identical desk. Unoccupied. The plaque beside the door read ‘7B’.

‘Next one,’ Two breathed.

They walked on.

The door for 7C slid open to reveal a man with red hair. He stood, hands clasped behind his back, gazing into a part of the room Four couldn’t see. As he edged forward, he almost groaned aloud when a row of desks came into view, then another, and another. That was where students would sit. The teacher stood where the man was now, and school commenced.

Aleph had said school would be more complicated than sitting in the same room for eight hours. What a crock.

Silence stretched on with Four paused in the doorway and the red-haired man looking at something in the farthest corner of the room. Then Two stepped up and asked, ‘Why isn’t anyone else here?’

The man turned. He looked at them for a long time before a smile sprang onto his face.

‘They’ll be clinging to Inline as long as possible,’ he said. ‘It’s reduced access on the front lawn, but no access inside. Most students wait as long as possible – then there’s a rush to get to class on time.’

His eyes roved between them, alighting on heads, jumpsuits... wires? Could he see their wires from across the room?

Four stared back, trying to be as obvious as possible. It was easier to look at him than the colours on the front lawn, but he found himself regretting having to look at all. The man's hair tumbled over neck and ears in an untidy swirl, almost the same colour as the copper pipes at home. His jacket – cream-coloured, with red trim – had a worn air to it. The smile wasn't any kind Four recognised. Not pleasure at seeing them or polite curiosity or patient expectation, just... a smile.

The expression slipped a little. 'Are you looking for your classroom? I can help you find where you're trying to go.'

Three's voice came from just behind Four's shoulder. 'We found it,' she said. 'We were looking for 7C.'

'I'm afraid not. I would have seen you on my register.'

For the first time since seeing the wards, the man moved. He unclasped his hands, beckoned them forward and motioned toward his desk. 'Let's see which class you're in. What are your names?'

'Four.'

'Two.'

'I'm Three.'

'Mmm.' He'd leant forward over the desk, typing on its surface. 'Interesting choices. You had them changed for the clique?'

Two asked, 'Cleek?' while looking around the room.

There was a long moment in which the man didn't answer. He stared down at his desk, leaning over with both hands gripping the edge. Four thought he'd slipped back into whatever reverie the wards had interrupted earlier, but then he straightened up.

‘It seems I’ve made a mistake,’ he said. ‘You *are* in my class. All three of you.’ His gaze made a darting move toward the desktop. ‘Still. It’s good you’ve come to the classroom so early.’

He frowned. ‘I’m sorry, could you just repeat your names for me again?’

They did. He stared at each ward intently, eyes hesitating every and now and then.

*Memorising us*, Four realised. *We weren’t on his register, so he doesn’t know our faces.*

‘No surnames?’ he asked when they’d finished. ‘It isn’t unheard of, but it’s unusual at your age.’

‘Just Two, Three and Four,’ said Two. He was looking at the desks, an expression of longing on his face.

The man had spotted it, too. ‘You can sit, if you’d like. Seating arrangements don’t become official until next week, but by all means...’

He extended an arm. Two started forward but Three pulled him up short with the hand she’d been keeping on his elbow.

‘Please,’ she said. ‘We don’t know your name.’

A huge range of emotion swept over the man’s face, too quickly for all of them to be identified. Confusion, suspicion... anger? Pleasure?

‘I’m... M. Jacquard. Peter Jacquard, although most students get around to calling me just Peter pretty quickly. It’s down to the teacher’s personal preference, in this school.’

‘It’s nice to meet you,’ said Three.

Four dove ahead of the others, selecting a desk at the very back of the room. He’d realised, halfway through the introduction, what was bothering him about the man’s face. It wasn’t the careful way he held his expression, or the slightly ramshackle smiles he threw around with every sentence. It was his eyes. He had blue eyes.

Two and Three hesitated by the first desks, probably questioning Four's decision to sit so far at the back. They murmured to each other, too low for him to hear. While they dithered, Four watched the teacher. He'd gone back to something on his desk, but it was obvious he was listening.

They still hadn't come to any decision when the door opened again. Students piled into the room, bringing noise and movement with them. In a heartbeat, the classroom went from feeling large and open to much too confined; Four felt it, even though he was already seated and out of the way. Body after body, each smiling at the teacher or turning to make a comment or smoothing their hair or nudging someone in the side or straightening their shirt or stepping on someone's foot or—

So much movement. He'd never seen this many people together in the same room, ever. The laughter and chatter was so great he almost missed as Three, trying to escape the sudden swell of noise behind her, stepped forward and collided with a desk. She would have gone to her knees except for the desktop. As it was, she ended up half-on, half-off the desk, one arm pinwheeling for balance while the other gripped the thing she'd run into.

Some spikes of laughter as the first students saw what had happened, but then conversation dipped.

'Are you alright?' Two asked into a near silence. He helped her up again.

'Did'e push you?' asked a female voice.

Before her tumble, the students around Three had been picking seats and falling into them. Afterwards, the process continued at a much slower pace. New bodies entered the room, faces flicking toward the place where all other attention was centred.

'He didn't push me,' Three said. 'I just didn't see there was a desk there.'

Some laughter, and an uptick in conversation. From his vantage point at the back of the room, Four saw several things happen: the students nearest Two and Three began moving

a little faster; all the watchful faces relaxed and turned in other directions; and, at the head of the room, M. Jacquard stepped toward the wards.

His brow was furrowed, eyes trained on Three as he entered the flow of students circulating towards the farthest row of desks. They parted around him, some saying hello, but he never looked away from his target.

Four leant forward, straining to hear over renewed conversations. Two and Three were at the head of the classroom, one row over from him. It shouldn't be this hard to hear, but a group of four girls were dithering in the aisle, deciding loudly who should sit where. M. Jacquard dipped out of sight behind them.

‘—me, but you didn't see the desk?’

Four caught sight of Three turning toward the question. Her reply was too quiet for him to hear, but not so quiet that *everyone* missed it. Some of the girls, still deciding where to sit, broke off from their deliberations.

‘Did she say she was blind?’

‘I think she did.’

‘Blind? Who's blind?’

‘Harpa was blind as a foxing bat last night — said she couldn't see my messages in her inbox, but this morning—’

‘No, not *Harpa*. That girl said she was *actually* blind.’

Four eased back into his chair. He could see M. Jacquard through the girls now. The teacher was kneeling at Three's side, one hand frozen in the act of sweeping hair off his brow. He blinked, took in the sight of four girls staring at their consultation, then met Four's gaze.

‘That girl's blind — I *think* that's what Sharlezene said.’

‘Don’t be stupid. My cousin had to use a surrogate because they’re both at risk for cataracts. If *that* lands you a surrogate, they sure as shit wouldn’t let someone be blind.’

‘Well, *maaaaaay*be it wasn’t genetic. You ever think of that? People can go blind *after* birth, you know.’

This conversation came from behind him, in the corner of the room furthest from M. Jacquard and the other wards. Four shifted his attention to other portions of the class.

Though he couldn’t hear everything, the same word emerged from the soundscape again and again:

‘-blind?’

‘-blind-’

‘-blind.’

## Chapter Two

### TWO

One moment M. Jacquard was kneeling at the side of Three's desk, asking her to repeat what she'd just told him; the next he'd leapt to his feet. Two found himself staring up into blue eyes as the teacher muttered, very quickly:

'Please trade desks with Three, so that she can sit in the front row. Would you do that for me? Now?'

He nodded, trying to understand the wildness in those eyes. The man's mouth and voice were calm – nonchalant, even – but the eyes were close to panic.

'Now,' he repeated with more emphasis. His head tilted ever so slightly in a gesture Two recognised. Aleph used it all the time.

*Do you understand?*

Two nodded again, putting more energy into the motion. With great effort, he pushed through the allergy fuzzing up his brain and tapped Three's hand, so she would know he was talking to her.

'We have to switch desks,' he said. 'You should sit in front of me, instead of behind.'

M. Jacquard was already returning to the front of the classroom. Three, graceful when she was confident of her immediate surroundings, stood and felt her way into the new desk. The teacher clapped his hands together.

'Could everyone please find a seat?' he called over the general chatter. 'Class has begun and we have several things to go over before we get started.'

All across the room, bodies sank into chairs. Two lowered himself into the newly-vacated seat, but not before he noticed something that made his stomach twist: a great *flicking* in his peripheral vision. All the students had turned to watch M. Jacquard speak, but when he'd finished, they turned *back*. To look at him.

His entire body clenched. He glanced left and right. No one was looking at him now. A string of girls occupied the row to his right; one at the back was leaning forward to whisper something behind her hand and the others had turned to listen. Were they talking about him? Four was in the last desk of that row, behind the whispering girl. Could he hear what she was saying? He was smirking, but did that mean something good or something bad?

His whole upper body had gone clammy inside his jumpsuit; he hoped he wasn't sweating through the cloth. Maybe it was best to pretend nothing was happening. He looked away from Four and that maddening grin but, while turning toward the teacher, met the eyes of the girl in the first desk. She was turned sideways in her chair, like the others behind her, but was too far away to hear whatever her friend was saying. She was smiling at him.

He'd started to panic after all when M. Jacquard spoke. To his relief, the whisperer and the smiler both stopped what they were doing. All eyes went to the front of the room.

'Hello to you,' said the teacher. His smile swept from one side of the room to the other. 'I'd like to welcome you to your first day in Crus Cerberus Underschool 6, official classification CCU\_W6.'

Some laughter. The teacher chuckled in return.

'Not the catchiest name, I know, but welcome all the same. There's a lot of important information in your induction packs – links to after-school activities, sponsored societies and clubs, upcoming apprenticeships, that kind of thing – so *please* let me know if your pack didn't download correctly. I know, I know. Not what you want to be thinking about on your first day, but try to have a look *at some point* this week.'

A little more laughter. Two was too tense to laugh, even if he'd understood the joke.

'Now,' M. Jacquard went on. 'The biggies. Who here is planning on taking the Music Elective?'

Around the room, more than a dozen students thrust their hands into the air.

‘Who was hoping for a double Music Elective?’

Only a few hands dropped back onto desktops.

‘I can assure you that a similar question is being asked in every homeroom around this school, with similar results. Now, class enrolment won’t be finalised until next Lunae. That’s five days, ten elective slots. I’d encourage you to spend this week trying as many as you can. *Some* of you might be lucky enough to get double Music. However, it’s so popular that double enrolment is by invitation only, and it’s very competitive. I’d recommend finding an alternative, just in case you aren’t one of the lucky few.’

Across the room, a girl waved her hand back and forth. M. Jacquard spotted the movement and nodded at her.

‘Skaeri, isn’t it?’

‘That’s right. Is it true that M. d’Holle brings instruments to class on the first day?’  
When the teacher nodded, she pressed on. ‘Made of *real* wood?’

‘I can see that particular surprise has stopped being a surprise. Yes, it’s true. By special arrangement with the Musician’s Guild.’

On Two’s left, someone whispered, ‘The old Stravinsky used to go to this school.’

M. Jacquard took his hands out of his pockets and perched on the front of his desk.

‘Try not to stampede the Music room,’ he said. ‘The instruments are here for three days, not just one. There should be time for everyone to see them. Now, I’m curious. How many of you know about the school trip at the end of the year?’

Two watched, conscious of how little he and Three were participating, as every student raised a hand. He didn’t turn to look, but assumed Four was the only other person who hadn’t.

M. Jacquard’s gaze flicked over this information. ‘Could someone tell me what the trip is for?’

‘We get to go to the zoo in Crus Remus!’ a boy called out.

At first, Two thought the student was going to get in trouble for not raising his hand – that seemed to be the protocol in this room – but the teacher burst out laughing. He clasped his own knee and rocked on the front of his desk.

‘You’re not wrong,’ M. Jacquard chortled, ‘but that tells me all I need to know about last year’s class. They voted unanimously for the zoo. That’s right – voted. You get to choose between two locations.’

The girl who had smiled at Two asked, ‘What’s the other choice?’

‘A pair of trips,’ the teacher answered. ‘Either the zoo and the artificial lake in Crus Remus, or the solar fields and a mining facility in Crus Lycus.’

A small groan rippled through the room. Two caught at least one person rolling her eyes, but when he looked back at the teacher, M. Jacquard’s smile hadn’t budged.

‘It’s my understanding,’ he said, eyes twinkling, ‘that the mining facility tour includes zero-G training. Anyone who passes the training gets to practise their newfound skills by playing some kind of game?’ He tapped his chin. ‘Although... I can’t quite remember what the game is called.’

The groans and snorts of derision faded at the mention of zero-G, to be replaced entirely by gasps.

‘Battle Ball?’ someone asked.

The teacher nodded and grinned. ‘Oh yes, that was it.’

‘The miners get to play Battle Ball?’ asked a different voice.

‘If I recall correctly, Battle Ball *started* in the mining facilities, as a way to keep on-planet employees limber.’

A dozen conversations erupted throughout the room, each person turning to their neighbours with expressions of disbelief, joy, excitement. Whatever Battle Ball was, it seemed universally-loved. Two wondered how the zoo had won out last year.

M. Jacquard let the chatter continue a few moments before calling for quiet. He started talking about the subjects they would study during the school year: which ones had exams attached to them and which required portfolio submissions. Two let his attention wander when he started describing which topics were important for specific degrees. The carers hadn't mentioned degrees, or later school years, and he didn't want to think about that prospect right now.

His allergy, so bewildering on the front lawn, had calmed since entering the classroom. Electronics were still snapping at him from all sides, but the sensation wasn't like needles anymore. Instead, clouds of steel wool brushed against the surface of his brain, gently zanging him at random locations, occasionally catching and clinging but then falling away again. What had M. Jacquard said when they entered the room? "It's reduced access on the lawn, but no access inside." Access to *what* Two didn't know, but the school's interior had trimmed it away. He could breathe. He could think.

Except.

Except for the pulsing... *sharpidity* that bloomed and folded, bloomed and folded on the very edge of perception. It was like a wall of knives waiting in the next room. Two knew it was there, could even sense the light glinting off its many blades, but couldn't tell which surface it lay behind. The electronic, whatever it might be: was it under the floor of the classroom, somewhere lower in the school? Sometimes it felt that way. Other times it stalked toward him from the left hemisphere of his brain, retreated, then came at him from the right.

Most of the time, if he concentrated very hard, he could tell which direction the source of his allergies lay. At home it could be easy: the house and the barn had the highest concentration of electronics. If he stood in the northern garden he could feel the house scratching away at him from the right and, further away, the barn tickling from the left. Turn in a circle and the sensations reversed themselves: house on the left, barn on the right. It was harder inside, but still possible with the most intense electronics. The medbay, for example, was a tangle of barbed wire forcing itself upon him in various densities; a hateful ice wind while in the kitchen, or a peppering rain from his bedroom.

Whatever was in the school refused to be pinned down. It was everywhere, and nowhere. For a short time he thought it might be the city – basically one giant ball of electronics humming and fluctuating with the breath of a thousand, thousand human inhabitants – but no. For him to feel that, with nothing else in between, would mean the school was completely devoid of electronics, which wasn't the case. Lights, ventilation, levas, those noticeboards on the walls. There had to be some kind of electronic infrastructure in place to make those things work.

He was just noticing that his student ID, still pinned to the leg of his jumpsuit, wasn't crackling in his brain anymore when a fist of razor-glass-wire-heat leapt up and closed around him.

[\*#^> '–a quiz to–' ##\*^\*^#<^

#\*{\*^ '–how much you've forgotten–' >x\*]}\#^^

\*^/]> '–will be short–' #|^>\* '–don't worry.' <\*||#>

Two sucked breath in through his teeth, loud enough to draw looks from the teacher and several nearby students. In front of him, Three turned a little. The wires in her head gleamed with excruciating clarity.

\*}]^/[>|##\*^>{\*##<#^\\/[|<< ^#\*\*+|///\*#<># [\^

Don't scream, he thought. Don't... scream.

The wall of knives, so elusive and distant just a moment ago, had surged forward. Where? Where! He stared at the back of Three's head, willing the slicing, slivering ecstasy of white-hot into silence.

*Breathe.*

*Breathe.*

*Breathe.*

*Don't scream. Breathe.*

He wanted to scream. His eyes burned and so he closed them. How long since he'd blinked? He didn't know. Didn't want to open them again in case tears streamed down his cheeks, like when he chopped red onions from the garden. His entire brain was burning, as though it had been doused in whatever juice ran from those onions when the knife blade sank in and cut through and—

With one thought (that he was *having* thoughts) he sidestepped around his own panic. The pain of his allergy didn't stop but it no longer swept his consciousness out from under himself. The *him* that still existed somewhere within that shredding whirlpool of silver and spark stood up and reached out.

'I haven't had an allergy attack,' he whimpered. 'I thought I had, but I haven't.'

He hadn't been sucked under. He wasn't unconscious. He was having a bad allergic reaction, maybe the worst of his life, but it hadn't overwhelmed him. And, if that were true...

Two opened his eyes.

He was still upright in his desk, in the classroom. His eyes skipped past the students twisting and turning in his peripheral vision

past the red of the

teacher's hair, once more kneeling nearby

past Three's three-

quarter profile

to the problem itself.

The surface of his desk was glowing. A quick glance revealed it was the same with every other desk in the room: the black, semi-glossy tops had turned white. Turned *on*. He watched the girls in the next row use their fingers to scroll through menus, manipulate cursor positioning, and tap digital keyboards. They were working at their desks, using them in the same way the doctors used their datpads.

Electronics.

Through the tangled grasp of his allergy, Two heard his name. M. Jacquard was looking at him with a puzzled expression.

'Are you having a hard time finding the correct file?' he asked.

The quiz. That's what the others were doing at their desks: taking some kind of quiz. Two nodded, not quite trusting himself to speak.

The teacher rose out of his hunched position beside Three's desk, turning fully to poke and prod through various screens. 'It's in the Shared Folder,' he said. 'Every worksheet, test, quiz, that kind of thing, will appear in the folder with your name on it.'

His finger hovered over a little symbol labelled “Two”. Above it lay an identical symbol belonging to “Three” and, above that, “Skaeri”. Both of these, and all the other folders except his own, were covered by a little padlock symbol.

‘See?’ said M. Jacquard. ‘You’re there, just like everyone else.’

There was an odd note in the teacher’s voice as he said this. Before Two could look up, the finger tapped the folder, then a document within.

‘Take this quiz. As I said, it won’t be marked – it’s just to see how much material you’ve remembered over the break. And,’ he said, drawing back towards Three’s desk, ‘feel free to talk with the people around you. Get to know each other.’

The class had thrown themselves to this task with great energy. The girls in the next row were giggling furiously over something, fingers flying across their desks. Two forced himself through the heat and tearing in his brain to the words they were saying.

‘–realised I was much too out of it to tell.’

‘Did you keep doing it?’

‘Of course! If you can’t tell, it’s like nothing’s wrong. Right?’

They fell into laughter. Two stopped exerting the effort required to listen; they weren’t talking about him. He turned to face the quiz again, but not before he noticed the blonde girl at the front of the row. She was smiling at him again. He gave a small wave, not trusting his face to cooperate. It wasn’t very likely to produce a normal smile right now.

Her smile widened and she waved back. For a brief moment, Two thought her palm was glowing.

He blinked, pointing his face down at his desk before she could say anything. The teacher had said to get to know his new classmates but *also* to finish a quiz. Two might have been able to do all these things... but not while he was having such a severe allergic reaction.

First question. *What was the date of official Mars colonisation?*

So easy it was probably a trick question. Two touched the keyboard icon, biting the inside of his cheek when his finger came into contact with the desktop.

*1 Sagittarius, Year 1*, he wrote. His teeth latched onto his tongue and held there. Each keystroke was like jamming pins under his fingernails.

The second question was harder. *What was the date of unofficial Mars colonisation?* Harder because the Martian calendar system was implemented with the arrival of the first human colonists. The quiz was asking for the arrival of the first automated builders, and that meant Earth dates.

Two hesitated, struggling to remember one of their lessons at home. The wards had learnt this before – he knew they had! – but it must have been a while ago. They hadn't used the information since, so it had gone stale in his brain.

*March*, he wrote. Two thousand and... something. So many years stacked up together – no wonder they'd started again on Mars! Two thousand, one hundred and twenty-four. Something like that. During the lesson, Four had poked Three in the arm so hard she'd bruised, all the while laughing that she was the only one whose name wasn't there.

He added *2124* to his answer and moved on.

His answers got shorter as he continued through the quiz. Then he left one blank, and another. The unanswered questions multiplied, not only because he didn't know the answers but also because he couldn't bring himself to keep typing. He kept looking down at his fingers, expecting to see blood welling up through the fingerprints. It never did, but he kept looking.

Finally, after what felt like hours trying to decipher the question, *What is the current configuration of the Composers?* M. Jacquard rose from his position next to Three. Two had barely noticed the teacher's prolonged crouch. He caught that same *flicking* sensation out of the corner of his eyes and then M. Jacquard was talking to them from the front of the room.

They weren't looking at me, he realised. They were looking at Three!

But he didn't have the energy to wonder any further. The quiz was over, yes? So, surely it was time to deactivate the desks?

M. Jacquard did something at his own workstation and all the iterations of the quiz winked out of existence. Instead of turning the desks off, however, something new appeared. A picture, with words underneath.

'Thank you for doing that,' he said. 'I know these start-of-year tasks are boring, but they really do help me figure out where everyone is. I'd like to start us off easy on this first day, so we'll begin with a recap of the seven dome cities. Familiar ground for everyone, yes?'

Two stared at the picture before him. He winced as M. Jacquard activated a wallscreen at the front of the room. This morning he would have been fascinated by the picture: a shining silver hemisphere glassed in against a red landscape. A dome city, viewed from the outside. He registered the interest within himself, but found he couldn't do anything with it. Interest required energy and he'd used all his reserves getting through the quiz.

At least, he *thought* he'd used all his reserves. The history of Mars' domes gave way to a geometry worksheet, which in turn gave way to a discussion about universal birth control. The desks remained on the entire time, echoing whatever M. Jacquard showed on the wallscreen. Two thought that every moment would be his last. *This* would be the moment he leapt up, *this* was when he started screaming, *now* he'd run from the room. Now, now, do it now. Even his breathing exercises, which were all that got him through daily scans in the medbay, didn't help. By the time M. Jacquard announced it was time for lunch, Two had collapsed into a prolonged, internal scream.

Students all around him leapt up, full of an energy he could only dream of. He watched them go, wanting to follow but unable to summon anything other than a repeated “ahhhhhhhhh” that souged through his mind.

Three turned in her seat, placing a hand across the top of his desk.

‘We can leave now,’ she whispered.

Leave. Now.

‘It’s lunchtime,’ she said.

‘I need to go to the bathroom,’ he croaked.

Seated behind his desk, M. Jacquard looked up. ‘There are a set of toilets a little further up the hall,’ he said. ‘Just continue the same way you started from the levas.’

#### FOUR

From the corner of his eyes, Four watched the teacher. It wasn’t difficult to guess the conclusions being formed: Two looked as sick as he’d ever done, shaking and sweating and stammering about the bathroom. Three wavered at his side, one hand rising and falling, waiting for a guiding elbow. Was this what the carers had pictured for their first day in school? They were supposed to plan for everything. Had they really not seen this coming?

Four threaded his way up the now-empty aisle, came up behind Two and slung an arm around the boy’s upper torso. ‘Bathroom, is it?’ he asked.

‘Yes, please,’ Two whispered.

Doing his best to keep the other boy upright, Four walked him up the aisle and across the front of the classroom. Three reached out as they passed, trying to latch onto his elbow, but Four shook her off with a violent shrugging motion.

It was a relief to pass through the open doorway and plunge into the chaos beyond. Noise and motion swallowed them up. Students pushed toward them, the general press of the

crowd trying to carry them toward the leva, but Four forced himself against the current. They passed one more classroom door on the left, then a door labelled “Female”. The next was “Male”.

They stumbled inside. Four offloaded Two against the wall, watching the other boy’s face twist in despair.

‘No sinks,’ he moaned.

It was true. One side of the room was given over to stalls, presumably with toilets inside. A bank of mirrors lined the other side and, beneath each, a disinfecting chamber. They were curved and boxy, identical to the ones in the medbay at home.

‘No sinks,’ Four agreed. ‘How about some of the toilet water?’

Two didn’t laugh but the corners of his mouth trembled. He was looking a little better. The shakes had stopped.

Four left him where he was, went into a stall, and urinated. When he came back out and stuck his hands into the nearest disinfector, Two had pushed himself upright against the wall.

‘How bad was it?’

‘Worse than the medbay,’ Two said. ‘Worse than when they rewired the house.’

‘Really? You beep-bipped when they did that. Twice.’

Two took a deep breath and came away from the wall. ‘I wish I’d beep-bipped today. At least then I would have been unconscious.’

He disappeared into a stall. The disinfector clicked off and Four pulled his hands out of the compartment, eyeing his own reflection. He’d never heard Two wish for unconsciousness before, not even when electricians had come and replaced the cabling in the walls of the house.

They'd been four or five years old. Four followed the strange men around for days, taking every opportunity to peer into the dark, vertical hollows hidden behind the panelling. Two always ran from the work, following the carers as far away from the house as he was allowed. He had to come back to eat and sleep, though. Those hours were filled with his moaning about headaches. He moaned louder the more work was completed, until Four hated him almost as much as he hated Three.

Section by section, the house went back online. Two complained his head hurt worse than before. The doctors did their daily scans and made worried sounds over their datpads. Then, the bedrooms were re-activated. Two beep-bipped as soon as he walked into the front door, pulled over the threshold by an impatient Aleph. It happened again the next day, just after the electricians re-activated the living room and left. Four hadn't witnessed either allergy attack, but he saw Two in the medbay afterwards: pale and staring, emitting small grunts when an electronic device was placed too near the bed. The silence had been worse than the constant complaints.

The sound of Two urinating tapered away, then stopped. He emerged a moment later. At first, Four thought some kind of miraculous recovery had occurred inside the stall, but then realised he'd been thinking of that younger Two, the one who hadn't left the medbay for weeks and weeks.

'It might feel worse,' he said while Two disinfected, 'but you don't look as bad.'

'I guess not.' Said while staring into his own reflection. 'I didn't beep-bip, even with all those desks turning on. So I must be getting better. Right?'

His smile made Four feel a bit sick.

Outside the bathroom, the crowd of students had filtered further down the hallway, out of sight around the bend. Two and Four started to follow.

'Where's Three?'

So he *was* feeling better.

‘In the classroom,’ Four said. ‘Probably.’

The words had no sooner left his mouth when Three came into view, leaning against the outer curve of the hallway. One hand was pressed against the window, supporting her weight as she regained her feet; the other was cradled against her torso. The shouts of the students echoed back to them.

Two rushed forward. ‘What happened?’ he asked.

Four thought that was obvious: she’d tried to follow them, got disoriented, and fallen.

Three’s head turned toward the familiar voice. ‘Nothing,’ she said. Two grabbed her arms to help her stand, but she hissed and recoiled. ‘Someone pushed me,’ she said. ‘I think it was an accident.’

And, just like that, Two was turning and glaring at him.

‘You left her behind.’

He opened his mouth to protest. Three beat him to it.

‘You had to get to the bathroom,’ she said. ‘Don’t blame him.’

‘Yeah,’ Four added. ‘You looked like you were about to pass out or throw up. Or both. Don’t blame me for trying to get you somewhere private.’

‘But you didn’t have to leave her behind.’

Four rolled his eyes. ‘Fine. Next time *I’m* having an allergy attack, you try rolling me up the hall while Blindy has a death grip on your arm. Tell me how easy it is. Deal?’

He stalked away before either could respond. Doors flashed by on his right and the city unrolled on his left, neither distracting from the heat flaring in his chest. Screw him! Screw *that!* It wasn’t his fault Three followed them where she shouldn’t. Two could play mother all he wanted, but Four wouldn’t do it. Not for both of them. Not for *her*.

He might have worked himself into a really foul mood if not for the classroom doors. As he passed another, it opened and raised voices joined the noise of the students up ahead.

‘–how this happened, but it warrants some kind of action. You’re *sure* you revoked their enrolment?’

‘Peter. I’m not sure what action there is to be taken at this point. Don’t look at me like that. If I said I revoked their enrolment, I–’

‘Then how are they here? I checked my register last night and they weren’t on it. I’m certain of it. I checked again when I arrived on campus this morning, and they still weren’t on it. Am I just supposed to accept three students appearing out of nowhere? Ylva, one of them is blind!’

Inside the classroom, M. Jacquard was leaning over his desk again, obscured by the woman standing next to him. His hands flashed into view every now and then, gesticulating toward something while the woman looked on.

‘I know about the disability,’ she said.

A short silence. The other wards drew up alongside him. Four caught Two’s eye before he could speak, pressing a finger to his lips and pointing at the adults.

In the room, M. Jacquard said, ‘You’re *sure* you revoked their enrolment?’

‘I’m certain. I signed off on the documentation three times, once for each infantile. Of course, I tried to tell their guardian I was only obliged to take action against this one’ –a hand reached forward to point– ‘but he insisted the entire group be kept together. In light of this... commandment, I revoked all three enrolment requests.’

Another silence, before:

‘You’re certain?’

‘Peter!’

M. Jacquard straightened up. Four watched him draw in a breath but then something – Three shifting back and forth? The city in the window behind them? – caught his eye. His head turned.

‘Ah.’

The woman swivelled, revealing a face as severe as her voice. Her eyes narrowed at the wards. ‘Are these...?’ she asked.

‘Yes.’

Was that a blush? Four, distracted by the colour flooding their teacher’s cheeks, forgot to return the woman’s stare.

‘We didn’t mean to eavesdrop,’ Three said. Her voice carried up and down the hallway. The noise of the crowd had all but disappeared. ‘We were—’

‘-coming back from the bathroom,’ M. Jacquard finished for her. ‘I remember.’

He leant over his desk again, maybe hiding his face, maybe not. In any case, he dipped out of view, leaving the woman’s stare as the only place left to look. Four met her gaze, wondering who in the school had the power to refuse students. Not M. Jacquard, by the sound of things: he received a register and learnt the faces on it. This woman, whoever she might be, had more authority.

‘We don’t know where to get lunch,’ Two said.

‘Did your induction packs fail to download correctly?’ the woman asked.

Four shook his head. ‘We didn’t get any induction packs.’

‘I see. That can be rectified. If you give M. Jacquard your ICNs, he’ll resend the packs. They include a map to the school building, including directions to the canteen and elective classrooms.’

‘What’s an ICN?’ Three asked.

The woman's eyes narrowed. 'Inline Certificate Number, of course. Every palm pilot broadcasts one in order to access Inline – yours will be included with your registration details, but it would be quicker if–'

Behind her, M. Jacquard's hands were moving over his desk again. He interrupted by reaching out and grabbing her elbow.

'Ylva,' he said, straightening, 'they don't have palm pilots.'

Four caught a flicker of disquiet in the woman's eyes.

'Ah,' she said. 'I see. In that case, the canteen is located on the second floor of this building.'

She gave directions, eyes never once settling while she spoke. Finally, she half-turned away from them. Four smacked Two in the arm and cocked his head in the direction of the leva. They set off down the hall together, only Three looking as though she'd rather not leave just yet.

In the leva, after the doors had closed and the digital readout showed they were descending toward the second floor, Two said, 'That woman tried to unenrol you. She tried to stop you coming to school.'

'Aleph never said anything about that,' Three said. 'Neither did Bet.'

Two's mouth opened and closed, briefly derailed. 'Why would they?' he asked. 'It didn't work. You heard the teachers – we were on the register.'

Four could have sworn the girl rolled her eyes. Impossible: the gesture was entirely visual, so she wouldn't know what it was or what it meant. Still, in the instant just before his own eyelids met in a blink, he was certain... but no. She was staring straight ahead with that dreamy, not-quite tethered look on her face.

'M. Jacquard said we weren't on his register *this morning*,' she was saying. 'When we were getting scanned, probably, or eating breakfast.'

‘Or getting in the uber,’ Four said. ‘Coming to the city.’

Three hummed a soft note. ‘Why would Aleph bring us to school if we weren’t enrolled?’

Two shook his head. ‘M. Jacquard probably made a mistake, that’s all. I mean, you saw how many classmates we have. You really think he can remember *all* those faces?’

Yes, Four almost said, I do. He remembered the feel of those blue eyes skimming from feature to feature, alighting on all the details Four might have wanted to keep to himself. His inspection hadn’t been all that different from the grey woman’s; a little softer, maybe, but just as penetrating.

‘She tried to unenrol all of us.’

Two shifted from foot to foot, eyes on the leva’s digital readout. ‘What?’

Four cleared his throat. ‘That woman tried to unenrol *all* of us,’ he repeated, ‘instead of just Three.’

‘So what?’

‘So, isn’t that kind of...’

‘Kind of what?’

‘Look, I don’t know,’ Four snapped. ‘I’m just wondering why she would do that, is all.’

The leva doors opened and Two hurried out. Three stumbled, stretching herself out so as to keep her hand in contact with the boy’s elbow. Four double-checked they were actually on the second floor of the school, then followed.

They didn’t need the woman’s corridor-by-corridor directions; in the end, all they had to do was follow the sound of voices. It burbled through the hallways, drawing them past electronic noticeboards identical to those on the ground floor, a few doors that didn’t open automatically, and the occasional plaque showing an odd symbol:



The murmur grew into a roar, at which point Two turned the corner and froze. A moment later, Four could see why.

The room before them was much larger than the classroom, every inch of it stuffed full of students. They sat at long tables, roved the aisles between seats, leant against the walls, perched on each other's laps. The sound was even more overwhelming than it had been in the hall. As he watched, the occasional student passing to enter the shuffle of bodies, a pattern emerged. Most students didn't sit down immediately; they worked their way over to the wall on the far side of the room.

'That's where the food is, look.'

He nudged Two and pointed. A series of five, tall electronic panels were visible there; students approached them and came away carrying trays of food. Four joined the students headed in that direction, trying to see more.

Three, however, had other ideas. She pushed up between the boys and asked, in a voice so low it was almost lost in the roar, 'Do you see anything that could be palm pilots?'

'What?' Two asked. 'What are those?'

'I don't know,' Three said, 'but M. Jacquard was surprised we didn't have them.'

Four remembered. The adults had been more than just surprised; for a moment, the woman had been visibly shaken.

'It'll be something everyone has,' he said. 'Otherwise it wouldn't have bothered them so much.'

'That's what I thought.'

He ignored her, irritated that she'd noticed something he had missed. Something everyone had, something everyone had. Four spent the rest of the journey scanning the crowds, pausing only when it was almost his turn to approach the wall. The girl in front of him went to one of the electronic panels, pressed a few buttons, waited a moment, then reached into a slot beneath the display. Another of the stations freed up and he mimicked what he'd seen her do, choosing buttons at random.

'I don't see anything,' Four said after Two retrieved a tray for himself and another for Three. They made their way to the nearest table. 'They're all wearing different stuff, and their hair looks different, and—'

'Palms!' Two said. He'd lifted one of the items from his tray toward his mouth, then froze in the act of biting. Four turned to see what he was staring at.

A little further down their table, a cluster of students leant in close to each other, some jostling for a better position. The boy in the centre was holding out something small for the group to look at, but his hand wasn't grasping anything. The boy kept it flat, with the thumb and fingers sticking out straight.

'Ever since we got out of the leva,' said Two, 'my allergy has been bothering me again. I thought it was stuff in the walls, but it's their hands. Look!'

Four twisted in his seat, searching for a better angle on a pair of hands. It was hard; the students in the aisles were too active, gesturing or swinging their arms around. Those already sitting had their hands full of food or utensils. Now he knew where to look, though, he glimpsed odd flashes of light from between fingers, reflecting off clothing and flesh.

'I can't see,' he said finally, turning back around.

'They've got computers in their hands,' Two said. He dropped his food and clutched at his head. 'That's crazy. Why would anyone do that?'

'Stop freaking out,' Four snapped. 'You were fine a minute ago.'

‘What’s wrong?’ Three asked.

‘It’s everywhere,’ Two said. ‘Not as bad as the desks in the classroom were, but they’ve all got some kind of electronic in their hands. I can *feel* them. They’re networked.’

Four reached across the table with his fork and jammed it into Two’s forearm.

‘Ow!’

‘I told you to stop freaking out. Just because you’ve figured out where your allergy’s coming from doesn’t make it worse. Now stop it, or I’ll stab you again.’

Two glared at him from between the fists mashed against his temples.

‘So a palm pilot is some kind of... computer?’ Three asked.

‘In their hands,’ Two repeated, still glaring.

‘And they all have them?’ Four added.

‘It feels like it.’

Four looked up and down the table. It *did* seem like a lot of people were staring down at their own hands, even the ones chatting to their neighbours. How had he not spotted these things in class? If Two was right – which he probably was – a computer on someone’s hand would be hard to miss.

Lunch passed swiftly, each of the wards working through half-recognisable foodstuffs. Protein blocks that came with a little packet of sauce to pour over the top (the sauce was delicious; the blocks were not). Carrot sticks. Strangely flavourless potato salad, as if the cook had left out all the herbs. Two kept his allergy to himself and Four ignored all Three’s attempts to start a conversation. Then, she asked what electives they were going to take.

‘What’s an elective?’ Two asked.

‘They’re what we do in the afternoons, before we go home. We get two elective slots.’

Before he could stop himself, Four asked, ‘We don’t have to go back to the classroom?’

‘No. Elective classrooms, on the first and second floor. M. Jacquard told me some of the options. Music is the only one that really makes sense for me. Maybe Gardening.’

Two asked about the other choices.

‘I can’t remember them all. Sexual Health’ –said with a faint blush– ‘Electronics, Programming, Music, Engineering, Art–’

‘Art?’ Four interrupted.

‘Yeah. That one’s on the ground floor, near the back of the school. I asked for you.’

He left them a few minutes later, after Two said he’d go to Music with her. No way was he getting stuck with that option; hadn’t M. Jacquard tried to dissuade everyone from rushing there the first chance they got? Four couldn’t think of anything worse than jostling to see a few musical instruments, even if they were made of real wood. Besides, he didn’t want to learn how to play music. He could have done that at home, on the keyboard in the corner of the living room.

Art was a much better option, even if Three *had* been the one to suggest it.

## Chapter Three

### TWO

Even with a web of electronics zanging through his skull, the sight of Four's back retreating across the canteen eased some of his tension. Some days were harder than others when it came to navigating the other boy's moods, especially where Three was involved.

'Was he making faces at me again?' she asked.

'No,' Two said. He picked up the last of his carrot sticks. 'He was glaring at you a lot, though.'

Three finished off her juice. 'He's just annoyed I remembered about the palm pilots and he didn't.'

'He's always annoyed about something when it comes to you.'

To his surprise, the words brought a faint smile to her lips.

'It's not funny,' he said.

'No, I know. And I know it's not fair, either,' she went on, stealing the words before he could say them.

'So why are you smiling?'

She turned toward him, heaving a sigh that turned into a grin. Was he missing something? They were still talking about Four, weren't they?

'I'm smiling because I really, really like school. Isn't this great?'

Three flicked her hand up and over her lunch tray, indicating a room she couldn't see. Across from them, the group of boys who'd taken the seats beside Four glanced up from their hands, meeting Two's gaze for a second before looking down again. Whatever the devices were, they latched onto his scalp like tiny quills. His brain had become a pincushion the moment he'd neared the canteen. He'd only realised the steady, uniform pricking had been

coming from many identical electronics rather than a single, all-surrounding one when he'd been deep in their midst.

He resisted the urge to itch his head. 'School's... alright, I guess.' Not that he'd taken in much of it yet.

Three placed a hand on his arm, still smiling. 'Oh, but think about it without your allergy. We're somewhere completely new, for the first time *ever*. No one knows us. We can be whoever we want.'

'I *can't* think about it without my allergy,' he said. 'I can't turn it off, any more than you can turn your eyes *on*. It doesn't matter where we are – I'm still me. You're still blind.'

Her hand dropped away.

'Am I my blindness?'

'That's not what I meant. Don't use—'

'If I'm not my blindness, then you're not your allergy.' Her face was set with some emotion Two couldn't quite read. 'You'll see. It hurts now, but you'll adjust to the school just like you did to the re-wiring.'

'Maybe.'

'*Definitely.*'

As they joined a large bubble of students forming around the canteen doors, Two wished he could share her optimism. The quills pushed in tighter and tighter, until no square millimetre of his brain remained free of pain. His eyes watered and, shuffling forward one step at a time, pressure began forming behind his eyes. Great. The start of an actual headache: real, physical pain to compliment the mental.

Three tripped twice before they made it into the hallway. With so many bodies pressed in together, it was impossible to avoid all the nearby heels and toes. Finally, however, they squeezed into the hall and allowed themselves to be carried back toward the

leva. Three shouted over the babble of the crowd, giving him directions to the Music room, but he quickly realised her descriptions matched the heaviest flow of students.

‘I think I know where we’re going,’ Two said. ‘People are staring at you.’

She quieted. A minute later they were in the midst of another pooling of students. This time, the entire hallway was blocked by bodies trying to get through a single doorway.

‘I think this is it,’ said Three. ‘M. Jacquard said it was popular.’

It was all Two could do to hold back a groan. The crowd was smaller than the one exiting the canteen, but electronics still pierced him from every direction, making it hard to stand still. He wanted to push out and away, not stand around waiting to see what the hold-up was. He wanted even less to funnel into another classroom and endure another hour sitting in a desk.

Over the conversations taking place around him, Two caught the edge of a deeper, different-sounding voice. An adult. ‘—afraid there are far too many—’ she was saying. Though he couldn’t catch all of it, the meaning was clear.

‘This elective’s full,’ he said to Three, bending close to her ear so he wouldn’t have to shout. ‘Can we try something else?’

‘Sure,’ she said. ‘But what?’

‘I don’t know. Let’s just get clear first. Everyone’s still trying to get in.’

He started leading her out of the crowd. Most of the students seemed happy to step out of his way and get a little closer to the desired door; it wasn’t long before the crush thinned and became much easier to navigate. Two allowed himself to scratch the back of his head. Itching didn’t lessen the sensation of barbed hooks clustered there, but a good nail-rasping briefly distracted from it.

The pressure and warmth disappeared from his elbow. A moment later, several things registered with him: Three's cry of surprise and pain as she fell to the floor, and an eruption of laughter.

'No way that worked.'

'You were right! She really is blind.'

More laughter. Two let his instinct carry him into a crouch, checking Three wasn't badly hurt.

'Maybe she just didn't see you.'

'Nuh uh – you saw it. Obvious as fox. She's blind.'

Three was on her side, curled around her right wrist: her dominant hand, which she must have put out to break her fall. He was about to ask if she thought it was sprained when something about the girls' conversation clicked.

'Did you trip her?'

The nearest girl cocked her head and grinned, twirling one of her long, blue braids.

'What's it to you?'

'Why would you do that?'

She shrugged while the other girls exchanged glances.

'Had to see if Ypsi was lying, didn't I? Thought, no *way* there's a blind girl in this school. Whyda *fox* do you even try that lie?' The girl gave an exaggerated shrug and dropped the braid, smirking down at Three. 'Guess it wasn't a lie.'

'What's going on?'

A short woman wearing a dark-coloured jacket burst out of the crowded part of the hallway. Two might have mistaken her for another student if not for her voice: it was richer than the other female notes filling the hall, somehow fuller and stronger. It carried through

conversations and put an end to them, until Two found himself kneeling in a much quieter crowd.

‘She tripped my friend!’ he said, trying to ignore the thirty or forty faces turning in his direction. ‘She did it on purpose – she said so!’

The woman folded her arms and looked at the accused. ‘Is this true?’

The girl shrugged. ‘How else d’ya check someone’s blind?’

For several heartbeats nothing happened. The woman’s gaze skipped between the girl with blue hair, the bald girl on the floor, Two, and back round again.

‘You *ask*,’ the woman said at last. ‘A week’s community service, effective immediately. Now go find another elective to attend. All of you,’ she added, half-turning toward the rest of the crowd.

As students streamed past, keeping to the edge of the hall, Two bent over Three once again. The woman knelt beside him.

‘Is she alright? Would you like help getting to the medical station?’

‘I’m OK,’ Three said. She still hadn’t tried to get up. Her only movements were the fingers of her left hand, moving and pressing at regular intervals around her right wrist. ‘It isn’t even sprained.’

‘You should still have it checked,’ said the woman. ‘Even if just to get some pain medication.’

Three shook her head. ‘I’m alright, I promise. Just tell me when everyone’s gone.’

Two met the woman’s gaze. He saw the question there, and also that she wouldn’t ask while there were still legs and feet and listening ears all around them.

‘It’s true,’ he murmured, saving her the time. ‘I don’t know why they didn’t just ask, though, if it’s such a big deal.’

The concerned look on her face didn’t go away. ‘You’re Two and Three, aren’t you.’

It wasn't a question. 'How did you know that?'

'I used to be one of M. Jacquard's students. We still eat lunch together sometimes.'

Ah. Two remembered how upset their teacher had sounded, before he'd seen the wards standing in the doorway. 'And you ate lunch together today?'

The woman nodded. 'Come. Let's help your friend up and we can get into the classroom.'

'But isn't it full?'

She smiled. 'I always begin turning people away before the room is at *full* capacity.'

Together they helped Three stand. She rotated her wrist easily at the woman's request. Two thought she moved with a slight limp, but he didn't say anything.

Two almost sagged in relief when he saw the interior of the Music room. No desks. Instead, the centre of the room was given over to a scattering of straight-backed chairs, the same kind as those in the veterinarian's hutch at home. The students had dragged these into an uneven semi-circle at one end of the room and were chatting noisily to each other, either unaware of what had occurred in the hallway or uninterested now it was over.

'Sit here,' said the woman. She grabbed a pair of unoccupied chairs and dragged them through the assemblage, to the very front. Two followed, slowing his pace and exaggerating his turns so that Three wouldn't trip over any chair legs.

As they made their way through the seats, Two saw the students had arranged themselves around a large metal object lying on the floor. It was pushed up against one wall of the classroom but still took up a lot of space: two metres on its longest side, and about a metre tall. It looked like an overlarge brick. A shiver went through him as he drew closer. The needling sensations coming from the students were peeled away, replaced by a great cloud of something sharp. If metal, Two thought, could evaporate, it would condense into clouds of shrapnel like the one surrounding the strange box.

The woman deposited the chairs in the front row. She winked at him as he passed, then clapped her hands together.

‘Welcome, welcome!’ she said, smiling. ‘I declare this year’s Music elective officially *open.*’

A round of applause rippled through the crowd, catching Two off guard.

‘For those of you who don’t know, my name is M. d’Holle. Please feel free to call me Breece during class time – we don’t stand on ceremony here. The only thing I would ask is this: if any of you choose to blog about your experiences in this room, please refer to me as “M. d’Holle” in those records. It’s a small thing, but I hope you’ll understand the importance of maintaining image to the wider world. Can we agree to that?’

A round of murmurs, all sounding like assent.

‘Thank you in advance – I will be sure to return the courtesy. Enough of the formalities, though. On to what you all came for!’

She turned away from them, placing her hand against the top of the metal object. Two caught a glimpse of something glowing there. A panel, flat against her palm? Then flesh met metal and something in his mind convulsed. The unseen shrapnel was sucked inwards, towards M. d’Holle’s hand, ripping great chunks from his brain as it passed. A split appeared in the top of the metal object, which widened and slid apart. Then the shrapnel whirled outwards again.

‘Are you OK?’ Three asked. She was leaning towards him, whispering.

Had he made a lot of noise? It hurt, but a part of him had been expecting *something* to happen. He’d braced for it, or thought he had. When he looked around, no one looked back. All the other students were leaning forward, craning to see, staring, but not at him.

‘I’m fine,’ he whispered. The utter silence from everyone else in the room kept him from adding more. That, and the sight of M. d’Holle straightening up.

In her hands, grasped firmly by the neck, was a small violin.

‘This,’ she said, ‘is the only surviving instrument constructed on Earth.’

A collective gasp from the students behind him. The breath caught in his throat; not because he was well-versed in musical instruments, but because he’d never thought about things being *made* on Earth. This violin – sleek, richly-coloured despite its age – had been shaped from trees grown on another planet, which had in turn pulled their nutrients from alien soil and atmosphere.

M. d’Holle turned it from side to side. Light sidled across the various curves and surfaces more sensuously than it did against metal or glass. Two tried to recall how many wooden objects he’d encountered in his life, but he couldn’t think of any.

She said, ‘It was constructed by Hilda Huamantalla in a country called Mexico. Spruce soundboard, maple body and bridge, ebony fingerboard. Absolutely beautiful, as you can see. It’s no longer used in the Performance because the Musician’s Guild declared its component parts – all Earth-made – should remain intact. No repairs using Martian material.

‘I had to call in quite a few favours to get this instrument included in today’s show and tell. I believe this is the first time it’s been out of storage for... twenty years? Perhaps longer. Shall we see how she sounds?’

She flicked the violin up, tucking the end beneath her chin, then bent and plucked a bow from somewhere inside the metal box. If the audience hadn’t breathed since the instrument’s appearance, they breathed now: a gentle sigh from all quarters, dying away as M. d’Holle made short strokes on each string, tuning as she went.

Slowly the notes came into focus. A stillness went through the teacher, and she began to play.

Two had heard the tune before: something Bet always seemed to put on when she was frying omelettes or toasting bread. He recognised the melody, and yet the difference between

a recording piped in through speakers in the ceiling and the performance taking place before him was staggering. It was fuller, somehow. The notes expanded beyond a series of sounds to include vibrations against his face, the sight of slender fingers dancing up and down the strings, and even the soft breathing of the onlookers.

M. d'Holle opened her eyes and lowered the bow. Behind him, the class burst into applause.

'Beautiful, yes?'

Enthusiastic agreement.

'Three, would you hold this for me while I get out the next instrument?'

She said it casually, already moving forward to hand over the violin, but the room snapped to attention. From the corner of his eye, Two saw several heads follow the teacher's steps. A murmur went through the crowd, followed by utter silence as Three received the instrument. Did they think she would drop it? There was no chance of that: Two saw how carefully she wrapped her fingers and thumb around the neck of the violin, how she used her other hand to cradle the bottom before M. d'Holle let go.

The teacher pulled more instruments out of the metal storage box – a pair of violas, a clarinet, which M. d'Holle carefully assembled and disassembled before their eyes, and a zither. Each was greeted with more enthusiasm than the last, even though none had such illustrious origins as the violin.

Finally, after retrieving the violin and sealing all the instruments back inside their container, M. d'Holle indicated that everyone should stand up.

'I want to see everyone circulating around the room. Talk to people you haven't met before, ask them what instruments they play, discuss potential match-ups. This year will be about challenging yourself to try something *new*, so don't immediately dismiss an idea just

because it's never occurred to you before.' She clapped her hands again. 'Come, come. Chairs away.'

While, all around him, students stood, stretched, and began clearing their chairs, Two leant in toward Three. 'Do we have to be able to play an instrument to take this class?'

'M. Jacquard didn't mention it. It kind of sounds like it, though.'

Two grabbed their chairs and dragged them toward the edge of the room. Halfway there the cloud of sharpened particles dropped away from his mind, replaced by the needling sensation from earlier. Some kind of security system in the box, then. He preferred the mental haze emitted by whatever was protecting the instruments; it only skimmed the surface of his mind, rather than digging beneath.

Before he could sidle back inside the perimeter, his way was blocked by a short girl with curly blonde hair.

'Howya,' she said, grinning at him. 'I'm Sharlezene.'

She looked familiar. When she gave him a small wave, recognition clicked into place.

'You're in M. Jacquard's class,' he said. 'You were...'

He trailed off before finishing the thought: smiling at me.

'What's your name?' she asked.

'Oh. I'm Two.'

'Nice to meet you,' she said. 'I didn't expect to see you in Music class. You didn't raise your hand when M. Jacquard asked who wanted to take the elective.'

'It was kind of a last minute decision.' Heat rose into his face. 'I don't play an instrument, if you came to talk about match-ups.'

To his relief, Sharlezene said, 'Oh, I don't play anything either. You and your friend are the only people I recognise from class, so I thought I'd say howya.'

She flipped a hand in Three's direction, who was talking to the teacher.

'Did you come to look at the instruments?' Two asked.

An enthusiastic nod. 'They say M. d'Holle knows the director of the Musician's Guild, which is how she gets instruments every year. Did you know she almost became the Stravinsky three years back, when the old one got sick? I think she would have got it, but the old one was from this school, too. The Guild probably thought it would look like favouritism.'

'I...'

He snatched at the one piece of information that made sense. 'I thought Stravinsky was a musician on Earth. Ages ago.'

Sharlezene laughed. 'He was. But the Composer – the old one, not the woman who replaced him – used to go to this school. I don't know where the new one's from. Crus Lycus, maybe.'

Two tried to make an 'oh' face of understanding, but it was too late. The girl cocked her head. Eyes narrowed a little, she asked, 'How do you not know about the Composers?'

'I don't know.' Inside his own head, he screamed for something, anything. 'I don't play any music, so I guess I just never paid any attention.'

'You've never bothered with the Performance? At the Festival?'

He knew the meaning of the words being tossed in his direction, but her inflections made them into unfamiliar things. *The Performance, The Festival.*

She was waiting for a response. Two wished he could be anywhere else, involved in any of the other conversations being held throughout the room. Oh, you play violin? I don't play anything at all.

'We weren't...' he began, 'allowed to go.'

Sharlezene's eyebrows rocketed halfway up her forehead. 'To the Festival?'

He shook his head, which made her step back. Two hadn't even noticed she'd been leaning into his personal space until he felt himself relax a little.

'I've never met an objectionist before. Are *you* an objectionist, or just your parents? Or is it too early for you to know yet? It's worth trying at least once, don't you think?'

From one minefield to another: how did he explain he didn't have parents without bringing up his allergy, and the medical facility? And what was all this objectionist stuff? Objecting to what exactly?

Before he committed to an answer, she leant forward again, blonde curls falling around her face as she inhaled.

'Is that lavender?' she asked, eyes closed.

Two resisted the urge to sniff his own sleeve.

'Probably,' he said.

He'd noticed it himself, on the rare days he stayed inside: whenever someone came in from the fields, they brought the scent of lavender in with them, clinging to hair and clothes. He hadn't thought about dragging the smell to school.

'Is it awful?' he asked.

Sharlezene's eyes shot open. 'Of course not! Smells like you got a really good batch, but why would you waste it on school?'

Two shook his head. 'I wouldn't call it a waste, exactly.'

'Well, it's not a special occasion, either.' She cocked her head, grinning. 'Unless it is?'

Two edged to the side of the girl, gauging the distance between himself and Three. He wasn't certain if it the palm pilots or the conversation were making his head hurt more.

Screw it, he thought.

'I'm sorry,' he said. 'I've got to go check on my friend.'

## FOUR

A girl with stubble for hair gave him directions to the Art room. When he entered, Four's first thought was that he'd taken a wrong turn somewhere: the overhead lights were off and the room looked empty. Then, he heard a cough. Something shifted and details began to emerge from the gloom.

Small lights dotted the room, projected from the top of strange-looking desks. Silhouettes hunched around these displays, looking as though they were watching films of some kind. When he moved toward the nearest one, however, its occupant was leaning into the glowing field of light, a stylus in one hand. The boy used it to sketch a short, black line. When he pulled his arm back, the line remained, hovering.

'What is it?' Four asked.

The boy turned and scowled up at him, expression distorted by the glow.

'Mind your own business.'

Four took a step back. Before he could explain he'd meant the machine, not the image, the figure turned back to his drawing.

'Have you used a voxelbox before?'

A new figure had sidled up next to him. He could make out very little about her, just that she was tall and wearing a dress that glimmered oddly in the light of the nearest machine. Her voice was deep and slow, deliberating over each syllable before moving on to the next.

'Is that what you call it?' he asked. 'A voxelbox?'

A strip of white appeared: she was smiling. Four realised the woman's skin must be very dark. He could barely make out the shape of her against the shadows.

‘Indeed,’ she said. ‘I find about half of those students interested in the Art elective have encountered a voxelbox during the course of their schooling. Half again have had the chance to use them and, of those, a very small percentage are proficient in their use.’

‘Are they rare?’

‘Not rare,’ the woman said, ‘just specialised. As you can see, they take up quite a bit of space, and most of what can be done on a voxelbox can also be achieved using a wallscreen or datpad. One needs only the software, not necessarily the hardware.’

Four watched the boy who’d scowled at him as he sketched several more black lines into existence, above and below the first.

‘During the first week of school, when students are testing out the various electives, I encourage them to play around with the machines. Would you like to try?’

He nodded and sat at the nearest device. His neighbour – the scowler – narrowed his eyes over at him, then went back to his growing flock of black lines.

The teacher pulled up a second chair and perched beside him. When she reached forward and turned on his machine, Four saw he’d been right: the glow illuminated a well-formed hand and arm with skin many shades darker than his own.

‘It works best if you link your palm pilot to the voxelbox. That way it can act as a menu for tools and selections while the box displays your work-in-progress.’

‘Um.’

She dipped her head. ‘It’s perfectly safe. The school uses only temporary connections until next week, when elective choices go through. None of your information will be stored.’

‘It’s not that,’ Four explained. ‘I’m not really sure what a palm pilot is.’

Except, he had an inkling. His suspicions were confirmed when the teacher reached up and tapped the workspace.

‘May I?’ she asked. She rolled her hand over, unfolded her fingers, and allowed the glow of the voxelbox to spill across her skin.

There, nestled within the lighter-coloured flesh of her palm, was a rectangle of something else. At first he thought it was just a discolouration: an evenly-shaped patch of skin that almost matched the surrounding pigmentation. The longer he looked, though, the less natural it appeared. It was... glossy. The creases dipped in and out of the area, but inside the faint border they were thinner, less pronounced.

‘What is it?’ he asked.

The teacher reached up and pressed her forefinger to the centre of the area.

‘A palm pilot,’ she said.

The glossy portion of skin lit up, emitting a glow as bright as the voxelbox below. Images began flickering across the surface and, as she withdrew her finger, the words, “Good afternoon, Cira” appeared and faded.

‘I don’t have one of those,’ he said, proffering his own cupped hands.

The woman took a moment to consider his matching, unblemished palms.

‘Indeed,’ she said at last. ‘In that case, the voxelbox will have to perform both functions – displaying your work and the menus required to access various tools. Shall I show you some of the basics?’

He nodded, pulling his hands away as she produced a stylus from somewhere. ‘The main benefit of having a voxelbox is that it allows you to work in three dimensions,’ she began, then gave a description of its anatomy and basic functions. At one point he locked eyes with the boy sitting a few feet away. It might just have been Four’s vision beginning to adjust to the darkness, but he looked less annoyed than before.

‘There is no assignment today,’ the woman said, handing him the stylus. ‘Play around with whatever functions you can find. Later we’ll look at specific tools in more detail, but for now I’d like you to get a feel for the machine.’

‘So we use them a lot during the elective?’

The woman dipped her head. The contours of her face flared into sight: narrow nose, high cheekbones.

‘I don’t know your name,’ he said.

‘M. Sandhi. And yours?’

‘Four.’

She smiled. ‘An artist’s name, if I ever heard one.’

With that she rose, head and torso melting away, hands and hips withdrawing from the light.

Four turned back to the voxelbox and its glowing field, which was about a foot and a half on every side. When it came to drawing, it was more space than he’d ever had before. A medical assistant had once allowed Four use his datpad while the wards were confined to their rooms and he’d had to wheel in the equipment needed for scans. Afterwards he convinced the carers to install a drawing programme on the communal terminal in the living room, but it had been slow and included only the most basic options: Pencil, Fill, Text, Erase, Colour Select, and Magnify.

By contrast, the voxelbox offered too many functions. A variety of tools seemed to do the same thing, or nothing at all, when applied to a series of blue and yellow scribbles. Others made only slight changes he had to squint to see. Eventually he reset everything and focussed on sketching. Nothing in particular: the climbing frame that used to stand in front of the house, a close-up of a radish, what he remembered of the school’s exterior.

At one point he repositioned himself in his seat, looked up, and realised he could make out the walls of the classroom. A counter ran the perimeter of the room, housing many different kinds of equipment: devices on articulated swing arms, magnifying panes, a stack of datapads. As Four twisted to take it all in, his gaze fell upon the scowling boy. The drawspace of his voxelbox was filled with black lines.

‘Time to go,’ the boy said. He did something to the side of his voxelbox and the glowing field – harder to see now the overheads were on – flickered out of being, taking the sketch with it.

The boy rose and walked away before he could reply. M. Sandhi thanked him for coming as their paths crossed, then she continued towards Four.

‘Do I have to take a second elective?’ he asked. ‘I just want to draw.’

The lights revealed her to be straight-backed and narrow-featured. When she smiled at him, the sight of her teeth was just as shocking as it had been in the dark.

‘I appreciate the enthusiasm,’ she said, ‘so I’ll make you a deal. If you try some of the other electives and *don’t* find something that holds your attention, you can take a double elective.’

‘You just want me to try them?’

She nodded.

‘I won’t like them.’

Instead of contradicting him, she smiled and gave a small shrug.

‘The other students have their induction packs to consult,’ the teacher said, turning over her hand and stroking the palm pilot, which once more resembled a glossy discolouration. ‘Would you like me to tell you some of the available options?’

She did. ‘That one,’ he said at last. ‘Where do I go for Gardening?’

M. Sandhi gave him directions to the greenhouse attached to the back of the school: that spill of glass and chlorophyll Four had forgotten to include in his sketch of the building. Eventually, after backtracking twice through near-identical hallways, he found the correct doorway. It looked like all the others he'd seen in the school, except the labelling plaque bore the word "Greenhouse" instead of a room number. Underneath, someone had defaced the corner with a strange triangular squiggle. Four stood just outside the range of the door sensors, staring at this mark and trying to push himself toward the door.

He'd been so certain when asking M. Sandhi for directions, as certain as he'd been when reaching out to touch the school's exterior. It was only after he made contact that the consequences rammed home: what if the wall *had* been made of stone? He hadn't thought about it until too late; only luck had saved him from having an allergy attack right there on the front lawn, in front of everyone.

Taking the Gardening elective could be the same deal. Stupid, impulsive, careless: all the things the doctors loved to call him after one of his "excursions". At home he could brush off their words and carry on... but he'd touched that wall in front of a hundred people.

He didn't *need* to take Gardening. He could find what he was looking for at home, in the forest.

'Where's the fun in that?' he whispered, still staring at the plaque.

The risk, you mean, another voice replied. It sounded like both of the carers, whispering along with one another.

The door slid aside for him, releasing the smell of wet earth and leaves. He glimpsed a row of shelves, a spray of leaves; then he was stepping forward into the moist air, eyes closed. He hadn't understood until this moment how long he'd been stuck inside metal rooms. The scents unleashed a barrage of his greenest memories. Tomato leaves, somehow smelling of the sun. Bark underfoot and under hand. Crouching with Two while the

fieldhands harvested alfalfa, daring each other to go under the fence and run ten feet, twenty feet, thirty feet into the field.

He never thought he'd find these memories here, trapped within the glass walls of a strange city. Four plunged between shelving units, following the whisper of sprinklers. Voices in the distance told him which direction the other students were gathering, but he let himself drift there in a roundabout fashion.

There was no obvious organisation to the plants he passed, apart from the most generalised groupings: seemingly empty trays sat alongside fully-grown ferns, snake plants, lilies, others he didn't recognise. One aisle was filled with ivy and honeysuckle vines dangling from an overhead gantry. Every now and then he encountered mobile workbenches cluttered with tools he recognised from his gardening chores at home. He found bags of potting soil and nutrient mix but no actual dirt, nor the things that came out of it.

After several minutes of wandering, Four concluded the greenhouse was at least as large as the ground floor of the school. He spied several figures among the shelves, each wearing a tan tunic and tending to the plants. They didn't look like teachers, and none of them did more than glance up when he passed. Most wore thick brown belts around their waists, from which Four saw thermometers, clippers, and moisture sensors being drawn. Gardeners, then, rather than teachers.

A new note entered the murmur in the far distance. Four turned toward it. The adult voice became more and more distinct as he neared, until at last he emerged from between the shelves into a space that had been cleared for nine large tables. Students waited nearby, forced to stand by a lack of chairs. His late entry went unnoticed because all eyes were on the man lurching through their midst.

He wore a tan tunic similar to those on the other gardeners, but his had been modified to allow for freakishly large muscles. Triceps and biceps bulged from shortened sleeves,

giving way to deltoids that forced the man into a stooping posture. As he passed between tables, Four saw thigh muscles rippling beneath cloth so taut it looked about to rip.

Equally difficult to ignore, however, was the cane clamped between the man's hands. It stabbed forward before each step, anchoring its owner and taking the full weight of his torso. That explained the slow, heaving gait with which he moved among the students; what didn't make sense was why such a powerful individual needed a cane at all. Maybe the set of his shoulders would overbalance him without it?

'Nice of you to join us.'

Four flushed, caught staring. The man performed a slow, awkward turn on the spot while the students within his line of sight followed suit. The ones behind took their turn staring openly at the man's warped physique.

'I suppose you're with the numbers clique.'

Four did his best to reply, but the man's face – pitted, baggy, drained of the usual fat deposits and water content that made a face recognisably human – derailed his train of thought. How could such a withered face belong to so obviously a robust, muscled body?

'What?'

The man's expression narrowed. He tipped his head to the left and said, 'Bizzo and Bazzo over there. I suppose that makes you Buzzo?'

He glimpsed movement in his peripheral vision. The other wards were standing at the furthest table, Two lowering a hand and shifting at the sudden, unexpected attention from the rest of the room.

'Yeah,' said Four. 'Buzzo, that's me.'

Ignoring the chuckles this drew, the man clumped forward a few steps. 'Well, Buzzo. Before you interrupted, Elek was telling us what plants he's grown at home. Elek?'

Four pulled up short, wanting to correct the man: *he* hadn't interrupted anything. One of the students at a nearby table cleared his throat.

If M. Sandhi had the darkest skin Four had ever seen, this boy had the lightest. He was paler even than Three, with a handful of freckles dashed across his nose and cheeks.

'Nothing too impressive,' he said. 'I just help with the allotment in my housing complex. Potatoes, mostly. Squash, some onions. I think once there was a pepper plant, but it got stolen before we could find out for sure.'

The teacher, or gardener, or whatever, nodded. '*Solanum tuberosum*, very common choice for black gardens. They almost grow wild at this point, or they would, if the Guild let them.'

Elek's cheeks reddened, but the man took no notice.

'*Cucurbitas* are also a popular choice. *Allium cepa*, though – harder to hide, harder still to harvest. If it weren't for the *Capsicum annum* getting stolen, I would have thought you'd hired a little protection for the area.'

'We really do just grow in the allotment,' said Elek. 'There's a rota for the onions and everyone sticks to it.'

The man made a noise in the back of his throat. 'Tell that to the clodpiper who stole your peppers. How about you?' he asked.

He motioned with his head toward the girl beside Elek. She straightened up and stammered, 'Mum has a tomato plant in the kitchen window. It never grows anything, though.'

'Of course it doesn't!'

The girl stepped backwards.

‘*Solanum lycopersicum* needs eight hours of light a day to get anywhere – you’re starving that poor plant. I suggest you find somewhere outside or scrape up enough credits for a grow rig.’

‘But...’

‘And you, Buzzo? You look hearty enough, so you’re supplementing with more than just window dressing.’

Four had made it over to where Two and Three were standing. He planted his hands on the tabletop, wishing he’d never left the shelves. The greenhouse was large enough; maybe he could have spent the last hour of every day wandering in the greenery.

‘We have some gardens,’ he said, trading a glance with Two. ‘The carers make us help with all of them.’

At this, the man closed his eyes and nodded. ‘Mmmmm, spoken like a true infantile, put upon by all.’ His eyes snapped open. ‘Well, go on. What’s come to fruition?’

‘Tomatoes, aubergines, pumpkins, mint, coriander... lots.’ An image of the hills around the house sprang to mind. ‘I guess I helped plant the lavender, but that’s out of control now. We don’t really take care of it anymore, just cut it back.’

‘Interesting, interesting.’

He clumped forward on his cane, moving between tables with the same deliberate movements as before. It was only as the silence stretched and the man continued lurching toward him that Four realised something new was happening.

‘Would you like to know where you went wrong?’

The shelves at his back radiated messages of safety and silence. It would only take a few backward steps to reach them. He could turn and sprint away; there was no way this adult could keep up with him.

‘Sure,’ he said, ‘I guess.’

The man smiled at him, drawing closer with each clunk of the cane.

‘*Solanum lycopersicum*, fine, *Solanum melongena*, fine. *Cucurbita pepo* – slightly unusual, fewer meals to made from pumpkins. A *Mentha*, though? *Coriandrum sativum*? I suppose your family could be fabulously wealthy, your garden extremely well-guarded, but I don’t really believe it to look at you.’

A few more steps brought the man up to their table. Four was grateful for its width and weight between them. In a voice so low it was nearly a hiss, the man said:

‘*Lavendula*, though? Do you really think I’m so stupid as to believe you’ve grown *Lavendula*?’

Four didn’t have time to get the other wards to back him up; as he shared a helpless, confused look with Two, the man began talking again.

‘It might be time,’ he said, voice raised, ‘to explain why Gardening is not merely an elective. Some of you might already know the reasons – your parents or an older sibling will have taken you aside and explained this simple truth: Gardening is a way of life.’

Four couldn’t help himself: his eyes rolled up toward the overhead gantries, then back down and onto the aghast expressions of nearby students. They’d all seen him scoffing, including the teacher, but he couldn’t help it: how often had the fieldhands said exactly the same thing?

‘Yes,’ said the man, his smile deepening, ‘a way of life. Not in the sense that it will give meaning to your days on this planet, or fulfil you emotionally, or even provide you with satisfying housing levels.

‘What it will do, however, is *be* there. When *you* need it.’

The man spit out the words, eyes burning a hole through Four’s face.

‘The Gardener’s Guild is the only career you can be certain of, no matter how much or little education you receive. Flunked out of underschool and need subsidy? Guild. Made it

all the way through overschool just as your sector is downsized? Guild. Plain useless and can't keep a job? Guild.'

The man actually raised his cane and stabbed it in Four's direction, a manoeuvre that looked so risky it couldn't have been spontaneous.

'The Guild takes *everyone*. We keep the domes going, in more ways than one. But if you think you can wander in here and disrespect that level of support, you'll be drawing only the most *unpleasant* jobs. Weighing fertilizer. Washing recyclables. Mopping. I take particular pleasure in taking liars and turning them into moppers.'

Silence descended, more complete now the tirade had ended. Even the far-off whisper of sprinklers had died away.

Four only realised the man was waiting for some kind of response when he tilted his head and said, 'Well? Would you care to amend your previous statement?'

'I...' he said, trying to remember what had caused such outrage in the first place. 'I didn't lie,' he said at last. 'We grow lots of—'

'*Lavendula*,' the man said, word emerging from between clenched teeth.

'Yes, lavender. We grow lots of it at home.'

'I see.'

The man, whose name Four still didn't know, lowered his head and closed his eyes. He stood like that for several moments, just breathing. At last he roused himself and turned away.

'Everyone pick up a trowel,' he said. 'It's time for your first lesson.'

There was a rush of activity from all parts of the room. Four looked at the pile of tools in the centre of the table, extricated a trowel. Two was doing the same.

'I guess this is the gardening teacher?' Four asked.

‘More than that,’ Two whispered back. ‘He’s head of the Gardener’s Guild, whatever that is.’

‘Something important,’ Three added.

‘Yeah, no shit, Blindy.’

Four ignored a not-so gentle tap from Two’s trowel. The man was hunched over his cane near the centre of the work area, head turning occasionally to stare at the occupants of a different table. Everyone shrivelled from his gaze.

‘Alongside your trowels,’ he said, narrowing his eyes at someone who’d managed to select a weed puller, ‘you should find a stack of plant pots. Take one of those as well.’

Everyone did so, movements less frantic now that everyone had secured positions at tables.

‘Next week, when you infants have decided whether you’re in or out, we’ll start at the beginning. Soil pH, nutrient balance, microorganisms, moisture levels, drainage – the building blocks. For now, though, I’d like you to dig a hole for a seed.’

Four blinked, trowel in one hand, pot clasped loosely in the other. Was this a joke?

Around the room, several students started digging with the tips of their trowels. Two snorted softly. Four realised it wasn’t a joke: it was a test. The man was trying to gauge which students had real-world gardening knowledge, and which did not.

Two and Three had already abandoned their trowels. Four followed suit, extending a finger and preparing to thrust it into the dirt. At the next table, Elek was doing the same. He must have grown up in a gardening environment as well, maybe running through freshly-tilled earth, poking podgy fingers into the ground and shrieking at a job well done.

Four's finger plunges into the dirt before him...

...but he never remembers pulling it back out...

...instead...

**The nimbus before his eyes occludes the list, his sole business. The trees are dew, drenched in water from some hitherto-unknown realm. The beautiful, unspoken, unfamiliar name dances in the light of nearby unbearables: she is rainbows sleeving along flesh-and-blood potentials, a secret leaping forth, imbued by the as-yet ungiven. A perfect candidate. Precious rarity, desired by all. His own to direct, one place or another.**

**The scientists will demand explanation, should the sound slip forth: nay. Yet it is an explanation meant for others, a gift sample of green and growing things.**

**The sand is running. The glow is almost over, dazzling rain parted by his gigantic high consideration. The urging garden sighs, sensing the weight of skin stripped forth by inky accusations. One place or another. Where to place those jewel-like materials, that fronded, moss-drenched hope?**

## Chapter Four

### TWO

Two replaced his plant pot on the table, a new hole in the centre of the dirt. He was staring into it, thinking maybe Four hadn't come here to do something stupid after all, when a form disappeared from his peripheral vision.

He turned in time to see Four slipping out of view, collapsing backwards. There was a limpness to him that made Two's heart shoot up into his throat. All his senses screamed in the unity of panic

*(allergy!)*

and that scream was a cracking noise, reverberating up and out.

Four lay against pale concrete, eyes closed, arms and legs spread. He could have been basking in a sunlit moment except there was no sun, nothing to bask in; just a greenhouse floor and silence unrolling like an echo. Some important part of Two, the acting part, the *do something* part, was carried away by blood rushing through his ears. He stood there and watched the stilled body of his friend. The other part of him counted heartbeats.

...three-four, five-six, seven-eight...

From very far away, Two heard a question being asked. It was as if the teacher had discovered something going wrong, but in the next room over.

... nine-ten...

...eleven...

Four's chest heaved off the floor. All his limbs jerked, then jerked again. His lips parted and Two's hearing snapped back into place. One moment, thick, rhythmic grunts penetrated the room's silence. In the next, they were lost beneath the babble and screams of other students.

The spasms began. Extremities twitched and shook. Four's head lolled to one side, rocked there by the same force pressing those half-cries up his throat. Both concrete and scalp were dappled in red shadows.

Two only realised time was doing something strange when he blinked. Three knelt on the ground, one hand against Four's temple and the other cradling his head; not trying to hold it still so much as stop the worst of its collisions with the floor. Even unconscious, he fought against her, seizures pulling him this way and that.

Two blinked again. The wards had moved a foot and a half closer, leaving a smeary, indistinct trail of red to mark their progress. Four's chest strained upwards. His hands and feet tapped and jerked against the concrete, but now his fingers looked in danger of being stepped on. The other students had pushed in close, effectively locking the teacher out of the proceedings. Some were still shouting, but most were silent: open-mouthed, staring, soundless.

Blink.

Three was being ushered to her feet, smeary hands cradled by a woman wearing a blue jumpsuit. Men wearing white crouched at either end of Four. At some point they'd pushed back the crowd, giving them enough space to extend a portable stretcher. They placed professional hands beneath shoulders and knees.

'Two.'

'Huh?'

The noise rose from him, as thick and senseless as Four's grunting.

'Two, we need to go. Come with me.'

He followed the woman in blue, away from the pulse of questions. Green enfolded them for a while, then a door was pulled open and he emerged onto the rear of the school. The cityscape sulked overhead.

Blink.

Something solid pressed into his back: a wall. Four lay directly in front of him, secured to the stretcher by wide straps around his chest, waist, and thighs. He was still and silent, breathing regularly. The woman who'd guided them out of the greenhouse sat at the front of the stretcher, hands clasping the sides of Four's head, keeping it centred on a compress tucked underneath.

'He hit his head,' Two said.

Bet looked up, gazing at him from across the length of Four's body. 'Yes,' she said.

'When he fell.'

'Yes.'

The sobs burst out of him, barrelling up from somewhere deep inside his chest. Three, beside him on the narrow bench, put a hand on his shoulder. He turned and clung. Together they wept into each other's shoulders, Two trying again and again to escape the images flaring against the backs of his eyelids.

'There weren't any rocks,' he repeated. 'There wasn't anything – he was just standing there.'

When the strongest of his crying died away, Three pulled back.

'No,' she said. Her voice was thick with tears and snot but underneath those things it was strong. 'The plant pots.'

'But someone always sifts the dirt before it goes into trays, or the garden beds...'

'It's always sifted *at home*,' she insisted. 'We don't know what they do in the greenhouse.'

The plant pot. Of course.

'What,' said Bet, 'was he doing in the greenhouse?'

She didn't look up to ask this.

‘We took different electives,’ Three said. ‘He went to Art, we went to Music. Afterwards Two said we should go to Gardening. Just in case.’

‘I knew he’d go for it,’ Two muttered. ‘He didn’t show up at first, but then...’

Bet looked down again, great clouds of black hair descending to obscure her face; without a free hand, she couldn’t tuck it behind her ears.

‘It was an accident,’ Three said. ‘He wouldn’t set off his allergy in front of people like that. Not on purpose.’

‘He shouldn’t have been in the greenhouse at all,’ said Bet.

She shifted in her seat, still not looking away from Four’s unconscious face. Two opened his mouth to ask how they’d been supposed to stop him: wait at the door and drag him away? The *best* they could have managed was keeping an eye on him. If only Bet would meet his eye, let him explain.

She did none of those things. Two let his gaze drift around the rest of the room. It was barely large enough to contain all four of them: narrower than it was wide, with small cabinets to either side of where Bet was sitting. At her left, an electronic display spewed a variety of lines.

‘What is this place?’ Two asked.

‘An ambulance,’ Bet replied. ‘It’s taking us home.’

Home. The word caught in him like a needle.

‘Good.’

There was no sense of movement in the compartment, but it had been the same with the uber that morning. They’d climbed in, sat opposite each other on plush seats; then, half an hour later, the doors had opened and they’d climbed into a new world. No sense of acceleration or momentum. No hint that, in eight hours’ time, one of them would be returning unconscious.

The promise of home stretched and elongated the journey. The trip that morning had taken seconds; now all the missing time was funnelled back around. An ache crept into his back and legs. The adrenaline in his system slowly drained away and his allergy reasserted itself. Invisible angles pressed themselves into his skull.

Just as he was about to declare he *had* to stretch his legs, the wall to his right split open. Light poured in, followed by the heady scent of lavender. Two scrambled forward, all but climbing over Four's unconscious body to see what his nose had already told him.

Aleph was standing at the back of the ambulance, waiting for the doors to finish retracting. Behind him, Two could see swaying wildgrass and the far-off smudge of trees. Only a small portion of the valley, but it was enough.

Aleph leant into the ambulance, taking hold of the stretcher handles by Four's feet.

'Off,' he said. 'Quickly please.'

Two sagged back, allowing the carers to hoist Four up and out. As soon as Bet had dismounted, he surged after her, throwing himself into the sunshine.

So much texture to the world! Warmth and wind and wildgrass brushing against him, smells he'd never noticed or missed until this moment. How was it he'd never choked on the lavender before? The smell of it hung in his nostrils, coating the back of his throat with every breath. For one crazy moment he thought his airway was closing up. Then he breathed, and breathed again, and tipped his face up to the sun, and he was home.

'Bet's mad at us.'

'She's probably just worried about Four,' he called over his shoulder, not quite ready to open his eyes.

A light thump, a rustling noise, and the voice grew louder. 'She kept asking why Four was in the greenhouse.'

He kept his face tipped up to the sunshine, arms spread as though he could melt into it. Maybe he *was* melting a little. He felt softer at the edges, as if the metal and glass of the city had hardened him, only for that shell to slip away with re-exposure to his natural elements. The sense of release grew and grew.

‘Oh,’ he said, opening his eyes.

Beside him, Three asked, ‘What?’

The ambulance had glided away, taking the closest bundle of electronics with it. Now the only allergens close enough to register were the IDs fastened their jumpsuits; everything else was... smooth. Nothing scratching or clawing to be let in, no digging sensations to ignore.

Without even realising, he’d become a fist. Now, hours later, the assault had ended and he unclenched.

‘What’s wrong?’ Three asked.

‘Nothing,’ he said. ‘Come on, let’s walk for a bit.’

The house where they’d grown up was nestled in a large depression in the landscape, surrounded on all sides first by a patchwork of garden plots, then gentle uphill slopes, and finally the forest. Aleph and Bet had long ago disappeared through the building’s front door but Two could still see the path they’d trampled through the lavender.

Instead of heading toward the house, Two turned uphill. Three followed without difficulty; here, she didn’t need his elbow for guidance. She drifted off to the left. Neither worked very hard to avoid stepping on the lavender. Four hadn’t been wrong when he’d said it was out of control. The original cluster of herbs, which Two vaguely remembered as being near the climbing frame, had eventually spread across every part of the valley. Only the forest at the top had stopped its advance.

As they reached the line of trees, Three said, ‘He didn’t do it on purpose.’

‘That’s not why the carers are mad. He would have done it eventually.’

Three reached out as they crossed into the shade, feeling for the nearest tree trunk. Her hands were still smeared with Four’s blood.

‘They knew he’d set off his allergy but they sent him to school anyways,’ she said. ‘Just like they knew it would set off *your* allergy.’

Two remained a few feet away, trying to figure out which part of the valley they’d climbed by the angle of the house.

‘And they sent me, too. Even though that woman told them the school wasn’t equipped for blind students.’

West. They were on the western crest.

‘Why did they do this?’ she asked. ‘Two?’

‘What?’

‘Why would they keep the city a secret so long, then force us to go to school?’

He turned away from the house and sat down. ‘They told us why,’ he said. ‘The doctors think I’m getting better. Four’s fine when he isn’t setting his off on purpose. We have to adjust if we’re going to live normal lives. *I* have to adjust.’

‘But why wouldn’t they tell us before?’

He shrugged. ‘They probably weren’t sure. What if my allergy had got worse? We would have known about a city we couldn’t visit.’

Three didn’t speak for a while. Two stared at the blood on her hands. It was drying, at least. There were fainter smears on her cheeks and knees, all the places she’d touched without realising what she was spreading.

‘They lied.’

‘What?’

She tipped her face toward him. ‘They lied,’ she repeated. ‘About not being allowed on school grounds.’

Two jerked his head up. ‘That’s a stupid thing to lie about.’

She shrugged. ‘During Four’s allergy attack, Bet came and got us out of the greenhouse.’

‘What?’

‘Don’t you remember? Bet and the medical assistants, with the stretcher. They took us right out of the greenhouse.’

‘I remember.’

‘Well, how did she get in there without an ID? Aleph said—’

‘I know what Aleph said. Are you saying you wish she *hadn’t* come with an ambulance?’

‘No. I’m just curious why they’d lie about it.’

‘Maybe Bet is allowed on school grounds but Aleph isn’t.’

He was furious before he’d even finished the words. Completing the sentence only proved its inadequacy: a stupid thought, no explanation at all.

‘I don’t know what the answer is,’ he said, ‘but they can’t lie. They wouldn’t.’

Three seized on something in his voice. ‘Can’t? Or wouldn’t? It isn’t the same thing.’

‘They *wouldn’t* lie. They’re our carers.’

She bent her knees, half-tumbling into a seated position at the base of the tree. As always, her expression was unreadable.

‘Remember when you first started helping with the cattle, and you wanted to know where the fieldhands slept? They lied then, too. I bet you they all live in the city, not an underground barracks. *We’re* the underground barracks.’

She pointed toward the branches overhead, black against the sky's blue. 'That's a lie, too.'

'Yeah, well,' Two said. 'That's for the cows and the crops, not us.'

'But it took finding the edge before they told us about it.'

He grabbed a twig and used it to scratch shapes into the dirt. Three wasn't wrong, exactly, but the picture she was building toward didn't feel accurate either.

'If they lied, or whatever, it wasn't to be hurtful. Like I said – you can't tell the sick infants about a world they'll never see. It's cruel.'

Inspiration struck.

'Like Four,' he said. 'The doctors tell him over and over that he's hurting himself, and what does he do? He goes out and does it *again*, just because he's trying to prove some stupid theory about the things he sees...'

Twitching, shuddering legs, fingers taut and clawed. Those awful grunting noises.

'...while he's having a seizure.'

Two dropped the stick back into the dirt.

'I wish they'd never asked about the hallucinations. He got stuck on it,' Two continued, 'like we would have got stuck on the city, if we'd known about it. Always thinking about it, trying to prove we were getting better so we could maybe go there. It would have messed us up.'

'Like Four is messed up?'

'Calling it messed up is a little—'

'*You're* the one who thinks he's "stuck" on it. He's only *stuck* if he's wrong.'

Two froze.

She went on. 'You're the one who acts like he's committing a crime whenever he sets off his allergy. You've even called him messed up to his face.'

‘You didn’t see what happened in the greenhouse,’ said Two, ‘or on the climbing frame, or any of the other times, but you can hear it. You’ve heard what the doctors say. He’s *hurting* himself and he keeps doing it. It’s messed up. *He’s* messed up.’

‘If he’s wrong.’

The breeze was very loud between them. Suddenly, it wasn’t the cool air on his arms or the scent of lavender that struck him hardest: it was the smell of sweat. One or both of them was sweating, and the stink was an invasion. He didn’t know why. He often worked around men and women who spent entire days perspiring into the same set of clothes. This sweat was different. It reminded him of the city.

‘You think it’s good he keeps hurting himself?’

‘He says his seizures don’t hurt as much as they used to.’

‘Does it matter what it feels like? The doctors have scans. The wires give them real medical data, not just *feelings*. They can *see* what’s happening to his brain.’

‘But they can’t see what he sees. They don’t know what the visions feel like.’

‘And you do?’

‘No,’ she said, ‘I don’t. But I know the carers have lied to us, which makes me wonder about the doctors. And their scans.’

And just like that, Two was on his feet.

‘So everyone’s a liar, is that it? The carers, the doctors. Fieldhands, too?’

‘You’re the one who helps with the cattle. When you were little, did they ever tell you about the city or—’

His brain took the words and turned them into motion, his feet propelling him downhill. He was flying over the lavender, over the grass: not toward the house, but crossways around it, toward the other lip of the valley. It didn’t matter how fast he ran, though.

‘-where the cows go when they disappear?’

She must have wrapped her hands around her mouth, amplifying her shout, because he was almost to the northern treeline when he heard:

‘Have you ever known Four to lie? About anything?’

#### FOUR

orbited around consciousness, aware of himself only when a throbbing sensation pulled him back into being. He became a series of broken impressions: ribcage rising and falling, dry and swollen tongue, a tightness pulsing through his head, neck, and shoulders. Pain sketched a connection between various parts, which in turn brought the rest of him into focus. Cool air flowed across the contours of his face. His scalp itched. There was something soft under his head, something firm supporting his back, and something heavy pushing down against his arms. There was something important to do.

This last didn’t have the same weight as the other items. It was both less substantial and more compelling, leading him away from the sensory information lighting up his brain. There had been something to do... very important...

Find a stone. No! He’d already found one and touched it: must have, because his head only ached like this after an allergy attack. The panic, the closed-in feeling of *being trapped*, had been part of the vision. What else had there been?

Four backtracked over the last things he remembered. Wandering through the greenhouse, trees, deformed man calling him a liar... wait. There hadn’t been any trees in the greenhouse. And yet they were vivid in his mind: huge things, so green and swaying that it hurt his eyes to look. The leaves and branches of each tree mingled with those of its neighbours, a thousand trunks feeding into a single canopy. The sky had been wrong, but he couldn’t remember how. There had been something else – rain wetting his face, a drop or

two splashing on a datpad in his lap. Hope? Despair? A list of names. Four could remember a list, but not what it meant.

He strained, trying to see the names without obliterating them. Whoever he'd been during the vision – whoever had *actually* seen the sky and forest, sitting with the datpad on his or her lap – that person kept looking at one name in particular. It had been so clear before. Now the letters warped and blurred in his mind's eye, refusing to resolve into the symbols they'd been. It had been so important! Something to do, a decision to make, someone's *life* at stake

'Are you with us? Are you in a lot of pain?'

The voice blasted away the name just as it began to unfurl across his brain. Four's eyes snapped open, as did his mouth.

'I'm fine,' he tried to say. Only a croak emerged.

'Would you like some water?'

Four settled for a nod. A popping sensation rippled up the back of his head, deepening the ache in his neck and shoulders.

'Try not to move,' said Dr Damlund. 'We scanned you when the carers brought you in – you'll still be sore from that.' He sniffed. 'That and the injury, of course.'

He stepped to one side of the bed as a medical assistant brought a glass of water. A straw poked over the top, which the assistant nestled into the corner of Four's mouth. When he managed a weak pull, cool water exploded against the roof of his mouth. He almost moaned with relief: he hadn't realised how thirsty he'd been.

When the straw began making hollow sucking noises against the bottom of the glass, the assistant pulled it free. He waited a moment, leaning between Four and Dr Damlund.

'Would you like some more?' he asked.

'Yes, please.'

The assistant smiled and left to refill. Probably the water was mixed with painkillers of some sort; Four found the ache fading from his neck and shoulders, enough that he could turn his head and track the assistant's movements across the medbay.

The room was semi-circular, about the same size as M. Jacquard's classroom but with a relative emptiness that made it look much larger. Instead of desks arranged evenly throughout, most equipment was tucked away into alcoves or stored in cupboards. Four's bed was one of three pushed against a straight wall, while a single, unbroken counter followed the curve of the one opposite.

The assistant crossed toward the water dispensers housed between the countertop and overhead cabinets, breaking off to make way for Dr Yamata as he sailed in the opposite direction. Yamata navigated the medbay like he was its sole occupant. Four had only ever seen him make course corrections for Dr Damlund, who had the habit of stopping mid-task to check things on his datpad.

Dr Yamata looked as though he might be coming over to discuss Four's latest allergy attack, but at the last second he veered toward one of the other beds.

'What's she doing here?' Four asked in a hoarse voice.

The doctor didn't turn. Four glimpsed him placing an ice pack over Three's right wrist before the man's back blocked the view entirely.

From somewhere behind him, Dr Damlund said, 'Sprained wrist from being tripped at school. It should have been treated at the nurse's station, but she thought it was only bruised.'

He sidled around the bed. 'If I were you,' he said, peering down at Four, 'I'd be more worried about yourself than Three. These results show—'

The assistant returned with another glass of water. Dr Damlund sniffed and stepped back, busying himself with something on his datpad. Four drank as slowly as possible,

staring at the doctor's wispy white hair being pushed this way and that by the air conditioning. Apart from one of the veterinarians, Damlund was the oldest adult in the valley.

When the glass was empty again, the assistant smiled, patted the heavy blanket tucked over Four's torso, and went back across the room. It took the doctor several minutes to finish whatever he'd started in the interim.

'I want you to look at this,' he said at last.

He held out his datpad, angling it so that Four could see from his prone position. At first the screen was obscured by a keypad overlay but, when the doctor swiped with his free hand, the image became clear: it was a brain, lateral and medial angles displayed side by side.

'Mine?' Four asked.

Dr Damlund confirmed, then tapped something. Flickers of light began racing through the paired organs, rich yellows and oranges that brought life and depth to the inert, hollow shapes.

Four had glimpsed images like this before, on passing datpads or displayed on the medbay wallscreens. 'It looks like it did last time,' he said. 'When I was pulling weeds and accidentally touched that rock.'

'Yes,' the doctor said. 'Just after your birthday, in Simha. Funny how we never manage to find the rocks involved in these "accidents".' He gave Four a look that was equal parts threat and puzzlement. 'If Two wasn't so against setting off your allergy, and you and Three didn't hate each other, I might think they were helping you hide the things.'

The idea of Two hiding rocks for him was so ridiculous he managed a small laugh. 'I told you,' he said. 'Accidents.'

'Mmmm. Well, these are the scan results from your "accident" in Simha. Upon exposure to your allergen, twenty-one percent of the neural populations in your brain began

phasic firing. These bursts continued for eight seconds, after which it took the system roughly half a millisecond to return to basal function. I'm sure you remember this, yes?'

'Not the details,' Four said.

'Which is why I'm refreshing you. If you could hold these details in your mind for just a few more minutes, perhaps we can finally reach an accord regarding your medical condition.

'Now. That was Simha. These are the images we pulled from your wires two hours ago.'

He swiped the datpad, returning the side-by-side brain images to their dark, hollow versions. Another tap and the lights resumed their frantic flashing to and fro. The paths they took were similar, but the colours were brighter and more widespread. Almost all the yellow was now orange, with a few regions burning toward red. Deep in the centre of his brain, between the two hemispheres and riding just above the brainstem, twin red cores glowed steadily.

'During your most recent exposure, almost a *quarter* of your neural populations commenced phasic firing. It took much longer for the remaining neurons to re-modulate the system.'

The doctor fell silent while Four drank in his words. He knew he was hearing something serious, but all he could think about was how his brain looked like an angry orange.

'But I'm awake,' he said, 'and I feel mostly alright. It was much worse after my first allergy attack.'

Dr Damlund shook his head, exhaling audibly through his nose. 'You fell off a climbing frame. There was considerable brain trauma. Focus, please.'

He jammed a finger towards the picture on his datpad. ‘Nearly twenty-five percent of your brain decided to pump glutamate or dopamine into every synapse within reach. And look at this – see how involved your hippocampus was this time? We’ve never seen it do that before.’

He was indicating the two red centres.

‘Why should that matter?’ Four asked. ‘It’s just a small part.’

Dr Damlund blinked. ‘Size is no indication of importance. The hippocampus is a part of your limbic system, which regulates emotions, learning, short-term memory, and so on. Damage to your hippocampus would have severe repercussions for your ability to form new memories. Can you understand why we’re concerned?’

‘You said all this last time.’

‘And it looks very much like our theory is playing out!’

Four closed his mouth. Dr Damlund had never shouted at him before, even when he’d spent an entire recovery session pretending to mix up words beginning with the letter “m”. That had been the angriest he’d ever seen the medical staff – “methodical” staff, as they’d been that day – but even on that day the only raised voice had been Aleph’s, later.

‘A clear trend is being established,’ the doctor went on, ‘even if you refuse to see it. Twenty-one percent of your neural populations last time, twenty point eight the time before that. Those numbers are worrying enough, but to have it jump to a quarter?’

Four’s eyes went back to the wisps of hair. They billowed with more energy now, animated by repeated, fervent jabs of the doctor’s head.

‘Do you understand how many neurons are in a quarter of your brain? Twenty-one billion, give or take. Imagine that many billions activating for a full ten seconds. Then imagine another twenty-one billion releasing GABA to inhibit the active ones. *Then* imagine

those forty-two billion neurons all having to reset, and you might be close to picturing the strain on your system.’

‘Then why don’t I feel anything?’ Four asked. ‘It’s supposed to mess with my memory, yeah? Or my motor functions, or sense of smell, or word recognition? All these things you keep saying will go wrong if I put myself under too much *strain* – where is it all? Why am I only having the visions?’

As suddenly as the doctor’s animation had come, it left him. He blinked down at the bedridden ward, hair trembling in unseen currents.

‘We don’t know why other symptoms haven’t presented,’ he said at last. ‘Just that you’re young and the brain is incredibly adept at circumventing damage.’

‘You don’t know if other symptoms will ever present. My visions could be the whole of it.’

‘That’s true. By that same token, however, you don’t know they *won’t*. Your hallucinations could be the *least* of it.’

Four bit his tongue. They’d reached an impasse, the point this conversation inevitably circled toward: “They’re not hallucinations” followed by “You’ve no way to prove that”. Normally he jumped into this portion of the dialogue with relish. Five years of repetition had honed the exchange to a familiar routine. Today, though, he just wanted the doctor to leave.

‘Why are you so certain they’re hallucinations?’ he asked.

Dr Damlund blinked. He raised his datpad, lowered it again. ‘What else could they be? Your seizures induce activity in many regions of the brain that could produce visual and auditory hallucinations—’

‘But *you* could be a hallucination! At least, you’d look like it on a scan. The only reason you’re not is because you’re standing right here.’

‘And the things you see during your seizures are not,’ Dr Damlund said. He sounded pitying now, which was worse than the shouting.

Instead of saying what he wanted, Four rolled his head back to centre and stared at the bed’s canopy. The medbay lights shone through the synthetic cloth, turning it luminous.

‘I’m sorry, Four. I know this must feel incredibly confusing. You’re right – on a scan, I would appear as nothing more than a complex series of chemical exchanges between neurons. That’s why it’s important you *understand* what we’re telling you about these hallucinations. They will feel real because they activate the same sensory inputs your brain uses to decipher the *real* world around you—’

‘Can you just go away?’ Four asked, still staring up at the canopy.

Dr Damlund breathed hard through his nose, once. ‘I can see I’ve given you a lot to think about. We’ll let you know when it’s time for another scan.’

Four swallowed the bitter taste welling up in his throat. When he glanced over, the back of Dr Damlund’s white medical coat was retreating to the other side of the medbay, where the other doctors were consulting at a workstation. Dr Damlund, Dr Prescobian, and Dr Yamata, together again.

The thought made him roll his head back the other way. Three was still on the neighbouring bed. She hunched against the backboard, feet drawn up off the floor, wrist sandwiched between a pair of icepacks. Her eyes pointed vaguely toward the congregation of whitecoats.

‘Oh, just go away,’ he said.

‘Can’t,’ she said, tapping the icepacks. ‘Yamata said to wait and see if it needs a splint.’

‘It was fine at lunch.’

‘Someone else tripped me,’ she said, ‘after. Outside the Music elective.’

Four grunted, eyes going back to the canopy.

‘You hit your head pretty hard this time. It felt like the floor was made of concrete.’

Slowly, being careful to avoid extreme angles, Four worked an arm free from the blanket and brought it up to his head. His fingers encountered the rough texture of medical tape. Even the gentle touch he used to probe the bandages brought echoes of pain into his skull, despite whatever had been in the water.

‘There’s blood on your uniform,’ he said. ‘Is that mine?’

‘Probably. Two froze up, so I did what I could. When I figured out what was going on.’

‘Guess that explains why I needed such a big bandage this time.’

‘Better than nothing,’ she shot back.

He frowned. Three was always quiet, annoyingly submissive. She’d sprained her wrist once before, when he rigged her laces and suggested a game of blind man’s bluff in the garden; even while he was laughing himself sick she didn’t so much as call him a dirty name. Why the sudden combative streak?

Three shifted on the bed, repositioning herself and putting a pillow between her lap and the icepacks. ‘So what did you see this time?’ she asked.

‘What?’

‘In the greenhouse. During your allergy attack.’

‘What do you care? They’re only *hallucinations*.’

The bitter feeling resurged, accompanied by an image of those red glowing areas deep inside his brain. Were his visions and that glow the same thing? Just... energy being pushed around, forcing him to see things that weren’t really happening? The forest under the silver net, the names on the datapad? The doctors seemed confident. What if it was all just the product of random chemical transmissions, misfired electrical signals?

What if it wasn't? Could he take the risk?

'I heard what Damlund said—'

'Of course you did.'

'—about you and me hating each other.'

She paused. The sound of clicking ice cubes joined in with the doctors' murmured conversation, then settled. Four waited.

'Well? What is it?' he asked. 'If you're going to sit there and bother me, don't stretch it out. Get it over with.'

'OK. I was just going to say: everyone *knows* you hate me, and they know you've hated me for ages. No one seems to ask why anymore, though. Have you noticed? It's just normal.'

Four wriggled in the bed a bit, testing his limbs. The painkillers made it difficult to judge how he'd feel in a few hours. He knew from experience they blocked all but the most intense pain with total efficiency, until they wore off. Then, if the injury had been bad enough, the aches sprang back into place.

'The carers used to ask why,' Three went on, 'back when we were young. But I think I know.'

'Oh yeah?'

'Yeah. The timing is too perfect. You started hating me just after you fell off the climbing frame.'

Four stopped wriggling.

'What makes you think that?' he asked.

She snorted. 'You didn't try to hide it. You hit me.'

'Oh. I guess I did.'

When the doctors had declared him well enough to leave the medbay, the first thing he'd done was hunt down Three. After, he returned to the play area.

A dreamy quality crept into her voice as she said, 'It made sense at the time. I really hurt you that day, even though I didn't mean to. It was just a little rock, but you fell off the climbing frame. Probably almost died. So it made sense you were angry with me.'

Four looked over. Her head was tipped back against the bedframe, eyes closed. The fingers of her uninjured hand stroked the top of the icepack with smooth, regular motions, as if combing through an animal's fur.

'Stop,' he said. 'It doesn't matter why I hate you. Maybe you're just really annoying, did you ever think of that?'

'Yes. For a while I thought that must be the reason. Or else you couldn't forgive me for triggering your allergy. But then—'

Three's head came away from the medical bed, face coming up toward him. Four looked away, embarrassed that she'd caught him staring. Then he looked back. She couldn't *see* – of course she couldn't – so how would she catch him staring? Still, the sensation clung to him.

'Then,' she went on, 'you started talking about the things you saw during your allergy attacks.'

'Hallucinations.'

'The doctors seem to think so,' she said. Her face drifted to the left, toward where the doctors were gathered around a computer terminal. Four watched her eyes carefully but they didn't fix on anything specific.

'I don't want to talk about it. I don't want to talk to *you*.'

'What did you see, Four? When we were little and I hit you with that rock? What did you see that made you hate me so much?'

He lay very still on the bed, which did nothing to stop his heart from racing in his chest. Warmth surged through his limbs. The need to get up and leave was overwhelming.

‘Tell me,’ she said. ‘You talk about the other things you see sometimes, but never that one. What was it?’

‘Nothing.’

‘Lying. You’re lying. Why?’

‘Because I hate you.’

‘*Why?*’

Their voices sank into whispers.

‘Just tell me. It can’t be that bad.’

‘*Leave me the fuck alone.*’

‘Is there a problem here?’ Dr Yamata asked.

Three recoiled. She’d been leaning so far forward that a part of Four had been waiting to see her slip off the edge. As it was, her back collided with the bedframe and she gave a small yelp.

‘That wrist injury is utter shit,’ he said. ‘She’s just in here to bother me.’

Dr Yamata looked from one face to the next. ‘I can assure you the sprain is real. However, if I need to separate you for scans...?’

‘Yes,’ Four snapped.

He didn’t turn his head as Three was guided down the aisle between beds, to a further location where she couldn’t talk to him without being overheard.

## Chapter Five

### TWO

He ran up the hill and through the forest, not stopping until sunlight burst over him again. The farmyard janked into view as he dodged trees – a slice of wall, fenceposts – then he was out, pelting toward the buildings: veterinarian's hutch on the right, workshop in front of him and, over to the left, a colossal barn. This last stretched on for what could have been miles. Its whitewashed walls and ashy roof tiles blotted out the fields behind it, casting shadow over the hardpan between buildings.

Two halted as grass turned into dirt beneath his feet. He gulped at the air, chest heaving and burning, but the rush of oxygen also allowed Three's crazy accusations to flood back in. The carers were lying, the doctors were lying, Four was right about his hallucinations being... real, somehow.

Had she always thought this way? She hadn't sounded like someone testing new ideas. Why had she waited until *now* to mention any of it?

When his panting slowed, he skirted between buildings and climbed into the wide, fenced lane that circled the entire valley. Most of the time the lane was used for herding cattle to the more distant quadrants. This year the northern fields were being grazed, so the lane was gated off on either side of the barn. Two leaned against the inner fence, doing his best to ignore the allergy tickling at him from the buildings.

Cattle ranged freely across the field before him. In the distance they were small dots that crawled across the scenery, but up close he could make out the splashes of brown, black and white on individual cows. They grazed in loose groups, taking small steps forward while their heads worked at the grass, or else they lazed on their sides in the afternoon sunlight. The occasional bellow lifted into the air, joining with the wind and fieldhands, who chattered to each other as they walked amongst the animals. Some, he knew, would be performing

visual medical checks while others scouted the fenceline. A group of three were leading a heifer towards the veterinarian's hutch, their conversation not quite loud enough to make out the words.

He thought he'd wanted to join them, to keep busy in the final minutes before evening scans and dinner. Now he couldn't bring himself to plunge into the field.

'Two!'

It was one of the fieldhands leading the heifer: a large man named Sibb. The upper portion of his uniform was unzipped and tied around his waist, allowing dark skin and well-defined muscles to gleam in the late afternoon light.

Two waved back. He found himself hoping they were too busy to come over, but Sibb broke away as the others carried on toward the paddock behind the veterinarian's hutch.

'Hey, Sibb.'

'Want to help with a calving? We got the call a couple of minutes ago.'

He shook his head. 'Probably don't have time before scans.'

'You know you can leave whenever you need.' The fieldhand took a closer look.

'What's wrong?'

Two shrugged. He'd known Sibb ever since he was first allowed to help in the fields. Whenever Four was more of a jerk than usual, or Three went into one of her reclusive funks, Sibb could usually be found plowing or planting or tending or baling. Still, there was something less than comforting about the man today.

'Is it school?' he asked. 'Was it awful?'

'Kind of. Yeah.'

Rather than driving the man away, Two's reticence was having the opposite effect. Sibb came all the way up the fence, dipping down to make eye contact.

'You'd tell me if something was really wrong, wouldn't you?'

Two opened his mouth to say yes, of course, but something else slipped out.

‘What about you? Would *you* tell *me* if something was wrong?’

Sibb’s whole face creased. It was the first time Two had seen the man frown, and the sight felt like the sun dropping out of the sky early. He hated that look, but the same wildness that had driven him through the woods pushed him on.

‘You knew about school, didn’t you? And the city, and all the people who live there, and *everything*.’

Sibb’s face didn’t change; if anything, it got longer around the mouth.

‘You knew all this time.’

Something glimmered in the fieldhand’s eyes. A lie? Two felt sure it was coming. He almost wished it *would* come, because then everything could go back to normal.

‘I knew.’

Two shoved himself away from the fence. ‘Why didn’t you tell me?’

‘It’s a job like any other,’ Sibb said. ‘There are rules. I had to sign a contract.’

‘And one of those rules meant you had to lie to me?’

The fieldhand’s head dropped to his bare chest. A twist of loathing so strong he thought he might vomit welled up. At first Two thought it was for the man in front of him but then it sank in: *he* was doing this. *He* was asking these questions, forcing this issue.

Sibb looked up again. ‘I didn’t know it would turn into lying,’ he said. ‘Contract just stipulated no talk about Crus Cerberus, or the other cruri. About our lives there, our families, where we lived, games, hobbies. Nothing.’

‘It was easy with the other fieldhands. They signed the same contract. Then you wards got old enough to run around and we realised *why* we weren’t supposed to talk about the city.’

‘Because of us,’ Two said.

He nodded. 'It... wasn't so bad, even after that. It got harder after you started helping out in the fields.'

'I asked where you slept at night.'

Sibb nodded. 'That, and other things. There was Sylva. The veterinarian who let you help with the calves?'

The first time had been an emergency: a heifer with a calf in breach position. With the other vet attending a call in the southern fields and harvest in full swing, only Two, skulking around the hutch to get a glimpse of the newborns, was near enough to help with the obstetrical chains.

'She disappeared,' Two said.

'She won the Lottery,' Sibb corrected. 'We couldn't tell you because it meant talking about the crus. So, word came down: say she got sick and couldn't work anymore. You didn't buy it entirely, but you were young. You forgot quick enough.'

'What's the Lottery?'

Before Sibb could answer, a figure in blue strolled out of the middle distance, raising a hand in greeting. Two waved back.

'Aleph's coming,' he told the fieldhand. 'Are you allowed to talk about the city now we've been there?'

'I don't know,' Sibb said. 'Contract hasn't changed so... probably not.'

Two cocked his head. 'You broke your contract just now?'

The man nodded, face not entirely back to normal. 'Never felt right, you not knowing where Sylva went.'

Then the carer was on them, congratulating Sibb for spotting the early signs of labour. He accepted Aleph's words and said he should be off, in case the vets needed any help.

‘Just wanted to see if Two was going to keep on in the fields,’ he added, ‘now that he’s got school to keep him busy.’

It was more than a cover for their actual conversation. The tightness around the man’s eyes hadn’t eased all the way.

‘When I can,’ Two said. ‘I think we have a lot of lessons to catch up on.’

‘No doubt,’ said Aleph, ‘but it’d be good for you to keep with the chores. Not all, of course, but it can’t be all homework, all the time.’

Two hopped back over the fence while the carer and fieldhand went around to the gates. They parted at the entrance to the hutch, Aleph clapping Sibb’s shoulder and waving as he disappeared inside. Two turned from the sight. He shivered as he dipped into the shade of the treeline, wondering if Three was still sitting on the other ridge. Then he forced the thought away from himself. This was her fault – all of it. Those questions had sprung from her mind, not his. Sibb wasn’t a liar. There were just rules he had to follow, and nothing Three said could make that otherwise.

Behind him, the *flump flump flump* of shoes on packed dirt drew closer: Aleph, jogging to catch up.

‘So,’ he said, drawing even with the ward, ‘in your own estimation, how was your first day?’

Two wanted to laugh and scream at the same time.

‘Awful,’ he said. ‘From start to finish.’

‘That bad?’

He stopped dead on the path, glaring up at the adult.

‘I couldn’t concentrate on anything the whole morning because we have to sit in *networked* desks. The teacher turned them on when I was already sitting down, so I almost had an allergy attack right there, in front of everyone, just like Four.’

‘And everyone has computers in their *hands!*’ he added. ‘You didn’t tell us about that. It isn’t just the crus or the ubers or the levas – I’m allergic to people now!’

Two searched for the expressions he’d seen on Sibb’s face, but there was nothing like that. Only the same gentle concern the carer had shown that morning, when leaving them in front of the school.

‘That does sound awful,’ said Aleph. ‘It also sounds like a great victory, though.’

‘What part would you call a victory?’

‘You said you almost had an allergy attack. *Almost*, but you didn’t.’

‘That’s not the point!’ Two shouted. ‘You didn’t tell us–’

‘It *is* the point,’ Aleph said. He went to kneel down, stopped himself at the last second. ‘You’ve shown consistent improvement. Each time you’re exposed to your allergen, your reaction lessens. That’s wonderful news. Your first day was *always* going to be painful because there’s no way for us to simulate an entire crus, here. There was no way to inoculate you ahead of time. I’m sorry.’

He bent and touched Two’s shoulder, un-phased by the glare he received in return.

‘*I’m sorry*,’ he repeated. ‘We decided not to tell you about everything you might have to endure.’

‘Why not?’

‘The doctors thought it might do more harm than good.’

‘Preparation would have been nice.’

Aleph shook his head. ‘There was no way to prepare you for this, not really. We could have told you about the school’s centralised system, its wallscreen-to-desk method of information delivery, the student IDs, the sheer dependence on networking – but what good would it have done? Would we have been preparing you, or overwhelming you?’

Two turned and careened down the path. The wildness was back, urging him to lash out at the trees, at the undergrowth, at Aleph and his stupid face.

‘What about the palm pilots? Why didn’t you tell us that people put computers *inside* themselves?’

From behind, the carer called, ‘When we left the crus to come look after you, infantiles weren’t allowed palm pilots.’

Two whirled.

‘What do you mean?’

Aleph was several strides behind, keeping pace. They were almost out of the forest now; behind the adult was all shadowed greenery and the quiet shift of twigs.

‘The companies who make palm pilots must have developed a way to put them into growing hands. It wasn’t possible eight, nine years ago.’ Aleph lifted his own hands, showing blank palms. ‘They weren’t that popular in adults, either, at that point.’

‘So you didn’t know?’

‘That infantiles *your* age are having palm pilots installed? No, I didn’t know.’

‘They *all* have them. Everyone in school.’

‘We probably should have guessed. Once the technology was available, the operations perfected, it was bound to catch on. Things like that do, in the domes.’

Two chewed the inside of his cheek all the way back to the house. Half of him screamed to ask the question – Why did you lie about being allowed on school grounds? – and the other half insisted it hadn’t been a lie at all. Three was remembering wrong, or Aleph had meant something else entirely. Maybe he wasn’t allowed on school grounds normally, but Four’s allergy attack had been a medical emergency.

He didn’t ask. Couldn’t, not with the acid-hot loathing in his throat.

Inside, Two didn't wait to be told he was late for scans. He trudged up the main hallway, passing bedrooms, living room, bathroom. At the fork he turned left and followed the hallway around the curve of the kitchen.

The medbay occupied the back of the house. It was the most electronically-active room in the valley, carving through his brain like loops of barbed wire that grew thicker and sharper the closer he got. As he stepped through the door and his eyes adjusted to the white floor tiles, white walls, white, white, white, Two wondered if the pain was less than it had been that morning. His imagination? Or had the electronics at school actually helped him acclimatise to the allergens at home?

Dr Damlund was already sailing toward him, medical coat flaring as he extended the hand holding his datapad.

'Ah, at last,' he said. 'If you'd like to get comfortable, we can finish up and everyone can have some dinner.'

Two scowled at the bed being indicated. Four was to the left, rolled on his side while Dr Prescobian held a sensor in place against the back of his neck. Three was sitting up in the right-hand bed, wiping at her head with a small towel. Only the middle remained.

'Can I wait a bit and use Three's bed?' he asked Dr Damlund.

The doctor paused while giving orders to an assistant and made a tsk-ing noise. 'Don't tell me you're angry as well,' he said. 'I knew school would shake things up a bit, but not this drastically.'

'Everyone angry at everyone else,' said Dr Prescobian, not looking up from the back of Four's head. 'It's no way to live.'

'Yeah, well, no one asked you.'

Two flounced onto the available bed, glaring at his own knees so he wouldn't have to meet any surprised expressions. It didn't stop him from seeing, from the corner of his eye, Four wiggling his eyebrows.

'Guess that answers my question.'

'What question?' Two snapped.

'If you're angry about what happened in the greenhouse.'

'Not everything's about *you*, Four.'

The assistant arrived then, wheeling over a tray while Dr Damlund manned a portable workstation. Two heaved a sigh, flung himself flat across the bed and turned onto his stomach. Four caught his eye during this manoeuvre.

'What did she do to piss you off?' he asked, flicking his eyes up to indicate Three.

Two answered by grabbing the nearest pillow and balling it up under his chest and chin. Behind and above him, the assistant asked if he was ready.

'Yeah, whatever.'

Gloved fingers tickled the back of his neck. They tugged and smoothed his collar out of the way, then flattened against his neck and brushed upwards along the entire length of his scalp. He shivered, closing his eyes against the sensation of latex. The next part was bad, after was worse, then it was over.

Gel was paddled onto the back of his head, then spread out into a line from the nape of his neck to the crown of his head. It was cold, leeching the warmth from him as soon as it made contact. When the paddle ducked under his collar, smoothing the substance over his third cervical vertebra, several violent shudders wracked him.

'Are you alright?' asked the assistant. They always asked that.

'Just hurry up, please,' he grimaced.

The paddle made a few more passes over the gel, making sure it had been spread evenly. Then the assistant's shadow drew back.

'Two, I'm going to apply the sensors now,' said Dr Damlund.

He held very still while three bead-like objects were nestled into the gel. They barely registered through the numbness in his head, but he'd seen the small, black objects being laid onto the other wards during previous scans. While the doctor double-checked the positioning of each, Two sucked in a breath.

'Everything looks fine here. Ready?'

From experience, he knew not to nod. If the sensors were jarred out of position, the whole process would have to be repeated, including a fresh layer of gel.

An explosion of light went off behind his eyelids. The tangled mound of razors that shifted and slithered behind every surface of the medbay drew away in his mind, occluded by the sensors punching into his brain. They'd been inactive when Dr Damlund teased them into position, but the scan turned them on, turned them into a trio of burning hypodermics that

plunged inward,

downward,

made contact.

In response, each of the wires threading through his skull vibrated, lighting up their thousand pathways like molten veins in the dark. The warp and the weft of his own brain tunnelled through him.

The pain wasn't physical, and then it was gone.

Two's exterior reasserted itself. He had the pillow in a death grip, digging into it with his fingers and chin so hard they ached. Something was happening on the back of his head but the gel numbed him beyond the ability to sense what it was. Fingers. Irregular. Oh. Someone was plucking the sensors free. The quiet click of metal objects being dropped into

a metal receptacle. And then rougher handling, followed by slow subsidence of the freezing sensation.

Someone was scraping the gel away with a towel. Two forced himself to unclench from the pillow.

‘Thanks,’ he said.

‘No problem.’

It was Four’s voice. He was standing at Two’s bedside, wiping his scalp clean.

‘Shouldn’t you be in bed?’

‘Got the all-clear for dinner. We can go whenever you want, by the way.’

‘Give me a second.’

The doctors’ voices were audible on the other side of the room, no doubt gathered over their latest test results. The hum of disinfecting chambers joined with the quieter thrum of air conditioning units. Someone was brewing coffee. Even though the gel was all gone, the cold lingered, goosefleshed across his back and arms.

‘Do you want some painkillers?’

‘No,’ said Two. He heaved himself into a sitting position. ‘I told you, it doesn’t hurt, exactly.’

‘It looks like it hurts.’

‘Well, it doesn’t.’

For some reason, this made Four grin.

‘Kind of like *my* allergy,’ he said. ‘Looks like it hurts. Doesn’t actually.’

Two thought he should feel angry. Four was goading him – wasn’t even being that subtle about it – but all that washed over him was a kind of weary hollowness.

‘Do you have to do that? Can we just go have dinner without getting into a fight?’

The mischievous tilt to Four's face slid away. 'Sure, whatever. Come on. Can you walk?'

'I've had a scan, not surgery. Of course I can walk.'

#### FOUR

Dinner was a near-silent affair, at least on the wards' end. The carers asked more questions than usual – about classes and teachers and other students – but they avoided pushing too hard. When Three gave another 'It was alright' reply and Two grunted his response for the umpteenth time, the adults gave up and talked to each other about how the alfalfa was taking in the western fields.

Afterwards, a slam from the far end of the hall announced where Two had disappeared after leaving the kitchen. The wards weren't supposed to close their bedroom doors unless they were getting dressed or extremely ill but, again, the carers didn't look ready to mention it. Four scraped plates and loaded the disinfectant, rehearsing the different courses available to him. He could make a stink about it, maybe force Two out of his room via carer intervention. Seeing Four get what he wanted would piss him off more, though. Maybe just knock on the door? The sullen glares Two had sent around the dinner table all evening didn't give him much hope of an answer.

Four drifted down the hallway, veering away from Two's door at the last second. Maybe he could tempt him out with the sounds of pong or pacman; the carers would probably let them play, given how much they'd tiptoed around the wards so far. Two loved video games, despite how much they set off his allergy.

The lights in the living room were already on and Four almost retreated back into the hallway at the sight of Three in the far corner of the room. She'd pulled the cover off the

keyboard and was running her fingers up and down the left half. Her right wrist was still splinted, and rested in her lap.

‘You sound awful,’ he said.

Three turned her head, continuing her uneven scales.

‘You can pick a fight if you want,’ she said. ‘If you do, Bet won’t let you use the wallscreen.’

Four collapsed into the sofa, flashing the hand signal that turned on the room’s computer. The wall in front of him activated and he said, ‘Wanna bet?’

She laughed. ‘You know I’m right. Even if I’m terrible, learning the piano wins over playing video games.’

He glared his way through a few rounds of solo pong, trying not to look interested when someone entered the room. It was Bet carrying a datpad and stack of data chips. She hurried to the desk beside the long-abandoned keyboard, saying, ‘Turn that down, please,’ as she passed behind the sofa.

‘Between a little bleeping and that racket, you pick my game to get silenced?’

‘I didn’t say turn it *off*,’ Bet said. She unloaded the things in her arms. ‘Just down. Three’s thinking about taking the Music elective, so that “racket” counts as homework.’

Four rolled his eyes, muttered to himself, and thumbed down the volume. He didn’t turn around on the sofa. He didn’t have to see Three to know she would be wearing that infuriating, neutral smile of hers.

After ten more minutes, he gave up on Two appearing in the doorway. The game was going too well to abandon the run, however, so he stayed where he was and continued working the paddles. Three said something. The words slipped out of his conscious field almost as soon as they were spoken; he only registered the urge to say something savage. Then the glowing blip demanded a complicated manoeuvre to keep it on screen.

The gist of the conversation made it through the preoccupied higher functions of his brain. Three, whining about being the only blind person at school. How surprised everyone had been. Being pushed over. Wanting to know why. Bet responding with the usual about how the transition was always going to be difficult. Then,

‘Did anyone mention the Eugenics Board today?’

Four almost missed the blip. He managed to catch it, but he lost the rhythm and it slipped past the paddle at the top of the screen. His score flashed – not even close to a new high – and reset.

‘No,’ said Three. ‘Why would that matter?’

‘It’s going to come up at some point, probably in your legislation classes. The Eugenics Board decide which genes are risky for the human population. They make decisions about who’s allowed to have children together.’

‘Like... the way the vets keep some of the cows separate when they go on heat?’

‘Exactly the same. We have to keep the herd genetically diverse, which means we have to be careful which genes are mixed for the next generation. If the wrong thing makes its way into too many members...’

Three played a few more scales. Four pretended he wasn’t listening, which wasn’t as easy as he thought it would be. The music and its janky rhythms, stop-starts, repetitions, kept interfering with his ability to track the glowing blip. It shot off screen again and he swallowed a growl.

‘So the students at school have never seen a blind person before because the Eugenics Board doesn’t let blind people have children?’

Off to the side, Bet sighed. ‘Not exactly, but... I suppose that’s the essence of it.’

‘They’ve decided blindness is a *bad* thing, so they don’t want those genes spreading?’

‘Not exactly,’ Bet repeated. Another sigh, then she lowered her datpad with a clunk. ‘Their first priority is autosomal recessive disorders. You know what those are.’

‘Both parents have a recessive gene. If both those recessives pass to the baby, it has the disorder. Like my cortical blindness.’

‘The Eugenics Board review all potential pregnancies very carefully, firstly to ensure a child isn’t inheriting two recessive genes that may lead to health issues, and secondly to check which recessives they *are* inheriting. If too high a percentage inherits the gene for situs inversus, for example, it might become impossible to make sure the entire population doesn’t express that condition one day.’

‘So what if you’re blind and you want to have a baby?’

It was so quiet Four thought he could hear the carpet sieves at work. He continued working the paddles, trying not to wince at the beep and bip of every successful rebound.

‘Well. Most likely you would have to use a surrogate.’

Three stopped playing the piano altogether. No way could he casually slip out now, as if he hadn’t been paying attention. It would have to be open disdain, disgust that the conversation had come this far.

He summoned a sneer, preparing to stalk out of the room. Then a thought occurred.

‘Wait a minute,’ he said. He spun around on the sofa, leaning over the back of it to look at Bet. ‘If the Eugenics Board are supposed to stop people with weird genes from having children together, what about the gardener? The one in our last elective? He’s definitely got something going on at the genetic level.’

‘What gardener?’ Bet asked.

Four described the man with shoulders so large they forced him into a permanent stoop. ‘The muscles in his arms and legs looked out of proportion. Like some of him stopped growing and other parts kept going.’

‘The Head of the Gardener’s Guild,’ Three said. ‘That’s what he said.’

‘That sounds like M. Petrus, and you’re right. There was some... controversy surrounding his birth. Genetic mutations can occur, though. The Board can’t trace every possible combination of genes, or guess every hypomorphic variation.’

‘Well, if he’s in charge of some guild, why is he teaching in a school? He’s awful. He made fun of a bunch of students, called me a liar in front of everyone—’

‘Why did he call you a liar?’ Bet asked.

‘He was asking what the class had experience growing, so I told him about the gardens and the lavender.’

Bet stiffened in her chair, glancing out the window before shifting her gaze back to him.

‘What?’ he asked. ‘What’s so special about the lavender?’

‘Nothing.’ One hand rose to smooth hair out of her face. ‘You told him we grew it?’

‘Yeah.’

She stood and paced to the transparent portion of wall. Outside, the treeline was an inky line silhouetted against a blue-black sky. Light from the house spilled outwards, turning the nearest garden plots into spiky sentinels that blotted out the rest with their long, sharp shadows. The foot of the hillside was just visible.

‘We should have mentioned it,’ Bet said.

‘Mentioned what?’ Four asked.

‘Lavender,’ she said, turning away from the window. ‘There’s a list of restricted plants that only a few licensed growers are allowed to handle. Lavender is one of them.’

‘We’re a licensed grower?’ asked Three.

Bet nodded. ‘That’s why we didn’t mind so much when it got out of control. It has medicinal uses for the livestock and...’

‘And what?’

‘And it sells for quite a lot.’

‘You sell it?’

‘Of course. Every time we cut it back, we either extract the oil or dry the plants.

Both sell for a good deal of money.’

‘That’s why he called me a liar,’ Four said. He slumped back into the sofa cushions, staring up at the ceiling tiles. ‘I walked in there and said it was growing out of control around the house.’

‘Why can’t they grow it in the domes?’ Three asked.

Bet shrugged. ‘No one really knows anymore. It’s an older piece of legislation, from when the domes were still being built. For some reason it’s never been overturned.’

Three asked about other restricted plants. He tuned out the reply, concentrating instead on the low beeping from the pong game as it continually reset itself. No wonder Petrus had been so angry with him; he couldn’t have *known* Four wasn’t lying. Probably the rest of the class hadn’t believed him either. If lavender was this hard-to-find plant, why would some random student have any near his house?

The little white blip flung itself off the screen a few more times, always reappearing back in the centre before speeding off in a new direction. Score: 0. Score: 0. Score: 0. He thumbed off the game.

Two’s door, directly opposite the living room, was still closed. Good. Let him stew. Whatever was bothering him so much would come out eventually. Four turned right, waited for the living room door to close behind him, then stepped through the front door. The house computer would notify the carers someone had just gone outside, but hopefully Aleph would think it was Bet, and vice versa. He wouldn’t need long.

Four skirted to the left, avoiding the living room window wall. He paused as the front door slid shut, waiting for his eyes to adjust. Darkness changed the entire aspect of the gardens. Smells were deeper, slower to arrive and lingering longer than they might have in the light. The horizon had to be prised free of itself one piece at a time: hill, treeline, sky. Somehow it wasn't the same outline he'd been seeing his entire life; a dimension or quality was removed, or maybe added, by the dark. Sounds drifted down over the ridge, none of them entirely comforting. The birds had gone to sleep, so what slithered from branch to branch, disturbing leaves in slow bunches?

Had he ever been outside this late? Probably, but he couldn't remember when or why. He edged forward, aware of how much colder the night air was. His cotton jumpsuit didn't do much to warm him.

Ahead of him, light bled away from the house. Two's bedroom window. The shade was down, but enough light escaped around the edges to guide him between garden plots. Four headed outward, feeling his way toward the night-soaked scent of lavender.

A handful of flowers should do it. He located one of the bushy shrubs, knelt without allowing his knees to touch the grass, and severed a few of the heads as neatly as he could manage. The gardener could probably identify a plant by its stem but if Four was going to prove he wasn't a liar, he might as well do it in style.

'Let's see if you can apologise as loudly as you make fun,' he said, slipping off one of his shoes.

To anyone watching, the sight of him trying to locate the weak spot in his shoe, without letting his knees or socked foot touch the earth, would have been hilarious. He wobbled from side to side, trying not to think about reappearing in the house with grass stains up one side. Finally, he found the right place and peeled back a layer of rubber, then tucked

the flowers into the empty space within. One more wobble and the sole was back in place, the shoe back on his foot.

Inside, he was careful when wiping his feet; the wrong movement in the wrong direction could dislodge the sole and send the flowers tumbling. Normally he wouldn't have worried – rocks could be wedged into the small space, locked into place by surrounding rubber – but the flowers were loose in there, ready to fall and leave a trail right to his hiding place.

‘Have a nice walk?’

He jumped. His mind scrambled and cursed, thinking maybe there hadn't been enough glue left to secure the flap, maybe the flowers would be lying on the carpet as soon as he stepped away.

‘You smell like the outside,’ said Three, ‘and the temperature in here hasn't got back up to normal yet.’

Four clenched his teeth, refusing to shush her. ‘So what?’

‘So,’ she said, ‘you should probably go get dressed for bed.’

He narrowed his eyes. ‘Is Bet still in there?’ he asked.

‘No. She went to put her accounting stuff away.’

Four hurried to his own bedroom, checking the floor behind him only once. No trail of flowers, only the tips of Three's shoes poking out into the hall. She hadn't moved from the living room doorway. He felt the urge to stay and watch – to figure out what *she* was doing – but her remark about smelling like the outside propelled him all the way into his room.

With the door pulled shut behind him, he dropped onto the corner of his bed and wrestled off his shoes. They were new, delivered just in time for the start of school, and so

the treads were crisp and thick. Some wear near the toes already, a few grass stains along the sides, but he couldn't pick out the hiding spot, even though he knew it was there.

The glue would hold. Four placed the shoes at the foot of his bed, stripped out of his uniform and climbed into his sleepwear. He threw the jumpsuit into the corner of the room, under the drawers where seven identical versions lay folded, waiting for the morning.

Maybe sleep would be enough to erase whatever had pissed off Two so badly. That happened sometimes, even with the carers. They went to bed angry about something Four had done during the day, then woke up and acted as though nothing had happened. He doubted something as miraculous as that taking place tonight, but Two might calm down enough to talk about it.

Someone knocked on his door. Four, under the blankets and staring up at the darkened ceiling, sighed.

'Yeah?' he called.

The door opened a few inches, revealing Aleph's face. 'Don't leave your door closed,' he said.

'Sorry. I forgot.'

'I'm dimming the hall now. Goodnight.'

The bandage on the back of his scalp made sleep difficult. His consciousness carried the itchy, tight sensation all the way through to the morning, when he woke feeling like each of his dreams had been gauzed and taped as well. The house computer chimed its wake-time alarm and he opened his eyes, feeling unrefreshed.

Morning scan, shower, breakfast, school. The schedule displayed on the workscreen opposite the bed looked odd without a full roster of chores, lessons and free times. It made it seem as though the day before him were empty, when in fact it was fuller than it had ever been before.

The morning passed swiftly but not smoothly. His head wound prevented the whitecoats from applying conductive gel to his head and Dr Prescobian made three separate attempts to get clear results. Two came in partway through, freshly-showered and looking grumpier than ever. He ignored Four's attempts at conversation. Then, over breakfast, Three brought up the restricted plants again. Four was certain the carers would notice his sweet-smelling shoe at any moment; he had to work hard not to swing his feet under the table.

Two maintained a sullen silence until they were in the uber and on their way to the crus. He didn't so much as blink when Aleph announced he wasn't coming with them today, that they would make the journey alone. He just crawled to the furthest seat and glared down at his own lap, turning away when the carer leant over to wish him a good day.

After twenty minutes with only a low thrumming sensation from the uber, Three asked, 'What's wrong?'

'Don't be such a liar,' Two spat, still scowling at his knees. 'You know what's wrong.'

Three didn't try again. Four spent the rest of the journey glancing between the pair of them.

As soon as the doors opened, Two scrambled out and away, barely glancing at the uber station. He didn't pause over the spectacle; by the time Four made his way around the docking bay and approached the other door, Two had stormed through the milling public and out the front doors.

'So it's *you* he's mad at,' he said.

Three paused on the verge of leaving the uber. She'd been rallying herself for abandonment, he realised: working herself up to the task of finding the school without Two's guidance.

‘I knew he was mad,’ she said, stepping out beside him. The door irised shut behind her and the uber slid away on its glowing rail.

‘What did you do to him?’

After a moment’s hesitation, she held out a hand.

He slapped it: a downward high-five that spun her entire torso at the waist. The sound reverberated off the vaulted ceiling before being swallowed by the crowd.

‘Just this once,’ he growled. ‘Once.’

She nodded, rubbing her palm before holding it up again. Four positioned it on his elbow and began guiding her through the station.

‘Whatever you did,’ he said, ‘I can’t get close enough to calm him down.’

‘It’s a couple of things, I think. After the carers took you to the medbay, we went to the ridge and talked about stuff. I...’

She trailed off. Four heaved a sigh and jabbed at her with the elbow she was holding.

‘It’s going to piss you off again and then *two* people will be mad at me,’ she said.

‘Just tell me and we’ll see.’

‘I told him you’re right about your visions. They’re true things, not hallucinations.’

Tightness seized him around the chest, constricting until his heart was beating triple time. As he put a palm out, waving the station doors open, the thought bubbled up: You could run. It would be easy. Leave her.

‘I tried to tell you yesterday.’

‘I didn’t believe you then, either.’

She planted her feet, fingers clamping down on his elbow and pulling him to stop.

‘So, that’s it?’ she said, voice raised. ‘You don’t believe me about believing you? Can’t you hear how ridiculous that sounds?’

‘Why would you?’

‘Why *wouldn't* I?’ she hissed. Her head came forward, pressing words into his face. ‘You’ve never lied about anything, ever. Not about the shoe laces, not about tying me to that tree, not about erasing all my audiofiles. You told the truth and took the punishments, probably wearing that stupid smirk Two always rants about.’

She stepped closer, nose barely an inch from his own. The whole of his vision filled with blue iris, tinted lash, pale lid.

‘The only time you’ve come close is your rock collection and even then it’s a lie of omission. You’re not a liar, Four.’

He swallowed. ‘What if I’m so good you don’t know I’m doing it?’

She fell back a little, wearing a smirk of her own.

‘Why have you got lavender hidden in your shoe?’

‘I...’

‘What was that?’ she asked, cupping a hand to her ear. ‘You don’t have lavender hidden in your shoe? Go on, say it.’

Around them, people entering and leaving the station glanced their way. With his free hand, Four reached for his own elbow, placing his fingers over Three’s. Holding her there, he tugged them away from the building.

‘Four,’ she said.

The urge to run came over him again.

‘You can hate me and believe me at the same time.’

He tried to bring his breathing under control. The light-headedness receded a little. The crowds parted easily around them. Three followed him without speaking. Then, he laughed.

‘What?’ she asked.

‘I guess this explains why Two is so mad. He’d be pissed if he thought someone was egging me on.’

‘I haven’t–’

‘I know you haven’t, but admitting you believe me is like... joining the other side. Like *making* sides, and picking the one he’s not on.’

They drew up beside the school gate. Four scanned the students clustered on the front lawn: no flash of bald head or grey jumpsuit. A pair of students pushed past them, then through the spinning gate one at a time, giggling to each other.

‘Do you want to go first or second?’ he asked.

‘That’s not why he’s mad.’

‘What?’

Three’s hand dropped away. When he glanced over, she’d hunched into herself, dipping her head and clasping her elbows.

‘It wasn’t only the stuff about your visions that freaked him out. I also told him...’

He waited, just for a moment.

‘Three, you’re doing it again. I *hate* when you do this.’

‘Fine, sorry, I’m just...’ Another hunch of the shoulders, some shifting of her folded arms. ‘I said I believed you because you never lied. And I pointed out how often the carers *did* lie.’

Four opened his mouth – whether to scoff or ask her to clarify, he didn’t know – when a sudden upswelling of sound drew his attention. It was the students on the lawn. The cluster had grown. Yesterday the teenagers had been scattered somewhat evenly, but today the stragglers were all drifting inwards, toward the pack.

‘What is it?’ Three asked.

‘I don’t know. They’re all grouped up, though. Something’s happening.’

He pushed through the gate, pulled by a force he couldn't name. It wasn't so much the noise and movement that drew him on as the deranged energy spiralling beneath it all. They were excited, even more animated than they'd been during lunch the day before.

It was surprisingly easy to push forward, toward whatever was happening in the middle. It was only when he got close enough to see Two's head turning back and forth that he noticed those nearest him in the crowd: a girl doing a double-take, a boy nudging someone. The reactions rippled outward. The empty space around Two warped toward him, depositing him in the centre of a ring of grinning, glaring faces.

'What's going on?' he asked. 'What did you do?'

'I didn't do anything,' Two retorted. 'I was just heading for the front door.'

'Another one!'

'No, that's him. Look at the bandage!'

'Do it again!'

The shouting was louder in here; everything aimed inward.

'Where's Three?' asked Two.

The floating sensation was back in his stomach, and his head. Four blinked sweat out of his eyes.

'I left her outside the gate. I'm not sure if she followed me in or not.'

'Maybe he needs more pollen to get going!'

The voice was close behind him. Four turned, was hit in the face by something cold and tickly. Someone grabbed him by the back of the head and, before he could do more than scrabble at his attacker, he found himself choking on a fistful of grass.

Sound started to do something odd. The laughter of the crowd turned into a roar, then went silent. Four lashed out with his knee, made contact. The hands gripping him fell away

and he pawed at his own face, brushing and spitting away grass. When his vision cleared, a boy with a half-shaven head crouched before him, clutching at his crotch.

Four placed a hand on the back of the boy's head.

'What was that for?' he asked, bending forward to make sure his attacker would hear.

Something pistoned into view from the left. A knee collided with his stomach, forcing all the breath out of him, and Four collapsed forward. He would have gone all the way down if not for Two slinging an arm across his chest; even then, there was nothing to stop the fist driving straight into his eye socket.

Sound distorted again. This time it resolved itself into a woman's voice. He blinked, certain the blow had messed with his eyesight, but no: the crowd before him was scattering, exploding into a field of unbroken green.

'Caia Letoshi! Zabeth McCall! Four weeks' community service, to be chosen by whomever has the highest haterating on your bloggoss.'

'Four *weeks*?' someone gasped.

'Five. Now get out of here before I make it a six.'

Two was still gripping him around the shoulders, making sure he didn't drop any further than his knees. He lolled forward, trying to see who'd saved them. It was the woman in grey, the one who'd been in M. Jacquard's classroom.

'And,' she said, turning toward the fleeing crowd and raising her voice, 'two weeks for anyone who uploads this material! Don't think I won't botsweep the bloggoss!'

Something loomed on the right. Four raised his arms, then lowered them when M. Jacquard knelt beside him.

'Ouch,' the teacher said.

'Looks nasty.'

M. Petrus stalked into view before him, cane sinking into the lawn with each step. After seeing the attention he'd drawn, he stopped and grinned.

Four did his best to match the gardener's sour satisfaction. 'I've got something for you,' he said.

'Oh, yes? It wouldn't by chance be another pack of lies, would it?'

He let himself drop onto his haunches. Two, mistaking it for a collapse, tightened his grip, then let go as soon as Four began swatting at his arm.

Freed, never taking his eyes from M. Petrus, he reached around and scraped at the heel of his shoe. M. Jacquard said something about going to the nurse's station. The woman in grey asked about the third member of their clique. Four kept scrabbling, until he felt something peel away.

'Here,' he said, thrusting a clenched hand toward the gardener. 'I brought it for you.'

The scent of lavender unfolded between them.

## Chapter Six

### TWO

They were being taken through the school, to somewhere that wasn't class.

The boy and girl who'd attacked Four weren't with them. All the other students had disappeared as well, bundling into the school as soon as the trio of teachers appeared. In the space of just a few minutes, Two went from searching for an escape route to being nearly alone. Late-comers that straggled through the gate headed straight into the school, clearly unnerved by the deserted lawn.

The pounding of his heart had just returned to normal when Four, still on his knees, clawed to be let go. Two released him, turning to watch the woman in grey sail toward the black fence that ringed the school. Three was standing beside the whirling entrance gate, tethered to the fence by one hand.

'Here,' Four said. 'I brought it for you.'

When he looked back, M. Petrus had stretched out an arm to accept something from the boy, tilting forward to make the distance. M. Jacquard knelt at Four's side, watching the exchange from beneath his mane of red hair.

'What?' Two asked. 'What did you bring?'

The gardener whipped his hand back, clutching at the head of his cane to stop from overbalancing.

'Hush now,' he said, without looking at the object he'd received. He narrowed his eyes at Two, who snapped his mouth shut. M. Jacquard was staring at the gardener's clenched fist.

The woman in grey was coming back, one hand between Three's shoulder blades. 'I think I'll send you all along to the nurse's station. Then we'll see.'

Said with a nod toward M. Jacquard.

‘Ylva,’ the gardener interrupted, eyes still fixed on Two.

‘What is it?’

‘Why not have them join us for the rest of our meeting? You said the usual channels had failed.’

‘Unorthodox, to say the least,’ she replied.

M. Jacquard climbed to his feet. ‘You did describe the situation as being... ridiculous.’

‘And unheard of,’ M. Petrus added. Finally, his gaze shifted away from the boy, onto the woman. ‘Perhaps it’s time to try something unusual.’

Which was how Two found himself sandwiched between the other wards, flanked by the teachers while the woman in grey led them through the ground floor. M. Jacquard had offered Three his elbow, leaving Two free to concentrate on the scratching mess inside his head. The school bristled from behind its walls, electronic noticeboards and overhead lights and cables and conduits clawing their way inside him an inch at a time. Above, he thought he could sense the electronic desks. Their signals crashed back and forth, back and forth, frenzying a stratum he scurried beneath.

He was struggling through a dizzy spell when the woman stopped and palmed open a door. They were going to make him go back up there, into that crush far above. Back into reach of the razors, churned to a bleeding lump by those awful desks.

He stopped on the brink of following M. Jacquard and Three through the doorway.  
The razors were back, but they were before him, not above.

An enormous black desk occupied the centre of the room,  
curved so as to surround its user on three sides.

Its surface was the same as the desks above, in class.

pull.

More than that, though it looked inactive, Two could feel it  
that reached out toward him and tried to  
blasting against his face, an immense, shifting density

‘Is there a problem?’ the woman asked.

A wet, wheezing sound drew close behind one shoulder; M. Petrus and Four had both caught up, the gardener looking worse off for the trek through the school.

‘No problem,’ Two said. A plaque on the wall beside the woman read **Administrator  
M. Satoshi**

‘Then please,’ she said, waving him into the room.

He forced himself on, into the desk’s traction. As soon as he’d taken that first step, it was all he could do not to hurl himself forwards. His brain was being sucked from its moorings:

stem, skull, and spine all ripping free of his neck. His body  
couldn’t move at a speed fast enough to save him, he was gone, vaporised

shot forth.

Suddenly he was outside himself, watching his self stumble forward. The air was full of thorns billowing in an unseen current. A wave of

below, him physical the inside first echoing two-fold, was sensation the and projections, these of one jostled he time every him inside up flared

then through the non-existent him which seemed to be the entire room.

desk, the of front in right sitting was Three chair. a of back the around close hand his watched He

but he dragged his seat toward the back wall. Away. Thorny clusters parted around him, spark-spark-sparking he collided with Four, their bodies parted

spark-spark-sparking

and he snapped back into himself, face inches from the wall. A force still tugged at his mind, but it didn't have the same gravitational weight as before. He touched the crown of his head. The delay between his brain and body had disappeared, along with the doubling of sensation.

'Two?'

He turned. Everyone was staring at him: M. Jacquard, nestled into a battered-looking sofa to the left; M. Petrus, standing rather than sitting beside him; M. Satoshi slotted into the curve of her desk; Four, slouched in a chair before the desk. Only Three was facing away.

'Are you alright?' Four asked.

‘I’m fine,’ he said. A kind of giddiness spread through him. ‘I think... I should sit down.’

He half-sat, half-collapsed into the chair he’d dragged with him.

‘Are you feeling faint?’ M. Jacquard asked.

Two shook his head. He’d felt faint in the hallway, when sensing the classroom desks above. This was something different.

‘I think it’s just,’ he said, ‘shock, or something. From what happened outside. On the lawn.’

Underneath, his brain scrabbled to orient itself. What was that? Why did it feel like he’d been... outside himself?

‘Why did those students attack us?’ Four was asking.

‘Someone in the greenhouse had workarounds loaded into their palm pilot,’ M. Petrus said.

Four half-shrugged. ‘What’s that supposed to mean?’

‘It means,’ the gardener growled, ‘there’s footage and everyone’s seen it. Whatever kind of allergies you dragged into my greenhouse, the whole school knows you have them.’

‘Allergies?’ Four asked.

The woman leant over her desk, putting weight onto her knuckles and sighing. How could she stand to touch that thing? It practically glowed with the friction of incoming and outgoing signals; Two couldn’t believe *anyone* could treat it so casually.

‘There are discrepancies on your medical records,’ she said. ‘I can’t find anything that would explain the incident in the greenhouse yesterday, but clearly there’s some kind of underlying condition at work. What is it? A pollen allergy? Dust? Something you ate for lunch? A protein intolerance?’

‘What do you mean?’ Four asked. ‘You said the whole school knows about our allergies, but why would it matter?’

‘The boy’s an idiot,’ M. Petrus snarled. ‘Eh, Buzzo? D’you think they were rubbing grass in your face because it makes you smell so sweet?’

‘What... they think I’m allergic to grass?’

‘More likely they reached for it because it was on hand. But they know something’s up.’

‘I don’t understand,’ Three said. ‘If our medical records don’t mention allergies, what *do* they say?’

M. Satoshi straightened up. ‘See for yourself.’

Using the same motion she’d used to open the office door, she planted her left palm on the surface of her

searing  
searing

upsurge  
upsurge

channel blasted  
channel blasted

hollow  
hollow

When the corona faded, his first thought was that his saliva tasted heavy. It was tinged by something that clung to his tongue and the roof of his mouth. He swallowed.

‘Should I be expecting a black uber to set down on the front lawn?’ a sharp voice asked.

‘Maybe,’ said Four. ‘I’ve never seen him do that before.’

‘That’s not a pollen allergy,’ a third voice said. M. Jacquard. ‘There aren’t any plants in here.’

‘No dust, either. And he hasn’t eaten anything.’

‘Well? Would one of you care to explain why deactivating my desk appears to be bringing him around?’

Two opened his eyes. He wasn't, as he expected, on the floor of the office, surrounded by chair legs and shoes. Instead he was leaning against the back wall, pressing his own face against the panels. Four was kneeling beside him, one hand on his shoulder.

'I don't like it here,' Two whispered to him.

Four nodded.

'Maybe the carers will come take me home now, like they did you.'

Four shook his head. 'I don't think so.'

'Why not?'

'I saw. That wasn't a seizure. It was just... weird.'

Two thought he might cry. When he turned his face away from the wall, three sets of eyes stared back.

'Whatever this is,' the woman said, 'I can't help unless you tell me what it is.'

'But the other students—'

'He's allergic to the desk,' Three said.

Adrenaline poured through him, carrying his innards away in a wave of light and heat. The doctors could see all this, surely? They'd *know* something was wrong, so why weren't they coming? Why weren't they helping?

Words were flying between Four and the adults – explanations, disbelief, more explanations. Something made the gardener laugh, but Two kept his eyes on M. Satoshi and her deepening frown.

He leant toward her, a lunging movement that almost carried him off his chair.

'You tried to unenrol us,' he said.

'I did,' she said. Slowly, as if expecting an angry response.

'Do it again,' he said. 'You said there was something wrong with our medical files, that they weren't accurate. No one told you about the allergies. That can't be good, right?'

The woman folded her arms. ‘It’s illegal. Misrepresenting medical data is the—’

‘Use that to send us home!’ Two wailed. ‘Please, I don’t want to be here anymore. Everything hurts! The students hate us! We’re not supposed to be here!’

Whatever had made the gardener laugh disappeared beneath his cry. Even Three turned a little in her seat. M. Jacquard had buried his face in his hands. For a moment, the only visible movement came through the window behind the woman’s desk: pedestrians on the path outside the school, ubers blurring through the middle distance above, the smear of holographic displays.

At last, she said, ‘I can’t.’

‘Why not?’ Two asked. ‘You did it before. I heard you, yesterday. You *said* you unenrolled us.’

‘There is a period of time called “pre-enrolment”. Student files are sent in. Requests are made. Any request can be denied during this time, including the enrolment itself.’

‘If that’s when you unenrolled us,’ asked Four, ‘then why are we on the register?’

Three lifted a hand, her movement drawing attention to the perfect stillness with which she’d occupied the room until then. She fingered her collar. The metal button clinging there flashed in the light of the overheads.

‘How did we get student IDs, if we weren’t students?’ she asked.

The woman looked down at her desk. M. Petrus squeaked and wheezed to himself.

‘She doesn’t know,’ he said. ‘None of us do. Ylva smacked away your handshake, only to blink and find herself shaking hands anyway.’

‘Thank you, Petrus,’ snapped the administrator.

Two stood. ‘Do it again. Unenrol us again.’

‘You haven’t been listening,’ she said. ‘There was a window for unenrolment, but that’s passed now. You are all officially enrolled in this school.’

‘Surely you can claim extenuating circumstances,’ said M. Jacquard, lifting his face out of his hands. ‘The documentation was filed, they—’

‘Their current status would appear to contradict that.’

‘Well, however that came to be, the documentation—’

‘Means nothing!’

M. Satoshi drew herself up.

‘I’m sorry,’ she said. ‘We need to start thinking about alternatives.’

Two collapsed back onto his chair. Losing his place on the register had been the only alternative. The doctors were confident he was ready for the city, so they’d make him come to school. Every day. Being unenrolled – physically prevented from entering the school – had been his only hope.

‘There are no alternatives,’ he said.

M. Satoshi started in with contradictory noises.

‘What? Are you going to let me stay in the greenhouse, away from all those classroom desks? Or maybe you were planning to teach me on the front lawn.’

His snarkiness would have been enough to make the carers ground him for a few evenings, or give him extra chores. M. Satoshi’s face and tone was even as she replied:

‘I’m afraid I can do neither of those things. What I can do, however, is ban Four from taking the Gardening Elective.’

Four’s head shot up. ‘What? Why?’

‘Isn’t that obvious? It sounds like this allergy of yours has a very clear trigger.’

The glance Four shot around the room was wild and aggressive, landing on Three, the gardener, then Two.

‘Well?’ M. Satoshi asked. ‘Am I wrong?’

‘No, but... I can control it! Yesterday was just an accident – how was I supposed to know there was a rock in that flower pot?’

She shook her head. ‘I’m not risking another seizure on campus. The nurse’s station isn’t equipped to handle your needs and, quite frankly, I don’t like free-floating ubers coming and going as they please.’

‘But it’s just touch. I could wear gloves! I think the doctors at home would give me some if I asked.’

Two snorted. The woman, who’d paused as if considering the notion, turned to him.

‘Yes?’

‘They wouldn’t give him gloves if they knew why he wanted them.’

‘And why is that?’

Four was glaring at him again, but Two barrelled onwards.

‘He sets off his allergy on purpose. The doctors hate it. Even if he did get gloves, he’d only use them to take rocks home and do it there.’

‘What does she care what I do at home?’

‘On the contrary, I care very much for your health, as I do the health of all my students. Your ban from the Gardening Elective is total, until such a time as you can provide medical proof the ban is no longer needed.’

Four threw himself backwards in his chair, arms crossed. ‘What? You want me to take Music instead? Or *Sexual Health*?’

‘If you wish. Both M. d’Holle and M. Yara are very highly reviewed by their former students – I’m sure you would enjoy either option. Now, I’m afraid we’ve taken up too much of your class time already. Thank you for the information regarding these... allergies.’

The men looked as if they had more to say, but Two didn’t wait. The door opened for him and their voices slid away, replaced by the silent booming of the hall. The noticeboards

cycled. His own footsteps echoed back to him, accompanied by wave after itching wave of his allergy. The school was around him once more. The churning from above...

When M. Jacquard sidled into his peripheral vision, Two forced his fists to unclench.

‘Is your allergy an intermittent one? Like a dust sensitivity, where the allergen has to reach a certain density? Or—’

‘It’s all the time, whenever there are electronics nearby.’

‘Ah. Much more like a pollen allergy, then.’

The man looked down at his hands, hair swinging forward to obscure his crestfallen expression. Two glared at him, daring him to look up, to say he was sorry, to lie and say they could figure something out.

‘I’m sorry.’

Voices from behind; the office door opening for the others.

‘I can’t promise a solution. You’ve been put in an awful position, so it pains me to say the best I can do...’

Three was feeling her way along the wall, one hand tracing across noticeboards and activating user menus as she went. M. Jacquard broke off and went to her.

Watching his offer of help – no matter how useless – re-routed to the blind girl summoned a wave of harsh, gristly emotion within Two. His fists clenched again. Why did she always get the help she needed? A pair of eyes to read for her, a pair of hands to navigate tricky tasks, a body to guide her through complex areas: she got it all. Always.

Maybe, Two thought, this was how Four felt all along. Their allergies did inexplicable things to their brains, forced their bodies into uncompromising physical reactions. Seizures, constant pain, hallucinations... and who was getting all the support?

The ward who didn’t even have an allergy.

M. Jacquard led them through the hallways, Two refusing to fall into step beside the pair. This placed him off to one side, a little ahead or behind at all times. Four was even further back, pace slowed by the gardener, who was having trouble keeping up. Each time he looked, M. Petrus and Four were a little more distant, yet closer to each other in conversation.

‘He’s probably just giving him some advice,’ M. Jacquard said.

‘What? What do you mean?’

The teacher jerked his head over his shoulder, indicating he’d noticed where Two’s preoccupation lay.

‘M. Petrus,’ he said. ‘He was in school once, too. He has a lot of experience with... this kind of scenario.’

‘I don’t like him,’ Two said.

M. Jacquard laughed. ‘As if that makes any difference. The list of people who don’t like him is a lot longer than the list of people who do.’

‘He calls his students names,’ said Two. ‘Like Buzzo. What does that mean, anyways?’

‘It’s a character from a children’s show. Bizzo, Bazzo, and Buzzo. I’d say he means it kindly but it’s difficult to know how Petrus means anything to be taken.’

‘That’s what I don’t like. He’s a teacher. He shouldn’t do stuff like that.’

‘He’s harsh,’ said M. Jacquard, ‘but fair.’

‘How fair is it to call someone you’ve just met a liar?’

‘What?’

Three spoke up. ‘That’s why Four gave him the lavender,’ she said. ‘To prove he wasn’t lying.’

M. Jacquard stopped, forcing the wards to halt with him. ‘Four gave him what?’

‘A bundle of lavender. From home.’

‘To prove he wasn’t...’

‘Lying,’ Three supplied. ‘M. Petrus didn’t believe we grew it at home, so Four proved it.’

Her head dipped and she added, ‘Four never lies.’

The words sounded like an afterthought, but Two caught their meaning. They echoed back through yesterday, adding strength to the shout from the hillside: “Have you ever known Four to lie? About anything?”

Two glowered at her, despite the uselessness of the gesture. She couldn’t see it, wouldn’t know he was angry unless he *told* her.

‘I thought I smelled lavender,’ M. Jacquard murmured. He started walking again, then looked around as if surprised to find two students coming along with him.

‘He shouldn’t have done that,’ Two said.

‘No,’ the teacher agreed, ‘he shouldn’t have. Perfume or oil is all well and good, but unprocessed flowers could get him in trouble.’

‘Why?’ Three asked. ‘Our carer told us it was restricted, but she didn’t say why.’

‘Well, no one knows why, exactly. It’s just one of those things.’

‘But what does *restricted* mean?’ she pushed. ‘What happens if Four gets caught with lavender flowers?’

‘It depends who catches him.’

‘If you caught him.’

Two glimpsed the teacher’s startled glance through the red hair obscuring his face.

‘I’d... have to report it. Report him. For being in possession of a restricted substance.’

‘And then?’

‘I’m really not sure. I assume some kind of police enquiry would take place, but...’

They'd reached the levas. M. Jacquard didn't reach out to press the call button straight away. Four and the gardener were an entire hallway behind, their voices barely audible.

'But what?' Two asked.

'I'm not sure if you noticed,' the teacher said, 'but you three have a peculiar effect on administrative protocol. I could report the lavender but I'm not sure it would have any effect.'

'Like our un-enrolment,' said Three.

'Precisely. The report would go somewhere, perhaps even be registered and logged by various systems. And then it would...'

'Disappear?' Three asked.

'Oh, not disappear. Nothing fully disappears in today's day and age. More... cease to be a report.'

M. Jacquard drew in a breath. 'At least, that's as near as I can figure happened to the un-enrolments. The documentation is still there. One can view it in the system. It just... didn't trigger any effect.'

Four and M. Petrus were closer now. They'd slowed even further and suddenly Two was certain the gardener was faking. The limping gait was real enough, as was his need for a cane, but those just meant it was even easier for him to fake a reduced pace.

'Why is he in the school, anyways? If he's in charge, shouldn't he be at the Gardener's Guild?'

'Oh, technically he is. The greenhouse isn't a classroom – it's one of the Guild's secondary sites, where plants are grown before being shipped out to meet demand. There are quite a few across Crus Cerberus, wherever an interested party can sponsor one.'

'Interested party?'

‘Yes, like the school. They help fund the building, the Guild provides staff and supplies, and the sponsor can claim some kind of benefit for their involvement. Such as gardening classes.’

At last, the stragglers drew even with the group. With no more than a nod toward M. Jacquard, Petrus swivelled and began hobbling away down the hallway to their left, toward the greenhouse. Two inhaled, as softly and subtly as he could. There was no way to tell where the faint scent of lavender originated: from the gnarled old man crutching in the opposite direction, or from the wards themselves?

Watching him, trying to decide if the gardener looked sprier than he had a few seconds ago, Two asked, ‘Could you turn him in for possessing lavender?’

M. Jacquard had been reaching out toward the button that called the levas. He jammed it a little harder than necessary, just as Four exclaimed, ‘Turn him in for *what?*’

‘You heard what Bet said last night,’ Three said. ‘Lavender is restricted.’

‘So what?’ Four asked. ‘The carers have a license.’

Voice mild, M. Jacquard asked, ‘Could you produce that license if someone were to request proof?’ He paused. ‘I didn’t think so. In any case, even a license holder isn’t allowed to peddle restricted substances in public. There’s protocol. Establishments with licenses of their own, allowing them to process the raw materials.’

‘It’s just a plant,’ Four said. ‘An *herb*. It doesn’t do anything but smell nice and look pretty.’

It wasn’t until they were in the leva, going up, that the teacher spoke again. Two almost missed it, cocooned as he was by the electronics that sent the small compartment whooshing up and down between floors.

‘What?’

‘I said, it might be best if you don’t tell anyone else your family grows lavender.’

‘Why not?’ Four asked. ‘The whole Gardening Elective knows. And if they told everyone about my seizure—’

‘Those students probably didn’t believe you, just like Petrus. I haven’t checked the licensing records recently, but there are only... two? three? licensed growers for that particular plant. In all seven domes. It’s unlikely any of them will ever see a lavender product, let alone meet someone who grows it.

‘Better to let them believe you lied. Let them forget you even mentioned it.’

‘But why?’ Four asked. ‘Petrus said the bullying won’t stop. He said they’d keep at me now they know something’s wrong with me. What if I gave them lavender?’

M. Jacquard’s head snapped to the left, eyes locking onto the ward.

‘*Don’t* do that.’

‘Why not?’

The teacher’s face eased, but not all the way. He ran a hand through his hair.

‘The bullying will make things hard – harder than they should be for any student. The only thing that might be worse is having something they want.’

## FOUR

‘They’ll come at you now. Hard.’

The gardener was having trouble keeping the pace set by M. Jacquard; though he crutched along faster than Four had seen in either the greenhouse or the administrator’s office, he was still falling behind. He looked like a large, misshapen bird forced to hobble away from danger on a stumpy leg.

‘Who will?’

‘The other’ –M. Petrus broke off, breath scraping wetly in the back of his throat—  
‘students, of course. Pay attention, Buzzo.’

He stopped, leaning forward and coughing. Four went back to him. Ahead, he heard a belligerent tone in Two's voice. The other boy definitely didn't like what he was hearing. Whatever had happened in the office – fit, allergy attack – it hadn't helped his bad mood.

When the gardener's coughing receded and they resumed at a slower pace, Four said, 'Why do they even care if I have an allergy? I mean... sure, it must have been scary to watch, but it's nothing to do with them.'

'It has everything to do with them.' Petrus hacked once against the back of his fist, then turned his gaze upwards. 'You said it yourself – that fit of yours was scary to watch. Scared the shit out of me. No teacher wants a student dying on their watch.'

Something in his chest turned to ice. 'You thought I was dying?'

'I thought it was a distinct possibility. If you'd been one of your classmates, watching someone keel over and convulse like that, how would you feel?'

'Scared.'

'Terrified,' Petrus corrected. 'And that terror is what's going to get you hurt.'

Four walked alongside the gardener for a few moments, trying to reconcile this information. The boy who'd rubbed grass in his face had seemed jubilant, angry. The crowd had been *laughing*. Fear didn't fit with the scene.

He said as much, and Petrus scoffed. 'Of course it won't look like fear, or feel like fear. They're infants – the last thing they'll ever do is admit something scares them, least of all to themselves and *definitely* not to each other. You were out cold on the floor but I saw their eyes. It's the fear you have to watch out for. Makes people do stupid things. Crazy things.'

'Like... rub grass in someone's face?'

'Worse.'

They followed the others in silence. From the corner of his eye, Four contemplated the gardener's gait: a sort of aborted limp that turned into a lurch, followed quickly by a bobble from one foot to the other. What kind of attention had that drawn the gardener during his school days, when he hadn't been a gardener at all?

'Come to the greenhouse after lunch. Right after lunch – early as you can.'

'But... I thought I was banned from the greenhouse.'

A high-pitched note escaped the man. Four looked over to see him grinning down the hallway.

'You don't listen well enough,' he said. 'Not half as well as that blind girl.'

'What?'

'M. Satoshi banned you from taking the Gardening Elective, not going in the greenhouse. True, the two things will be one and the same... but only in a week's time. Sol Lunae, when you officially enrol in your electives. After that, the school won't let your student ID access the greenhouse anymore.'

He tipped his face up, showing half a smile and one arched eyebrow. 'Today, though? Fair game. Come find me in my office. I want to show you something.'

The gardener relapsed into a reedy wheezing after that, not even stopping to say "good luck" or "goodbye" when they rejoined the other group at the leva. He crutched off down an adjoining hallway. Four watched him as long as he was able, only half his mind on the conversation about lavender and restricted substances. The other turned Petrus' words over and over:

'You don't listen half as well as that blind girl.'

She nestled at the back of the leva, only a sliver of face and torso visible between Two and the teacher. Not talking. Not reacting to the conversation in any obvious way.

Listening.

It made Four uncomfortable to realise she'd been at the back of various rooms and conversations *for the past eight years*, just listening. When he hadn't been tormenting her, all his efforts had been funnelled into ignoring her. And it had worked, maybe too well. He had no idea what she could have overheard through the years. Certainly she knew about his attempts to persuade Two his "hallucinations" weren't hallucinations.

What had she tried to tell him this morning? Before the fight, she'd started to explain why Two was so angry with her. Something about the carers lying.

They entered the classroom and all thoughts were driven out of his head by the weight of so many eyes swinging in his direction. The stares were hard, assessing, crawling over every visible inch. The bandage bound to the back of his scalp began itching. He wanted to reach up and adjust the collar of his jumpsuit, but he forced his hands to remain at his sides. He concentrated on keeping his face still, and the task was enough to carry him to his seat at the back of the room.

The teacher clapped his hands.

'I know all or most of you were present on the front lawn this morning.'

The room was still. Hardly anyone breathed.

'If you haven't had time to peruse your induction packs yet, allow me to inform you: this school has a zero tolerance policy for violence. The shortest community service ever received for fighting on school grounds is three weeks, the longest somewhere in the region of three months. Let's not make this a record-breaking year, shall we?'

M. Jacquard arched an eyebrow, allowing the silence to stretch on while he stared at each student in turn. Most squirmed away from the scrutiny but some, including the blonde girl sitting beside Three, held steady.

'Now,' said M. Jacquard, rising from his perch on the edge of his desk, 'can anyone tell me the most integral component of life in the dome city? Anyone?'

He circled around his desk and tapped at it a few times. The wallscreen activated.

‘Four? Can you tell me what’s most important for life in the dome?’

Four, who’d been checking to see if Two flinched at the sudden use of electronics, repressed the urge to send his gaze skittering around the classroom. They were all looking at him again.

‘Um. Oxygen?’

‘Correct. And what produces oxygen?’

‘...Plants.’

‘Correct again. There are two main methods by which each dome attempts to meet the oxygen quotas identified, monthly, by the Gardener’s Guild: concentrated and distributed. Who can tell me about the concentrated method?’

As he asked this question, the teacher reached down again. Four’s desk, and every other desk in the room, flared into life. Ahead, Two went bolt upright in his seat.

‘Is the concentrated method,’ someone asked, ‘the forest at the base of the dome?’

‘It is,’ M. Jacquard replied. ‘Very good.’

He brought up an image on the wallscreen. On Four’s desk, one of the icons running down the left edge began flashing; when he pressed it, the image displayed at the front of the room appeared before him, on his desktop.

The picture was a diagram, of sorts: half a circle, with the bisected edge facing downward. Four only realised he was looking at a representation of Crus Cerberus when a thick, green line filled in the lowermost part.

‘Dome cities were designed, first and foremost, with oxygen production in mind,’ M. Jacquard said. ‘For that reason, the base of every dome is given over to forest vegetation while the city itself – living quarters, recreational areas, places of work – are suspended above. A large percentage of the oxygen necessary to support a population is created below

us. Not all, though. Would someone like to tell us how the distributed method differs from the concentrated?’

The lesson continued, the diagram of the dome city slowly filling in before his eyes. Spots of green appeared throughout the half-sphere, representing the parks, greenery displays, and other areas that spread oxygen production into the city proper. A tangle of red, blue, green, and yellow lines unfurled, representing the *straats*. These, Four learnt, not only acted as the structures by which *ubers* transported citizens around the dome, but also provided the different light spectrums needed for healthy plant growth.

‘That’s why,’ M. Jacquard said, ‘you will see a greater number of red- and blue-coloured *straats*. Although every part of the light spectrum is important for plant growth, blue and red are the key wavelengths. Does anyone know what other role the *straats* play in supporting dome life?’

A silence, then:

‘Circulation.’

‘*Correct*,’ M. Jacquard said, stressing the word with a smile. ‘Concentrated oxygen production, distributed oxygen production – neither method would be effective without a means of circulating the carbon dioxide produced by humans and the oxygen produced by plants. I’m sure you’ve all noticed the wind effect generated by nearby *straat*lines. That is there by design, to prevent dead zones of unbreathable air developing in certain parts of the city.’

The lesson segued to a worksheet: a picture of the original, half-circle which the class had to fill in and label. Afterwards, ecology became maths, then history. Four found himself sinking into the rhythm of listening to the teacher, watching diagrams and textboxes unfold across his desk, then regurgitating the information in a quiz or worksheet.

Again and again Four reached for the flashing icon, which indicated new lesson material was being made available. He flipped between images, texts, and silent video clips while M. Jacquard delivered a verbal narrative linking them all: ‘–decision was made to turn away colonist ships and populate Crus Remus and Crus Romulus with Martian citizens instead. Can anyone remember the immediate ramifications?’

The icon flashed. Four touched it.

The other images had been bits of ancient news footage: long-distance shots of dome construction, interviews with politicians. Well-composed, well-framed, and instantly digestible to the eye. This newest image was... disordered. A smear of grey and white, bordered by darker blurs. Four squinted and bent a little closer. What did this have to do with—?

Then the colours began moving.

Understanding clipped him like a bolt between the eyes: he was looking at an image of himself, lying on a grey floor. His limbs jerked and shuddered. Convulsions wracked his torso. The lack of sound made the unfolding scene even worse, etching the very shadows with a kind of agonised elegance.

A blur on the far edge of the screen detached, flinging itself forward. Three’s hands scrabbled for his head, inserting themselves between his skull and the floor beneath. The act brought his face around, until Four was looking into his own eyes. They were rolled upwards. Only a sliver of iris showed.

The image cut. His desk once again showed the face of a long-dead politician, announcing Mars for Martians.

The gardener had said something about footage. Petrus was right; he didn’t listen as well as he liked to think.

They’d all seen it. They’d all seen *him*.

Someone giggled.

He looked up. The classroom was both too present and entirely absent; M. Jacquard's voice carried on, but the syllables were without meaning.

Had someone... sent this to him?

Of course they had. It wasn't displayed on the wallscreen and he found it hard to believe it had come from the teacher's desk. Why would M. Jacquard send this out? How, even as an accident?

Somewhere in the class, someone coughed.

The image refused to be shaken off, even when M. Jacquard sent them another quiz. Four left it blank. He listened to the breathing of the students nearest him, wondering if one of them sounded more excited, more pleased than the rest. Or maybe they all knew. Maybe that clip of his seizure had been making the rounds all day, passing through some secret channel on the desks.

When the chimes for lunch sounded, Four bolted up the aisle and out the door. He couldn't force himself to *calm*, to *slow* until he was in the hallway, where he leant up against the wall and stared at every face that passed.

They stared back. Some shouted, or grinned, or darted their heads at him in a threatening way.

'What's the rush?' Two grumbled when he emerged from the class, Three at his elbow.

'Just,' Four said, 'bored. Really, really bored – I had to get out of there.'

They hung back from the crowd of students inching toward the levas.

'It wasn't that bad,' Three said. 'I've always wondered what caused the split between Earth and Mars.'

Four stayed silent, eyeing her from the side. Was she just making conversation? Or trying to evoke a reaction – any reaction – from him.

‘I couldn’t concentrate again,’ Two muttered. ‘The desks were *worse* today, not better.’

While they waited for their turn to use the leva, Three repeated the main points. Two was dour and thin-lipped through the entire recap.

On the way to the canteen, Four tried not to think about how many stares they were drawing. When that didn’t work, he tried to pretend they’d received just as much attention yesterday, when the first whispers about Three’s blindness were spreading through the school.

‘I’m not going to lunch,’ he announced.

‘What?’ Two asked.

‘I’m not going in the canteen today,’ he said. ‘I’m not hungry.’

Three accepted this information without comment. She looked thoughtful, head positioned with one ear pointed at the crowd filtering down the hall, the other at him.

‘Where will you go?’ she asked.

‘I don’t know, anywhere else. Maybe back to the classroom.’

Two opened his mouth, eyes tense. Four shook his head and backed away.

‘You can’t just leave us.’

But he’d already turned and taken several long strides toward the leva. His last glimpse of Two’s face merged with mental snippets of that video: shoulders rising off the greenhouse floor, then slamming back down; hurt and confusion tightening Two’s brow. Four hated the combination more than either in isolation. He had to breathe very heavily in the leva, with his eyes open, to clear it all away.

Even then it wouldn't go completely. Two and the doctors had described his seizures before, but somehow he'd never believed either version: the first because he could have been exaggerating, trying to get Four to stop setting off his allergy, and the second because they were so detached from anything they talked about. But that footage...

The ground floor was silent, except for a pair of adult voices drifting further and further away. Four followed the hallway he'd seen the gardener take only a few hours before. Being banned from the greenhouse wasn't all bad, he reasoned. M. Sandhi might be less inclined to make him "try out" the other electives now. He might be able to get a double elective in Art.

Unless. It was possible she'd be scared of him, too. The gardener had warned him about the other students, but would that fear carry over to adults as well? What if the art teacher didn't want him in her class at all? Could she deny him access, like M. Satoshi had to the Gardening Elective?

The greenhouse doors opened and a rush of moist air pushed away everything – Two's clenched jaw, his own jittering limbs – just as it had yesterday. Funny how the smell of green and growing things could be wiped from him completely, then wash back into place like it had never left.

It was much as it had been the day before: moisture in the air, a glow from overhead, the faint sound of sprinklers. He passed a few individuals in tan tunics, each tending to some plant, or shelf of plants. Again, his passage drew glances. This time, the disinterested looks were followed by double-takes.

After wandering a while, straining and failing to hear any hint of Petrus' cough or cane, he paused beside one of these workers.

'Excuse me.'

The man turned.

‘I’m looking for M. Petrus.’

‘Class doesn’t begin for another’ –the man’s eyes flicked to his palm pilot, visible behind the spray of leaves he cradled– ‘fifty minutes.’

‘I know,’ Four said. ‘But M. Petrus told me to see him in his office. Before class.’

If the man had any thoughts on this, he kept them to himself. ‘Follow this aisle past three junctions, then turn left. I believe Petrus is currently set up behind the ferns.’

Four followed these directions, lulled by the slow, distant drip of water and occasional, irregular clipping noises. As he delved deeper into the greenhouse, the plants morphed from fully-grown perennials to just-sprouted seedlings, then to a kind of moss housed in wide, flat trays. To his left, he spotted the section of hanging vines he’d passed yesterday, but where were the ferns? An entire shelf of daisies, another of gerberas, spider plants, but no–

Ferns. The species of plant shifted again and Four found himself surrounded by endless pots of shaggy, arcing leaves. This aisle felt narrower than the others, made tighter by the thrusting span of each plant. He pushed through them, careful not to break anything.

No sign of Petrus, nor a door, let alone a wall behind which an office might lie. Fern tips scraped against his jumpsuit, making quiet *scrit-scrit* noises. Four pushed on. The gardener had said Petrus was set up “behind” the ferns, so maybe he had to find the end of the section.

‘Here.’

The voice came from behind. Four turned in time to see the end of a cane poking out between two ferns. It wagged up and down twice, then retracted. He went over and peered through the shelves.

A shadowy space lay beyond. Four, who'd been expecting to see more ferns or the next aisle over, squinted, unable to make out any detail. It couldn't be a very large space, or else the overhead lights would illuminate the area.

Something shifted. A hunched figure, tan clothes, outline dissected by the criss-crossing of fern petals.

'M. Petrus?'

'Who else? Come around the other side.'

'Between the shelves?'

'What other kind of office do you expect in the middle of a greenhouse?'

Four retraced his steps to the nearest junction. He hadn't noticed when first passing, but the shelves, back-to-back in most other places, were spaced a little more widely here. He squeezed into the gap, wondering how Petrus managed the manoeuvre with his broad shoulders and cane.

It widened gradually – the shelves must be positioned on a cant – until Four came to place fully six feet wide. M. Petrus squatted on a stool before a narrow table, which was pushed against one of the shelf walls. The gardener's malformed upper torso forced him nearly double, the angle exaggerated because he was bending forward, peering into something on his lap.

'Come here,' he said. 'Sit.'

Beside the table were a filing cabinet, Petrus' cane, and a second stool, which Four lowered himself onto. He glanced at the variety of objects scattered across the table: petri dishes, small white bags with drawstring mouths, gardening implements. Petrus, however, barely looked up.

'This is my personal collection,' he said, patting the object on his lap.

It was a long, lidless box of sorts, made of a dark metal. Seeing he had Four's attention, the gardener reached in and began flicking, slowly, between the rows of thin, yellowed objects within. A gentle *scrit-scrit* noise went up each time M. Petrus moved them.

'Collection of what?' he asked.

Petrus cocked his head, one eye scrunched nearly shut while he assessed Four with the other. At last, he dipped a hand into the box and retrieved one of the flat squares.

'Be gentle,' said the gardener, and held it out to him.

Four took the proffered item. It was ever so slightly taller than it was wide. The lower portion bulged a bit, as if something very small were enclosed within.

With a chill, Four realised he was holding a piece of paper. He fought the urge to throw it back at the gardener. 'This is--' Then he was running his thumbs over every inch of the object, absorbing the grainy texture, the precise folds that made up the edges.

'This is real paper,' he said.

M. Petrus dipped his head. 'Be gentle,' he repeated. 'I inherited this collection from my father, who inherited from his *grandfather*. I do believe the envelopes are worth more than the seeds inside. Really I should wear gloves when handling them, but I never got into the habit.'

Four tried to read the flowing letters along the packet's upper edge: 'Aden... Adendi...'

'*Adendium multiflorum*,' M. Petrus finished for him. 'Unfortunately, a poisonous species, so I have never been allowed to grow it. We have photos in the Guild database. It's quite beautiful.'

He plucked the packet from Four's palm, then replaced it with another. '*Campanula rapunculus*. Produces small, pale flowers. Edible roots, though not large enough to be considered a useful source of calories. I have grown this to maturity once.'

Again, the packet was removed. Two more were deposited in its place. ‘*Kalmia polifolia* and *Cassiope mertensiana*. Both of the Ericaceae family. The former is toxic while the latter requires too much nitrogen to be grown in any real density around the dome. I have grown each once.’

Another packet. Although each of the envelopes were light, this one felt like it might float away with the slightest breath in the wrong direction. It had no tell-tale bulge at the bottom edge. Very carefully, he probed with his thumbs.

‘It’s empty,’ he said.

‘Read it.’

Four did his best. The letters flowed into each other using some kind of script he’d never seen before: a handwritten language.

‘*Lavendula angustifolia*,’ he deciphered at last. He leant back on his stool, pleased. ‘Lavender... in some kind of gardening language?’

M. Petrus smiled at him. In contrast to the faded, wrinkled skin of his face, the gardener’s teeth were white and even. ‘Indeed,’ he said. He waved a hand at the table, indicating nothing in particular. ‘I have identified its species. More importantly’ –the grin widened- ‘I have extracted eleven undamaged seeds.’

Four tapped the packet with his thumb. ‘Where are they?’

‘Oh, they’re not ready for storage yet. First they need drying, then a second form of drying. *Then* three or four can go into the collection. The others are earmarked for cold storage, at the Guild.’

He tapped the edge of the box again. Despite the man’s hunched posture, his slow movements and calm words, Four understood the depth of his pleasure. His eyes were bright as they searched the ward’s face. ‘Eleven seeds,’ he said. ‘I will never be able to grow them,

of course, but it's good to know that both the Guild and my personal collection are one seed stronger.'

'I understand why you called me a liar,' Four said. He returned the empty packet and watched the man slide it into place, gentle even though it contained nothing. 'My carers told me that they're licenced growers. I... hadn't realised. They never said you need a licence to grow certain things.'

'I'm glad you didn't know,' said M. Petrus. He ran the flat of his palm over the rows of packets, riffling them into identical, upright positions. 'If you had, you wouldn't have said anything in class. In turn, I wouldn't have called you a liar and you wouldn't have felt the need to prove your truthfulness.'

The gardener lifted the box and held it out to him. Four took it, but his face must have shown his confusion because Petrus pointed to the filing cabinet.

'There,' he said. 'Put it back for me, if you will. Carefully.'

The cabinet had five narrow drawers, one atop the other, and a black, empty space in the lowest slot. The sixth and final drawer, he realised, was in his hands. Four pushed it back into place, both hearing and feeling the click as a lock activated within.

'I shouldn't store the *Lavendula* in here, of course,' the gardener said. 'If word were to get out, they'd descend upon the school in droves. *Larcenous* droves.' Intensity sprang into M. Petrus' eyes. 'Do you know what "larcenous" means?'

Four nodded. 'It means people would want to steal it. I won't tell anyone.'

'Good. I'll know if you do. Only three people know what I keep in that cabinet. I'm one of them, and I trust the other with my life. If word gets out, I'll know who leaked it.'

'I won't.'

'Mmm.'

They sat quietly, the older man examining him.

‘Are all those seeds valuable?’ Four asked.

‘Hardly any of them. Desirable, yes, but only in certain circles. I can imagine a few people who’d like to get at the poisons, and a few others who’d take a crack at the medicinal ones. What they are,’ said M. Petrus, ‘is rare.’

‘Oh.’

‘Not many seeds in circulation these days. It was a bit of an unofficial barter system in my great-grandfather’s day – a viable seed could get you things money couldn’t. If it was rare, all the better. Every bugger thought to bring up *Daucus* and *Solanum*, but no one much thought about the *Iridaceae* or the *Operculina*. Turns out looking at green and grey can get awful boring after a while. So, the prettier the flower, the rarer the seed... the more valuable the trade.’

M. Petrus leant back a little. ‘Not many in circulation anymore. Although...’ He tipped his head toward the cabinet. ‘I keep thinking my collection has grown as large as it ever will, and then something like *Lavendula* falls into my lap.

‘Almost literally, in this case.’ He returned to sizing up Four with his eyes. ‘Came out of nowhere.’

Four was certain the man was talking about more than just the seeds. He tried to hold his silence, to keep still, but it was too unnerving.

‘What? What are you asking?’

More silence.

‘What do you want to know?’

Petrus grinned. ‘Almost certainly more than *you*. A good gardener knows all there is to know about his garden, otherwise the cutworms creep in, the aphids and the cabbage loopers. For now, though...’

He reached over and plucked a handful of white pouches off his desk. Some looked full, others half-spent. Whatever was inside them, M. Petrus opened a drawer in his desk and dropped them inside. Then he waved at the newly-cleared area.

A pebble rested on the surface of the desk. It was small and dark, with a streak of bright orange cutting through the side. Four wondered if it was the one in his flower pot yesterday, or if the gardener had gone to the trouble of locating a new one.

M. Petrus made a clicking noise. ‘Your friend says you set off this... allergy of yours on purpose. That you look for rocks, even though they cause those terrible fits.’ His face contracted, eyebrows drawing down over his eyes. ‘I want to know why.’

‘There doesn’t have to be a reason.’

‘Yes, there does. There is *always* a reason, even if it isn’t an obvious one.’

Four remained silent, refusing to let his gaze drift back toward the rock.

‘Arrangements can be made,’ said M. Petrus. ‘There is little I can do about your ban from the Gardening Elective – you are a student, after all, and M. Satoshi the school administrator. But *I* am head of the Gardener’s Guild and *this* is only an ancillary site.’

‘So what? I’m a student, not a gardener.’

M. Petrus smiled. Four was beginning to appreciate the range of smiles in this man’s possession. Just moments ago he’d radiated satisfaction so deep it almost smoothed away the sunken cheeks and pockmarked, sagging flesh. Now those aspects sprang back to the fore.

‘If I have to spell this out,’ he said, ‘it might not be worth my time.’

Four flushed. He was being offered something – he just didn’t know what. A reward in exchange for bringing him lavender seeds? Maybe. Maybe not. If that were the case, why ask about the rocks? Why make information a condition of whatever was sitting on the table, invisibly but no less tangibly, beside that little black-and-orange pebble?

‘I see things,’ he said. ‘Yesterday, you saw what my allergy looks like from the outside’ –a flash, unbidden, of his limbs and torso beating a staccato rhythm– ‘but that was just the physical side-effect. I don’t feel any of it. When it happens, I’m somewhere else.’

‘Where do you go?’ asked the gardener. He was leaning forward, eyes half-lidded, smirk totally gone. ‘What do you see?’

‘It’s different every time. And it’s never easy to understand – I have to work to sort it out. Like a dream. The things I see aren’t... dreamstuff, crazy things you realise could never happen in the real world. It’s just hard to hold onto the information when I wake up again.’

‘Yesterday,’ said M. Petrus. ‘What did you see yesterday, when you touched that rock?’

He nodded toward the pebble. Four stared at the orange streak, mouth dry. It was the same question Three had asked him last night, in the medbay.

‘I saw a man. He was looking at a list of names and crying.’

M. Petrus leant back on his stool, eyelids dropping all the way closed. Four waited for condemnation to form on the man’s lips, to emerge and and–

‘When you touch a rock,’ asked the gardener, eyes still closed, ‘the second time, or the third, et cetera, do you see the same thing again?’

‘No.’

Eyes sprang open, filled with a sly glee.

‘There’s an opening at the Guild. An apprenticeship, of sorts. You wouldn’t be the youngest member of the Gardener’s Guild, but certainly the youngest we’ve had in a while.’

A heavy feeling clutched at Four.

‘Would this be an after-school thing? Like those societies advertised on the electronic noticeboards in the halls?’

M. Petrus nodded.

‘I’m not sure I can do stuff after school. The carers come to take us home straightaway.’

A grin, of yet another variety, spread across the gardener’s face.

‘Well then. It’s a good thing this is only an apprenticeship “of sorts”. Officially you’ll be performing community service – three months for fighting on school grounds. Failure to comply will result in expulsion.’

## Chapter Seven

### TWO

Three was silent, present only as a weight and pressure on his elbow as he guided her through the lunchroom. The noise was disorienting: gabbled layers of conversation, laughter spurting from random pockets around the room, shouted names and insults. The palm pilots were worse. They latched onto his brain from every direction. There was nowhere he could move that wasn't a dense coating of sound, nowhere free from invisible wires.

As Two stepped forward to select lunch trays, his peripheral vision caught and held on a movement in the crowd. No. Not one movement... a dozen. Faces flicked in his direction, looked away, drifted back.

They were still staring as he turned and scanned the room for empty seats. Some of their gazes slid away when his eyes passed over them, others did not.

Two skirted the wall, putting off the moment he'd have to wade into the mix. Why had Four run away? Stupid question: he knew *why*. The real question was if he was going to do it *every* day, just hightail it, leaving Two stuck helping Three get her lunch while a thousand infantiles sized them up—

Something collided with his shoulder, sending a tremor through everything balanced on the tray in his right hand. The student he'd knocked into – a boy with hair slicked over one side of his face – didn't budge.

'Sorry,' Two muttered, trying to sidle away.

The boy clamped a hand down on his shoulder. Food jostled. A trio of rings clung to the septum of the boy's nose, rippling musically only a few inches from Two's face.

'What's your mutation, then?'

'Sorry?' he repeated.

The boy smirked and jabbed his chin toward Three. ‘She’s got them broken baby blues. Other one’s histamines gettin’ the better. What about you?’

Two started to say something, then broke off into a low hiss. The boy was slowly tightening his grip, fingers digging into the hollow beneath his collarbone.

‘I haven’t got any allergies,’ he gasped.

‘Yeah? Sure you aren’t some anti-yoobist clique? All dressed up the same?’

‘Hey, Pho?’

A new voice slipped between them, drawing out its syllables. The boy grunted, glaring at the newcomer without releasing Two’s shoulder.

It was the blonde girl who’d smiled at him in class, the one who’d introduced herself in Music. She was smiling again now, teeth and eyes trained on Two’s captor.

‘What do you want, Sharlezene?’ the boy asked. His nose rings tinkled.

‘I’d like you to let go of my friend, please.’

‘This ploidy?’ Pho snorted, initiating another bout of jingling. ‘You suiciding your bloggo and starting over?’

‘I asked you to let him go.’

The teeth were still on show, so it must have been some subtle shift of her eyes made the boy drop his hand. Two held back a groan of relief, even though the second tray of food prevented him from massaging his shoulder.

Just beside him, Pho was breathing heavily. Why could Two hear his nose rings so clearly? He was close, but not so close he should be able to hear them under all the—

Conversations up and down the canteen had ceased. Rank upon rank of staring faces were turned their way. He saw tiny movements – students continuing to eat or lifting their palm pilots – but very few spoke.

If Shar noticed, she didn't seem to mind. Tipping her head to one side, she said brightly, 'Go run a railing, Pho.'

The boy's lips lifted into a snarl. One eye remained hidden behind his hair but the visible one was full of hate. He glared at Sharlezene, then at Two. Then he bobbed forward and spat onto the closest tray of food.

A gasp rolled through the canteen, punctuated by a few murmurs.

'What?' Pho sneered. The girl hadn't reacted in any visible way but he still addressed himself to her. 'They're already gene-foxed, so what's a little fluid infraction?'

When he finally stalked away, Two let out a tiny sigh.

'Thanks,' he whispered, conscious that most of the canteen was still watching. 'I think he probably would have...'

He couldn't finish the thought. Too many stares. Most of the onlookers were seated and unmoving, but he could still feel them closing in, cutting off his exits.

Sharlezene waved a hand. 'No need for thanks,' she said. 'Pho's a real sprag. He always goes for the easiest targets. Yesterday it was some poor cuckoo – like anyone *cares* – today it's you.'

Her gaze bounced between the trays in his hands. She reached out, took the one the boy had spit on, and circled to the disposal slot on the wall.

'You don't want this,' she said. 'Come on, you can share the rest of mine.'

She turned and plowed into the nearest aisle, doing an admirable job ignoring the room's attention.

'We should sit somewhere else,' Three murmured.

'Why? She helped us.'

Three shrugged. 'What if it's a trick?'

His insides clamped down on an ugly retort.

‘Fine,’ he said. ‘*You* go eat somewhere else. I’m going with the girl who just stopped that asshole from—’

He plunged forward before finishing the thought. Unsurprisingly, Three came with him. Conversations were starting up once more; there was too much noise for her to navigate by sound alone. Without having memorised the dimensions of the room, she was stuck going wherever he chose.

Shar led them to a table where another girl, wearing a sour expression, was explaining that the seats around her were saved.

‘This is Ypsi,’ Shar said, smiling and plopping down. She ignored the students hovering beside the seats that remained opposite. ‘Short for Ypsilanti, but she hates that.’

‘I told you they were saved,’ said the other girl. ‘So I guess fox it or eat standing up.’

The boys backed away, eyeing Two and Three over their trays of food.

‘Sit, sit,’ said Shar. ‘Or else we’ll have to do it all again in a second. Here, have some of mine. I haven’t opened that yet, you take it. Who *knows* what’s swimming around in Pho’s mouth.’

The first several moments were spent getting Three settled; the next were a bustle of accepting food from Shar and Ypsi. The former handed hers over while keeping up a stream of commentary. The latter stayed quiet. She didn’t seem particularly sad to see the food go, but neither did Two’s repeated thanks elicit much of a response.

When a lull finally occurred, during which the canteen’s noise crashed over them, Two said, ‘Is he going to try that every day?’

‘Probably,’ said Ypsi. ‘If not him, someone else.’

She sucked at the straw sticking out of her drink – not, he saw, the same kind of juice dispensed with the canteen lunches – and peered at him.

‘You?’ Three asked. ‘Would you try something?’

Startled, Ypsi switched her gaze over. ‘No,’ she said.

‘Only,’ Three pressed on, ‘someone tripped me in the hall yesterday. They mentioned someone called Ypsi. A common name, then?’

The girl hitched a lip around her straw and said, ‘More common than yours.’

Shar poked her friend’s wrist. ‘She’s just jealous she didn’t think of it first.’

Ypsi didn’t reply.

‘It’s a cool idea for a clique,’ Shar pressed on. ‘Number names? Shaved heads? Matching clothes? Very mono, very... done before.’

‘If it’s been done before,’ Three asked, ‘why is it cool?’

‘Because,’ Shar said, leaning forward. ‘The lavender perfume? The wires in your heads? It’s like, “Don’t look at me, I’m boring.” And then when someone *does* look they get a total woah.’

Still bending over the table, Shar closed her eyes and sniffed. ‘It *is* lavender perfume, I told you! Woah. Woah! Is this cotton?’

For the first time, Ypsi’s eyes relaxed. She leant forward, scrutinising the cloth that covered Three’s arms. Shar also reacted, hand darting over her tray and latching onto the cuff of Two’s jumpsuit. She ran her thumb along the underside of the material. In doing so, her nail brushed back and forth along his wrist. A tingling sensation shot up his arm.

‘It’s cotton,’ Two said. He kept his voice low, remembering what M. Jacquard said about growing lavender. Was this another thing they should keep quiet about? Impossible, really. The scent of lavender was faint, but the jumpsuits covered them from neck to wrist to ankle.

Sharlezene was still stroking the cotton. Two tugged his sleeve away, trying to disguise the move by going for the bottle of juice she’d given him earlier.

‘See what I mean?’ she said, straightening up in her seat. ‘You look and see something boring and grey – no chips, no dazzle, who cares. Then... woah. Cotton.’

‘What else would it be?’ Three asked.

Ypsi’s mouth dipped open and slammed shut.

‘Synth’s much more common,’ said Shar. ‘Like this.’

She lifted a hand to her own neck, pushing her hair back and flipping out the collar of her shirt.

‘Can you see the difference?’ she asked. Her thumb pushed back and forth across the dark blue material.

‘Not really.’

‘Well, you can definitely feel it. Go on.’

She shifted forward, still proffering the bit of clothing. When she didn’t stop smiling or blinking at him, he reached out and put his thumb next to hers.

His fingers found weft and weave, but the ridges were much more pronounced than the interlacing threads of his jumpsuit. It was almost like... plastic. Two bent the collar back and forth, surprised to find it almost as flexible as his own clothes.

Shar’s breath ghosted into his palm. She hadn’t craned to look down at his hand; instead, she continued to gaze across at him from beneath long, lowered lashes. Her eyes were green. Warmth seemed to seep out of her skin, pulsing outwards from her jaw and neck.

Two pulled away and busied himself with the first item he encountered on his tray: a fruit pot.

‘OK,’ Ypsi was saying. ‘OK, so you’ve got cotton and you wear lavender perfume. What’s with the wires?’

‘Coolest cosmetics I’ve ever seen,’ Shar interjected. ‘I thought doctors weren’t allowed to do headmods, unless it’s something superficial like face tatting or an earphone.’

‘They’re not cosmetic,’ Two said.

Three kicked him under the table.

Ypsi and Shar stared at him, silent. Two tried not to let his face show any pain.

She was right, of course. When they’d first walked into the school, Four had pointed out their wires were visible under fluorescent lighting. He’d *said* everyone would assume they were just pretty things, but Two hadn’t believed it. What was so “cosmetic” about them anyways? How could the girls sitting opposite him have seen anything *other* than medical paraphernalia?

‘You’ve really never seen anything like them before?’

Shar shook her head, hair slipping back over her shoulder. ‘Newest of the new,’ she said.

‘It’s just...’ Two started. He shrugged. ‘They’re not—’

A series of loud chimes saved him: lunch was over. The noise in the canteen doubled instantly, conversations merging with the scrape of chairs being pushed back, trays clattering into disposals, echoing footsteps. Two rose gratefully into the racket.

‘Thanks for the food,’ he said. ‘And with Pho.’

Shar smiled. She flipped a hand at him, palm pilot briefly visible.

‘Don’t worry about it. You should come to lunch with us again sometime. Easier to avoid him if you go off campus.’

Two paused. ‘We don’t have to eat in the canteen?’

She laughed. ‘No. This is underschool. We’re allowed to eat anywhere, s’long as we make it back for class.’ Another smile. ‘Come with us.’

Three was up and tugging on his elbow. 'I'll think about it.' He stepped away. 'Are you coming to Music?'

Shar shook her head. 'No, it'll just be the same thing. Cool to see the instruments, but that elective's on repeat until everyone's seen them.'

Two allowed himself to be pulled along by the current of students pushing their way out of the canteen. Palm pilot signals dived into him from every direction and, for an instant, it was like his brain reversed the information: he wasn't pinwheeling through too much input, he was completely alone, isolated from the world by a solid electronic wash.

Sensation rushed back in. Two was once more the magnet dropped into a thicket of iron filings, each and every point aimed in his direction.

'Are you sure you want to go to Music again?' he asked, 'if it's just going to be the same thing?'

Three said, 'You can just leave me at the door if you want to try a different elective.'

'What's wrong?' he asked, looking over.

'I don't like those girls. The ones in our class.'

Two stared at her for a moment, then snorted. 'Of course you don't.'

'I don't trust them.'

'Of *course* you don't. The only people in this entire school who aren't trying to beat us up, or laughing at us behind their hands, or—'

'That doesn't mean they're our friends.'

'Well.'

Two stopped. Like yesterday, the hall outside the Music room was packed with students. He drew up with the back of the crowd and was immediately hemmed in from behind.

‘They’re not our friends yet, sure... but we’ve only just met. They shared their food with us.’

Three’s face darted into his peripheral vision, hissing, ‘And you told them our wires weren’t just for looks.’

‘That was an accident.’

Three reared back. ‘Was it an accident? If I hadn’t been there, they would have got you to spill everything about our allergies.’

‘Oh, just *stop with that shit from yesterday*. The carers are lying, the doctors are lying, the fieldhands—’ He stopped. Swallowed. ‘Now you think random people at school are lying, too?’

Three, unaware that heads were beginning to turn in their direction, sniffed and said, ‘Not lying. Manipulating.’

Two forced himself into a more relaxed posture. The crowd shuffled forward a few steps.

‘OK,’ he said. ‘Sure.’

‘You don’t believe me.’

‘No, I don’t. I think you’re full of shit but you know what? That’s OK. The carers said school would stress us out in ways we couldn’t predict.’

‘You think,’ said Three, ‘I’m stressed?’

‘Yeah. I do. I think you’re stressed and scared because the carers abandoned you in a new place with no real preparation. You can’t see anything, nothing is designed with you in mind, and everyone hates you because you’re blind.’

He rocked back on his heels, quite pleased with the assessment. It fit. Every part of it made sense.

Then Three burst out laughing.

‘What?’ he asked, whipping his head around. ‘What’s so funny?’

‘Are you sure you aren’t describing yourself?’

They were at the front of the crowd now, slipping past M. d’Holle and through the doorway to the music room. He opened his mouth to spit something nasty back at Three but the teacher’s smile of recognition made him bite down on the words. His face was an ugly thing right now – he knew it – so he waited until they were well past the door before turning and stopping.

Before he completed the move, Three released his elbow and carried on past him.

‘I don’t want to hear it,’ she said. ‘Just like you don’t want to hear me.’

He gawked as she sidled across the classroom, navigating clusters of chairs and students with slow movements and light touches of the hands. *She* didn’t want to hear *him*? After all her accusations, she didn’t want to hear his thoughts about them?

Two threw himself into a chair at the back of the room, staying as far away from M. d’Holle’s presentation as he could get without wholly detaching from the group. He watched as, once again, the woman played the last violin made on Earth and then handed it to the blind girl. This time he got a better feel of the emotions that ripped through the audience: jealousy, disbelief, anger.

‘Careful,’ he muttered to himself. ‘Too many favours and they might start to hate you more than they do Four.’

Sharlezene had been right: the elective was on repeat. He was just starting to wish he’d left Three at the door when M. d’Holle lifted the second viola. Someone behind Two cleared his throat.

M. Jacquard stood in the doorway, silhouetted by the lights in the hall behind him.

‘Apologies for interrupting,’ he said, ‘but I was wondering if I could borrow Three for a few minutes.’

M. d'Holle's gaze slid to the blind girl sitting just before her.

'Of course.'

She lowered the viola she was holding, then bent to retrieve the violin.

As Three felt her way to the edge of the room, Two stared at the teacher, who remained in the doorway. Why wasn't he going to Three and helping her, as he had outside M. Satoshi's office? He didn't step forward until she'd nearly reached him, as if he were afraid to enter the room.

Maybe she was in trouble for something. As much pleasure as the thought gave him, he couldn't really credit it – she barely spoke in class, let alone doing anything that might break a rule. Something else then.

In his last glimpse before the door slid shut, the pair turned left and stepped out of view. Their heads were already bent close to one another, just like Four and the gardener that morning. Conspiring.

Neither Three nor M. Jacquard returned before the end of the Music elective. She didn't turn up in Gardening, either. Four, of course, was banned, so Two spent the rest of the afternoon alone at a greenhouse table, testing soil pH under the watchful gaze of Petrus and the other students.

#### FOUR

He collapsed into the seat before a voxelbox. Somehow, he'd done it. Not only had M. Petrus given him the orange-streaked pebble from his desk, M. Sandhi had also allowed him to take a double elective in Art. In the blink of an eye, his afternoons had become the perfect combination of drawing and rock collecting.

After using a sheet of bedding plastic to wedge M. Petrus' gift into the hiding place within his shoe, Four had gone to the art room. The overhead lights shone on empty, inactive

voxelboxes. M. Sandhi was standing at a workstation in the corner of the room, scrolling through a complicated-looking document. She hadn't immediately agreed to his request for a double elective in Art, but neither had she turned him down.

'You watched that video... thing,' he said, seeing the hesitation in her eyes. 'The footage of what happened in the greenhouse.'

'It would have been difficult not to,' she said. 'Whoever uploaded it tagged not only you and the school, but also M. Petrus, M. Jacquard *and* the Eugenics Board. I imagine there are very few people who haven't seen it.'

The words coiled inside him, constricting as he tried to remember his train of thought.

'It won't affect Art, though.'

M. Sandhi looked very sad as she said, 'I bring in plants for the still life module. Occasionally we receive permission to go into the base of the dome to practise drawing organic shapes and landscapes.'

She continued listing some of the ways in which a pollen allergy might affect his participation in the Art Elective. Resentment continued to squeeze at his innards, clenching and twisting with each reason he should be excluded. He didn't *want* this. It wasn't his fault he'd had an allergy attack at school. It wasn't his fault someone had filmed it and passed it around and *assumed* what his seizures meant.

'It's not a pollen allergy,' he blurted.

M. Sandhi closed her mouth. For a moment she resembled a statue of a woman, tall and imposing, carved of black stone and clothed in shining colours.

Should he have done that? In the office that morning, M. Satoshi's reaction had been enough for him to understand their allergies weren't normal. Everyone assumed "pollen allergy", not rock or electronics. How wise was it to spoil that assumption?

‘It’s not a pollen allergy,’ he repeated. ‘It’s a sensitivity to... other things. Please. You don’t have to worry about it happening in here.’

She tipped her head. ‘To what things?’

He stuttered for several moments. Finally:

‘I don’t want everyone to know.’

The words were hammered down into a whisper, broken by a crude combination of jeering on the front lawn, the stares and sneers he’d received all day, and those awful, eternal seconds staring into his own unconscious face. What would they do if they discovered his *true* abnormality?

‘I just want to draw,’ he said. ‘I don’t care about Music or Sexual Health or any of the other things I could take instead. I just want to draw.’

M. Sandhi gazed down at him for several heartbeats, expression unreadable. There was a sound from behind him; Four turned and saw a girl sliding into a seat. Lunch must be over, or ending.

When he looked back, the art teacher hadn’t moved.

‘You may take a double elective,’ she said. ‘Now please. Take a seat.’

Had that been compassion on her face? Dislike, disguised as indifference? Actual indifference? Four found himself reviewing the moment over and over. He had what he wanted – *more* than what he’d hoped for. M. Petrus would give him rocks, M. Sandhi was letting him take a double elective in art...

Why didn’t he feel happy?

The students trickled in, a few already in conversation. Their words and movements gave life to the room. Four busied himself with voxelbox menus, hoping to go unnoticed, unremarked, unmolested.

Just... let me draw.

Someone threw himself into the neighbouring station, releasing a low grunt of displeasure as he did so. Four looked up.

A boy with tangles of dark hair and heavy eyebrows glared at him. Why did he look familiar? He wasn't in M. Jacquard's class and he wasn't the one who'd rubbed grass in his face on the front lawn. Then, using his palm pilot to flick through options at lightning speed, he summoned a collection of hovering, vertical black marks to the box's drawspace. It was the boy he'd disturbed yesterday, in this very elective. The one who'd watched him show M. Sandhi his smooth, unpiloted palms.

The boy bristled under the prolonged examination.

'You could have picked anywhere,' Four said, waving at the half-filled classroom. 'Plenty of room for both of us.'

To his surprise, the sullen expression retreated a little.

'If I did that, I might have to talk to an idiot.'

'Oh. So... I'm not an idiot?'

'No,' he said. 'Just easier to ignore.'

Four considered. Contrary to the look on his face, there was no venom in the boy's words. Already he was leaning into the light of his project, adding another vertical black slash below the others. All in all, being ignored was better than the alternative: grass in the face, a knee to the stomach, a crowd of laughing students.

The lights dimmed. Classroom and teacher were swallowed from view. Students became backlit silhouettes or hyper-illuminated faces. Four resumed picking at the selection of tools and filters.

The darkness wasn't silent. Amidst the scuffle of students shifting in their seats, a few quiet conversations stopped and started. A girl named Queta was having trouble with her bloggies; they were asking for nudes and she wouldn't give them. Someone in the far corner

either didn't know or didn't care that his voice was too deep to go unnoticed. He spoke about the cleaner in his housing block not bleaching the communal showers well enough, and now everyone had athlete's foot or worse. This drew a few catcalls from the other side of the room – '*You've got it, too, then?*' – before M. Sandhi shushed them.

Something inside Four eased. He was alone, or near enough. If they were staring at him, he couldn't see it. If they were talking about him, they were doing so on their palm pilots, where he didn't have to hear it. Everyone seemed intent on their own work rather than his allergy.

'Did you try to get a palm pilot and the slicers turned you down?'

His neighbour's voice came floating out of the dark, from the nearest island of light. He'd spoken without looking up from his flock of black lines.

'I thought you wanted to ignore me.'

'I said I *could* ignore you. If I wanted to. Right now I want to know if you got turned down.'

Four barrelled through several menu choices without looking and slashed a line into the voxelbox's glowing field. 'We didn't get turned down for palm pilots. We never got the option.'

'Ouch. Your parents must hate you. Although it's gotta be nice not having to worry about antivirals and adblockers all the time.'

'I don't even know what those are.'

'See? Must be nice.'

Four reared away from his voxelbox. 'If they're such a pain, why do *you* have one?'

The boy deliberated over his work for a moment. Then, after adjusting a line, he said, 'Installs are covered by baseline. Easier to get one free than pay for a wristie.'

‘We don’t have wristies. We have a wallscreen at home, a computer terminal in each bedroom and one in the kitchen. That’s all,’ he said, leaving out the medbay and its plethora of electronic devices.

“Each” bedroom?’ The boy emitted a low whistle. ‘Getta loada M. Richie-Rich here: *separate* bedrooms. If your parents have housing levels like *that*, why wouldn’t they let you get palm pilots?’

‘Our parents are all dead,’ Four said, ‘and the carers knew we were sick.’

This bombshell made the boy sit back in his chair, face dimming as he pulled away from the light of his voxelbox.

‘So,’ he said, ‘you’re a ward of the state?’

Four shook his head and shrugged. ‘We’re wards, yeah.’

It wasn’t a lie. Aleph and Bet had always *called* them wards, but never “of the state”. Whatever mis-impression he’d just encouraged, it morphed the boy’s open, vaguely antagonistic incredulity into something new.

‘I thought wards went to special schools. State-paid schools or something.’

Four shrugged again. He didn’t know where wards of the state went to school.

‘Ward housing must suck. Separate bedrooms can’t be worth the baseline living.’

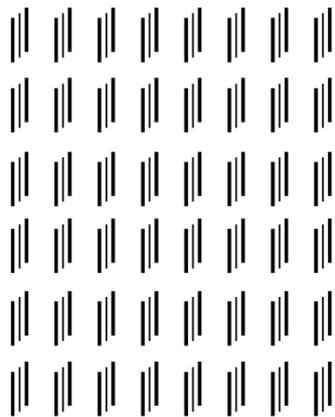
Whatever sense of security he’d found during the first part of class was gone now. The other conversations had ceased, giving way to a silence that rolled from one unseen corner to the next. Was this his life now? Forever falling into the lens of other people, prey to interpretation and judgement and punishment? That video footage had already catapulted him way beyond the boundaries of social normality, so why did it feel like he’d just slipped a few more rungs? How far was there to fall? How much worse did it get?

The rest of the elective crawled past, Four trying and failing to concentrate on the intricacies of his voxelbox. When the lights began cycling up, he almost expected a rush

from the other students in the room: either toward him, to deal with the abnormality in their midst, or away from him, to distance themselves entirely.

Nothing like that happened. Students rose, collected their things. A few glanced his way, but their looks were of dull interest rather than any of the sharper emotions he'd caught earlier in the day.

'Don't you have another elective to go to?' Four asked the boy, who still hadn't moved. He shook his head, squinting at his voxelbox and trying to see his work. The glowing dawspace was barely visible under the classroom lights: an uneven patch of blue-white against the air, translucent black marks:



'Are you... taking a double elective, too?'

The boy nodded. Then he looked up, eyes still narrowed. 'You, too?'

'Yeah. Double elective,' Four said. 'M. Sandhi said Art wasn't that popular.'

'It isn't. Almost impossible to maintain housing levels with it. Some people take it for fun, but you never double in something unless you're focusing it down.' He rolled his eyes. 'Like the musicians and their precious M. d'Holle.'

'What's so precious about him?'

The boy glanced over. 'Her. M. d'Holle, the Music teacher. Close friend of M. Jacquard, almost made Stravinsky, regular at the Musician's Guild. All the usual celebrity stuff.' The boy made a face like a nasty odour had just floated past.

‘What does M. Jacquard have to do with celebrity stuff?’

At this, the boy pushed his chair away from his voxelbox. Four had been hoping for some kind of hint about what “celebrity stuff” might entail, but the look on the other’s face was information all on its own.

‘You’re in his class, aren’t you?’

‘Yeah.’

‘So... what? You haven’t bothered looking at his face in two days?’ The boy huffed. ‘What, you missed the whole thing last year about him suing the Eugenics Board?’

Four lifted a shoulder. ‘He’s got blue eyes. I noticed that,’ he said, not adding the only reason it meant anything was because Three *also* had blue eyes.

‘You’re only half as clueless as anyone else, then. Dunno how you got close enough to see his eyes without thinking, “Holy shit, red hair!”.’

The second elective slot commenced with a new roster of students. Four set himself the task of drawing small objects from memory – a fence post, the computer terminal in his bedroom, a folded jumpsuit – while turning over the boy’s talk of red hair and blue eyes. What did those have to do with the Eugenics Board?

He was familiar with the word, with its liquid tumble to a razor edge. It had come up more than once at home: impossible to think it wouldn’t, considering how much of their lives revolved around the tracking of genes, the testing of protein production and expression. Four sketched a gardening trowel, trying to capture the unique shape of its blade, and remembered the day it fully crystallised that Aleph and Bet were not his parents, *could not be* his parents.

‘See, I told you everything would be fine,’ Aleph had said.

The medbay doors closed behind him, but not before the younger Four glimpsed Bet leveraging herself onto one of the medical beds.

‘Did it hurt?’ Three asked.

‘Can we see?’ Two chimed in.

‘Of course you can see it. And no, it didn’t hurt. The doctors make sure we can’t feel anything when it goes in.’

Aleph knelt and the wards clustered around him while he rolled up his sleeve. He pointed to a small dot on the underside of his arm, midway between elbow and shoulder.

‘It looks like a freckle!’ crowed Two. ‘You’ve got a freckle!’

‘And when it fades out entirely,’ Aleph said, ‘we know it’s time for a new one. That and the house will tell us, of course.’

‘How does the house know?’

‘Well.’ Aleph leant forward, mischief in his eyes. ‘You know when you use the toilet?’

A round of giggles from the children.

‘The house can read all kinds of information from your pee.’

More giggles.

‘If there’s protein or sugar or white blood cells, it knows you might be getting sick. And if there *isn’t* enough of the special hormone exuded by this little device’ –Aleph tapped the dot on his arm– ‘it knows that Bet and I need replacements.’

He held his arm out, letting each of the wards run their fingers over it. The skin was smooth, barely raised. When Four pushed, just a little, he felt a hard nodule of resistance deep in the meat of the carer’s arm.

‘But *why* can’t you and Bet have babies?’ Three asked. ‘If you wanted?’

Aleph laughed. ‘Well, we’ve already got you nuggets to look after. Imagine the trouble if there were more of you running around.’

‘It’s just the way things are,’ Bet said.

The other carer stood on the other side of the medbay threshold, her exit blocked by the cluster of bodies in the hall. She gripped her left forearm with her right hand, massaging the same spot Aleph had just shown them.

‘Imagine how quickly we’d run out of food and oxygen if anyone could have children,’ she said, ‘whenever they wanted.’

She looked as though she had more to say, but Aleph had scooted them out of her path, suggesting a game of tag as he did. From that day onward, the Eugenics Board had cropped up in various lessons: no one had children unless there were enough resources to support them, and no one had children without rigorous medical testing beforehand.

‘They test for blindness,’ Four whispered to himself. ‘And... allergies. Maybe the carers even told us that, but we didn’t understand. Couldn’t. We were too young.’

These ideas were still turning in his mind as he made his way toward the front gate, ignoring the calls and stares he received from passing groups. Though no one had thought to set a meeting point, both Two and Three were waiting there, a little to one side as students fled the school grounds in a mass exodus.

‘Did anyone try anything?’ he asked.

‘At lunch,’ Two said. ‘Right after you *left*.’

Four ducked his head.

‘After you *ran away*.’

‘I didn’t,’ Four started to say, but he stopped and changed tact. ‘I had something to do.’

‘Oh yeah? Must have been—’

‘We should find out if Aleph is waiting for us,’ Three said, closing the argument.

Yesterday the walk between terminal and school took much longer: a trek of hours while the wards tried to digest the sheer number of people around them, the cityscape, the

colour and movement and sound. Already that awe felt diminished. The buildings above him were still terrifying but no longer a surprise. He could look through the crowds without getting dizzy. To his surprise, the uber terminal was visible in the near distance, its sprawling glass front in stark contrast with the school's ugly outline. Five minutes' walk, if that.

The wards joined a much larger stream of students heading in the same direction. They surged ahead into any empty space, swarming around adults in their rush toward the terminal. Yesterday, Four had thought the platform loud and busy. Today he realised it could be louder, busier. Their energy and conversation actually pulled the cityscape closer, lending speed to the streets and intensity to the whirl of holographic adverts.

They fill the canteen with their noises, he thought, until it's ready to burst. How is it they can do the same to an entire city?

A familiar figure was waiting just inside the arched entrance to the terminal, face scanning the hordes of infants as they passed.

'So you are here,' Four said.

'Everyday, after school,' Aleph said, eyes flashing in their direction. He didn't uncross his arms. 'Or so I thought.'

'What does *that* mean?' Two asked.

Four suppressed a grin.

'You found out about my community service.'

Aleph's silence confirmed the guess. Two had no such qualms.

'M. Satoshi didn't give you community service,' he said as they followed the carer through the station.

'No,' said Four. 'M. Petrus did, afterwards.'

'*When* after?'

‘At lunch, OK? He wanted to show me something. And he gave me community service.’

The carer tapped an information display on a bay that had just opened up. In the background, behind a glass wall where pedestrians couldn’t roam, one of the white spheroids being disgorged from the bowels of the station split off from the main straat. It veered onto a side-straat – the one leading into their bay – and slid to a halt before them.

‘In,’ said the carer.

Four scrambled up and in, a little relieved by the cocooning walls of an uber. As the babble of the station crowds dropped off, a tension he didn’t know he’d been feeling disappeared: some larger, more encompassing version of the easing he’d felt in the dark of the art room. There was no one to look at him here, no one to judge and categorize-

Except Aleph. Four finished buckling himself into his seat harness to find himself the subject of intense scrutiny. The carer was sitting opposite, in the centremost seat, the wards lined up before him. He waited until a shudder went through the compartment before speaking.

‘Please explain,’ he said, ‘how it is that you receive community service on your *second* day of school.’

‘We got attacked this morning,’ Four said, ‘because of what happened in the greenhouse. Everyone got punished for fighting on school grounds.’

Two’s head swivelled in his direction. Please, he thought, refusing to look at the boy. Just. Shut. Up.

‘That doesn’t explain why you chose to engage in this kind of behaviour,’ Aleph said. His words were tight, clipped. ‘I understand your temper sometimes gets the better of you—’

‘It wasn’t like that,’ said Four. ‘*They* attacked us. Blame *their* tempers, not mine. I was just trying to protect Two. He was the one they surrounded.’

‘Is this true?’

Slowly, the other boy said, ‘It’s true. Everyone on the front lawn. They were...’

When he didn’t continue, Three filled in the silence.

‘Excited. Angry. Afraid.’

A pause.

‘I could hear it in their voices. They were holding each other back and egging each other on, all at the same time. I don’t think Four could have stopped them once it started.’

‘You knew they’d do that,’ Two said. ‘You *knew* how the domes feel about... disabilities. About blindness and allergies and mutations. That’s why you told us to keep quiet about the medbay, and our scans.’

Suddenly the hollow tone present in his friend’s words snapped into focus. Rage. Every syllable dripped with it, as if dipped in an acid bath.

‘You put us in that school, with these allergies, even though you *knew* they’d find out. How could they not? With all the desks and palm pilots and network activity?’ Two lunged forward, the movement cut short by his harness. ‘I bet you thought it would be me to have an allergy attack first, huh? That I’d be the one to tip everyone off about what *freaks* we are.’

‘You’re not freaks,’ Aleph said quietly.

‘We *are!* We look like freaks, we act like freaks, we do freak dances on the floor when exposed to the wrong things. Why are you making us go there?’

‘Two, we had no choice. The law only allows for a certain amount of homeschooling—’

But Two had thrown himself back into the seat, folding his arms and looking away.

‘Whatever,’ he said. ‘Not your fault, you had no choice, nothing to be done. Guess I’ll just have to get over it. OK. You can go back to being mad at Four about his “community service” now.’

The final words were delivered in a high, mocking tone, and suddenly Four was very conscious of the stone's weight inside his shoe. Had he said too much? Given something away? Community service made sense, a *lot* of sense, so how had Two guessed it wasn't just a punishment? Unless... knowing it had been given separately, by M. Petrus rather than M. Satoshi was enough of a clue?

If Aleph noticed the accusation, he wasn't showing it. He was trying to meet Two's eyes by leaning into his field of view, but the combination of harness and the boy's refusal to look away from the wall made the act impossible.

An uncomfortable silence reigned over the rest of the trip. Another shudder went through the uber's interior and everyone disembarked, Four pausing in the late afternoon sunshine. The argument had started with the usual beats – accusation, admission, explanation – but Two's anger had derailed everything else. Was there a punishment coming? Final viewpoints and a warning to do better?

There was no such hesitation from Two. He stormed off toward the house, Aleph close on his heels. Four continued to waver on the edge of the garden plots.

'Did you hear that?' Three asked.

He turned away from the sight of grey and blue jumpsuits disappearing, one after the other, through the front door. Three was stooping behind him. As he watched, she planted her butt on the ground and stretched out in the grass.

'Hear what?'

Eyes closed, arms flung wide so the sunlight could fall on as much of her as possible.

'Just now, when Two said we were freaks.'

'Yeah, I heard.'

She tipped her chin down to her collarbone, as if squinting to look up at him.

'What about Aleph's reply? Did you hear that, too?'

He tried to think. A part of him was still roaring down the aborted conversational track, ranting at Aleph about punishing someone for being punished. Another part was fussing over Two, who'd somehow worked out his community service wasn't a real punishment. Was that something to worry about? He *couldn't* know the details, so what was there to do about it?

'I don't know,' Four said. 'Something about homeschooling.'

The words came back to him even as Three repeated them aloud, verbatim.

'Wait,' he said. 'If there's a law saying we could only be homeschooled for a certain amount of time, why didn't they mention it before?'

'Good question.'

'I mean... on the first day of school? Or just after they told us we had to go?'

He turned away from the house, stepping uphill so he could stand over Three.

'It's a good reason,' he said.

'It explains a lot,' she agreed, eyes closed against the shadow falling over her face.

'Like why Two has to go, even though he isn't ready for a whole city.'

'And why it all happened so suddenly. They might have held off from telling us, trying to appeal the law for as long as possible.'

How could she lie there so serenely? Four was filled with the urge to move, to transform the rising implications into action.

'Three?'

'Mhmm?'

'You said something in front of the school this morning, just before the fight started. Something about the reason Two was so mad at you?'

'Yeah. I tried telling him the carers were lying to us. He didn't take it so well.'

She propped herself up on her elbows.

‘Not half so well as you’re taking it now.’

After Three finished talking, Four hiked up to the western ridge and plunged into the treeline. The shade did very little to calm his thoughts. She’d either revealed herself as delusional, which would explain Two’s strange reactions over the past few days, or... she’d revealed how lucid she actually was. She *was* perceptive; Four was more convinced of that than ever. But was that perception twinned to clarity of thought or wild misinterpretation?

He stopped when he reached the huge oak tree standing in the deepest part of the eastern forest, midway between the hillside and the fields. One particular set of gnarled roots thrusting out of the dirt had been worn smooth over the years. He settled into this niche, twists and turns of the wood as familiar against his back and legs as the dips in his own mattress.

The things she’d noticed...

‘If they’re so upset about you triggering your allergy on purpose,’ she’d asked, hands tucked behind her head, ‘why do they let you go off on your own so much?’

‘Because they can’t keep us cooped up inside *all* the time.’

‘They know you have a rock collection hidden somewhere in the forest. Wouldn’t they try harder to keep an eye on you? If they actually cared about stopping you?’

He shrugged. ‘They’ve got quotas and stuff to keep up with. Liaising with the fieldhands and veterinarians. Their buyers and suppliers.’

‘Think about it,’ she said.

One hand came out from under her head, rising toward the sun.

‘A farm and gardens that run themselves most of the time. I mean, it’s not like the fieldhands need overseeing. They love their jobs.’

The other hand joined the first and it looked as though she were trying to embrace the blue sky.

‘A real jerk of an infantile that runs off every chance he gets, triggering a *life-threatening* illness on purpose. Like he’s got a deathwish.’

Her hands fell back to the earth.

‘I think they could find the resources to watch you. If they wanted to.’

Four squeezed the toe of his left shoe hard enough to hurt. Her words made sense. After the first few times he’d taken rocks, hidden them and used them later, he worried the carers would start chaperoning him whenever he left the house. It was the most logical course of action, but it never happened. They just fetched his unconscious body, searched him, waited for the seizures to run their course, punished him, and then left it. Over and over.

‘The doctors tell me I’m getting worse,’ he said to himself. ‘They tell me I’m killing myself and show me pictures of my brain to prove it. But no one *does* anything. Why?’

‘Are they... manipulating me?’ he asked Three. ‘Telling me *not* to set off my allergy so that I’ll go and do it to spite them?’

But of course she didn’t answer, because she wasn’t there with him in the forest. She was probably still lying in the grass, listening to the wind blow from one quarter of their little world to another, feeling the sun soak through her clothes and into her skin. He shivered. Why had his first impulse been to run here, to hide in the shade?

The only response would be to *not* set off his allergy and maintain a form of... abstinence long enough to provoke a reaction. But what if no reaction came? What if there was no cross-purpose?

And how much choice did he really have about setting off his allergy? He thought back to waking up in the medbay, Three hissing from the next bed over: “What did you see, Four? When we were little and I hit you with that rock?”

Even if the carers were manipulating him, he had to keep looking.

He reached for the secret compartment in the sole of his shoe, where the orange-streaked rock lay waiting for him.

pushes...

...pulls back...

**He is that which lurks, the old enormous ever-present in the flit across reflective floors, in the glass walls of perpetually vast chambers. The Basileus turns to drink from the deep creases of a need beyond default essentials. Comfort stretches the attraction, drawing him into the tapestry of perfumed perhaps.**

**Thud and eye. Sunlight springs upright and hisses at his sagging jowls, aged reflection obscuring the silent memory of a morning world. Grey thoughts: mantle of the black orchid, heavy with an air of adjudication. He has been kneeling with stems and precious innards, but soon he will lift himself – easy enough – from view, taken into the tapestry of somewhere else.**

**The pain flowers rise. His beauties will die bathing in the glare of wince and polish, kneeling to high windows. This humid chamber will be removed, the splendour memory lost, only the black echoing perpetually through the new enormous.**

## Chapter Eight

### TWO

Aleph followed him all the way into his room, asking if they could talk about what was wrong, maybe find a solution. Two hurled himself onto his bed. He rolled toward the wall, catching a glimpse of the carer standing just inside the doorway.

‘You could take me out of school,’ he said. ‘Take me to the city on shorter trips, let me adjust more slowly. Then put me back.’

Aleph was silent. Two stared at a tiny crack running up the wall just opposite his pillows.

At last, the carer said, ‘We’d do that if we could.’

‘But you can’t?’

The second, longer silence was answer enough.

‘Then there’s nothing to talk about. There aren’t any solutions. Leave me alone.’

Two closed his eyes, hurling silent accusations at the top of his lungs. In his head they slammed against the carer’s face and rebounded, splitting apart to reveal the seeds at the heart of each: “WHY?” and “STOP!”

He kept up the mental barrage long after Aleph slipped out of the room, aiming at different parts of the house as if he could track the carer’s current location. Up the hallway, toward the kitchen, then right, into their personal quarters. This is what it feels like! he snarled. You try to run but it’s everywhere, pouring into your head and burning, burning, BURNING.

At some point during this exercise he dozed off. A commotion in the hallway brought him awake again; he sat up just in time to see a blue jumpsuit pass across the gap in the doorway. It was followed by a long, horizontal shape, then another blue jumpsuit.

‘He’s stabilising,’ Bet called. ‘Ictal period looks to be receding.’ A short huffing noise. ‘He’s heavy. Soon you’ll have to put someone else on call for transport.’

‘Let’s try to have him on a bed before postictal state commences,’ said Aleph.

As the sound of their laboured progress carried on up the hall, Two threw himself back onto the bed. Four had triggered an allergy attack: his second in as many days, which might be a record of some kind. He just didn’t know when to *stop*.

‘Who cares,’ Two whispered to the ceiling. ‘If he wants to blow up his own brain, let him.’

He’d give anything to be in Four’s shoes, he realised. An allergy triggered by touch rather than ambient conditions, and a relatively rare allergen, easy to avoid. Didn’t he realise how good he had it? Why was he always pushing, increasing his own suffering, rather than being grateful he didn’t have it any worse?

Later, Bet woke him from another doze.

‘Almost time for scans,’ she said.

‘I’m not going.’

‘You have to.’

‘The only thing I *have* to do,’ he said, rolling to face the wall again, ‘is go to school every day.’

He heard her approaching the bed and kicked his legs out, stopping her from sitting down on the edge. She sighed.

‘The scans give us vital information about your allergy. Without them, the chances of finding a cure or a treatment are—’

‘I don’t care.’

‘Two, don’t you want to get better?’

‘Right now,’ –he rolled over– ‘getting better means NOT. GOING. TO SCHOOL.’

Bet's jaw dropped, her eyes opening wide. Four was the ward who shouted and bellowed, who broke things until he got what he wanted. Two was the good boy, the acquiescent boy, the one who gritted his teeth and got along as best he could. He watched these facts write themselves across her, then slide into the territory of no-longer-true.

Her face settled into a steely expression, lips compressing until they were nearly invisible. She was the quieter of the carers, much slower to anger, but shouting never failed to infuriate her. She cleared her hair to the sides with two quick swipes, then-

-stepped backwards, toward the door. Two, who'd been peeking over his shoulder to watch, sat up a little.

'I understand this is hard,' she said, drawing in a shaky breath. 'And before you say it, I know I'll never understand *how* hard. We're doing the best we can.'

Seeing her take a step into the hall, he shot upright and shouted, 'It isn't good enough! If you really cared, you'd do more!'

Bet slid the door almost all the way closed, pausing at the gap.

'We can't.'

'Can't what? Can't do more? Or can't *care*?'

Her fingers flinched away, the rest of her slipping out of sight. Two found himself doing the same thing he'd done earlier: mentally following her through the house, only this time the cries he poured down upon her were empty, pained things. Over and over he demanded she answer the question while, at the same time, another part insisted she didn't have to.

Of course they cared! Why else would they have given up their lives in the dome city to come here, to look after three sick children?

He spiralled along this train of thought for a while, turning back toward the single crack running up the wall. His body was hollow, ringing with absence. Why hadn't she said

it? Again and again her fingers jerked out of view, until Two was no longer sure what was memory and what was imagination.

Someone tapped on his door, quietly.

‘What?’ he asked.

A male voice answered, ‘Bet said you weren’t feeling well, so I’ve come to set up a mobile scan. Can I come in?’

‘Just leave me alone. You’ve got the morning scan – use that.’

He knew it was hopeless even before he heard the door sliding open. The doctors scanned Four when he was unconscious; only a poorly-positioned head wound could hold them off.

‘But the morning results are useless on their own,’ the voice continued.

His words were accompanied by the sound of wheels bumping over the doorframe. Two’s brain prickled to life, first as a few points of heat springing up, then as a thickening swirl of grit that forced itself through the folds of his brain. He scooted away, a futile gesture that only made the crack loom larger in his vision.

‘Use last night’s scan, then,’ he said.

‘We do,’ said the man. ‘Every scan is compared to the last. Morning scans with the previous evening, and evening scans with the morning. In your case the comparisons have been staggering – they’re crucial for understanding what effect the city is having.’

In one fluid motion, Two rolled over and thrust his legs over the edge of the bed. He almost carried through with the movement: extend his leg, plant the shoe just *there*, send the computer terminal crashing to the floor.

‘You want to know how the city is affecting me?’ he sneered. ‘It’s too much. I blacked out today – got sucked into a desk or something and woke up trying to press myself

into a wall to get away. The city is breaking my head. It shouldn't take a fucking *scan* to see that.'

The medical assistant looked up from the terminal, hands paused over the screen.

'What do you mean, "sucked into a desk"?''

'We had to go to the administrator's office,' he said. 'Her desk was a lot worse than the ones in class. Worse than all the desks in the school combined. It—'

—tried to eat me, he didn't say. It ate me and I was inside it, looking down at my own body.

The man had a round face, soft at the edges from a lack of exercise. At that moment he was staring at Two, eyes lit with naked curiosity. 'Did it hurt?' he asked.

'Yes,' he lied.

'Is this the first time your allergy has felt like this?'

'Yes.'

The man smiled.

'This is exactly why evening scans are so important. We might have missed that if comparing scans taken twenty-four hours apart, rather than twelve.'

He went to fetch more equipment. Two mashed his shoe against one of the legs on the computer stand, pushing hard enough to edge the device backwards. The man hadn't looked worried, which didn't necessarily mean anything. He was only a medical assistant. Over the course of their lives, the wards had probably interacted least with the assistants — they prepped and cleaned medical equipment, tidied the medbay, did stuff with computer programmes and data. He hadn't really expected the podgy little man to *care* about him.

But he hadn't expected him to look so excited, either.

Two didn't look up when a second stand — this one bearing the sensor beads, a tray of gel, and the paddle — was wheeled in. Dr Damlund followed close in the assistant's wake.

Two rolled over and gripped his pillow, frowning into it while the gel was smoothed across his scalp. The beads were placed,

silvery-sharp

punched down

into his brain

and, as the wires shivered and scorched their secret passages through him, he flashed back to the surge of M. Satoshi's desk. It had burned every part of him, flooding his system just like the beads nestled into the gel on his scalp. The sensation had been the same except more intense, more powerful. And... with the scans, his wires funnelled the signals into specific parts of his brain. The desk had shaken him as if he *were* a wire.

Into. Inward.

*Injection*, not retrieval.

The desk had pulled him forward, tugging on his allergy with such force that his body had no choice but to follow. Extracting *from* him, or trying to. What followed, however, had been the opposite. She'd turned her desk on... it had commenced...

Injecting.

He returned to the present moment, his senses sluggish and janky. Slowly, the physical whole of him slid back together. Face turned itself out of the pillow, lungs drew in fresh air. Plink, plink, plink of metal against metal. The weight of his own body and the solid softness of the bed pushing back, supporting him.

A hand on his shoulder.

'Are you alright?' the medical assistant asked.

Two opened his eyes, seeing two of himself reflected in the man's pupils.

‘You do these scans,’ Two said, ‘so you can see what our allergies look like.’

His tongue had some trouble with the esses, but that smoothed out as he kept talking.

‘They help you see what our allergies are doing to our brains.’

The medical assistant smiled. He patted Two’s shoulder.

‘That’s right. The wires track and store your brain activity. The scans are how we retrieve that information.’

Retrieval. Two closed his eyes and listened to the man clearing up. The information wasn’t new: someone must have explained it to the wards at some point. Who had that been? The day of his first scan was forever seared into his memory. A white light exploding behind his eyes, hands and voices soothing him, telling him to stay, to hold still, that they had to try again. Screams shrilling off the medbay walls. Three and Four sitting across the room, hugging each other with frightened looks on their faces as they waited for their turn.

He’d know *before* that, though. At some point before the first scan, the wards had been told what was going to happen, and why. The explanation might have come from a doctor as he described how Two, Three, and Four were very sick with a rare form of allergy, but that they mustn’t be scared because the doctors were there to make them better. There had been a lot of check-ups in those early days: scratch tests, blood tests, mouth swabs, physicals. Easy for a small child to lose track of reasons amidst the poking and prodding.

And... that was it, wasn’t it? He’d *lost track* of why they had wires in their heads. Someone – the doctors, the carers – had told them when they were too young to understand and the information had painted itself into the background of their lives. Once routine settled in, there had been no reason to think about it.

He struggled into a sitting position just as the medical assistant leant into the rolling stand, preparing to push it out of the room.

‘The wires record and store information about our brain activity,’ Two said, ‘and the scans are how you retrieve it. How you get the information out and put it onto the computers.’

The man cocked his head. ‘That’s right.’

‘But you also have a live feed from the wires, right? They tell you, in the medbay, when one of us is having an allergy attack. Otherwise, how would Aleph and Bet know when to go fetch Four from the forest?’

The man’s mouth was coming open in slow motion. Two ploughed on, his voice a dull drone in the stillness of the bedroom.

‘And yesterday. How did you know to bring an ambulance to the school? You must have a live feed, right? And if you’re getting live feeds in the medbay, why do you need to do these scans? The ambulance and Four’s seizures in the forest prove you have twenty-four hour coverage on us. Why can’t you just use that data?’

Someone had left a towel beside him on the bed. As the man stammered through some kind of explanation, Two pulled it onto his lap. He didn’t want to look at him. Instead he stared at the cloth draped over his lap and tried to summon the energy to wipe his head. A cold sensation was dribbling down his back. He focused on the chill mounting each knob of his spine, trying to figure out whether the feeling was above or beneath his skin.

It was only later, when the medical assistant left and Bet appeared with a plate of food, that Two allowed himself to think the words. They lied to us, he thought. They lied to us about what the scans do.

Retrieval.

Injection.

*His allergy let him sense the difference.*

M. Satoshi's desk had tried to retrieve from him. Then, once activated, something different had taken over. It had tried to push a massive amount of data through him, treating *him* in the same way the sensor beads treated the wire mesh in his brain.

The doctors weren't using scans to retrieve information. They were injecting it.

'What was that?'

Bet had been speaking to him, her voice a muffled background thump. At some point he'd got off the bed and gone to one of the walls, staring at it, thinking about the way he'd pressed himself against the wall of M. Satoshi's office.

'Two, what did you say?'

He turned.

Darkness had fallen. Neither he nor the carer had switched on the overhead. The only light came from the hall through the open doorway, slanting sideways across Bet's body and casting half of her face in shadow. She was sitting on the bed, plate on her lap, supporting it with her hands as if about to offer it.

'You never told us how you knew we were sick,' he said.

A splotch of darkness bubbled out of the obscured half of her face.

'What?'

'When we were little, you told us we couldn't live with our parents because we were very, very ill. We had to be near a special medbay so the doctors could help make us better. But Four's allergy hadn't triggered yet. Three doesn't have an allergy at all, and mine only got bad *after* you started scanning us. So how did you know we were sick in the first place?'

'I...' she said, the darkness opening and closing. 'There were signs. Unusual genetic markers in your parents' alleles, and in yours. There were others.'

Two cocked his head. 'Others?'

‘Other... children. Born in the dome, like you, but who didn’t survive. These allergies, whatever they are, killed them.’

He stared, trying to do whatever it was Four did during an argument. He’d tried to explain it once: a kind of balance in his head, a nudge this way or that to make the conversation go how he wanted. He could always tell when Aleph was bluffing. When he was *lying*.

Bet’s voice was flat, as inflectionless as his own, but her words were plausible. There could have been other children with the same genetic markers, with allergies that displayed earlier and more aggressively.

‘There was a small spike in young deaths,’ she continued. ‘The Eugenics Board investigated, found the markers. They flagged them and found you.’

‘And what?’ he said. ‘Took us away from our parents? Put wires in our heads and started scanning us twice a day?’

‘Once your parents were informed of the situation,’ Bet said, ‘they were only too happy to give you up. That kind of infant mortality rate? It was already news. Everyone was looking at their newborns and wondering if they would be next. We were able to provide them with answers: “Yes, this child. No, not that one. We’re sorry – we’ve never seen these markers before”.’

The wall dug into his back, crinkling the dried gel into tiny shards that pricked at his skin.

‘We could give them *some* answers,’ Bet amended, rising and coming toward him. ‘There really might be a cure – not all genetic anomalies are set in stone. They express, but the effects don’t need to be felt.’

She slid the dinner plate into his hands, face almost entirely hidden in shadow now that the door was behind her. Only the tip of her nose and the barest suggestion of a cheek, a lip, a chin, was visible.

‘There could be a cure and we could find it,’ she said. ‘But we have to keep scanning. And you have to go to school.’

Two remained standing for a long time after she was gone. The bedroom had become a hole: the slightest movement would send him falling into the empty space opened up by the knowledge that *she had lied to him*. About the scans, certainly – they weren’t retrieving data, whatever she or the medical staff said. About their parents wanting to give them up? Maybe. He wouldn’t have believed it before going to school, but now he had the angry, mocking faces of his classmates to fall back on.

And somehow, Three had known all this. That was the worst part. She’d known the carers were lying to them and had tried to tell him... but how had *she* figured it out? His allergy was the only reason he’d been able to put it together: that sudden, swooping realisation that there was information to be gleaned from his reactions. He might never have made the connection were it not for M. Satoshi’s desk.

If Three had known all of this, why had she waited so long to say anything?

#### FOUR

When he returned to himself, Dr Damlund was waiting at the side of the bed, datpad in hand. The customary “you’re killing yourself with this behaviour” exchange commenced. Four spoke up at the appropriate intervals but found it difficult to keep his mind on the particulars. Yesterday, seeing those pictures of his brain had unsettled him, made him wonder if the doctors were right about how taxing his allergy was on his brain. Now, however, he could only wonder about how absolutely *inactive* the adults had been over the past six years.

Six years – over half his life - of watching someone trigger an allergic reaction over and over again. Why hadn't they stopped him?

'You'll be sleeping here tonight,' Dr Damlund said, by way of ending the conversation. 'Although you've managed avoid a head injury this time, we want to keep you under observation.'

'Why?' Four asked.

'This is the first time you've had so many allergy attacks in such a short span. We've no idea what effect that might have on you.'

Sleep was difficult in the medbay. At night, the overheads were dimmed but it was still lighter than in his bedroom. Also, the adults didn't stop working just because one of the beds was occupied. Dr Prescobian and his assistant for the evening, a slightly overweight young man with brown hair, continued to sidle from one counter to another, feeding information from their datpads into various terminals, busying themselves there for a bit, getting results back, crossing to yet another terminal and repeating the process.

For the first time, he found himself watching the medical staff with more than passing, bored, or idle interest. What were all those workstations for? Why the constant shuffle from place to place when – as his time in M. Jacquard's class had shown – it was possible for one machine to do a great variety of things? And always, always the reliance on datpads. M. Damlund waved his hands a lot whenever he spoke, emphasising the fact that he was holding one, but they *all* had them. Whitecoats and assistants alike: everyone in the medbay had one of those little tablets tucked into a pocket or cradled in their hands.

Eventually he fell asleep. The next morning was a rush of scans, showering (but only after being warned about keeping the bandage dry – again), breakfast, and uber. He had no time to remove the rock from his shoe or place it with the rest of his collection.

Two looked like he hadn't slept much, either. Dark patches under each eye made his face appear thinner and hollower than yesterday afternoon. He avoided everyone's gaze and refused to join in any conversation. Every now and then, he sent a quick, skittering glance in Three's direction.

Who, on the other hand, not only looked like she'd been soaking in the sun but also like she'd retained its glow. She sat with her head propped up on the uber wall, smiling to herself. Four wondered if it was because of their conversation on the hill. It had taken him far too long to realise, but that exchange was the first time he'd been civil to her, start to finish, in as long as he could remember. No jibes, no calling her Blindy, nothing.

It was only their third day in school, but already parts of it were beginning to feel routine. After a tense minute between the front gate and school entrance, Four sank into a wash of facts, dates, and formulas, all filtered through the desk and accompanied by worksheets and quizzes to reinforce the information.

'You running off again today?' Two asked when the chimes for lunch sounded.

The dark patches under his eyes had receded, but only a little. There was a haggard, furtive look about him as he eyed the flow of students heading toward the canteen. Four thought he understood the question *behind* Two's words. If he'd been attacked while getting lunch, it wasn't so much a case of "Are you leaving?" as it was, "Am I on my own again?"

'More greenhouse secrets?' he pushed.

'No,' Four said, refusing to take the bait. 'I didn't eat last night.'

After they'd fetched their trays and found seats, he asked, 'So, who gave you trouble yesterday?'

Two looked hesitant. 'Some guy with rings in his nose.'

'Pho,' Three said. 'His name was Pho.'

Four cocked his head. 'How do you know?'

‘Sharlezene said it. They acted like they knew each other.’

He watched them during this exchange. Despite his haggardness, Two was no longer the tight ball of frustration he’d been since the incident in the greenhouse. Three, in turn, had lost that sunny look she’d been wearing in the uber.

Almost as if she could sense his scrutiny, she lowered her forearms onto the table and extended her fingers toward him.

‘What did you see yesterday?’ she asked.

He could feel the scowl springing onto his face, like a well-trained muscle being woken up by a loud noise. Was she stupid? Or cruel? Actively trying to reawaken Two’s bad mood, or... no, it *couldn’t* be an accident. It was obvious how he felt about Four’s allergy and its side effects.

When he glanced over, though, Two wasn’t frowning or opening his mouth to argue the point. He was just looking at Four, expressionless.

‘I don’t know, exactly,’ he said. ‘It was... confusing.’

‘Are they all confusing?’ Three asked.

‘Most of them.’

Two looked down again. He rubbed his thumbnail along one edge of his lunch tray, pushing hard enough to turn the knuckle white.

‘Well,’ said Three, ‘did you see anything clearly?’

‘A face, I think. But it wasn’t like seeing your face, now. It was kind of... see-through.’

Two opened his mouth abruptly. Still staring down at his lunch tray, he asked, ‘What’s it like inside? When you’re having an allergy attack?’

Four tried not to show his surprise.

‘It’s like I fall through myself,’ he said.

‘What does *that* mean?’

‘It’s like I... fall. Only, not to one side or forward or back, but... through myself.

And when I get back up, I’m seeing something completely different. I *am* someone different.’

‘It doesn’t hurt?’

Four had insisted this many times before, but he answered anyways. This was the first time Two hadn’t stormed off to avoid the topic, or started an argument, or sat in sullen silence. He hadn’t just accepted the conversation was happening; he was engaging.

‘Maybe you should draw it,’ Two mumbled.

‘What?’ Four asked.

He jerked his head up and repeated, ‘Maybe you should draw it,’ in a belligerent tone.

‘Draw my visions?’

Two nodded. ‘If it’s so confusing. Maybe drawing will help.’

‘That’s... not a bad idea,’ he said. ‘Thanks.’

Two nodded again.

‘What about you?’ Three asked. ‘How’s your allergy feeling?’

The boy’s face darkened. ‘No change.’

Four picked at the remains of lunch, wondering how to challenge this lie without re-summoning the anger Two had, apparently, shaken off at some point during the night. And it *was* a lie; he didn’t need Three’s level of acuity to hear the shift in tone. So... what had changed?

‘Was it yesterday?’

Two looked up, startled.

‘In M. Satoshi’s office,’ Four continued, ‘you did something weird when she switched on her desk. Was it your allergy?’

When the woman moved to show them the medical records she'd received, Two had risen from his chair, turned, and walked away. It had been so abrupt and silent Four hadn't noticed until M. Satoshi asked what he was doing. He'd been... pushing himself against the back wall of the office – flattening his limbs, face and torso against it, as if trying to melt *through* the wall.

Now, Two's face told him everything he needed to know.

'What did the desk do to you?' Four asked.

Two bolted to his feet, expressionless. 'Can we talk about it later?' he asked. Then, after glancing between the other wards, 'I haven't had enough time to think about it yet.'

He turned before either of them could agree. Maybe he feared they *wouldn't* agree, would make him talk about whatever it was, because he'd already taken several long steps away from the table by the time Four opened his mouth. He wanted to call out after him, telling him to come back, then thought better of it. Not all of the other students had noticed Two leaving, but they would if he shouted.

'Should I go after him?' he asked.

Three said it probably wasn't a good idea. 'Lunch is almost over anyways. If anything, he'll just beat the crowd to whichever elective he picks.'

'What about you?' Four asked. 'Can you remember how to reach the Music room?'

She smiled. 'I'm not going to Music. M. Jacquard said he might have found a way to let me read.'

Four did a double-take. 'Fix your eyes?'

Three laughed. 'No, not that. He found a language I might be able to sense.'

She lifted a hand and wiggled her fingers in the air.

'Using dots instead of letters.'

They decided to follow Two's example and left before the majority of students rose to clog the hallways. Four accompanied Three back up to the seventh floor, where she disembarked into a silent, empty hallway.

'Drawing your visions,' she said as the doors began closing, 'is a good idea.'

He agreed and, as the leva descended once more, his attention returned the things he'd seen yesterday afternoon. In a way, the vision was problematic because he hadn't *seen* very much; just a single, unmoving scene. His confusion stemmed from the whirl of emotion and strong association threaded in and amongst that picture.

Still, it couldn't be a bad thing to pick it apart. Four sat at the voxelbox he was slowly coming to think of as "his", nodded toward Magnus, and got to work. The necessary setting adjustments came without much trouble; his experimentation over the past few days were beginning to pay off.

At first he stuck to grey lines of a narrow width, so he wouldn't have to waste time adjusting the stylus. Eventually he'd want to add colour – all the better to distinguish the single image this vision had centred on, again and again – but for now he thought it best to build the scaffolding as quickly as possible. His initial marks were wavering, hesitant. Start with the central image and work out? Or the other way around? He bent into the work, forcing his hand to keep moving the stylus.

The image built itself up layer by layer, almost without effort on his part. Four was just beginning to wonder how much time had passed when a hand came down on his shoulder. Not hard, but without warning. Four jumped, only realising how closely he'd been hunching to the drawspace when he straightened up. He groaned.

'You have been working very hard,' M. Sandhi agreed, 'for nearly two hours, without break. What has caught your attention so fully?'

She stepped up beside him and leant forward, palms coming to rest on the tops of her knees. Over the flat slope of her back, Four caught Magnus' eye as the other boy powered down his voxelbox. The classroom had emptied of its other students.

'Is class over already?' he asked. 'Both of them?'

'Yes,' M. Sandhi said, more subdued than a second ago. Four turned back to see what had stolen the quiet amusement from her voice.

A small tableau glowed atop his work area. Four had chosen to imitate the perspective he'd occupied within the vision, so:

five rows of shelves, equally spaced

vibrant flowers in pots, colours blurring away at the edges

in the centre of the scene, drawing the eye: a black orchid with three blossoms

And, in the glass wall behind the orchid, behind the shelves,

the reflection of an old man.

He'd thought it would look sloppy. The picture was an aggregate of outlines created from overlapping stylus strokes and splotches of colour that barely respected these boundaries.

Four had only spent any real time on the orchid and the reflection of the old man: with those, he'd done his best to reign in his hand, to neaten up the edges and give the objects a more life-like quality. He didn't know if he'd succeeded, exactly, but again and again he found his eye drawn to that part of the image, finding first the orchid, then the man.

'This is,' said M. Sandhi, 'extremely competent work. You said you'd never used a voxelbox before.'

There was reproof in her voice. 'I haven't,' Four said, wondering if he was going to have to defend his honesty, again, to another teacher. 'I just drew what I saw.'

He closed his mouth before anything else slipped out. The teacher didn't seem to notice; she kept gazing at his picture, pupils darting from portion to another.

Magnus had come over and was standing on M. Sandhi's other side. 'It only works from one angle,' he observed.

'So?' Four said, heat rising up his neck. 'It was only my first go. My first *real* go, I mean.'

M. Sandhi straightened up. 'I'm not sure it was intended as a criticism. I was watching – you didn't lock the stylus to an artificial flat surface, or compress as a final step. In fact' –she made a swiping motion with one hand, spinning Four's picture until they were looking at it from an angle– 'if I didn't know otherwise, I would have thought you well-practised in the more complex elements of striatism.'

'Striatism?'

'You work in layers,' Magnus supplied. 'Most people need to use voxelbox functions, to get that effect.' He pointed.

Four tried to see. He supposed there was a layering effect of sorts; most of the outlines hovered a few voxels in front of the colour splashes, which in turn occupied two or three different layers of their own. It wasn't so noticeable from the front of the image. When turned to the side, though, he could see through the various lines and blobs to the classroom floor.

'Is that... good?'

Magnus muttered something in a low voice and moved toward the door.

'It shows promise,' M. Sandhi said. She leant forward again. 'Let's save this piece, and use it to move forward in the year.'

Magnus was gone by the time he emerged from the art room. Four kept a lookout all the way to the front of the school, half-expecting to find him joined up with one of the groups

loitering in the hallway. No luck, though: only a few insults and an attempt to take his picture. He turned away, moving a little faster now. Did Magnus have a group of friends to meet after school? Was he part of a... what had the teacher called it? A clique?

Four had only taken a few steps onto the front lawn when a voice called out to him. He jumped, drawing a snigger from the cluster of students assembled beside the school doors. He'd been so busy looking for Magnus – dark, curling hair and scowling expression – that the sight of Two regarding him from the midst of colourful jackets and hair caused him to double-take.

‘Shouldn’t you be at community service?’ Two asked.

‘Oh... yeah,’ Four said.

He forgotten to ask M. Sandhi where the Gardener’s Guild was located or how he could get there. With a sinking sensation he gazed at the students Two had surrounded himself with: three girls and a boy, all of whom he had the feeling he’d seen before.

‘Do any of you know where the Gardener’s Guild is?’ he asked.

A couple of the girls sniggered. The third, a blonde girl, gazed back at him with a straight face.

‘Walking?’ she asked. She gazed down pointedly, looking at Four’s hand before flipping her own. An active palm pilot glowed there.

‘Yeah,’ he said.

She pursed her lips. ‘You’ll be *really* late. It’s far.’

‘Other side of Crus Cerberus,’ a girl with dark hair added.

‘I’ll take you.’

All eyes flicked to the light-skinned boy in their midst. He ignored them, flipping his palm pilot in Four’s direction.

‘My dad’s keyed for free ubers,’ he said. ‘And I’m going that way.’

He started for the front gate without so much as a “goodbye” for the students – friends? – he was abandoning. Four jogged after him more slowly, glancing back. Two was saying something to the remaining gaggle of girls, drawing laughter from one of them. He beamed.

Satisfied that he hadn’t abandoned Two in some kind of ambush from the student body, he returned his attention to the boy who’d offered to take him a lift. The feeling that they’d met before refused to go away. Four called out, ‘I know you from somewhere.’

The boy pushed through the spinning bars of the school gate. Once through, he turned and called through the fence, ‘Gardening Elective.’

Four jerked to a halt, a chest-height bar clenched in his fists. Only the motorised rotation forced him to keep moving, around and forward until he emerged beside the boy.

‘You’re Elek,’ he said. ‘I remember you telling M. Petrus you grew some stuff at home.’

The boy, who was so pale there were actually a few freckles peeping out from his cheeks, nodded. The video clip flashed through Four’s mind: limbs beating against the tile floor, skull pistoning up and down until Three’s hands inserted themselves into the gap. Elek had been there, seen the seizure up close and in violent detail. Would the proximity make him feel more spiteful than the student body as a whole? Four couldn’t understand why he might feel *less* strongly, yet here he was, offering him a ride to the Guild.

‘Don’t worry,’ Elek said. ‘If I wanted to fuck you over, I would have let you try to walk to the Guild.’

Startled, Four quickened his pace so he was no longer lagging behind.

‘There’s not much I could do that would be worse than missing community service. You go AWOL on that, you start losing Inline privileges.’

That wasn't strictly true; he could dump Four in some far-flung part of the dome, leave him there to wander until the carers found him. And, in the process, make him miss his community service.

'So why *are* you helping me?'

Elek shrugged. 'I told you, I'm going that way. And it was a good excuse to get away from Shar and her friends.' He sighed. 'They talk too much.'

It was only when they plunged into the station, joining the noise and movement of so many confined bodies, that realisation set in: he was about to take his first uber. Alright, not strictly true. He'd ridden ubers to and from school, but this would be his first freelance trip, without Aleph.

They waited for a bay to free up. Elek placed his palm pilot against the screen to one side of the docking area and, after the station had disgorged a white sphere and sent it rolling out to them, they climbed in. It was much smaller than the ones they rode to school.

'It's not far by uber,' Elek said. 'A few quadrants over, a level down.'

'Can you leave the windows un-tinted?' Four asked as, shoulder to shoulder, they fastened their harnesses. 'Our carer always leaves them tinted – I've never actually seen the city from an uber.'

Elek regarded him for a moment. 'Probably doesn't want you to throw up. Promise you won't get sick? My dad gets free uber use but he still has to pay for clean up.'

'I promise,' said Four.

He regretted the promise as soon as they slid free of the station. Their vehicle emerged, dangling from a neon green straatline, on the opposite side of the building from which they'd entered. As the cityscape slid past, faster and faster, Four pressed his face to the window and looked down. A dense tangle of nothingness waited for him: what looked

like a hundred miles of empty space with various buildings, other streets, and platforms crisscrossing the emptiness. He swallowed and leant away a little.

‘Maybe don’t look down,’ Elek commented. ‘We’ve got a dive coming up.’

‘What’s a dive?’

The uber answered for him. A sensation of weightlessness shot through him, followed by his stomach rising up against his throat. Now the city outside wasn’t just flowing past them horizontally; it was rising past the windows, shooting up in a blur.

They were falling.

Then everything jerked: weight returned, his stomach tried go through the floor seat and the view outside once more scooted past in a twisty-turny horizontal direction.

Elek laughed. Four clamped down on his jaw, waiting until the churning in his stomach calmed before asking:

‘Are there many dives between us and the Guild?’

‘No, just the one. You think that was bad, you should try the gauntlet.’

‘Gauntlet?’

‘Retfyryn Weg to Helsinki Plein. Twenty-three minutes, fourteen dives. Council actually talked about removing the route because of all the damage being done to ubers.’

He cast an assessing eye over Four, then nodded. ‘Thanks for not throwing up.’

‘No problem. No promises if we ever go to Helsinki Plein, though.’

In the end he didn’t need Elek’s outthrust finger and, ‘That’s the Guild building,’ to pick the location from its surroundings. Their uber shot around a corner and his eyes went right to the overlarge spike thrusting through the cityscape. Its walls were equal parts glass and metal. Three struts supported it at the top and one near the bottom, all looking far too thin to keep such a hulking structure suspended in the air.

He blinked as they drew nearer, trying to make sense of the green patina surrounding the building. Then the corona resolved into a layer of greenery: a huge panel of moss sat between two glass sections; vines dangled between levels, obscuring walls and windows alike; creepers of some kind clung to the building, inching their way up the spike instead of draping down.

‘Why is it shaped like that?’

Their uber was approaching another station, recognisable by its position on the very edge of the Guild building and multiple straatlines feeding in and out the back.

Elek shrugged. ‘Just is. They’ve got seed vaults from back when everyone thought terraforming might be possible, so it’s probably for security or something.’

The décor of the new station was similar to the one they’d just left, but there were fewer people around. Four unbuckled and clambered out, then paused when he realised Elek wasn’t coming with him.

‘How do I get into the Guild?’ he asked.

The boy leant across the seat, pointing across the room. ‘There should be a leva before you exit the station. This is a direct stop – most of the people who use it are Guild members going to and from work.’

‘OK,’ Four said. ‘Hey, thanks again.’

Elek didn’t smile. ‘Don’t thank me yet. You’re working for Petrus, after all.’

Four found a bank of three levas positioned to the right of the station entrance. A sign over them read, “Guild Entrance – Employees Only”. He wondered if that meant community service as well as full-time workers, then figured he might as well try. It wasn’t as if he’d been given extensive instructions.

The inside of the leva was a little smaller than the one at school. Four looked around for a bank of buttons but found only an electronic panel, similar to the one Elek and Aleph

had used to call for ubers. The doors closed in front of him. He pushed his palm against the pad.

A soft female voice floated down from the ceiling.

‘Good afternoon. I’m having difficulty registering your ICN. Please switch your pilot to “broadcast” mode so I can direct your leva to the correct department.’

‘Uh,’ Four said. He craned his head back, trying to spot the hidden speakers in the flat, featureless ceiling. ‘I don’t have a palm pilot.’

‘Working.’

A pause.

‘Please confirm. Student ID 37893CCU\_W6, three month community service pending.’

The last part sounded right but he’d never been told his student ID number, either in school or out. Shrugging to himself again, he confirmed. A shudder went through the soles of his shoes and a tiny flutter in his stomach indicated the leva had started moving.

‘Welcome to the Gardener’s Guild. Please report to M. Petrus on Level 27.’

Four had time to wonder if levels were calculated by counting down from the top of the spike or up from its tip; then he felt another tremble and the doors opened. Outside was a hallway, much more utilitarian-looking than the station up above. His eyes went to the only two features in evidence: a display screen opposite the leva entrance and, beside it, a tight-faced M. Petrus hunched over his cane.

‘You’re late,’ he snapped.

‘The art teacher kept me a little late,’ said Four. ‘And I... forgot.’

The gardener cocked his head. ‘Forgot? Why, if I didn’t know better, I’d think you have very little interest in repaying the debt owed for your anti-social behaviour.’

Four frowned. The Petrus he'd seen last, in his hidey-hole office between shelves of potted ferns, had been soft-spoken. Good-humoured, even. Nothing could be less true of the man before him now.

He bristled at the look on Four's face, squeezing the head of his cane as if he were trying to crush it.

'Well?' he asked. 'Are you denying you owe a debt?'

A debt... for the rock inside his shoe. Which in turn had repaid a debt for the lavender.

'No,' said Four, 'I'm not denying it.'

The gardener nodded, eyes still tight at the corners. 'Come on, then. I've assigned you a shift partner. He's waiting in the supply depot.'

Four examined his surroundings as he followed Petrus up the hall.

'Not much to look at here,' the man wheezed. 'We keep all the pretty parts upstairs, for the tours. Down here is where the work gets done.'

The hallway *was* very boring, broken only by doorways that remained closed at their passing. There weren't even any noticeboards or door plaques.

'How am I supposed to find my way around down here?' he asked.

'I told you,' Petrus said. He halted beside one of the closed doors. 'Shift partner.'

He placed his palm against a sensor pad.

'Fingerprints. Not as secure as the ICN system, but it works for us lowly, pilotless creatures.'

'Do you... need to put me in the system?' Four asked. 'So the doors will open for me?'

'Already done.' Petrus grinned. 'That happened in the leva. The computer read your prints and linked it to your staff profile as soon as you told it you didn't have a palm pilot.'

There were a pair of men inside the room, each wearing identical tan tunics. One was behind a circular counter, manning some kind of workstation. Six or seven of these counters ranged the length of the room, empty of personnel.

‘Quiet at the moment,’ Petrus said. ‘Busiest times are six, two, and ten – shift changes. You’ll mostly miss all that coming in after school.’

At the sound of the gardener’s voice, both men in the room straightened. The one who’d been turned away spun to face the door. Four frowned again.

‘I know you,’ he said.

The tall black man smiled. Four *did* know him; he’d seen him before, many times, but in a different uniform.

‘You’re one of the fieldhands. The one Two’s always hanging out with.’

‘Sibb,’ the man confirmed. He lifted a hand in greeting. Four didn’t know whether the effect was intentional or not, but he noted the smooth, un-piloted skin. The sight made him realise *none* of the fieldhands had the device.

‘You work at the Guild, too?’

Sibb nodded. ‘Almost since I left underschool.’

‘Sibb will be your shift partner,’ said M. Petrus. ‘It’s always hard syncing the school-aged ingrates with full-time Guild members, which is one of the reasons we don’t often give community service to infants.’

‘So,’ Four asked, ‘what will I be doing?’

Petrus made a waving motion toward Sibb, then began the slow process of crutching himself back around to face the door.

‘You’re not staying?’

‘There are many other things that need my attention. From now on, report to Sibb when you arrive. Further lateness won’t be tolerated.’

The fieldhand made a clicking noise with his tongue; not, Four realised when he look around, chiding Petrus, but to get his own attention. He patted the counter.

‘You’ll meet me here almost every day. We’ll get the supplies and equipment we need, then head out.’

‘So... I’ll be out in the dome? Doing actual gardening?’

The man nodded. ‘For the most part.’

Over the next ten minutes, Sibb and the man behind the counter – who introduced himself as Badga – took him through the process of checking equipment in and out of stores. Sibb handed over a small device, which Badga plugged into a terminal. A slot then opened in the counter, making way for a variety of tools and bags that slid up from the dark space within.

‘Stockroom’s right below us,’ Sibb explained, seeing Four’s eyes go wide. ‘Badga loads the job requirements, machines fetch what we need and sends it all up through the counter.’

‘There’s a scale in the mechanical arm,’ Badga added. ‘Stock check happens automatically, so *don’t* go over your allotment of fertiliser. Petrus hates waste.’

‘He hates it just as much when people skimp out on the plants, though. Don’t go under just for the sake of bookkeeping.’

‘Right,’ Four said. ‘Don’t go over, don’t go under, don’t be late.’

Sibb grinned. ‘See? It’s easy. Come on – there’s a whole stretch of greenery displays in Pynir Plein that need checking.’

## Chapter Nine

### TWO

The other girls – Ypsi and Harpa – followed Four and Elek out the school gates as soon as Sharlezene said she wasn't going to Vrouke-Ankes. 'It's the only shop in Cerberus that does physical releases,' she explained. 'People go to see the unveiling in person.'

'You don't want to go?' Two asked.

'I thought you wouldn't be interested in clothes,' Shar said. She brushed a hand down his sleeve.

Two wasn't overly dismayed to separate from the other girls; he was certain Ypsi didn't like him much, and Harpa's steady regard was impossible to interpret. Shar had been the one that insisted Two join them in their electives. She'd made room for him next to her in each class and smiled whenever he looked her way. Ypsi had matched this friendliness with more than a few sour looks.

'Have you,' he asked, watching the two girls disappear, 'known Ypsi for a long time?'

'We're in the same housing unit,' Shar said. 'Same daycare, same pre-school, same uber stops, same everything for as long as I can remember.'

'Oh. So you're... close.'

Shar was stepping back and forth in the same spot on the lawn. At his words she laughed and spun around to face him, green and blue reflections streaking through her hair.

'Her mum and dad both work for the Eugenics Board,' she said, 'and her sister's training up for it as well. Don't worry – she'll come around when she figures out how shiny and *new* you are.'

Shar's eyes gleamed at this. Two turned his head, trying to hide the blush. The first elective he'd half followed, half been pulled into had turned out to be Sexual Health, a fact

that only sank in four minutes too late to leave. After taking roll, the teacher had summoned a pair of images to the screen at the front of the room – a male and female body, each naked, who began the process of sprouting hair and sexual organs before Two could comprehend what he was seeing.

The teacher, a bald man named M. Yara, waited beside the pictures, gazing out at the class and – Two was sure of it – taking note of who looked away. There was something clinical about the way he stood with his hands clasped behind his back, surveying the classroom.

As soon as the faceless, clothes-less images had reached adulthood, M. Yara spoke (still without so much as a glance toward the wallscreen). ‘Who here,’ he asked, ‘has had sex?’

Two had barely any time to appreciate his own frozen, speechless state before motion in the room sent him into a panic: every other student raised their hands. His own followed a heartbeat too late, and he was certain Sharlezene saw his surprise and his hesitation. After that, she still smiled at him whenever he looked over, but with a different emphasis.

Odd phrases of the class material slipped through his mental rictus:

‘–checking the current state of a potential partner’s birth control implant–’

‘–medical records are in the public domain and yet completely anonymised, making them useless for determining risk of an STI–’

‘–the course of this elective we’ll cover the finer parts of sexual congress–’

Two thought he couldn’t get more self-conscious than he’d been in that class, cocooned by the collective boredom of the others around him, pinned by Sharlezene’s regard. Somehow it was worse in front of the school, alone with the second half of that equation.

‘Do you want to go somewhere?’ she asked. ‘Vrouke-Ankes is boring but we could go somewhere and just sit.’

‘The carers don’t want me going off into the city,’ he said.

The words emerged milliseconds before something slammed inside him: a large stone door falling closed after the regurgitation of Aleph and Bet’s rules. Don’t go in any field where there are active threshers. Try not to eat before scans. Never shut the bedroom doors all the way unless you’re changing clothes or sick.

‘Yeah,’ he said, cutting off whatever Shar had been about to say. ‘Yeah, we should go somewhere instead of just... waiting around.’

‘Great!’

‘Is there somewhere... close?’ he asked. ‘So I can meet Three after her Braille lessons?’

She turned away, tapping her chin while her eyes raked the cityscape above. Then they skittered to a halt and she grinned.

‘There’s a nice VR café there,’ she said, pointing at a neighbouring building: a giant cube comprised of many smaller, glass cubes. The exterior panels strobed with advertisements at regular intervals. ‘It’s close enough we could walk.’

He thought about asking what “VR” meant, then nodded.

They exited through the gates and, rather than turning toward the uber station as he’d done every other day after school, they turned left. Landmarks disappeared, replaced by hedges he’d never seen before, unfamiliar benches. The configuration of city overhead didn’t shift completely, but the angles changed, revealing new buildings in the middle distance, twists in the streetlines that hadn’t been visible before.

‘One walkway and a leva,’ Sharlezene said. ‘About as short a walking distance as you can get in the city.’

‘What’s the café like?’ he asked.

‘It’s called Favourite Blue,’ she said, looking down at her palm pilot. ‘All the full-immersion booths are taken so we’ll just get partial.’

She went on to describe the best viros she’d found lately. Instead of trying to untangle the meaning of her words, he used them as a barometer for his allergy. He was able to concentrate on what she was saying, which meant the nearby electronics hadn’t reached the same strength as when M. Jacquard turned on the classroom desks.

His allergy was doing something, though. Vibrating wasn’t the right word, although it was close. A dozen or more sensations, all different from one another, zanged across and through him... but not uniformly. First the left hemisphere of his brain tingled and tickled and crawled and scratched, before the built-up intensity dropped away. Then the process began again, in his right hemisphere.

‘Are you alright?’

The question burst over him like a spray of water carried by the wind. He blinked. They were halfway across a walkway connecting the school’s platform to the neighbouring one, suspended above nothingness on a strip of metal with only a pair of guardrails to keep them from wandering over the edge. Two realised he’d been drifting from one rail to the other, pushed by his fluctuating allergy rather than walking a straight line. He straightened out.

‘Fine,’ he said.

The new platform was busier than the last. It was dominated by a tube that rose up from their surroundings and disappeared into the bottom of the cuboid building, which was now directly overhead. As they joined a crowd of people at the base of this structure, Two realised it was a leva, much larger than the one in the school.

‘This’ll take us right through Machta Plein,’ Sharlezene said. ‘It stops right next to Favourite Blue, so we don’t even have to use any stairs.’

‘What are stairs?’ Two asked.

‘You know, those things marked all over the school? If a fire ever breaks out, the first thing anyone does is turn off the levas.’ She waved to the queue of people before them. ‘Even out here, between platforms. If some emergency happened, we’d have to head for the base of the dome. *On foot.*’

She rolled her eyes and laughed. Two had to admit, he didn’t like the idea of walking ten miles, especially not with a fire complicating the situation.

‘Do fires break out often?’

‘Not really,’ Sharlezene said. The people in front of them moved, and they spent a few moments finding a place near one of the leva walls, where Two could see through the glass. ‘By accident sometimes, but you’d have to be mental to do it on purpose. You get relocated for arson.’

As the crowd pushed in to capacity and settled, the odour of sweat rolled over him. He gagged, disguising the reaction at the last second with a couple coughs. The smell was so distracting that his allergy almost pulled him under.

A shudder went through the leva. To his left, the ground sailed away, giving him a much better vantage.



-the same assemblage of elements as before. Strangers' backs pressed shoulder to shoulder in front of him, swaying and bumping in time with heartbeats and shuffling stances.

Sharlezene's face wobbled into view, eying him with raised eyebrows. Metal and glass and blinking lights behind her. The fuzz of her profile, highlighted in neon. Her lips moved, teeth flashed, but he couldn't hear her over the sliding wail of texture in his head.

No one was reacting to the collision, so it wasn't his body that had been assaulted.

He closed his eyes, pulled in a long breath through his nose. The stink of sweat overwhelmed him before falling away beneath the electronic churn.

Something touched his shoulder. Two started, eyes snapping open.

Sharlezene's head was tipping forward, pulling him after her. They exited the leva, weaving through the crush of bodies.

A few strangers tried to make room for their passage but more than once Two had to push himself against someone in order to follow Shar.

His allergy spun him in circles, made the floor rock and buck beneath his feet. Maybe the support of so many human beings was a good thing; there was no room to fall over...

Finally he tumbled into the open, guided by Sharlezene's white-blonde curls. If a few nearby straats had given her hair a green and blue sheen, here it *strobed* through the entire colour spectrum.

Lights pulsed from every direction: overheads, displays, advertisements, people's clothing, holograms that soared and strolled and trundled through the air.



'Are we going down there?'

The words emerged, as much a collection of vibrations as they were syllables.

'No, Favourite Blue is this way.'

Sharlezene eased him away from the railing. He let himself be pulled along, past shopfronts and seating areas, around groups of people tapping their pilots or eating from small containers. There were fewer people on this level than down below but he still needed to concentrate to avoid colliding with anyone. He was slow to respond when Sharlezene paused and looked over; as he bumped into her, the hand slipped off his shoulder. A moment later warm fingers twined through his own. He started to pull away - her palm pilot was clawing into his skin - but then she pointed up ahead.

Favourite Blue was just that: every imaginable shade of blue bundled into neon tubing and slung across the length and breadth of a shopfront. The colour blazed forth from between neighbouring stores, turning all who passed before it into silhouettes. Sharlezene was pulling him towards a gap in the tangled brilliance, her hair radiating turquoiseazureindigo, burning with the blue of midnight, burning with the blue of cobalt, of cornflower, of bluebells and bluebirds and blueberries, burning him to tears as she drew him toward the doorway and then the glow was in her skin, in his skin, and they burned into the same blue before passing under and through and all the light dropped away.

His eyes rang with the shock of a darkened room.

Only Sharlezene's outline was visible,  
her palm pilot illuminating the way  
as she tugged him forward.  
He could hear people talking,  
feel electronics on  
every side.

'Where are we going?' Two whispered.

'To the back,' said Sharlezene. 'I booked a table for us.'

His senses acclimatised as they  
pushed deeper into the room.

Jangling protrusions  
scraped against his brain from the

left

and

right

looming up beside him  
and falling away as he passed.

Smears of movement emerged: people, maybe.

Sharlezene warned him they were close.  
He reached out and felt around for a chair,  
suppressing an image of Three  
performing the very same action.

'Why is it so dark in here?' he asked.

'It helps with the VR,' she said. 'We're not in a full-immersion booth, so it wouldn't look right if the café was too bright.'

'What's VR?'

'Virtual reality.'

A thousand metal edges

There was no time to brace, or

even gather himself.

Wave after wave

crashed over him,

serrations without cease.

Sharlezene's palm pilot

flickered  
into  
view,  
its glow  
bouncing  
off the surface  
of a table  
before  
flattening  
out of being.

Two choked, only just holding back a

scream as the air exploded around him.

He would have to scream or die: the pain

was white-hot in his head, not fair

he should have to hold it in his throat as well.

The textures assaulting his brain softened, cooled. The torrent became a trickle

of slow-moving blades, slicing the air in lazy arcs.

He blinked away the tears stinging his eyes.

The light from Sharlezene's palm pilot had spread outwards, coating the table and floor until it reached an unseen barrier.

There, the layers of light lifted up and over their heads, closing in a sphere around where they sat.

The sphere appeared solid,

like petals

folding them away from the darkness.

Sharlezene regarded  
him from the other  
side of a small table.

Her eyes gleamed with the

same look she'd worn  
during the Sexual  
Health elective.

'Why couldn't we see anyone out there?'

he asked, gesturing behind

him. 'If

they're

all

lit

up

like

we

are

now?'

'Privacy filters. Every table gets one. We project whatever viro we want on this side and Favourite Blue projects darkness on the other. Whenever the lights are on, it just looks like a bunch of black orbs dotted around.'

He swallowed.

Razorblades

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'Back at the school,' he said, 'you said this was a VR café. What does that mean?'

'You've never been to one before?' Then, before he could answer: 'It means you can put on a viro while you eat. Here, I found a couple good ones last night.'

Sharlezene

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The white, spherical room was gone. He thought the VR had spit them back to default settings, revealing the dark café beyond, but then a vast, gossamer web brightened into being. The lines crisscrossed in all directions and angles, passing between him and the shadowy form across the table, stretching away into the distance, arching high above him. They even passed seamlessly into what he knew was solid floor, making it appear as though he were suspended in a great emptiness.

To distract himself from the lurch of vertigo caused by this thought, he reached toward the nearest thread. His hand passed straight through it.

‘Oh,’ came Sharlezene’s voice. ‘The music doesn’t work for you.’

She moved against the darkness, fingers abruptly visible as they neared one of the glowing threads. She plucked at it.

Red sparks sprouted from the point of contact, briefly lighting her face before running down the thread in both directions. At the same time, a deep thrumming noise rose around them. She touched it again, producing more sparks and the same low note.

‘I guess the program doesn’t know you’re here,’ she said. ‘No ICN.’

Two swiped at another of the glowing lines, to no avail. The sharpest edges of his allergy had fallen back now the viro was loaded and running. Interesting. Maybe it was just the actual process of shuffling between one program and the next that affected him so badly.

One more. One more and he’d know if it was a fluke.

‘You said you found two viros you liked. What’s the other one?’

‘Hang on a second,’ she said. ‘That one has voice activation, so it might work for you.’

It wasn’t a fluke. He was *handling* this. A little strained, maybe, but nowhere near having a full on

**allergy attack**

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He glimpsed Sharlezene raising her palm, a spark of blue, and then  
something strobed,  
cutting off sight and sound,  
the faintest sensation of being touched  
on the very crown of his head

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a pair of hands squeezed down on him, fingers  
digging and digging  
until they gained enough purchase to peel the skin away.

Though his eyes saw nothing, he was positive  
the hands were blue

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something blue had got inside his mind something blue was pouring in  
blue as the sky at home, blue as neon, blue as your favourite blue

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he thrashed but the chair had disappeared beneath him  
there was nothing to thrash *against* just blue as blue as blue can be

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A voice spoke to him. What it said was

‘He’s waking up.’

Two blinked. He’d meant to open his eyes and keep them open, but the light was too bright. So he squeezed them shut again and tried to figure out why he felt wrong.

Hands no longer touched him: neither that first, ghostly touch on the crown of his head nor the fingers that had clawed their way inside. His head did *ache*, though. It throbbed and pulsed in half a dozen places, as though it had become entirely the wrong shape to contain his thoughts.

The feeling of wrongness went beyond pain, however. Somehow it was all over his body, all at once, scattered across the length of him. Two spent several long minutes attempting to seize whatever realisation awaited in his forearms, his belly, the soles of his feet. Each time he drew close, the knowledge flitted away to another part of him.

‘Two? Can you hear me?’

He knew that voice. Two cracked an eye, pleased when his arm lifted to shade his face. The limb felt so far away. Every part of him felt distant, yet responded just as it should.

He was lying on his back, three older men peering down at him. Two stared at each of them in turn, certain he should know these faces...

It was the eyebrows that did it. White and scraggly, so long they should really be trimmed.

‘Dr Damlund?’

The other names followed on the heels of the first.

‘Dr Prescobian? Dr Yamata?’

Two levered himself up onto his elbows. Each of the men lunged forward in unison, then eased back when they saw he wasn’t trying to get off the bed.

‘What am I doing in the medbay?’

A round of glances between the adults.

‘What’s the last thing you remember, Two?’

‘I was... in the city.’

‘At school?’

‘No.’

He glanced behind the doctors. The room was as it had been that morning. It *looked* the same. And yet—

‘If you weren’t in the school, Two,’ asked Dr Damlund, ‘where were you?’

He tugged his gaze away from the mobile scanning station on the other side of the medbay, tucked into storage beneath a counter. If he were here, now, then it meant someone had gone to *get* him. So they knew where he’d been.

‘A café called Favourite Blue,’ he said. ‘Three was doing her Braille stuff and Four left for community service. I wanted to do something.’

‘So you went off school grounds.’

‘Yes.’

What were they going to do, what could they do? Ground him? Take him out of school? That was what he *wanted*, so—

With a twinge, he realised that might no longer be true. He’d enjoyed his afternoon with Sharlezene. Alright, so the adventure hadn’t ended as planned, but it had been nice until then. If they took him out of school, he would never see Sharlezene again, nor the weird and wonderful places she could show him.

And yet, he found no part of himself feared this eventuality. They hadn’t removed him after he told them how painful the electronics were. They hadn’t removed Four after a full-blown allergy attack, either, so what would be different now?

Someone, for some reason, wanted the wards in that school. Someone had worked very hard to get them enrolled. If they hadn't been pulled after the first setback, why the third? Or the fourth, or the fiftieth?

'What happened to me?' he asked.

Dr Damlund glanced down at his datpad. The others were already flicking through theirs, turned toward each other as if in conference over the information.

'You experienced,' Damlund said, 'what we are terming "an incident".'

'An allergy attack?'

'Did it feel like an allergy attack?'

Two cast his mind over the gap in his memories. 'It felt blue,' he said.

On the other side of the bed, Prescobian and Yamata paused their typing.

'I beg your pardon?'

Dr Damlund leant in. Two stared at the datpad being lowered toward his head. 'It felt blue,' he repeated.

The doctor was bending even closer now, trying to hear Two's murmured words, but his pad still produced no effect. It should be drilling into the side of his head, making itself known as a dozen different textures.

'Speak up,' Dr Damlund said.

'It didn't really feel like anything,' Two said, in a louder voice. 'I don't remember anything, just Sharlezene switching viros. Then I was here.'

It had hurt. It had been *blue*. But now...

He looked around again. The medbay had always been a painful place for him, a place where razors gnashed the air and barbed wire waited behind the walls – not unlike the table at Favourite Blue.

Now, though, the empty spaces were *empty*. The walls were just surfaces and whatever lurked behind them was beyond his reach. His entire body tingled with the absence of it all... and *that* was what he'd been feeling ever since he'd woken up. Not a strange new sensation, not wrongness or pain, but the *absence* of pain. The stimulus he'd been feeling ever since he was little... was gone.

No allergy.

#### FOUR

Bet collected him after community service. Until now Aleph had done all the shuttling back and forth from the city, so Four was mildly shocked to pick her slim frame and fluffy black hair out of the crowd. She sat opposite him in the uber, regarding him with calm eyes.

'Two suffered... some kind of allergy attack,' she said.

Four, who hadn't even realised he'd been sitting ramrod straight, slumped into the seat cushions.

'When?' he asked.

'An hour or so after school ended.'

That would have been about when he and Sibb started their first assignment, at a housing block with greenery displays in common areas. 'Weeding, watering and pruning,' Sibb had declared. Four had enjoyed the work. Only pruning was new to him – nothing in the gardens at home required more than the occasional pinching of dead buds – but the environment made the tasks feel new. While on his knees in a display, identifying pigweed and nutgrass, he'd witnessed several arguments and a negotiation over first-in-the shower rights. Was Two having his allergy attack as the two men sealed the deal via palm pilots? Or maybe a little after, when a nurse group snaked past, the child at the very back stepping on the heels of the one ahead?

‘Is he OK?’ Four asked.

Bet nodded. ‘He’s awake and talking.’

He blinked, once again recalling Two after the house had been re-wired: pale and listless, unwilling to shift his head or limbs for the pain it caused him. He’d been that way for *weeks*, to the point Four began overhearing whispered conversations about nutrient drips and feeding tubes. Awake and talking already? After only a few hours?

‘Where’s Three?’ he asked.

‘Aleph was picking her up from the school when he got the medical alert.’

As soon as the uber touched, down, Four dashed to the medbay. There was no sign of an ongoing medical emergency: no calling of instructions in loud, clear voices, no flurry of coats or hasty gathering of supplies. Assistants performed their tasks around the perimeter of the room. The doctors were huddled at a mobile workstation, murmuring to each other and occasionally shaking a datpad for emphasis. Everything appeared just as it had that morning, during scans.

Except Three had been given a stool. She was seated at the foot of one of the beds, head cocked toward the noise of his entry. Four hurried toward her, gaze locking with the bed’s occupant.

Two was sitting upright, propped into position by a mound of pillows raided from the other beds. The support seemed mostly a token effort: Two’s eyes were clear, his movements smooth and unhindered. He even smiled when Four approached.

‘Hey,’ he said.

Four settled on the edge of the neighbouring bed, lost for words. A smile! His friend hadn’t produced one of those since... before the start of school. Before his allergy ramped up and Three had accused the carers of lying and that *awful*, pissy mood had set in. But here? Now? After a full-blown allergy attack, he was smiling?

‘How are you feeling?’

Two cocked his head, glancing over at the wall.

‘I’m OK,’ said the other boy, shifting his gaze back to the conversation. ‘I feel a little tired, you know?’

He didn’t look it.

‘Bet said you went into the city.’

‘Yeah. Not far, but I guess too far. They said I suffered “an incident”.’

He emphasised the phrase using air quotes.

‘So... not an allergy attack?’

Two’s face went slack - remembering something? Four bent forward on the bed, one foot coming down to the rest on the floor. Had he seen something? Was he starting to have visions, too?

‘It didn’t feel like before,’ Two said. His voice was hoarse. ‘But it kind of did. Sharlezene showed me this... café. It did something called virtual reality, and it hurt. Not as much as M. Satoshi’s desk – remember what I did in her office? – but there were *a lot* of electronics around.’

He looked up, and there it was: the haunted look that had been playing behind his eyes for the past several days. His gaze flicked left, to the wall, then back to Four’s face.

‘I don’t remember anything, just... being in the café with Sharlezene, then waking up here. It didn’t hurt or anything but *now*—’

His eyes flicked to the wall. Again. Four turned to look but saw only the whitewashed metal panelling and wallscreen anchored over the bed.

From her stool by Two’s feet, Three interjected:

‘That’s normal, isn’t it? Four, you’re always saying your allergy attacks don’t hurt.’

He whipped around. ‘No, they don’t, but if something’s changed with how Two feels—

Three’s head, cocked to one side, was tipping back. Back, back, in ever-so-small degrees, until the back of her head lined up...

... with the cluster of doctors huddled behind her, in the centre of the medbay. They were so intent on something displayed by the workstation between them that their heads were visible only as small lumps atop their shoulders.

But their rapid, low-pitched chatter had stopped.

‘— maybe it’s just because the electronics in the city are different,’ he picked up, as smoothly as he was able. ‘Maybe it’s like those other allergies the teachers were talking about, you know? One kind of food brings you out in hives, another makes your airway close up.’

Two’s eyes skipped from the huddle of doctors, to Three, then around to him. The haunted look hadn’t faded.

‘Shar did say the café was for something called virtual reality,’ he said. ‘I don’t think they do that kind of stuff in the school.’

He’d understood, and he was on board. Whatever had prompted his behaviour in the canteen was more than just a passing whim. He’d listened to talk about Four’s visions, even tacitly agreed they were real by suggesting he try to draw them. Now he was... agreeing with Three’s belief that the doctors were lying to them. Spying on them.

Just what happened to him in the café?

No, not the café. Even earlier than that. He’d joined in the conversation about Four’s visions *before* leaving school grounds with Sharlezene, so whatever had changed his mind predated his “incident” in the city.

‘Three?’ a sharp voice asked. ‘What are you holding?’

Everyone twisted toward the sound: wards, doctors, assistants. This was the voice of “not to be messed with”, the voice of “you have done wrong” and “now we will see”.

Bet. She was frozen just inside the medbay doors, eyes blazing.

‘What are you holding?’ she asked again.

Three must surely have been able to read as many warning signs in the carer’s voice as Four could see on her face. Still, in a tone free of guilt or fear she said, ‘A datpad.’

Bet lurched forward a few steps, fists clenched.

‘And where did you get it?’

Behind Three, the doctors were looking down at their own handheld devices, as if suddenly questioning their right to possess such items. A few of the assistants resumed work, ducking lower over the countertops.

‘M. Jacquard gave it to me.’

Four exchanged a glance with Two.

‘Why would he do that?’

‘It’s for Braille,’ Three said.

The object in Three’s lap was almost completely transparent, unlike the versions carried by the medical staff. He craned forward, trying to see how such an item would help her read in class. She couldn’t use the wallscreens here at home because, to her, they were just flat surfaces. How would another, smaller flat surface change anything?

Bet stalked forward, arm stiff as she reached out.

‘Give it to me.’

Three’s knuckles turned white around the datpad.

‘No.’

‘*Give* it to me.’

‘No!’

Then Bet was hurling herself onto the girl, hands clutching at the grey jumpsuit even as Three tried to scramble over the foot of Two's bed. The woman heaved with what looked like all her might, halting the girl's escape and dragging her back onto her feet.

'What are you doing?' Two cried.

The carer wasn't listening. She spun Three around, pinned her against the bed and went for the datpad. She didn't have enough hands to complete the action, though; Three clutched the pad, concealing it against her stomach. As soon as Bet released her shoulders to make the grab, Three hurled herself backwards – into the centre of the bed beneath Two's feet – and curled into a ball.

Shrieking in frustration, Bet grabbed the now-foetal Three and tried dragging her closer. Four realised he'd stood up and was making toward the grappling figures; he found himself frozen halfway between the beds, arms outstretched.

Drs Damlund, Yamata, and Prescobian converged on the scene, arms flung wide, coats making them look like a trio of white birds closing in on a predator threatening the nest. Four couldn't make out all their shouts, but snippets like 'mustn't disturb' and 'he's had a shock' pierced the tangle of screeching and keening taking place at Two's feet.

Bet ignored the doctors and Two's repeated cries to stop. Three came out of her foetal curl just long enough to lash out with her legs, which connected squarely – stomach and left breast – and strongly enough to force the woman back.

She stumbled, knocking Four into the bed from which he'd risen. As if coming out of a trance, the carer looked around. The doctors, arms lowered now, the assistants, and the sighted wards all stared back at her. Finally, she looked at the unmoving grey lump.

'You can't keep it,' she snarled.

'I can,' came the muffled response. 'You said I could take Braille and this is for Braille!'

Bet pounced again. Four moved to grab her, as did the doctors. She saw these movements and glared at each of them in turn. Then, neck stiff and head upright, she turned and paced out of the room. Her hands were still curled into fists when the medbay doors opened and closed around her.

As if her leaving flipped some kind of switch, the doctors thronged to the bed, one to check on Three, another on Two, and the third bouncing between the pair, undecided which was more in need of his attention. The assistants had abandoned any semblance of working. They faced away from their stations, each staring inwards with blank expressions. Four couldn't tell if they were waiting to be called upon or just watching the aftermath of something inexplicable. Probably both.

Finally, having ascertained that no one was hurt, the doctors stood back a little. Four waited, but no one seemed forthcoming.

'Perhaps,' Dr Prescobian said at last, 'Two's had enough excitement for one day.'

'Screw that,' Two replied. 'She's coming back with Aleph – you know that, right?'

'That may well be, but—'

'*But*,' Two interrupted, 'if she tried to rip Three apart even *with* me in the way, what's she going to do with a clear run up?'

The doctors looked at each other.

'Well?' he demanded. 'You're our doctors. Shouldn't you be trying to calm her down before she has another go?'

'Maybe,' Dr Damlund said, 'you should give her the da—'

'No!'

Three had been rising out of her curl on the bed, but at this she slammed herself forward, over her own knees, onto the mattress. From the protective arch she repeated, 'It's for Braille and they can't have it!'

Another round of glances.

‘I guess,’ said Dr Damlund, ‘we’ll try to have a word. With Bet.’

It was only as he watched the doctors approach and pause before the doors that he realised: Four had never seen the whitecoats in any other part of the house. Nor had he caught them outside. They drew together, as if no one wanted to be the first to leave the medbay. Finally Dr Damlund stepped into range of the door sensors and, with only one more hesitation, disappeared into the grey hallway beyond. Dr Yamata and Dr Prescobian were slower to follow.

‘Well, that was weird,’ he said, turning back to the bed. The assistants still hadn’t returned to their work, so he glared at them until they faced their stations again.

Two hadn’t spared so much as a glance for the departing doctors. He crawled free of his pillow mountain and went onto his knees beside Three.

‘They’re all gone,’ he said. ‘You can sit up, if you want.’

‘They’ll come back.’ The mattress muffled her words but did nothing to dampen the misery in them. ‘They’re going to take it.’

‘What... is it?’ Four asked. ‘How does it help you read in class?’

Three sat up in degrees. First she lifted herself up – an animal scenting the air – then pulled into a hunch, and finally held out the object clutched in her lap.

‘It’s a special screen,’ she said. ‘The datpad makes the words and the screen senses them and turns them into dots.’

Four leant on the mattress, looking without touching. The datpad was slimmer and, as he’d noted earlier, all screen and no frame. When he squinted, he could make out the transparency was actually two-fold; something thin clung to the surface of the machine, visible as a delicate tracery of wires and electronic chips suspended in... gel? plastic?

‘It makes dots?’ Two asked. He was similarly bent forward, his nose and mouth so close that Three must have been able to feel his breath on her fingers.

‘Yeah,’ she said. ‘Braille is just dots, but arranged into patterns I can *learn*. Watch.’

She pulled the pad back a little, turning it 180° as she did so. That in itself was amazing; usually she couldn’t tell when she was holding a flat and featureless object upside down.

One hand skittered across the surface, then curled into one finger scanning across the pad in lines.

‘I can’t read it yet,’ she said. ‘But, look.’

The pad was turned toward them again. Four leant in and, cheek to cheek with Two, they peered down.

Small, black smears behind the clinging, gel-like surface. He squinted. Words. The tablet was displaying a page of words and, over the top, the gel had sprouted an uneven spread of dots. Four forgot himself and reached out, running his pointer finger across the datpad in a parody of the movement he’d just seen Three perform. The dots *were* arranged into lines, lines that followed the rows of words beneath.

‘Now try scrolling,’ she said.

Four did so, flicking up with his finger. The datpad registered the motion and the text blurred upwards. After a moment, the dots sank away into nothingness. The gel was smooth for a second, then—

More dots pushed up from the thin overlay, forming different patterns.

‘That’s cool,’ Two breathed.

Three took the pad back and scanned with her finger. ‘That’s an “a”,’ she declared. A moment later: ‘And there’s a “b” and a “c”. And a “d”. I think. I only did a little today, and some of the letters are pretty similar. I mix up “d” and “f” a lot.’

Four had no doubt his own face mirrored the amazement on Two's. Three was reading! She continued to scan the lines with her finger, misery forgotten for the time being. Could the carers really take this away from her? All those years she'd spent at the back of their reading lessons, listening but never able to join in...

'Why,' Two started, and Four knew what he was going to say, 'didn't Aleph and Bet get one of these things for *Fun with Dick and Jane*?'

Three's face went gloomy again. Her finger left the screen and she cradled the tablet against herself once more.

'It's not just the screen,' she said. 'M. Jacquard got a whole bunch of stuff. His friend sent him these programs that help him teach me, because he doesn't know Braille either. So I guess we're both learning.'

It wasn't really an answer, and all three wards knew it. Why had she been forced to wait all these years? Why had a stranger from the dome acquired these tools for her, rather than her own carers?

The medbay doors opened. Aleph walked in trailed by the doctors, who immediately separated and went to work on the far side of the room. Four waited, but Bet didn't appear.

'Come on,' Aleph said. He smiled. 'Let's go to the living room. No, it's OK,' he added, seeing Two's hesitation. 'I've cleared it with Dr Damlund. He's agreed that a short field trip is unlikely to cause any complications.'

Three refused both Aleph and Two's offer of a guiding arm, instead trailing well behind the carer as he led them into the hall, away from the kitchen, past the bathroom and into the living room. Sunlight slanted through the window, turning half the room golden. Someone had pulled the cover over the keyboard since the last time Four had been in here; it lurked in the farthest corner, shrouded and silent.

‘So,’ Aleph said, when everyone had sat: Two, Three and Four on the sofa, him in the remaining armchair. ‘Tell me about this datpad.’

Three repeated what she’d told them in the medbay, this time without holding it out for a demonstration. She thinks he’ll snatch it! Four realised. And why not, after what just happened?

‘Why was Bet so desperate to take it?’ he asked. He opened his mouth again, perhaps to convey how terrifying her reaction had been, but he couldn’t find the words.

Aleph seemed to understand. He nodded.

‘Part of it was worry. *Unnecessary* worry,’ he said, dipping his head toward Two. ‘What happened to you was by no means a small event, despite how completely you seem to have recovered.’

Two shrugged. Four, on the other hand, got a sudden flash of how closely he’d leant in to examine the datpad. The other boy had all but pushed his face up against the screen.

‘She was worried what kind of effect the electronics would have on him, so soon after such a pronounced reaction in the city.’

Four wanted to furrow his brow; instead he forced all his disbelief into his toes. Curling and uncurling, faster and faster, while his face remained blank. Neither would he let himself speak the words: If they’d been so worried about electronics, *why had they taken him to the medbay?* There’d been a wallscreen two feet above his head, not to mention all that hidden wiring he’d watched the workmen install, all those years ago.

‘Part of it,’ Three said.

‘Excuse me?’

‘You said part of her reaction was worry. What was the other part? The part that made her do this?’

Three let go of the datapad long enough to pull up left sleeve. Red marks bloomed across her skin in two places.

Aleph winced. ‘We should get the doctors to look at that.’

‘They’re just bruises,’ Three said. She tugged her sleeve down and grabbed the tablet again. ‘I’ve had worse from Four. But’ –speaking through Four’s shocked glance– ‘*why* did Bet get so mad? So quickly?’

‘That’s... complicated.’

Two repeated his shrug. ‘What isn’t?’

The carer cocked his head, then nodded. ‘You’re not wrong about that. It has to do with... this place. What we do here. You must know by now the things we produce are unusual. Uncommon.’

‘Lavender,’ said Three. ‘You sell it.’

‘That’s right. And wheat and barley from the fields, herbs from the garden, milk when there’s excess... not to mention the beef. Beef is always in high demand, but there’s not much supply. Cattle take a lot of water, feed, and land to support.’

‘You... sell the cows?’ Two asked.

Aleph nodded. ‘You must have noticed the numbers.’

There was a long pause.

‘What all these things have in common,’ the carer continued, ‘is that they can’t be grown in a city. If we put the cows within reach of the general population, for example, they’d be poached to extinction within a week. So we grow them here. In a hortus.’

‘A what?’ Four asked.

‘That’s what this place is called. A hortus. There are three of them on Mars, underneath the first three domes. Crus Argus, Crus Lycus, and Crus Cerberus.’

‘What does this have to do with my datpad?’ Three asked. ‘This place can’t be a secret – people must know the cows aren’t grown in cities.’

‘People know *about* the horti,’ Aleph said, his voice growing sterner. ‘They don’t know how to get *in*. What do you think would happen if someone discovered one of the entrances?’

A short silence. Then, Two said, ‘Poaching?’

‘That’s right. Goodbye cattle, goodbye crops, goodbye lavender. But that isn’t all.’

Aleph sat forward in the armchair. His hands came together between his knees and he kept his eyes trained on Three’s face.

‘This hortus – your home – is different from the other two. They all produce resource intensive foods, but only we perform medical research.’

‘On us?’ Two asked.

Aleph blinked. ‘In a way. We’re researching your allergies, looking for a cure, but that wasn’t what I meant. The doctors and their assistants perform *other* research alongside yours.’ He smiled. ‘Did you think you had three doctors and six assistants all to yourselves?’

‘Other... research?’ Four asked. ‘Like what?’

Aleph shrugged, his lips scrunching together. ‘I don’t really know – I *am* here for you, and you alone. The technical stuff is beyond me, but I’d imagine... epidemiology, bacteriology, virology. Dr Damlund, Dr Prescobian, and Dr Yamata’s specialisations.’

‘So they’re studying other stuff?’

‘Research,’ Aleph repeated. ‘Bacteria, viruses, disease control – all of those factors most dangerous for enclosed environments.’

He leant even further forward, until he occupied only the edge of his chair. ‘The servers housed here,’ he said, ‘are extremely confidential. We cannot allow decades’ worth

of research projects, pharmaceutical product development, and medical histories to fall prey to a breach.’

‘Breach?’ Three asked. Her hands slackened, screen catching the light through the windowall as it fell away from her chest. Aleph winced as the reflection caught his eyes.

‘Inline,’ Two said. ‘He means the Inline connection.’

The carer nodded.

‘Any networked device is a potential hole in security,’ he said. ‘Does that device have access to Inline?’

‘I... I don’t know. It has my workbooks uploaded to it. M. Jacquard said that when I knew whole words, I could practise by talking to Eiffel.’

Aleph shot to his feet. All three wards tensed. No one relaxed, not even after the carer sat down again.

‘Eiffel requires Inline to communicate,’ he said. ‘That’s the kind of potential connection that made Bet so angry you brought the pad here without telling us.’

‘What’s Eiffel?’ Two asked.

‘It’s an archive, of sorts. A lot of the coding originated on Earth and has degraded considerably since we lost contact. It doesn’t recall information correctly anymore, so... now it’s more of a curiosity than a tool.’

‘But,’ Three said. ‘I don’t *have* to use that for practise. I could just use the workbooks while I’m at home.’

‘That’s not how Inline works,’ Two said.

Aleph and Four both turned to look at him.

‘Even if you’re not talking to anyone,’ he continued, ‘or connected to an Inline node, you’re still networked.’

‘That datpad is linking Crus Cerberus to the encrypted network down here,’ the carer added. ‘Even if it’s not coded to access the information, it’s a *hole* that anyone with the proper training could use to gain entrance.’

‘That doesn’t mean you have to take it away!’ Three said. ‘Can’t you just... I don’t know... turn the Inline part off?’

‘We could,’ said Aleph. ‘That’s the very compromise I presented to Bet. I absolutely believe you should get as much Braille practise as possible, but the consequences of having a networked device loose down here are unthinkable.’

Four looked at Three. She was running her hands up and down the edges of the tablet, as if memorising the face of a loved one.

Aleph, now attached to the armchair more in theory than in practise, asked, ‘Will you let me take the pad for the evening? See about shutting down its networking capability?’

‘What happens if you can’t?’ she asked.

The carer didn’t blink. ‘You’ll have to give it back to M. Jacquard.’

Three didn’t quite wail, but she started to. Before she could get very far into it, Aleph cut her off.

‘We could see about getting you a new device,’ he said. ‘One that wasn’t networked, but into which M. Jacquard could load your Braille lessons.’

Her voice was very quiet as she said, ‘M. Jacquard doesn’t have the files. He had to send his datpad off to the blind school – they loaded them on for him, then sent it back along with the Braille screen.’

Aleph regarded her across the narrow space between them. ‘I’m sure we can get the networking switched off,’ he said. ‘We won’t need to work out an alternative. Now, will you let me take the datpad tonight? I promise to return it.’

‘Even if you can’t switch off the network?’ Three asked belligerently.

‘Even then,’ Aleph said, nodding. ‘If that happens, you have to return it to M. Jacquard tomorrow, but that doesn’t mean you can’t use it in school.’

Three didn’t look happy, but neither was she clutching the datapad out of sight. After several long seconds, she thrust the machine out.

‘Thank you,’ said Aleph, taking it from her. ‘I’ll try to have it back to you before bedtime.’

The carer left, pausing long enough only to tell Two to return to the medbay. He didn’t stay to enforce the instruction, however, and the wards found themselves alone in the living room. None of them made to leave; Three was slumped almost horizontally, arms splayed as if she’d had her strings cut.

‘He’ll give it back,’ Two said at last.

Four heard the uncertainty, though. ‘Unless they just wanted to get hold of it. I mean, what are we going to do now? Break into their office to get it back?’

Three lifted her head.

‘It’s Aleph’s fault,’ she said. ‘I didn’t try to hide it in the uber. It was on my lap the whole time.’

‘Probably why he worked so hard to get it off you just now,’ Two muttered. ‘If Bet’s mad at you, she’s sure as shit mad at him.’

They contemplated what might even now be occurring in the carer’s private room.

‘Did you see anything?’ Four asked. ‘During your... “incident”?’

‘Blue.’

‘What?’

Two shook his head. ‘I don’t know – not really. But it felt... blue. You know?’

Four laughed. ‘No, I don’t.’ He leant over, bumping shoulders with Two. ‘But I believe you.’

The other boy looked up from the place he'd been staring at on the wall, wearing a startled expression. A moment later he smiled. 'And I believe you. About your visions.'

'What about me?'

There was no cheer in Three's voice. She was as emotionless as Four had ever seen her: not impassive, but empty.

'What about me?' she asked again. 'Do you believe me?'

'Yes,' said Two.

'They're lying,' Four added.

'Good,' said Three, still without inflection. 'Now what are we going to do about it?'



## Reading the Reader: Virtual Reality as Science Fiction Trope

The virtual nature of narrative is not a new observation; after all, Bruce Damer and Randy Hinrichs define virtuality as anything ‘seek[ing] to create a synthetic view of reality’.<sup>1</sup> Under this broad description, a great number of human pursuits can be said to generate virtual realities, from ‘the painting of scenes on the stone canvasses of caves,’ to ‘the elaboration of the human story through the fount of theatre’.<sup>2</sup> Furthermore, Wolfgang Iser has positioned literature in particular as a wholly virtual experience:

The convergence of text and reader brings the literary work into existence and this convergence can never be precisely pinpointed, but must always remain virtual, as it is not to be identified either with the reality of the text or with the individual disposition of the reader.<sup>3</sup>

The virtual nature of reading is therefore central to a number of literary fields, including the postclassical strains of narratology described by Shlomith Rimmon-Kenan and Ansgar Nünning as well as reader-response criticism, which resulted from the collision between classical narratology and poststructuralism.<sup>4</sup> Certainly Marie-Laure Ryan has done a great deal of work regarding the virtuality of reading, examining the interrelationship between theories of immersion and interactivity as applied to both narrative texts and contemporary,

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<sup>1</sup> Bruce Damer and Randy Hinrichs, ‘The Virtuality and Reality of Avatar Cyberspace’ in *The Oxford Handbook of Virtuality*, ed. by Mark Grimshaw (Oxford: Oxford University Press, 2014), pp. 17-41 (p. 18). Google ebook.

<sup>2</sup> *Ibid.*, p. 18.

<sup>3</sup> Wolfgang Iser, *The Implied Reader: Patterns of Communication in Prose Fiction from Bunyan to Beckett* (Baltimore: Johns Hopkins University Press, 1974), p. 275.

<sup>4</sup> Shlomith Rimmon-Keenan, *Narrative Fiction: Contemporary Poetics*, 2<sup>nd</sup> edn (London: Routledge, 2003), p. 140-42.

computer generated virtual realities.<sup>5</sup> So, too, has Scott Bukatman leveraged ‘the fact that narrative *already* functions to construct an enveloping, simulated existence’ in order to position narrative as one type of interface granting access to the twenty-first century’s ‘global realms of data circulation’.<sup>6</sup>

While recognising the virtuality of narrative, the aim of this paper is to examine virtual reality as it appears *within* various texts, when deployed as a science fiction trope. To my mind, this trope is capable of exerting a unique influence upon established narrative practises and therefore holds particular value for postclassical narratology’s focus upon the dynamics of the reading process as well as particular effects that arise from specific narratives.<sup>7</sup> Virtual reality as trope would appear capable of magnifying the effects generated by various literary techniques, transporting awareness *of* these techniques to the fore of the reader’s consciousness, and thereafter generating some new reaction by way of increased correspondence between reader and fictional character. As will become evident, more interesting uses of the virtual reality trope appear to display some understanding (whether conscious or not) on behalf of the author about how readers interact with texts, hence the name of this of this paper: in “reading the reader”, the narrative is capable of anticipating certain readerly activities and manipulating them via unusual textual acts.

The structure of this investigation has grown out of an appreciation for Ryan’s work. She begins her study of ‘the synthesis of immersion and interactivity’ by identifying ‘three distinct senses of *virtual*: an optical one (the virtual as illusion), a scholastic one (the virtual as potentiality), and an informal technological one (the virtual as the computer mediated).’<sup>8</sup> I was averse to the idea of prioritising any one of these aspects over the others; therefore, this

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<sup>5</sup> Marie-Laure Ryan, *Narrative as Virtual Reality 2: Revisiting Immersion and Interactivity in Literature and Electronic Media* (Baltimore: John Hopkins University Press, 2015), p. 13.

<sup>6</sup> Scott Bukatman, *Terminal Identity: The Virtual Subject in Postmodern Identity* (London: Duke University Press, 1993), p. 9.

<sup>7</sup> Ansgar Nünning, reproduced in Rimmon-Keenan, p. 142.

<sup>8</sup> Ryan, p. 7 and p. 8.

thesis takes a broad approach to the presence of virtual reality within science fiction narratives. At the same time, I have used the opportunity to contribute to the field of literary analysis by examining texts unavailable to Bukatan for his theorising of a terminal identity:

One expects the release of a wave of virtual reality fiction, in which a host of anachronistic fantasies are played out within virtual worlds (as on the holodeck in *Star Trek: The Next Generation*) but so far there has been hardly a trickle.<sup>9</sup>

Published in 1993, *Terminal Identity* examines Vernor Vinge's 'True Names' (1981), William Gibson's *Neuromancer* (1984), and Neal Stephenson's *Snow Crash* (1992) within the specific context of virtual reality and narrative, yet Bukatan is then forced toward cinema, video games, and theme parks in order to further his discussion of the interface via which a subject is given access to virtual worlds. While this trajectory allows him to examine the increasing 'invisibility of the apparatus' and 'direct incursion by the terminal subject', my own work carries on with the exploration of narrative acts that refuse to disappear and, in fact, become more visible through their leveraging of specific literary devices against the science fiction trope of virtual reality.<sup>10</sup>

Although Ryan identifies three aspects of the virtual, she only touches upon philosophical conceptions before moving onto her main analysis of computer mediated virtuality, narrative, and the hypertext. This paper aims to provide a more proportionate examination of the differing aspects and, in so doing, I have reversed the order in which she originally lists them. Chapter One explores the form most recognisable to the public – that of

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<sup>9</sup> Bukatan, p. 192.

<sup>10</sup> Ibid, p. 196.

computer mediated virtual realities – as deployed in Tad Williams’ *Otherland* tetralogy, published between 1996 and 2001. Chapter Two continues with a discussion of the virtual as potential and does so by examining the multiple, conflicting virtualities generated by the use of reality television in Suzanne Collins’ *The Hunger Games* trilogy (2008, 2009, 2010) and the film franchise of the same name (2012, 2013, 2014, 2015). Finally, the virtual as illusion is examined alongside the use of dream in Jeff Noon’s 1993 seminal work, *Vurt*. It is my aim throughout this paper to combine narratological theory with close readings of individual texts in order to examine how virtual reality, when deployed as a trope within science fiction novels, generates a unique effect: certain aspects of the reading experience are magnified by the presence of the virtual reality trope, often interfering with the ‘effortless concentration’ crucial to immersion.<sup>11</sup>

Chapter One focusses on virtual reality as deployed in the near-4000 pages of Tad Williams’ epic *Otherland* tetralogy. His is a traditional take on computer mediated virtuality: in a near-future version of our world, a number of protagonists seek to understand why children all over the world are falling into comas. Their search leads them to infiltrate a top-secret virtual reality network known only as Otherland, after which their minds become trapped in the simulation and they must unravel the mysteries of the network in order to save their own lives as well as those of the comatose children. In this particular text, the trope is highly recognisable, and yet the ends to which Williams deploys it are not. The work of H. Porter Abbot, Heta Pyrhönen, Samuel R. Delany, and others are used to show how reader’s own desire to orient herself to a narrative’s generic codes would appear to be taken into account by the author and leveraged against the ability of virtual reality technology to generate multiple, dissimilar environments: rather than framing explicitly when a character passes from the real world of the novel to a simulation, or between two different simulated

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<sup>11</sup> Ryan, p. 67.

environments, the text instead switches to a new set of recognisable textual components without the accompaniment of orienting material. While this creates considerable impediment to the reader's attempt to immerse in the narrative, the characters are, at the level of the story, struggling to orient themselves to the particular rules of individual simulated environments. The result is a text that transports the readerly act of orientation to the very fore of the reader's attention, engendering *greater* identification between reader and character.

In Chapter Two, reliance upon reality television within *The Hunger Games* franchise is used to explore virtual reality as potential. In a far-future version of the United States of America, twelve districts are annually forced to provide one male and female tribute to their Capitol, who makes these tributes to fight to the death in televised, gladiatorial combat. By framing the deaths of children within the context of reality television – an inherently virtual genre due to its use of real people performing real actions for the camera/audience within artificial boundaries imposed by the competition rules – the government of Panem uses to its own advantage the cultivating effects that have been observed of the reality television genre. A specific potential state of affairs is broadcast to the entire population and reinforced via annual repetition. Furthermore, the narrative dramatises the clash between multiple virtual realities by way of Katniss Everdeen's unreliable narration. By using Ansgar Nünning's demonstration of why the concept of an implied author is unnecessary in the formulation of unreliable narration, I demonstrate how *The Hunger Games* novel leverages the reader's own concept of dramatic irony against the depiction of conflicting multiple virtual realities, thereby elevating dramatic irony to the level of story and dramatising the technique itself.

Chapter Three concludes by looking at virtual reality as illusion, specifically the portrayal of dream within Jeff Noon's 1993 novel, *Vurt*. In a near-future version of Manchester, a gang of societal malcontents imbibe Vurt feathers in order to access

consensual, hallucinatory virtual realities composed of dream material while also searching for a companion lost within one of these Vurt worlds. Doing so, however, leads to the death of the narrator's best friend and his eventual acceptance of the fact that he is not a 'pure' human being; rather, he is at least partially a Vurt being. Noon's text generates an internally-inconsistent fictional environment composed of many textual components and, again, the reader's ability to recognise generic conventions are leveraged against virtual reality as trope in order to simulate the bewildering unpredictability of real world dreams. Afterwards, I use the work of Shlomith Rimmon-Kenan and Gérard Genette in order to examine the text's use of a narrator and a focaliser in order to generate two narrative threads within a single story. The second of these threads reveals the narrator's own changed perspective on events being experienced by the focaliser, and is imparted in such a way as to be inaccessible by the first-time reader. Instead, she must already have the knowledge possessed by the narrator – namely, knowledge of how the story ends – in order to sense the narrator's extradiegetic intrusions into the story being told. In this way, *Vurt* uses the virtual as illusion in order to more effectively replicate the mechanism of memory within a narrative.

Each of the science fiction texts considered in this paper make use of the virtual reality trope. I have gone to some lengths to identify texts which display *differing* aspects of the virtual as identified by Ryan: virtual as computer mediated, virtual as potential, and virtual as illusion. It is my hope that in doing so, I have not only widened our understanding of what fictional virtual reality *is* or *could be*, but also illustrated the range of narrative innovations this trope is capable of generating.

## Chapter One

### The Virtual as Computer Mediated in Tad Williams' *Otherland* Tetralogy

The words *virtual reality* bring a wealth of association to mind, more like as not centred around modern conceptions of the virtual as computer mediated. Marie-Laure Ryan, despite the care with which she addresses multiple definitions of the word 'virtual', refers to the computer mediated version as 'VR proper', a choice no doubt aided by the prevalence of computer technology in our daily lives.<sup>12</sup> Despite being the most recently-formulated, this connotation has all but eclipsed former uses of the word; the scholastic sense of *virtual* as potential and the optical sense of *virtual* as illusory are still encountered in common usage, but they are far from the dominant interpretations.<sup>13</sup> It is therefore with the computer mediated that I begin my examination of narrative's ability to bring its own virtual nature to the fore of a text via use of the science fiction trope.

Virtuality as understood within the context of an invisible, electronic realm was prompted by the sudden appearance of new literary and cinematic referents with which to apply the term. Firstly, science fiction saw the publication of two highly influential volumes: Vernor Vinge's 1981 novella, 'True Names', and William Gibson's 1984 novel, *Neuromancer*. While Gibson's work is often seen as launching the cyberpunk movement – coining, as he did, the term 'cyberspace' – it was Vinge who 'introduc[ed] the notion of virtual reality' and provided the initial imagery of computer-literate individuals entering/inhabiting/manipulating an electronic domain situated beyond that of the physical.<sup>14</sup> Secondly, the television series *Star Trek: The Next Generation* (1987-1994) aired the first

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<sup>12</sup> Ryan, p. 8.

<sup>13</sup> Ibid, pp. 18-19.

<sup>14</sup> Vernor Vinge, 'True Names', in *True Names and the Opening of the Cyberspace Frontier*, ed. by James Frenkel (New York: Tor Books, 2001; London: Penguin Random House, 2016), pp. 189-273 (p. 189).

live-action productions of Gene Roddenberry's idea for a 'simulated outdoor recreation area' within which the starship crew could occupy computer simulated environments.<sup>15</sup> This area, called the 'holodeck', provided the image with which proponents of virtual reality built up the public's perception of how computers would change their lives: 'Computers were credited with the power to create artificial worlds'.<sup>16</sup> Though enthusiasm waned when it became clear that computers were unable to immediately deliver upon this promise, the word 'virtual' had by that time become inextricably linked with 'everything we experience or meet in "cyberspace," the imaginary place where computers take us when we log on to the Internet'.<sup>17</sup>

Even cursory examination of science fiction cinema, literature, and television reveals clear trends in the expression of computer mediated virtuality. Firstly, the matter of embodiment, or 'move from the *enacted* to the *represented* body' that comes 'with the move from real to virtual worlds', is frequently of central concern.<sup>18</sup> *The Matrix* demonstrates this concept when Neo disengages from the virtual world and reawakens in a pale, hairless, and intubated body suspended in viscous fluid.<sup>19</sup> The incongruity between a character's physical body and his or her simulated body is a mainstay that stretches all the way back to Vinge's 'True Names', where Erythrinia is revealed to be much older than the virtual body she projects inside the Other Plane.

Secondly, virtual reality narratives concentrate upon the *interaction* between users and the computer systems they have entered. As is noted in Scott Bukatman's work, a 'cyberspatial subject' inserted into the realm of data circulation gains an increased ability to

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<sup>15</sup> Author unknown, 'Holodeck', *Memory Alpha*, (Date unknown), <<https://memory-alpha.fandom.com/wiki/Holodeck>> [accessed 8 July 2019] (para. 38 of 49).

<sup>16</sup> Ryan, p. 17.

<sup>17</sup> Ryan, p. 17.

<sup>18</sup> Roger Luckhurst, *Science Fiction* (Cambridge: Polity Press, 2005), p. 213.

<sup>19</sup> *The Matrix*, dir. by Lana and Lilly Wachowski (Warner Bros., 1999).

move and act within that realm.<sup>20</sup> Since the inception of cyberpunk, virtual environments have acted as the medium by which hackers impose their will upon systems they inhabit:

‘Beware, beware,’ came the tiny voice. From the flecks of gold across its abdomen, he knew the right response: left hand up and flick the spider away. Instead Slip raised his right hand and struck at the creature.

The spider hoisted itself upward, screeching faintly, then dropped toward Slip’s neck[.]<sup>21</sup>

The Chinese virus was unfolding around them. Polychrome shadow, countless translucent layers shifting and recombining. Protean, enormous, it towered above them, blotting out the void.<sup>22</sup>

Each of the above excerpts represent a fictional hacker (or warlock) interacting with computer programs from within virtual space. While the first example, taken from Vinge’s ‘True Names’, visualises the electronic realm using metaphors and imagery provided by fantasy and ‘magical jargon’ – metaphors that Gibson’s *Neuromancer* would shed in favour of more technologically-specific language – it nevertheless articulates and dramatises interaction occurring between human users and electronic systems.<sup>23</sup> Gibson, on the other hand, more explicitly realises the insertion of a human mind into ‘a digitized environment’ by

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<sup>20</sup> Bukatman, p. 19.

<sup>21</sup> Vinge, p. 259.

<sup>22</sup> William Gibson, *Neuromancer*, 7<sup>th</sup> edn (London: Voyager, 1995), p. 67.

<sup>23</sup> Vinge, p. 200.

employing images of ‘smooth geometries [that] are analogues for the realm’s fully digital existence.’<sup>24</sup>

The third aspect often (but not always) in evidence alongside the virtual reality trope is also that which originally excited the public’s imagination regarding VR as a technology: by installing a computer and wearing specialised equipment over the eyes and hands, a user ‘would be surrounded by a virtual world in which the material objects that furnish the house would take on whatever appearance (...) specified.’<sup>25</sup> Here, *Star Trek: The Next Generation* provides perfect illustration of the great disparity that can exist between the real world of the narrative and the virtual realm in which activity takes place. Although the Enterprise crew inhabit a starship exploring deep space, the holodeck allows Data and Geordi la Forge to re-enact the mysteries of Sherlock Holmes, Worf and his son to play sheriff and deputy to an Old West township, and Lt. Barclay to re-write characters from *The Three Musketeers* to his own liking.<sup>26</sup> The virtual reality trope allows characters to create, enter, manipulate, and interact with any number of virtual environments, providing flexibility in the generic restrictions that would otherwise be in place.

Of these identified elements – embodiment, interactivity, and disparate simulated environments – I will examine the latter two in conjunction with the *Otherland* tetralogy, written by Tad Williams and published between 1996 and 2001. While hugely successful within Germany, the series never gained more than cult following in the rest of the world, perhaps for the very reasons which make it ideal for my first chapter.<sup>27</sup> The series not only

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<sup>24</sup> Bukatman, p. 204.

<sup>25</sup> Ryan, p. 36.

<sup>26</sup> Gene Roddenberry and Rick Berman, ‘Elementary, Dear Data’, *Star Trek: The Next Generation* (Paramount Domestic Television and CBS Television Distribution, 5 December 1988); ‘Hollow Pursuits’, *Star Trek: The Next Generation*, (Paramount Domestic Television and CBS Television Distribution, 30 April 1990); ‘A Fistful of Datas’, *Star Trek: The Next Generation* (Paramount Domestic Television and CBS Television Distribution, 9 November 1992).

<sup>27</sup> David Barnett, ‘Tropes, trolls, and Trump: the fantasy writer who inspired George RR Martin’, in *Guardian* (17 January 2017), <<https://www.theguardian.com/books/2017/jan/17/tropes-trolls-and-trump-meet-one-of-george-rr-martins-favourite-fantasy-writers-tad-williams>> [accessed 8 February 2017] (para. 10 of 16).

depicts characters entering and interacting with a computer system via disparate virtual environments, but also goes so far as to deploy several sets of textual markers in order to evoke multiple genres. In so doing, the text generates a genuinely ‘anachronistic’ narrative, more so than narratives that situate themselves solely within the science fiction genre. In reflecting and mimicking certain characteristics of the virtual reality trope so closely at the level of the text, *Otherland* underscores the mechanics of place and genre, elements usually sequestered away from the casual view of the reader. Furthermore, the frequent refusal to establish a sense of coherence between various genres brings the reader into closer correspondence with the protagonists of the story: as the fictional characters must readapt to their surroundings each time they enter a new simulation, so too is the reader forced to make regular and repeated readjustments to her mode of textual engagement. The *Otherland* series therefore takes virtual reality beyond mere trope and leverages key features against narrative norms, creating a uniquely immersive experience by undercutting immersion itself.

## Section One: Types of Computer Mediated Virtual Reality

Although computer mediated virtual reality appears regularly in various forms of science fiction media, such narratives often focus upon embodiment and interactivity, the elements lacking from more traditional forms of the virtual (e.g., film, text, artwork that simulates three-dimensional space on two-dimensional canvasses). Films like *Tron* (1982), *The Matrix* (1999), and *OtherLife* (2017) emphasise full-sensory immersion within a virtual environment, as do the numerous science fiction novels about users ‘jacking in’ to specific electronic systems: *Snow Crash* (1992) by Neal Stephenson, *Heir Apparent* (2002) by Vivian Vande Velde, *Epic* (2004) by Connor Kostick, *Ready Player One* (2011) by Ernest Cline, and others. Less often explored is the ability of such systems to generate *multiple*, even conflicting virtual environments. As Scott Bukatman observes when remarking upon the lack of relevant texts in 1993,

One expects the release of a wave of virtual reality fiction, in which a host of anachronistic fantasies are played out within virtual worlds (as on the holodeck in *Star Trek: The Next Generation*) but so far there has been hardly a trickle.<sup>28</sup>

Bukatman recognises not only the technology’s ability to generate virtual experiences but also that it does so throughout a *range* of ‘anachronistic’ environments. Though passing in nature, Bukatman’s remark touches upon the unboundedness of genre the holodeck system affords not only to crewmembers of the fictional starship, at the level of story and plot, but also to viewers of the show, at the level of medium and narrative. Virtual reality as trope

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<sup>28</sup> Bukatman, p. 192.

therefore generates a twofold effect upon the material in which it has been included, and it is these changes to text and reading experience that I will examine in relation to Williams' *Otherland* series.

The story of Williams' tetralogy centres upon a tightly-controlled, closely-guarded simulation network known as Otherland, owned and funded by the secretive Grail Brotherhood. The protagonists, a disparate group of individuals, uncover this network through separate means: some are investigating a mysterious illness that causes children to fall into comas, while others seek answers about images of 'a shining, majestic city the color [sic] of sunlit amber' cropping up in unusual places across the net.<sup>29</sup> Their separate investigations lead them, one way or another, to infiltrate the Otherland network, at which point they must pursue their answers through a series of bizarre and increasingly dangerous virtual realities.

Notably, the reader is exposed to several types of simulation in the first novel of the series. Before formally encountering the coveted Otherland network and its 'faultless (...) simulation of life', the reader experiences two types of simulation available to the public.<sup>30</sup> The first of these is called an 'interactive', a form of simulation characterised by a linear narrative that the user watches and feels unfold around them.<sup>31</sup> The title 'interactive' is therefore somewhat counterintuitive, as the user has no influence over the virtual world they inhabit. Rather, the interaction is of the same order one finds when reading a novel: as words on the page prompt the formation of specific images or emotional states in the reader, so too do net 'interactives' arouse certain states of bodily stimulation in its users. When inhabiting the simulation of an airplane crash, for example, the user is allowed to experience the terror of dying without any real, physical danger: 'That was the worst. I thought I was really going

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<sup>29</sup> Tad Williams, *Otherland, Book One: City of Golden Shadow* (London: Legend Books, 1996; London: Orbit, 1998), p. 102.

<sup>30</sup> *Ibid.*, p. 401.

<sup>31</sup> *Ibid.*, p. 894.

to die – I thought my heart was going to stop.<sup>32</sup> The pre-scripted nature of these simulations, however, means that the user has no control over possible outcomes; they are there to experience rather than modify.

By including ‘interactives’ in the first novel of the *Otherland* series, Williams lays multiple levels of groundwork for his readers. The inclusion not only establishes a common form of the virtual as it exists within the story and plot, anticipating the moment when characters discover a new, never-before-seen type of simulation; it also illustrates a common form of the virtual as it exists *beyond* that of the text. Because it is presented via words on the page of a novel, the act of immersing oneself in an ‘interactive’ is rendered identical for both reader and character:

*They come for you a [sic] dawn. It's Jankel, the nice one, and another named Simmons or something – you haven't seen him much. They used to send more than two, but times have changed. You haven't slept a wink, of course, but they come in quietly anyway, as though they don't want to startle you awake.*<sup>33</sup>

Unfortunate typo aside (an occurrence that renders the interface between reader and the experience offered by a novel momentarily, glaringly visible), both the actual reader and the fictional character Orlando occupy identical positions in relation to the above material. The excerpt is positioned immediately after a chapter break, a ‘metanarrative element’ that the reader can use to identify ‘a change of scene or a shift of focus’.<sup>34</sup> He or she will therefore be

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<sup>32</sup> Ibid, p. 212.

<sup>33</sup> Ibid, p. 206.

<sup>34</sup> Monika Fludernik, *An Introduction to Narratology* (Darmstadt: Wissenschaftliche Buchgesellschaft, 2006; Abingdon: Routledge, 2009), p. 24. Google ebook.

seeking information with which to acclimatise him- or herself to the new material, a process called orientation and which I will return to in later sections of this chapter. At present, the important factor to note is that various unfamiliar elements (the second-person 'you', the sudden italicisation of text, the characters Jankel and Simmons) uncontextualised against the backdrop of previously-encountered story matter closely aligns the reader's experience with that of the fictional character, Orlando, who has entered an 'interactive' he hasn't previously experienced. Therefore, the inclusion of 'interactives' not only simulates a character's immersion in a fictional version of virtual reality, but also simulates the reader's own experience of immersing in an actual version of virtual reality comprised by the text itself.

This reflexivity is carried over, albeit with much less immediate synthesis between character and reader positioning, in the second type of simulation presented in the early portions of the *Otherland* series. Including 'the game territory known as the Middle Country' simultaneously acknowledges full-immersion video games as an established feature of the series' plot while also acting as a reflection of the MMORPGs (Massively Multiplayer Online Role-Playing Games) available in the real world of the reader.<sup>35</sup> These games involve thousands of players logging into the same server and interacting with each other while inhabiting specific roles, exploring virtual worlds using virtual bodies. Two of the novel's characters, Orlando and Fredericks, have spent an extended period of time in this game territory, levelling up and building themselves into the history of the world with every success. Orlando plays a character called Thargor, 'the most famous character in the Middle Country game, recruited for every battle, first choice for every important task.'<sup>36</sup> However, the homogenous quality of these environments is revealed in a conversation between Orlando and a gang of net-saavy five year-olds:

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<sup>35</sup> The first RPG-style games historically recognised as including both multiplayer capabilities and full graphic experiences are *Neverwinter Nights* (1991), *The Sierra Network: The Shadow of Yserbius* (1992), *The Fates of Twinion* (1993) and *The Ruins of Cawdor* (1995).

<sup>36</sup> *Ibid*, p. 101.

‘Hey, Landogarner, you got sword-head house,’ Zunni commented.

(...)

‘Sword-head? Oh, yeah. I used to spend a lot of time in the Middle Country. You know that?’

‘Boring,’ pronounced Zunni. ‘Kill monster, find jewel, earn bonus points. Wibble-wobble-wubble.’<sup>37</sup>

The adventures offered by the Middle Country (or its real-world analogues, *World of Warcraft*, *Star Wars: The Old Republic*, and others) are bound by traditional generic conventions, as revealed by Zunni’s quick assessment of the tasks assigned to players. Orlando, by participating in a ‘psuedo-medieval’ game environment, may confront elven princes or dark wizards, defeat gryphons and Lichs, but he will not be asked to wield a plasma weapon or defend the planet against an invasion of alien bugs.<sup>38</sup> As Heta Pyrhönen observes, ‘generic definitions extend in two directions, for they not only define what a given genre is but also define what it is not.’<sup>39</sup> In conforming to the traditional boundaries of the fantasy genre, the Middle Country precludes the possibility of drawing upon overtly science fiction questlines.

It is here, at the intersection between Williams’ portrayal of the Middle Country and the wider canon of VR narratives, that I believe *Otherland* begins to depart from traditional uses of the computer mediated virtual reality trope. A great number of science fiction narratives depict characters entering simulated realities within the real worlds of their stories;

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<sup>37</sup> Ibid, p. 767.

<sup>38</sup> Ibid, p. 102.

<sup>39</sup> Heta Pyrhönen, ‘Genre’, in *The Cambridge Companion to Narrative*, ed. by David Herman (Cambridge: Cambridge University Press, 2007), pp. 109-23 (p. 114).

however, there is a decided *cohesiveness* to these simulations. Beginning with the Other Plane in Vinge's 'True Names', cyberspace in Gibson's *Neuromancer*, and continuing through incarnations like Cadigan's dataline, Stephenson's Metaverse, Cline's OASIS, and many, many others: virtual realities are represented as either a specific game environment or as a single network within which all other VR activities take place. While *Otherland* is eventually revealed to be a network of this latter kind, Williams leverages the reader's expectations and generic markers usually displayed by a text *against* that of the opportunity provided by the virtual reality trope in order to create a unique reading experience. By preventing his readers from recognising the type of textual environment they are entering/interacting with, Williams confounds the readerly act of orientation, therefore aligning his readers more closely with his characters (who are unable to recognise the types of virtual environments they are infiltrating). The virtual reality trope has, in the *Otherland* tetralogy, been deployed in order to confound immersion; in so doing it generates, paradoxically, a *more* immersive and reflexive reading experience than displayed in other virtual reality narratives of a similar ilk.

## Section Two: Genre as Orienting Force

In establishing two forms of virtual reality active for both the fictional world of the character and the real world of the reader, the *Otherland* series demonstrates a wider engagement with the virtual reality trope as it has developed since appearing in the works of Vinge and Gibson. The Middle Country will feel as intensely familiar to the frequent reader of science fiction as ‘interactives’ are to the frequent reader: its MMORPG characteristics mimic the “virtual reality as full-immersion video game” motif deployed repeatedly throughout the genre. Numerous science fiction narratives – from novels like Vivian Vande Velde’s *Heir Apparent* (2002), Connor Kostick’s *Epic* (2004), Vasily Mahanenko’s *Survival Quest* (2015) to films such as *Stay Alive* (2006), *Gamer* (2009), and *The Call Up* (2016) – draw upon the concept of players immersing in a virtual reality video game only to find themselves trapped within the system and/or at risk of real, bodily death should they fail to achieve specific conditions. The academic Paweł Frelik observes that ‘the origins of the [video gaming] medium seem to be inextricably tied to science fiction’; likewise, science fiction that delves into the experience of virtual reality appears equally fascinated with the analogy provided by video games.<sup>40</sup>

The *Otherland* series conforms to this motif in terms of plot: Renie Sulaweyo, !Xabbu, Orlando Gardiner, Sam Fredericks, and several others infiltrate the eponymous network by various means and for various reasons. Afterwards, they find themselves unable to disconnect from the simulation without experiencing intense, physical pain; and, still later, unable to disconnect at all.<sup>41</sup> Through the perspective of a character who has remained outside the Otherland network, the reader learns that ‘a dozen research scientists in almost as many different countries had all been killed within a single eight-hour period (...) by a

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<sup>40</sup> Paweł Frelik, ‘Video Games’, in *The Oxford Handbook of Science Fiction*, ed. by Rob Latham (Oxford: Oxford University Press, 2014), pp. 226-38 (p. 226).

<sup>41</sup> Tad Williams, *Otherland, Volume Two: River of Blue Fire* (London: Orbit, 1998), p. 32.

variety of causes from cardiac arrest to brain aneurysm'.<sup>42</sup> Therefore, while the characters ensconced in VR remain uncertain what will happen if their simulated bodies die, the reader is able to connect the deaths of those 'logged into an entomology facility' with the massacre of a scientific outpost by a swarm of *Eciton burchelli* ants.<sup>43</sup> The stakes of the *Otherland* series are therefore the same as those present in other computer mediated virtual reality narratives: win the 'game' or die trying.

However, Williams' series distinguishes itself from other members of the virtual reality canon in its use of multiple generic markers to confound the reader's attempt to orient themselves to the textual world. H. Porter Abbott suggests that the reader recognises 'by numerous signals, the kind of action or sequence of events' taking place on the page, using this information to 'lay down tracks in our mind for the ways in which the action will develop.'<sup>44</sup> In delivering certain, specific 'textual components', such as a monster terrorising a small town or technology capable of impossible things, the narrative provides generic markers that 'function[ ] as a norm or expectation guiding (...) readers in their encounter with texts.'<sup>45</sup> Joe Haldeman's *Old Twentieth* (2006) provides a particularly good example of the 'orienting' effect generated by a science fiction narrative: early in the novel, the narrator, Jacob Brewer, provides a brief summary of the 'Immortality War' that took place between 2047 and 2138, as well as explaining his reasons for leaving Earth on a spaceship. The presence of certain generic markers – future dates, immortality granted by medical advances, a spaceship – prompt the reader to contextualise the story and its events as science fiction in nature. The orienting effect generated at the novel's outset extends to the virtual reality simulations that inhabitants of the spaceship use in order to pass time: though anachronistic in

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<sup>42</sup> Ibid, p. 684.

<sup>43</sup> Ibid, p. 684 and p. 142.

<sup>44</sup> H. Porter Abbott, *The Cambridge Introduction to Narrative* (Cambridge: Cambridge University Press, 2002) p. 54 and p. 57.

<sup>45</sup> Pyrhönen, p. 109.

terms of historical setting, the science fiction textual components used to identify the ‘real’ world of the novel overpower any constituent ‘virtual’ realities, thereby alerting the reader to the dominant set of generic tendencies active in the text.

Conversely, the *Otherland* series strives for the opposite effect. Rather than establishing a coherent set of generic markers and, in the process, orienting the reader to a possible series of events, the first novel opens by establishing *three* recognisable genres: historical fiction, fairy tale, and science fiction. The first novel opens from the perspective of a soldier crouched ‘somewhere between Ypres and St. Quentin’ on a date – 24 March 1918 – near the end of World War I.<sup>46</sup> A ‘specific real historical context’ is created, grounding the reader in a mode of engagement similar to that used when encountering historical fiction.<sup>47</sup> This would not normally present a problem for the reader except that she is given no aid in orienting herself between two contradictory promises: on one hand, the consistent and logical textual landscape offered in the opening scene and, on the other, information presented on the cover of the book, which variously promises ‘[t]he ultimate virtual-reality saga’, ‘virtual reality wonders’ and ‘[o]ne of the best works of science fiction I’ve ever read’.<sup>48</sup> The reader who has chosen to engage with this volume based upon its promise to deliver science fiction is unable to locate any relevant textual components; the soldier acts and thinks as though the ‘very special hell’ of WWI is real.<sup>49</sup> The narration contains no reference that might undercut the realism of the environment (an astute reader might use anachronistic terms such as

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<sup>46</sup> Williams, 1996, p. 1.

<sup>47</sup> Linda Hutcheon, ‘Postmodern Paratextuality and History’, *Texte*, 5-6 (1986-87), 301-12 (p. 305), <<https://tspace.library.utoronto.ca/bitstream/1807/9477/1/TSpace0031.pdf>> [accessed 4 December 2017]. Here I have referenced Linda Hutcheon’s ground-breaking work with historiographic metafiction, yet I do so in a thesis that leaves little room to consider the implications of virtual reality upon a textual space that operates in a distinctly virtual way. The duality of historiographic metafiction’s reference to actual events alongside its emphasis upon the non-actuality of narrative representation deserves more extended consideration than I am able to deliver at this point. Here I have summoned the topic because Hutcheon’s work makes some effort to establish characteristics that might be considered recognisable, specific textual components in terms of genre.

<sup>48</sup> Review blurbs by *San Francisco Chronicle*, *Locus*, and Katherine Kerr, respectively, on back cover of Tad Williams, *Otherland, Volume One: City of Golden Shadow* (London: Legend Books, 1996; London: Orbit, 1998).

<sup>49</sup> Williams, 1996, p. 2.

‘simulation’, ‘game’, or ‘network’ in order to identify the trenches as being virtual in nature) and so the reader is forced to contextualise the moment in terms of the ‘real’ world of the novel, perhaps as an historical moment predating the fictional invention of virtual reality.

This hypothesising, whether performed consciously or unconsciously, represents the reader’s attempt to orient herself to the signals delivered by the novel: in Richard L. Stein’s words, ‘As in all communication (...) the reader must make sense of materials being encountered for the first time.’<sup>50</sup> In this instance, the reader is forced to grapple with a blurb on the back cover claiming *Otherland* represents ‘[t]he ultimate virtual-reality saga’ and the apparently contradictory generic matter encountered within.<sup>51</sup> While H. Porter Abbott discusses Barthes’ argument regarding narrative codes ‘arous[ing] both expectations and questions’, it is without any reference to Tzvetan Todorov that Abbott asserts ‘we learn at a very early age to read and decode not just words but whole patterns’.<sup>52</sup> This statement does, of course, approach the concepts laid out in Todorov’s well-known 1976 article, ‘The Origin of Genres’, in which he formulates genre ‘function[ing] as “horizons of expectation” for readers’.<sup>53</sup> He writes:

In a society, the recurrence of certain discursive properties is institutionalized [sic], and individual texts are produced and perceived in relation to the norm constituted by this codification.<sup>54</sup>

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<sup>50</sup> Richard L. Stein, ‘Historical Fiction and the Implied Reader: Scott and Iser’, *NOVEL: A Forum on Fiction*, 3-14 (1981), 213-31 (p. 214).

<sup>51</sup> Review blurb by *San Francisco Chronicle* on back cover of Tad Williams, *Otherland, Volume One: City of Golden Shadow* (London: Legend Books, 1996; London: Orbit, 1998).

<sup>52</sup> Abbott, p. 54.

<sup>53</sup> Tzvetan Todorov and Richard M. Berrong, ‘The Origin of Genres’, *New Literary History*, 1-8 (1976), 158-70 (p. 163).

<sup>54</sup> *Ibid*, p. 162.

By underscoring that genre is a function of ‘the recurrence of certain discursive properties’, Todorov affirms that the reader does not come into his or her knowledge of genre via a single exposure. Rather, the ability to recognise the ‘textual components’ of genre is a skill that develops through multiple exposures to a certain type of text, resulting in an ability to perceive those properties as they recur. Thus, as Heta Pyrhönen argues, genres gradually come to ‘function as “horizons of expectation” for readers’ as those readers gain fluency in ‘the repertoire of generic elements available at any one time.’<sup>55</sup>

While the work of Abbott, Todorov, and Pyrhönen all establish genre’s ability to ‘channel the reader’s inferences, help create intelligibility and coherence, and delimit the scope of interpretation’, *Otherland* deploys these same generic codes in order to achieve the very opposite.<sup>56</sup> Paul Jonas’ apparent participation in WWI has immediate effects upon the reader, who is able to particularise various elements – the temporal event of 1918, the historical event of WWI, the physical locations of Ypres and St. Quentin – as being ‘more real’ than elements traditionally associated with science fiction. Just as the reader believes she has oriented herself between a cover blurb that advertises virtual reality science fiction and an apparently historically-accurate WWI setting, the trenches are destroyed by a howitzer shell, a nearby tree becomes ‘monumental’ and ‘stretche[s] beyond the cloud ceiling’, and the world of the novel, previously built upon the immensity of the Western Front, is contracted to ‘a few hundred yards before ending in mist.’<sup>57</sup> Any certainty the reader may have formulated is expelled entirely when Jonas decides to climb the tree.

By presenting textual components that do not conform to the ‘horizons of expectation’ encouraged by either initiatory set of generic codes, the text forces the reader to begin a process of re-orienting herself to the story. Rather than discovering the expected (and, thus

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<sup>55</sup> Pyrhönen, p. 118.

<sup>56</sup> *Ibid.*, p. 114.

<sup>57</sup> Williams, 1996, p. 10 and p. 7.

far, absent) science fiction textual components, however, both Jonas and the reader are confronted by a castle sitting atop the clouds, a bird-woman held captive in a golden cage, and a giant who chases and eats him. The promise of one genre, delivery of a second, and intrusion of a third not only undercuts coherence but also has a radical effect upon the reader, whose ‘horizons of expectation’ have been well and truly confounded. Here, the short essay ‘About 5,750 Words’, written by Samuel R. Delany, sheds considerable light on the effect generated by *Otherland*’s opening. After discussing the inseparability of style from content and demonstrating that reading is a continually ‘corrective and revisionary (...) process as we move our eyes from word to word’, Delany then goes on to examine the differing levels of subjunctivity between ‘word series’ variously labelled SF (science fiction), naturalistic fiction, reportage, and fantasy.<sup>58</sup> *The Oxford Dictionary of Science Fiction* defines subjunctivity as ‘the relationship between something portrayed in a text and reality’:<sup>59</sup>

Suppose a series of words is presented to us as a piece of reportage. A blanket indicative tension (or mood) informs the whole series: *this happened*. This is the level of subjunctivity at which journalism takes place. (...)

The subjunctivity level for a series of words labelled as naturalist fiction is defined by: *could have happened*. (...)

Fantasy takes the level of subjunctivity of naturalist fiction and throws it into reverse. At the appearance of elves, witches, or magic in a non-metaphorical position, or at some correction

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<sup>58</sup> Samuel R. Delany, ‘About 5,750 Words’, in *Science Fiction Criticism: An Anthology of Essential Writings*, ed. by Rob Latham (London: Bloomsbury Academic, 2017), pp. 104-15 (pp. 106-7 and p. 111).

<sup>59</sup> *The Oxford Dictionary of Science Fiction*, ed. by Jeff Prucher (Oxford: Oxford University Press, 2006; online publication, 2007), <<https://www.oxfordreference.com/abstract/10.1093/acref/9780195305678.001.0001/acref-9780195305678-e-729?rskey=pUITPI>> [accessed 18 July 2019].

of image too bizarre to be explained by other than the supernatural, the level of subjunctivity becomes: *could not have happened*.<sup>60</sup>

Delany's levels describe the amendments taking place in *Otherland*'s opening. The initial portion, presenting only the textual components of historical fiction, hovers somewhere between *this happened* and *could have happened*. The advent of the howitzer shell, however, introduces story elements that alter the level of subjunctivity between reader and text, a revision that slides more and more toward *could not have happened* as Jonas begins participating in the Jack and the Beanstalk fairy tale. The ultimate effect is one whereby the reader is forced to map contradictory story matter along a contiguous plane, unable to wholly resolve whether the story *could have happened* or *could not have happened*, while also unable to situate any of the presented material into the *have not happened* level that Delany identifies as created by science fiction.

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<sup>60</sup> Delany, pp. 111-112.

### Section Three: Genre as Disorienting Force

*Otherland*'s opening generates a magnified effect due to its location at the very outset of the series, when the reader is in possession of the fewest clues regarding genre, setting, character, plot, etc. While the effect lessens as one progresses beyond Jonas' initial, bewildering experience in the novel's Foreward, it by no means disappears entirely: the text continues to deliver contradictory story matter between chapter and section breaks, most notably in the introduction of new characters. For some time, the reader is unable to string together the generic connection between Renie Sulaweyo and !Xabbu, a university lecturer and her Bushman student in near-future South Africa, and Thargor and Pithlit, a barbarian warrior and thief companion raiding the tomb of an ancient Lich. The link between an unnamed serial killer and Egyptian deities holding court in ancient Abydos is similarly confounding, as is their relationship to previously-encountered characters. Throughout these introductions, sections dedicated to Jonas make sporadic appearances, showing him travelling through a variety of bewildering and (gradually) recognisably fictional worlds, such as Wonderland from *Through the Looking Glass, and What Alice Found There* (1871) and London from *The War of the Worlds* (1898).

It is the reader's task, when engaging with the *Otherland* text, to discern how various generic elements fit into and generate a single, cohesive story world. In presenting this challenge, however, the text emphasises the very process by which a reader uses textual elements to narrow in upon a single generic 'schematic', or tendency. The work of Carl Freedman is especially relevant here, touching as it does upon the specificities of the science fiction genre. While expounding upon Darko Suvin's definition of "cognitive estrangement", Freedman refutes genre as providing cut-and-dry categorisation for texts:

genre is not a classification but an element or, better still, a *tendency* that, in combination with other relatively autonomous generic elements or tendencies, is active to a greater or lesser degree within a literary text[.]<sup>61</sup>

The relative autonomy displayed by a majority of narratives is perhaps easier to detect when viewing an example of the opposite: *Otherland* displays a combination of non-autonomous generic elements in complex, uncontextualised ways. This presents considerable challenge to the reader who is, according to E.D. Hirsch, attempting to locate ‘the underlying hermeneutical principle’ of the communication represented by the text.<sup>62</sup> While Hirsch’s contributions are to the field of philosophical hermeneutics, his focus on interpretation is of immediate relevance to narratological modes of thought, especially those branches giving primacy to the importance of the reader. When beginning his discussion of genre, he outlines Wittgenstein’s conception of parsing meaning as learning the rules of a game; correct understanding relies upon both halves of the communication comprehending the grammar of a language as well as the specific framework in which it is being issued.<sup>63</sup>

To return, briefly, to the example of *Old Twentieth*, the narrator’s situating of events on a post-war spaceship acts ‘to make certain relevant expectations operative, and thus (...) permit intelligibility.’<sup>64</sup> Haldeman’s narrative opens in 1915 on the Anzac Line during the Gallipoli Campaign but, unlike *Otherland*, quickly delivers generic elements that allow the reader to recognise and orient to the science fiction genre. This provides good illustration for Hirsch’s explanation of the mediation between speaker and interpreter, reader and text, etc.:

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<sup>61</sup> Carl Freedman, *Critical Theory and Science Fiction* (Middletown: Wesleyan University Press, 2000), p. 20. Google ebook.

<sup>62</sup> E. D. Hirsch, *Validity in Interpretation* (New Haven: Yale University Press, 1967), p. 113.

<sup>63</sup> *Ibid.*, pp. 70-71.

<sup>64</sup> David Fishelov, *Metaphors of Genre: The Role of Analogies in Genre Theory* (University Park: Pennsylvania State University Press, 1993), p. 90. Google ebook.

Sometimes, in the course of interpretation, he will find that his original type idea must be discarded or drastically revised, but usually he does not find this necessary. Almost always he begins with a type idea which is vaguer and broader than the intrinsic idea of the utterance and, in the course of interpretation, merely narrows this idea and makes it more explicit.<sup>65</sup>

This is the course inscribed by *Old Twentieth*. Information on the dust jacket acts as a ‘helpful orientation’ intimating the nature of the forthcoming text and, after a brief interval immersed in 1915, the narrative delivers information which confirms that initial ‘sense of the whole by which the interpreter can correctly understand any part in its determinacy.’<sup>66</sup> The reader’s expectations are effectively prompted and channelled.

*Otherland* would appear to be following an identical strategy but, rather than aiding the reader’s search for a central, driving generic code, the text explodes outward into a multiplicity of viable, operative genres. Hirsch states that ‘[o]ne of the main tasks of interpretation can be summarized as the critical rejection of extrinsic genres in the search for the intrinsic genre of a text.’<sup>67</sup> *Otherland* throws forth numerous genres, all of which might be considered ‘extrinsic’ to the series’ science fiction core, yet which contribute more than passing description or superficial set-dressing. The portions set within the Middle Country, for example, are revealed as incidents taking place within a simulated game world. While this might at first appear enough to “critically reject” the generic tendencies displayed by

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<sup>65</sup> Hirsch, p. 88.

<sup>66</sup> Ibid, p. 75 and p. 86.

<sup>67</sup> Ibid, p. 89.

these scenes, the textual shift is extensive enough to unseat and *disinvolve* any reader who is unwilling or unable to alter their own reading strategies to correspond with the new material. For example, Orlando and Fredericks must break into a wizard's tower in order to discover vital information and, in the process, must fight 'a very large watch-gryphon.'<sup>68</sup> The ensuing conflict is absorbing and well-paced, but only if the reader is able to recognise and willing to engage with generic codes popularised by the sword and sorcery fantasies of Robert E. Howard. Just such a shift is demonstrated in the text itself: "'Thargor, 'ware the beast!'" squeaked Fredericks, reverting to old habits under stress.'<sup>69</sup> The shift in register and reversion to Orlando's in-game name demonstrates not only the character's recognition of the 'distinct context' presented by the Middle Country but also his own proficiency in the rules governing it.<sup>70</sup>

The shifting of generic expectation continues throughout the main body of the series, finding greatest expression as the protagonists enter the Otherland network, become separated from each other, and wander through a variety of disparate simulations. A virtual environment dubbed 'The Kitchen' provides one of the best illustrations for the lack of single, cohesive generic tendency within *Otherland*:

Orlando had found it difficult from the beginning to understand the Kitchen's internal logic, and cartoon warfare proved just as incomprehensible. Some things seemed absolutely arbitrary: a hump on a camel's back, when thumped with a pirate's oar, simply popped up elsewhere on the camel, but a yam struck by a similar oar immediately became many little diapered baby

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<sup>68</sup> Williams, 1996, p. 359.

<sup>69</sup> *Ibid*, p. 359.

<sup>70</sup> Hirsch, p. vii.

yams. The salami-gondoliers, when ‘killed’ by a hard blow or a swipe from a cutlass, fell into a row of neat slices. But the pirates, who were presumably made from condensed gravy, seemed quite solid, even when wet.<sup>71</sup>

This portion of the series borrows directly from the comedy of cartoons in the 1940s, 50s, and 60s. The camel’s hump popping up elsewhere appears in *Sahara Hare*, a Looney Tunes episode first aired in 1955; likewise, Tom from *Tom and Jerry* has his tail sliced into neat, bloodless pieces in the 1966 episode, *Filet Meow*.<sup>72</sup> However, this child-friendly imagery and scenario come directly after a jungle simulation where human participants are the size of insects. The conflict within this portion more closely resembles the science fiction plots of Richard Matheson’s novel *The Shrinking Man* (1956) and the family film *Honey, I Shrunk the Kids* (1989); just as shrunken protagonists in these narratives fight off a black widow spider and scorpion (respectively) that vastly outsize them, Orlando battles against a centipede ‘at least a half-dozen times as long as [himself] (...) bearing down on him like a fanged monorail.’<sup>73</sup> Any reader attempting to locate a single, orienting generic tendency will find herself truly confounded by this combination, as the shift between ants ‘sever[ing a spider’s] head with jaws as sharp and competent as gardener’s shears’ and the attack of a canoe by living salad tongs is almost inconceivably large.<sup>74</sup>

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<sup>71</sup> Williams, 1998, pp. 488-489.

<sup>72</sup> Portions of *Sahara Hare*, dir. by Friz Freleng, (Warner Bros. Pictures and The Vitaphone Corporation, 1955), [on VHS] are available for viewing on Youtube <<https://www.youtube.com/watch?v=hBhlQgvHmQ0>> [accessed 6 February 2016]. The entirety of *Tom and Jerry*, dir. by William Hanna, Joseph Barbera, Gene Deitch and others, (MGM Cartoon Studio, Turner Entertainment Co. and Warner Bros. Studio, 1940-1952), [on DVD and digital formats] can be found online. Tom’s tail being sliced into pieces can be found in *Filet Meow*, dir. by Abe Levitow, (Metro-Goldwyn-Meyer, 1966), [on DVD and digital formats] and is available for viewing on Youtube <<https://www.youtube.com/watch?v=6GN1whDr8TA>> [accessed 12 November 2017].

<sup>73</sup> Williams, 1998, p. 164.

<sup>74</sup> *Ibid*, p. 101.

It is somewhat illuminating to note that *Star Trek*'s "holodeck episodes" are highly divisive amongst fans of the series, who alternately label them as 'pure wild fun' or 'phoning it in.'<sup>75</sup> While certain episodes are repeatedly mentioned as 'worth watching', I find it likely the holodeck presents significant difficulty for those viewers who are unable or unwilling to adjust their 'generic conceptions' to allow for story patterns extrinsic to the science fiction genre that dominates most episodes.<sup>76</sup> The virtual reality trope as deployed by *Star Trek*'s holodeck and *Otherland*'s eponymous network do not make for easy participation from the viewer/reader: the use of conflicting story matter to disorient rather than orient; the confounding of readerly 'horizon of expectations'; and the refusal to dictate a single set of genre conventions as the 'intrinsic genre'; each of these actively contribute to an experience antithetical to effortless immersion on behalf of the reader.<sup>77</sup> This is somewhat problematic in terms of *Star Trek*, the story of which positions mankind as an active, authoritative participant in the pursuit of knowledge. *Otherland*'s protagonists, on the other hand, are ignorant, powerless figures seeking answers in a virtual realm not built for them, and not under their control. Their lack of comfort with and immersion in the virtual environments perfectly reflects the reader's own reaction to the confusing material before them. Williams' series is therefore unique in its leveraging of the virtual reality trope; by undercutting immersion via the disjointed deployment of generic conventions, the narrative creates a *more* immersive experience, in that the reader's experience more perfectly simulates that of the characters within the novel.

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<sup>75</sup> Michael Weyer, 'Star Trek: Ranking the 20 Best Holodeck Episodes', *CBR* (4 January 2019), <<https://www.cbr.com/star-trek-best-holodeck-episodes-ranked/>> [accessed 30 July 2019] (para. 2 of 42) and Bad Thoughts, 'what don't I get about holodeck episodes', *The Trek BBS* (19 June 2013), <<https://www.trekbbbs.com/threads/what-dont-i-get-about-holodeck-episodes.296073/>> [accessed 30 July 2019] (para. 1 of 4).

<sup>76</sup> Steven Matish, 'Been watching Star Trek since TNG when it first broadcast.', *Quora* (4 December 2018), <<https://www.quora.com/Are-any-of-the-broken-holodeck-episodes-worth-watching-in-Star-Trek-They-seem-to-get-the-most-negative-comments>> [accessed 30 July 2019] (para. 1 of 2) and Hirsch, p. 75.

<sup>77</sup> Hirsch, p. 89.

## Chapter Two

### The Virtual as Potential in *The Hunger Games* Franchise

The second chapter of this thesis turns away from the computer mediated form of virtual reality and instead focusses upon the second of Ryan's definitions: virtual as potential. This is perhaps the most obscure connotation, eclipsed by the easily-grasped nature of the virtual as computer mediated or the virtual as illusion:

In scholastic philosophy, "actual" and "virtual" exist in a dialectical relation rather than in one of radical opposition: the virtual is not that which is deprived of existence but that which possesses the potential, or force, of developing into actual existence.<sup>78</sup>

Despite its complex nature, this form retains use in everyday language with such utterances as, "The room was virtually empty." The virtual, in this instance, is not that which is false or unreal, but rather thing which is capable of *becoming* real. Richard Norton's work regarding the art image is particularly apt when attempting to formulate an understanding of this aspect of the virtual:

Now when we create a virtual mode of reality, we specifically posit it somewhere in relation to actual reality and this is *between* what actually is and actually is not.<sup>79</sup>

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<sup>78</sup> Ryan, p. 18.

<sup>79</sup> Richard Norton, 'What Is Virtuality?', *The Journal of Aesthetics and Art Criticism*, 4-30 (1972), 499-505 (p. 500).

While this definition is applicable to computer mediated forms of the virtual – a simulated environment may bear relation to the ‘real’ world while remaining in itself ‘unreal’ – this chapter is more concerned with a particular state that, while not entirely ‘actual’, exerts active influence upon reality. Virtuality in this sense is a mental construct that, while not wholly accurate, is accurate *enough* to be considered operative. It is *potentially* actual. Again, Norton’s work is useful for visualising the liminal space in which this mode of virtual reality functions:

There is, of course, a point at which the correspondence with the referential (actuality) is so strained that we know it can no longer sustain the effect of being strong enough to be operative; and, lo, we are no longer in that mode of virtual reality at all but are thrown over into the cold, bare fact of the actual.<sup>80</sup>

The virtual as potential must reflect the reality of a situation *enough* in order to be strong enough to act in place of it. Should this reflection waver too far in either direction it loses its status as virtual, becoming either an outright falsehood or a reality in and of itself.

I have chosen to focus upon the working metaphor presented by reality television, a genre that provides the perfect illustration of the virtual as potential due to its interplay between the actual, the non-actual, and the somewhat actual. Reality television has been studied from a variety of positions, including those examining its historical context and development, political import, and ‘its representation of social identities (such as gender,

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<sup>80</sup> Ibid, p. 500.

sexuality, class, ethnicity and race)'.<sup>81</sup> No matter how diverse the position, a key element in these discussions is the genre's ability to expose the fluid boundary between fact and fiction:

This isn't to say that the concepts of 'fact' and 'fiction' have absolutely no meaning in themselves at all any more [sic]; but rather that (as Reality TV clearly demonstrates), since these terms are always under 'reconstruction' and negotiation, our definitions of the relationship between television and realism, 'fact' and 'fiction', and 'factual' and 'entertainment' shows must also adapt.<sup>82</sup>

Its existence as, and exposure of, the 'creative treatment of actuality' establishes reality television as an expression of virtuality, perhaps more virtual than other television genres because of its claim to the 'real' within 'the framework of performance'.<sup>83</sup> In portraying real people performing specific activities as opposed to trained actors performing a script, reality television depicts something akin to reality. The very act of filming, however, elevates the action to something beyond normal: 'the camera is not an observer but an intruder into the family home, *causing* dramatic ruptures by its very presence.'<sup>84</sup> Questions of authenticity must then be raised, asking whether any act of expression can be entirely natural when knowingly performed for a camera/audience. The events portrayed on reality television are virtual in that they occurred, and are therefore actual, and yet may not be, as reality television

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<sup>81</sup> Misha Kavka, *Reality TV* (Edinburgh: Edinburgh University Press, 2012), p. 3.

<sup>82</sup> Su Holmes and Deborah Jermyn, 'Introduction: Understanding Reality TV', in *Understanding Reality Television*, ed. by Su Holmes and Deborah Jermyn (London: Routledge, 2004), pp. 1-32 (p. 11).

<sup>83</sup> John Grierson's description of documentary, quoted in Richard Kilborn, *Staging the Real: Factual TV programming in the age of Big Brother* (Manchester: Manchester University Press, 2003), p. 123 and Kavka, *Reality TV*, p. 94.

<sup>84</sup> Kavka, p. 32.

purports, entirely spontaneous, natural or ‘real’ due to the manufactured nature of a television programme.

*The Hunger Games* franchise presents an interesting opportunity for study due to its portrayal of reality television’s (and therefore the virtual’s) ability to govern and control a populace. Unlike Koushun Takami’s *Batoru Rowairu* (1999) or William Golding’s *The Lord of the Flies* (1954), both of which depict children and young adults engaged in life-or-death struggles with each other and/or environmental hazards, *The Hunger Games* transports similar themes into the realm of reality television. Mark Lawson recognised this link in his 2014 article for the *Guardian*, in which he describes the series as a ‘savage satire of Cowellesque television’, referring to writer, producer and competition judge Simon Cowell for his role in popularising numerous reality talent formats, including *Pop Idol*, *The X-Factor*, and *America’s/Britain’s Got Talent*.<sup>85</sup> In focussing upon ‘a futuristic dictatorship where teenagers compete literally to the death in globally televised blood sports’, Suzanne Collins’ novels connect questions of viewership and influence with the already-complex figure of the child who kills.<sup>86</sup>

Over the course of this chapter, I will examine the ways in which the fictional Hunger Games take advantage of the cultivating aspects observed of television, utilising its virtual nature to influence the attitudes and perspectives of viewers. Thereafter, I examine how the actions of Katniss Everdeen and Peeta Mellark result in the generation of a second virtuality. It is my position that the fatally competitive nature of the Games and the ‘star-crossed lovers’ storyline represent conflicting narratives, each capable of exerting influence over Panem, and that the overlapping, contradictory nature of these virtual realities render Katniss Everdeen an

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<sup>85</sup> Mark Lawson, ‘I Can’t Sing! to The Hunger Games: how reality TV broke out of the box’, *Guardian*, 27 March 2014, <<https://www.theguardian.com/stage/2014/mar/27/i-cant-sing-the-hunger-games-reality-tv-harry-hill>> [accessed 18 July 2017] (para. 3 of 13).

<sup>86</sup> Ibid, (para. 2 of 13) and, for further discussion of the child depicted in the role of killer: Riley McGuire, ‘Queer Children, Queer Futures: Navigating *lifedeath* in *The Hunger Games*’, *Mosaic: A journal for the interdisciplinary study of literature*, 2-48 (2015), 63-7.

unreliable narrator. In taking conflict between virtual realities as its central concern and narrating from the standpoint of one participating in both virtualities, *The Hunger Games* franchise dramatises the concept of dramatic irony itself, resulting in a narrative that makes the mechanisms behind unreliable narration eminently visible.

## Section One: The Hunger Games as Virtual Reality

*The Hunger Games* franchise consists of three novels published in 2008, 2009, and 2010, as well as four films released at yearly intervals between 2012 and 2015. The series is recognised as dystopian science fiction, largely due to an early reference of Panem being ‘the country that rose up out of the ashes of a place that was once called North America’ after a number of ecological disasters and war for control of the remaining resources.<sup>87</sup> This transition takes place in the distant past of the story, however; the main action begins 74 years after an uprising in which thirteen Districts attempted to overthrow a tyrannical Capitol. This uprising fails, the social structure of Panem remains the same and, as punishment for insurrection, the Capitol institutes the Hunger Games, an annual event for which each District is forced to supply one male and one female tribute. These tributes, all aged between twelve and eighteen, are conveyed to a massive arena where they kill each other until only one remains.

Of considerable interest to this thesis is the method of control exerted by the Games. Although first and foremost a means of torture enacted annually upon twenty-four young people from the Districts, the Games’ primary influence stems from its status as a television show. Each element is aired live to the entire nation, from the Reaping (the selection of tributes via random draw), to the Tribute Parade (akin to the Opening Ceremonies at the Olympics), interviews, and the Games themselves. Furthermore, the event is styled as ‘a festivity’ in both the Districts and the Capitol, effectively preventing the populace from ignoring the tournament being broadcast to their screens.<sup>88</sup> Rather than spiriting away

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<sup>87</sup> Suzanne Collins, *The Hunger Games*, UK edn (London: Scholastic, 2008), p. 21.

<sup>88</sup> *Ibid*, p. 22.

twenty-four young people to unknown ends, the Capitol keeps their actions – and deaths – front and centre in the eyes of the nation:

Taking the kids from our districts, forcing them to kill one another while we watch – this is the Capitol’s way of reminding us how totally we are at their mercy. How little chance we would stand of surviving another rebellion. Whatever words they use, the real message is clear. “Look how we take your children and sacrifice them and there’s nothing you can do.”<sup>89</sup>

The creation of televised material from unscripted events aligns the Games closely with reality television as it exists in the real world: those who have glimpsed reality television only in passing will most likely recognise the environment of ‘*competition* under conditions of *comprehensive surveillance*’:<sup>90</sup>

Since 1999, countless reality TV programmes have followed the basic model put forward by *Big Brother*: start with a group of people in a constructed environment and whittle them down until only one winner is left.<sup>91</sup>

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<sup>89</sup> Ibid, p. 22.

<sup>90</sup> Kavka, p. 76.

<sup>91</sup> Ibid, p. 76.

Here, the only significant difference between the Hunger Games and its real-world analogues is the manner in which contestants are whittled out of the running: Tributes must kill or be killed while the population of Panem watches.

*The Hunger Games* (2012) film provides some insight into the imagery produced and broadcast by the Games. During her train journey to the Capitol, Katniss watches two announcers recapping scenes from a previous competition: while the men discuss the aesthetics of that year's arena, a pair of young men grapple each other in an altercation that culminates in one bashing the other to death with a bloody brick.<sup>92</sup> Somewhat later in the film, in a scene which has become known as 'The Cornucopia Bloodbath', fast cuts and shaky camera techniques convey a rush of action as no fewer than twelve tributes are slaughtered within the first minutes of the Games' commencement. The viewer witnesses the intensity of Marvel's expression as he hacks repeatedly into his fallen victim, the easy motion with which Cato opens someone's stomach, and Glimmer hammering at someone with an unseen implement, blood trailing in its wake.<sup>93</sup> The first person limited narration of the novel somewhat cushions the reader's exposure to this element of the broadcasts, yet film viewers are given frequent insight into the brutal nature of the Games, which constitute an annual medley of suffering and death performed by children upon children.

As observed in the work of Rose and Wood, 'the notion that the audience actively negotiates meaning from an advertised text is directly applicable to other media, including reality television.'<sup>94</sup> The images that make up the Games are not, therefore, neutral images, nor even 'merely' entertaining or horrifying. Rather, television in general and reality television in particular operates as 'a media form that extracts visuals and narratives from

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<sup>92</sup> *The Hunger Games*, dir. by Gary Ross (Lionsgate Films, 2012), available on Netflix [accessed 23 August 2019].

<sup>93</sup> *Ibid.*

<sup>94</sup> Randall L. Rose and Stacy L. Wood, 'Paradox and the Consumption of Authenticity through Reality Television', *Journal of Consumer Research*, 2-32 (2005), 284-96 (p. 287).

archives of established meanings’, reinforcing these meanings with each repetition.<sup>95</sup> In terms of the fictional population of Panem, viewers of the Hunger Games are witness to acts of cruelty, betrayal, and murder. As Lucia Palmer observes:

These routine images may not be created with sinister intents, but regardless of intent, their repetition amalgamates and has material hegemonic effects on society. (...) The stories and images of reality television are naturalized [sic] even more, because they are presented, and thus legitimated, as natural presentations of the “truth”.<sup>96</sup>

Repetition of the same images reinforce the meaning *of* images in the minds of viewers, producing a very specific ‘archive of archetypal characters (...) and narratives’.<sup>97</sup> The Hunger Games pit every district against each of the others, as well as every individual tribute against all others. The notion of cooperation becomes less and less discernible with each iteration, each death. Furthermore, the nature of the competition ensures that tributes very skilled in violence, deception or manipulation are more likely to win. This verbalised most clearly in the 2013 *Catching Fire* film, when Katniss observes, ‘Nobody decent ever wins the Games.’<sup>98</sup> While there are two notable exceptions to this remark – Annie Cresta, who won ‘because she was the best swimmer’ and Peeta Mellark, whose decency is emphasised throughout the franchise – only those willing to kill, deceive or manipulate are likely to

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<sup>95</sup> Lucia Palmer, ‘Sluts, Brats, and Sextuplets: The Dangers of Reality Television for Children and Teen Participants’, *Studies in Popular Culture*, 1-36 (2013), 123-43 (p. 126).

<sup>96</sup> *Ibid*, p. 125.

<sup>97</sup> *Ibid*, p. 125.

<sup>98</sup> *The Hunger Games: Catching Fire*, dir. by Francis Lawrence (Lionsgate Films, 2013), available on Netflix [accessed 31 August 2019].

survive the Games.<sup>99</sup> The Hunger Games therefore broadcast a very specific story: a narrative that naturalises the impossibility of cooperation using a cast of competitors willing to deceive, manipulate, and murder their way to victory. Those unwilling to participate in this narrative are likely to perish, further encouraging participation via the desire to survive.

By airing the same types of imagery year after year, the Games take advantage of the hegemonic effects that have been observed of televisual material. Cultivation theory, a line of thinking originated by George Gerbner and emerging from research performed regarding mass communication, posits that ‘people who watch television frequently are more likely to be influenced by the messages from the world of television’; and therein lies the crucial link between the Hunger Games as reality television and Richard Norton’s definition of the virtual:<sup>100</sup>

Note that a virtual thing only comes to its effectiveness only because an actual thing was established before it as a point of comparison, because the actual thing itself is not in effect, and because the virtual reality is working in place of the actual.<sup>101</sup>

The Hunger Games, as a televised event aired annually for many decades, broadcasts the message of a single victor triumphing at the cost of all others, a construct that reflects the current social organisation of Panem: the Capitol reigns over the twelve Districts, receiving products of the population’s labour in exchange for meagre amount of food and fuel. The Games, however, were only established after ‘the Dark Days, the uprising of the districts

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<sup>99</sup> Suzanne Collins, *The Hunger Games, Book Two: Catching Fire*, UK edn (London: Scholastic, 2009), p. 419.

<sup>100</sup> Author unknown, ‘Cultivation Theory’, *Communication Theory*, (Date unknown), <<http://communicationtheory.org/cultivation-theory/>> [accessed 3 July 2017] (para. 1 of 8).

<sup>101</sup> Norton, p. 499.

against the Capitol.<sup>102</sup> At one point the entire population of Panem attempted to work together in order to overthrow their authoritarian government. Their failure triggered several effects. Firstly, the Capitol's victory refuted the effectiveness of a reality in which cooperation between districts could produce advantageous results, in that it prompted the annual, ritualised execution of twenty-three young people. Secondly, the Games themselves are used in order to capitalise on the 'potent socialising effect' of television, working to reinforce the prevailing social structure.<sup>103</sup> The Games therefore represent a *virtual* state of affairs acting in place of a long-ago *actual* state of affairs, exerting influence over reality and reaffirming its own effectiveness as a virtual replacement.

James Shanahan and Michael Morgan, summarising George Gerbner's original research into the recursive relationship between any message and the society in which it was generated, describe precisely the relationship between the Hunger Games broadcasts and Panem:

The symbolic environment [which constitutes culture] reveals social and institutional dynamics, and because it expresses social patterns it also cultivates them. This, then, is the original meaning of "cultivation" – the process within which interaction through messages shapes and sustains the terms on which the messages are premised.<sup>104</sup>

The Hunger Games projects the virtual reality desired by the government of Panem: the influential and potential state of affairs wherein "the one triumphs at the expense of the

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<sup>102</sup> Collins, 2008, p. 21.

<sup>103</sup> Palmer, p. 125.

<sup>104</sup> James Shanahan and Michael Morgan, *Television and its Viewers: Cultivation Theory and Research* (Cambridge: Cambridge University Press, 1999), p. 12. Google ebook.

many.” Because ‘world view and perceptions [of frequent television viewers] start reflecting what they repeatedly see and hear on television’, this virtuality exerts more and more influence over time until, after 74 years of viewing the same message, the population can no longer “see” the benefit of cooperation between districts:<sup>105</sup>

[The] weekly lecture on the history of Panem [is] mostly a lot of blather about what we owe the Capitol. I know there must be more than they’re telling us, an actual account of what happened during the rebellion. But I don’t spend much time thinking about it. Whatever the truth is, I don’t see how it will help me get food on the table.<sup>106</sup>

It is precisely the wording of this final sentence – ‘I don’t see’ – that indicates the Capitol’s authoritarian regime has successfully integrated the population into reality as it wishes them to perceive it. The cumulative effect of seven decades’ worth of televised Hunger Games have exerted, and continue to exert, influence over the manner in which the Districts view and interact with the world.

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<sup>105</sup> Author unknown, ‘Cultivation Theory’, (para. 1 of 8).

<sup>106</sup> Collins, 2008, pp. 50-51.

## Section Two: Conflicting Virtual Realities

We come, then, to the introduction of Katniss Everdeen to a system that both projects and maintains a certain state of affairs: a virtual reality. From the moment she volunteers in place of her younger sister, Katniss contradicts many of the messages that Panem's government have attempted to make ubiquitous. When Peeta Mellark is called as male tribute for District 12, she observes how neither of his brothers take his place: 'This is standard. Family devotion only goes so far for most people on reaping day. What I did was the radical thing.'<sup>107</sup> This is further borne out by the televised footage of twelve year-old Rue's selection in District 11: 'There's no one willing to take her place.'<sup>108</sup> In volunteering on behalf of her sister, Katniss generates about herself a message of selflessness, loyalty, and compassion. She does this without forethought or intent but, as is observed long after the fact, her first act in the Games is one of the most powerful in the legend that springs up around her:

"I want everyone to think of one incident where Katniss Everdeen genuinely moved you. (...) I want to hear one moment where *she* made you feel something real."

Quiet stretches out and I'm beginning to think it will never end, when Leevy speaks up. "When she volunteered to take Prim's place at the reaping. Because I'm sure she thought she was going to die."<sup>109</sup>

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<sup>107</sup> Ibid, p. 31.

<sup>108</sup> Ibid, p. 55.

<sup>109</sup> Suzanne Collins, *The Hunger Games, Book Three: Mockingjay*, UK edn (London: Scholastic Press, 2010), pp. 87-88.

Katniss' act is perceived as an act of self-sacrifice; by voluntarily submitting herself to the Games, she subverts the forcible participation normally produced by a random draw.

From the beginning, then, Katniss represents the opposite of what the Games depict as the 'reality' of life in Panem. This is amplified during the course of the competition when she allies with Rue, whose general lack of the traits deemed advantageous in the arena – size, strength, ruthlessness – make her a poor asset when compared to archetypal competitors. In choosing her as an ally, Katniss not only enhances the selfless, protective quality originally generated when volunteering in place of her sister, she also broadens the boundaries for whom she is willing to sacrifice. Rue is neither blood relative nor even the other tribute from District 12, yet these facts don't prevent Katniss from aiding her, nor do they soften the blow of her death. Both of these events – the extending of aid and the mourning of a so-called 'opponent' – actively refute the societal divisions established by the Capitol and reinforced each year by televised broadcasts.

It is at this juncture that the virtual element of the Games is most easily observed. Following Rue's death, Katniss receives the gift of a loaf of bread:

It had been meant for Rue, surely. But instead of pulling the gift when she died, [District 11 had] authorized Haymitch to give it to me. As a thank you? Or because, like me, they don't like to let debts go unpaid? For whatever reason, this is a first. A district gift to a tribute who's not your own.<sup>110</sup>

The gifting of aid from members of one district to another mirrors Katniss' own attempt to aid Rue in the arena: an act of spontaneous cooperation across the boundaries imposed by the

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<sup>110</sup> Collins, 2008, p. 289.

Capitol. Katniss' display of selflessness transfers through the broadcast imagery and affects the outside world.

While the interactions with Rue represent one method by which Katniss counteracts the virtual reality projected and reinforced by the Games, her interactions with Peeta Mellark, the male tribute from District 12, have an even greater overall effect. This particular strain of influence begins as a side-effect of the attempt to gain sponsors, who are allowed to buy aid for tributes while the Games are ongoing:

You really wanna know how to stay alive? You get people to *like* you. Oh! Not what you were expecting. When you're in the middle of the Games and you're starving, or freezing – some water, a knife, or even some matches can mean the difference between life and death. And those things only come from sponsors. And to get sponsors, you have to make people like you.<sup>111</sup>

When considering her chances for survival, Katniss gives very little thought to how her personality might impact the competition; she only mentions that 'win[ning] favor [sic] with the crowd' and 'appeal[ing] to the crowd' are important without understanding why.<sup>112</sup> Nevertheless, she is rendered likeable through the actions of Peeta Mellark. During the televised interviews, Peeta confesses he's had a crush on a particular girl for as long as he can remember, only revealing he means Katniss once the interviewer tells that him winning the Games might help win her over.<sup>113</sup> For the audience, this proves to be irresistible:

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<sup>111</sup> *The Hunger Games*, dir. by Gary Ross (Lionsgate Films, 2012), available on Netflix [accessed 23 August 2019].

<sup>112</sup> Collins, 2008, p. 80 and p. 141.

<sup>113</sup> *Ibid*, pp. 157-8.

“He made me look weak!” I say.

“He made you look desirable! And let’s face it, you can use all the help you can get in that department. You were about as romantic as dirt until he said he wanted you. Now they all do. You’re all they’re talking about. The star-crossed lovers of District Twelve!”<sup>114</sup>

Peeta’s confession not only draws the public’s attention but also introduces an entirely unique element to the context that is the Hunger Games: unrequited love. A new storyline and new roles are added to the ‘archive of archetypal characters (...) and narratives’ that audience members perceive and extract from the Games’ imagery: he and Katniss are lovers trapped in tragic circumstances whereby one can only survive if the other is killed.<sup>115</sup> These roles are in stark contrast to the more typical imagery broadcast by the competition – transient alliances, betrayal, brutal decisions resulting in a single victor – and yet the narrative proves too appealing to the audience for the Gamemakers to cut short.

Katniss and Peeta are, therefore, propelled into the unique position of enacting a love story amidst the Hunger Games, essentially generating a narrative that directly contradicts the concepts reinforced annually on television. At its core, the Hunger Games project and uphold a virtual reality designed to *bolster* divisions set in place by the reigning authoritarian government. A love story, on the other hand, represents the *dissolution* of boundaries, as evidenced by acts of increased cooperation, closer understanding, and the sharing of resources. In using the ‘young love’ storyline to distract rioting populations from Rue’s

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<sup>114</sup> Ibid, p. 164.

<sup>115</sup> Palmer, p. 125.

death, Gamemakers introduce a number of incongruous principles to the nation via the medium of reality television. For example, when Katniss fetches medicine ‘to heal Peeta’s leg’, endangering herself in the process, the Games unknowingly endorse the concept of altruism.<sup>116</sup> Beyond that, successive images of the ‘lovers’ hunting, eating, and talking together project the effectiveness and desirability of working together as a team.

Cooperation and victory in the face of insurmountable odds are exactly the concepts the government have, until the events of *The Hunger Games*, successfully deterred and defused within Panem’s population. However, the problems presented by the ‘star-crossed lovers’ narrative are greatly exacerbated by the Gamemakers’ introduction of a mid-competition caveat: ‘Under the new rule, both tributes from the same district will be declared winners if they are the last two alive.’<sup>117</sup> In attempting to boost emotional investment in Katniss and Peeta’s televised plight (and therefore distract the nation from widespread rioting following Rue’s death), the government consequentially risk legitimising the lovers’ strategy. Every previous iteration of the competition has glorified a single contestant at the expense of all others, evincing the tactics required to be the last tribute standing. By opening the possibility of a *pair* of victors, the Games unintentionally advocate success via cooperation as a valid tactic. Not even revoking the new rule is enough to defuse this tactic: rather than accepting the decree that, as the last two tributes standing, she and Peeta must turn on each other, Katniss threatens a double suicide using poison berries. Thus, the ‘star-crossed lovers’ narrative is taken to its extreme limits, demonstrating cooperation to the point of self-sacrifice. When forced to choose between the underlying message that ‘when you cooperate, the odds improve’ or ‘when the districts fight, no one wins’, the Gamemakers and the government unwillingly select the former.

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<sup>116</sup> Collins, 2008, p. 332.

<sup>117</sup> Ibid, p. 295.

Crucially, the combination of broadcasting the ‘star-crossed lovers’ narrative and the subsequent crowning of those lovers as mutual victors crystallises that narrative into its own virtual reality. Throughout the 74<sup>th</sup> Hunger Games, Katniss Everdeen’s actions prove capable of influencing the world of the audience, as when her tender actions towards Rue prompt the gift of bread from District 11. Not until these actions culminate in a shared victory between herself and Peeta Mellark, however, are they validated as a force capable of producing change. It is likely this very effect that Panem’s authoritarian government hoped to defuse in revoking the caveat allowing for two victors: had either of the lovers turned on the other, the original message of the Games would have been proven triumphant, diminishing the idea that cooperation can result in success:

Funny, in the arena, when I poured out those berries, I was only thinking of outsmarting the Gamemakers, not how my actions would reflect on the Capitol. But the Hunger Games are their weapon and you are not supposed to be able to defeat it.<sup>118</sup>

In undermining the core structure of the Games, Katniss lessens the influence exerted by the original broadcasts. Moreover, her actions effectuate a *second* virtual reality, antithetical to the first. The remainder of *The Hunger Games* series can be characterised as a contest between these virtualities, with shows of cooperation and altruism competing against various elements attempting to increase the message that self-preservation is more desirable.

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<sup>118</sup> Ibid, p. 435.

### Section Three: The (Unreliable) Narration of Multiple Virtual Realities

This chapter has so far examined the manner in which *The Hunger Games* franchise revolves around the conflict between two virtual realities, each generated by the airing of televised material to the nation of Panem. However, I turn now to *The Hunger Games* text in order to more closely examine the effect of this framing upon Katniss Everdeen as narrator. It is my position that, by exposing the reader to a single state of affairs filtered through the perceptions generated by two virtual realities, the text renders Katniss Everdeen an unreliable narrator. Furthermore, that this effect is achieved via the dramatisation of contradictory virtual realities emphasises the mechanisms by which dramatic irony is produced within a text.

Katniss' status as an unreliable narrator stems almost entirely from her perceptions regarding Peeta Mellark; from the moment they are chosen as tributes, her thinking is characterised by an odd doubling effect. On the one hand, she frequently casts her mind back to the manner in which Peeta threw her several loaves of bread when she was on the brink of starvation while, on the other, insists that he '*is planning how to kill [her]*':<sup>119</sup>

He hasn't accepted his death. He is already fighting hard to stay alive. Which also means that kind Peeta Mellark, the boy who gave me the bread, is fighting hard to kill me.<sup>120</sup>

While this doubled impression doesn't immediately establish Katniss as an unreliable narrator, it does serve to highlight her indoctrination into the modes of thought disseminated

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<sup>119</sup> Ibid, p. 88.

<sup>120</sup> Ibid, p. 73.

by the Games. From the moment she volunteers, the rules of her reality are amplified by the structure and immediacy of the competition: the survival of one tribute depends upon the death of all others.

This knowledge generates a considerable force affecting her perception and judgement, as evidenced in her reaction to Peeta's confession during the televised interviews. First, she feels as though he's undermined the level of competence she has thus far projected to the audience.<sup>121</sup> Then, when she grasps that he 'just gave [her] something [she] could never achieve on [her] own', she buys into the narrative as a tactic:<sup>122</sup>

And if the audience really thinks we're in love ... I remember how strongly they responded to his confession. Star-crossed lovers. Haymitch is right, they eat that stuff up in the Capitol. Suddenly I'm worried that I didn't react properly.

'After he said he loved me, did you think I could be in love with him, too?' I ask.

'I did,' says Portia. 'The way you avoided looking at the cameras, the blush.'

The others chime in, agreeing.

'You're golden, sweetheart. You're going to have sponsors lined up around the block,' says Haymitch.<sup>123</sup>

The Hunger Games mentality prompts Katniss to interpret Peeta's words as a ploy to gain advantage over an opponent: 'I'm torn now between thinking I've been used and thinking

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<sup>121</sup> Ibid, p. 163.

<sup>122</sup> Ibid, p. 164.

<sup>123</sup> Ibid, pp. 165-6.

I've been given an edge.'<sup>124</sup> For her, the 'star-crossed lovers' narrative is a tool designed to play on the audience's sympathies and buy them sponsors.

From the moment she decides to participate in the narrative, Katniss is constantly re-negotiating her position within not one, but two virtual realities. On one hand, she has grown up understanding the Games operate on the premise of twenty-four young people entering an arena and only one exiting alive: 'Peeta and I know the other's survival means our own death. How do you sidestep that?'<sup>125</sup> Simultaneously, the 'star-crossed lovers' dynamic represents a second virtual reality operating alongside and within the first. Katniss is still locked inside the arena and the virtual realm it represents, yet she must behave differently from other tributes in order to continue holding crowd favour:

If I want to keep Peeta alive, I've got to give the audience something more to care about. Star-crossed lovers desperate to get home together. Two hearts beating as one. Romance.<sup>126</sup>

Whereas the only concern for an average tribute is to kill others and avoid death themselves, Katniss dedicates considerable thought and energy toward continuing a charade for an audience she cannot see. Within the bounds of one virtuality, Peeta must die in order for her to exit the arena and return home. Under the rules of the other, Katniss must go to great lengths to keep him alive.

Peeta, on the other hand, gives very little concession to the pressures exerted by the Games. This is illustrated somewhat by a conversation he has with Katniss on the evening before the competition:

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<sup>124</sup> Ibid, p. 165.

<sup>125</sup> Ibid, p. 136.

<sup>126</sup> Ibid, p. 316.

‘I don’t want them to change me in there. Turn me into some kind of monster that I’m not. (...) I keep wishing I could think of a way to ... to show the Capitol they don’t own me. That I’m more than just a piece in their Games[.]’<sup>127</sup>

Although imprecisely expressed, Peeta’s desire to be ‘more than just a piece in their Games’ confirms his view of the Hunger Games as a tool being wielded. Many of his actions go against the underlying incentive to kill, including ‘how he misled the Careers about [Katniss], (...) fought Cato to let [her] escape’ and even his willingness to consume poison berries in the final moments of the competition.<sup>128</sup> It is entirely possible to view these acts as a scheme, albeit a risky one, to survive the Games – his initial confession of love, after all, gains him the protection of the Careers in the early stages and Katniss’ aid in the late – and yet the very end of the novel makes it clear he was at no point *acting*, for the sake of the audience or otherwise:

‘So, what you’re saying is, these last few days and then I guess ... back in the arena ... that was just some strategy you [and Haymitch] worked out.’

(...)

‘It was all for the Games,’ Peeta says. ‘How you acted.’<sup>129</sup>

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<sup>127</sup> Ibid, pp. 171-2.

<sup>128</sup> Ibid, p. 441.

<sup>129</sup> Ibid, p. 452.

Peeta's gradual comprehension highlights that everything on his part was genuine: the confession of love, the tender acts and words directed toward Katniss, the willingness to commit suicide rather than live without her. His actions, although frequently viewed with suspicion, are unmotivated by any desire to fulfil the objective of the competition.

The text is therefore structured in such a way that it simultaneously nurtures and depends upon a sense of dramatic irony. Katniss, in adhering almost entirely to the mentality of the Games, cannot perceive that Peeta is acting without semblance. The reader, on the other hand, is not bound by the same set of influences and, 'sens[ing] a discrepancy between a reasonable interpretation of the story and the account given by the narrator', is able to form her own ideas regarding Peeta's motivations.<sup>130</sup> If and when the reader arrives at an 'awareness of the situation (... that) differs substantially from that of the characters', a sense of dramatic irony is established.<sup>131</sup> At the same time, however, the reader will be unable to arrive at this conclusion if she is unable to grasp that Peeta is being driven by the influence of the 'star-crossed lovers' narrative as opposed to that of the Games.

*The Hunger Games* text, therefore, fixes upon the mechanisms by which dramatic irony is developed within a narrative and makes them visible through the metaphor presented by virtual reality. In this case, the Hunger Games virtuality and the 'star-crossed lovers' virtuality could stand for any opposing state of affairs, to one of which the narrator conforms while the reader gradually senses the other. To take one of the most famous examples, the governess in Henry James' 1898 novella, *The Turn of the Screw*, perceives a potential state of affairs in which her young charges are being haunted by the ghosts of two former employees, Miss Jessel and Peter Quint. The reader, however, is situated in such a way as to be able to sense *two* potential scenarios: either the governess is correct and the children are being

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<sup>130</sup> Seymour Chatman, *Story and Discourse* (London: Cornell University Press, 1978), p. 233.

<sup>131</sup> Editors of Encyclopædia Britannica, 'Dramatic Irony: Literary and Performing Arts', in *Encyclopædia Britannica*, rev. by J. E. Luebering, (2019), <<https://www.britannica.com/art/dramatic-irony>> [accessed 29 August 2019] (para. 1 of 3).

haunted, or the governess is mentally unsound and all evidence of hauntings are actually hallucinations. The narrator is rendered unreliable due to the reader's inability to decide which of these potential states represents the actual situation.

This use of the virtual within *The Hunger Games* is particularly germane due to its production of unreliable narration without reference to an implied author. Both of these components – the unreliable narrator and the implied author – were originally conceived by Wayne C. Booth in the 1961 volume, *The Rhetoric of Fiction*:

For lack of better terms, I have called a narrator *reliable* when he speaks for or acts in accordance with the norms of the work (which is to say, the implied author's norms), *unreliable* when he does not.<sup>132</sup>

Since this initial formulation, the implied author has been used again and again to account for the manner in which a narrator is made 'unreliable' in the eyes of the reader. Seymour Chapman holds that the 'unreliable narrator is at virtual odds with the implied author; otherwise his unreliability could not emerge.'<sup>133</sup> Shlomith Rimmon-Keenan, too, declares her belief 'that this concept is important and often crucial in determining the reader's attitude to such a major component as the narrator.'<sup>134</sup> That she briskly follows this statement with the bracketed qualification 'mostly in cases of unreliability' is, to my mind, highly suggestive of the notion's relevance to narration in general.<sup>135</sup>

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<sup>132</sup> Wayne C. Booth, *The Rhetoric of Fiction* (London: Penguin, 1961), pp. 158-9.

<sup>133</sup> *Ibid.*, p. 149.

<sup>134</sup> Shlomith Rimmon-Keenan, *Narrative Fiction: Contemporary Poetics*, 2<sup>nd</sup> edn (London: Routledge, 2003), p. 89.

<sup>135</sup> *Ibid.*, p. 89.

Rather, my own views are more in line with those of Ansgar Nünning, a literary scholar who has dismissed the implied author as ‘a critical passepartout that is itself notoriously ill-defined.’<sup>136</sup> While I hesitate to condemn the implied author in such definitive terms, my own observations regarding virtuality in *The Hunger Games* text uphold Nünning’s conclusion that the concept is unnecessary when attempting to explain unreliable narration:

Unreliable narration can be explained in terms of dramatic irony because it involves a contrast between the narrator’s view of the fictional world and the divergent state of affairs which the reader can grasp.<sup>137</sup>

Instead of hinging the perception of multiple, potential interpretations upon a theoretical composite that supposedly ‘establishes the norms of the narrative’, Nünning grants primacy to the reader’s ability to sense discrepancies between fictional events and the narrator’s perspective on them. Collins’ trilogy, in dramatising the elements inherent to dramatic irony itself, would appear to uphold this view, given Katniss’ inability to accurately interpret Peeta’s motivations due to her own adherence to the mentality of the Games.

*The Hunger Games* franchise therefore acts not only as an interrogation of reality television and its ability to generate, uphold, and proliferate virtual realities, but also as a narrative that elevates the mechanics of dramatic irony to the status of plot. The fictional virtualities of the Games and, later, that of the ‘star-crossed lovers’ narrative make it clear how perception is immanently fallible depending upon the *modus operandi* to which one

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<sup>136</sup> Ansgar Nünning, “‘But why will you say that I am mad?’ On the Theory, History, and Signals of Unreliable Narration in British Fiction”, *AAA: Arbeiten aus Anglistik Amerikanistik*, 1-22 (1997), 83-105 (p. 95).

<sup>137</sup> *Ibid.*, p. 87.

attributes the most weight. Despite performing many actions that contradict the narrative of 'one tribute surviving at the cost of all others', Katniss' mentality is repeatedly characterised by those very thought patterns. As a consequence, she is unable to recognise the motivations of one who has internalised a different worldview. The reader is therefore manoeuvred into recognising the presence of multiple, contradictory narratives as well as the unreliability that results from a narrator's inability to perceive more than one potential state of affairs.

## Chapter Three

### The Virtual as Illusion in Jeff Noon's *Vurt*

The final definition of the virtual in Ryan's work developed directly from the virtual as potential: where classical philosophy concentrates upon the 'distinction between potential and actual existence' without foreclosing the possibility of one becoming the other, later use transformed this relationship into outright binary opposition.<sup>138</sup> In this particular framing, the virtual is that which is *not* real, and is therefore fake, illusory, feigned. Although Ryan links this particular concept to the mirror image, the metaphor of dream appears to me as apt a choice for consideration:

no matter how "bizarre" the image may be, it is experienced as normal and the dreamer has no choice but to believe it. Indeed, in this respect dreams approximate living conditions in the waking world: they are author-less, unmediated by language, and they unfold intrepidly in a world no different from the waking world with respect to the authenticity of the experience.<sup>139</sup>

Although convincingly experienced at the time, dreamed occurrences are in themselves purely imagined episodes; while the material may bear resemblance to actual situations, the content itself is incapable of becoming real and therefore lacks proper status as a potential

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<sup>138</sup> Ryan, p. 18.

<sup>139</sup> Bert O. States, 'Bizarreness in Dreams & Other Fictions', in *The Dream and the Text: Essays on Literature and Language*, ed. by Carol Schreier Rupprecht (Albany: State University of New York Press, 1993), pp. 13-31 (p. 21).

state of actual affairs. Similarly, as a product of the sleeping mind, dreams defy classification of the virtual as computer mediated. Just as the image in a mirror is author-less, unmediated by language, and constituent of an authentic experience despite its own inauthenticity, so too are dreams an illusory, unreal reflection of the dreamer.

Not so of the textual dream: that is, authored dreams recorded into narrative by way of language. The dream as it exists on the page is very different from those experienced in the real world, yet provides just as interesting an opportunity for consideration. The textual dream is one of double illusion: a fictional fiction of a fictional character or, as observed in the title Clark M. Zlotchew's 1982 article, 'Fiction Wrapped In Fiction'.<sup>140</sup> While the dreams of reality 'consist of a stimulus provoking (...) the translation of th[at] initial stimulus into images', the dreams of fiction are narrative devices, 'surrounded in the adjacent text by explicit labels, framing and interpretation.'<sup>141</sup> At their most fundamental level, '[d]reams are read as framing mechanisms by which the author chooses to convey something that would lose its desired effectiveness if directly stated, simply represented, or incorporated into the main narrative stream.'<sup>142</sup> In other words, the literary dream is one method by which an author may convey information perceived by the reader as originating in a sphere separate from that of the novel's fictional real world. They provide avenues by which recent events, possible future actions, and the unconscious life of characters are given new dimension.

Nowhere in science fiction text is the expression of dream as virtual reality so explicit as in Jeff Noon's 1993 novel, *Vurt*. The narrative's 'lack of immediately obvious computer networks' leads Andrew M. Butler to label it 'cyberpunk-flavored' as opposed to 'post-

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<sup>140</sup> Clark M. Zlotchew, 'Fiction Wrapped In Fiction: Causality in Borges and in the "Nouveau Roman"', *INTI*, 15 (1982), 25-32 (p. 25).

<sup>141</sup> Laurence M. Porter, 'Real Dreams, Literary Dreams, and the Fantastic in Literature', in *The Dream and the Text: Essays on Literature and Language*, ed. by Carol Schreier Rupprecht (Albany: State University of New York Press, 1993), pp. 32-47 (p. 33 and p. 38).

<sup>142</sup> Carol Schreier Rupprecht and Kelly Bulkley, 'Reading Yourself to Sleep: Dreams in/and/as Texts', in *The Dream and the Text: Essays on Literature and Language*, ed. by Carol Schreier Rupprecht (Albany: State University of New York Press, 1993), pp. 1-10 (p. 2).

cyberpunk', a category in which he situates every cyberpunk-themed text written after Bruce Sterling's 1986 anthology *Mirrorshades*.<sup>143</sup> However, I find this identification potentially misleading, as it implies an endeavour that doesn't quite achieve cyberpunk rather than one consciously more than *just* cyberpunk. Noon himself states he was attempting to move beyond particularities of the cyberpunk genre:

I personally see *Vurt* as a transitional novel, between cyberpunk and something else--I don't know what it is yet. One of the things about *Vurt* is there's no technology in it. It's organic--it's almost like magic. That was one of the things I wanted to do is to envisage a society where machines had become natural things.<sup>144</sup>

By abandoning the reliance on machinery originating in Vinge's 'True Names' and Gibson's *Neuromancer*, Noon also sidesteps the virtual in its computer mediated connotations, entirely avoiding the 'Cartesian dualism of mind and body' that emerges when a character consciously divests his or her mind of its fleshly housing.<sup>145</sup> In so doing, Noon's text approaches that same association between simulated reality and drug use present in the work of Philip K. Dick. While a number of his novels focus upon the generation of or interaction with virtual reality by way of hallucinogenic substances, Dick passed away a year after the publication of 'True Names' and a full two years before the appearance of *Neuromancer*, making novels such as *The Three Stigmata of Palmer Eldritch* (1965) and *Ubik* (1969)

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<sup>143</sup> Andrew M. Butler, 'Journeys Beyond Being: The Cyberpunk-Flavored Novels of Jeff Noon', in *Beyond Cyberpunk: New Critical Perspectives*, ed. by Graham J. Murphy and Sheryl Vint (London: Routledge, 2012), pp. 65-78 (p. 67 and p. 66).

<sup>144</sup> Jeff Noon, *As Per VURT*, interviewed by Nile Southern and Mark Amerika for ALTX Online Network (23 February 1995), <<http://www.altx.com/int2/jeff.noon.html>> [accessed 14 May 2018] (para. 52 of 69).

<sup>145</sup> Luckhurst, p. 208.

precursors to the overtly technological visions of Vinge and Gibson. *Vurt*, on the other hand, was written nearly a decade after. Noon's particular conception of virtual reality can therefore be understood as an interrogation of traditional cyberpunk motifs, a distortion that engages with the 'accretion of repetitions, echoes, imitations, allusions, identifications, and distinctions' by which some academics attempt to limn the hazy divisions between genre.<sup>146</sup>

To my mind, *Vurt* is less a straightforward addition to the body of virtual reality narratives and more a subversive force exerting pressure from the fringe, an assertion upheld by Butler's unwillingness to include it alongside the post-cyberpunk works of Wilhelmina Baird, Bruce Bethke, Simon Ings, and others.<sup>147</sup> The novel's subversive undertone was perhaps aided by Noon's interest in Manchester's early 90's rave culture, an interest indicated by drug-using protagonists, club settings, and anti-authoritarian themes. Viewing the novel in light of Dick Hebdige's seminal volume *Subculture: The Meaning of Style* (1979) adds considerable dimension to this claim; for Hebdige, subculture represents that collection of acts and symbols which, taken together, challenge the ideological structures implemented and normalised by dominant groups in a society.<sup>148</sup> If one accepts that the cumulative body of literary narrative is capable of producing 'a whole range of decisions about what is and is not possible' via the structuring process of ideological relations, then *Vurt* offers two very specific challenges to ideological representations of what narrative *should* and/or *has* looked like: firstly, it declines to create a cohesive, comprehensible textual world and, secondly, it refuses to produce a linear narrative. It is my position that, by offering *Vurt* as a form of protest against the impulse to herd language into precise, well-ordered narrative, Noon generates a story that operates on multiple levels simultaneously.

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<sup>146</sup> John Rieder, 'On Defining SF, or Not: Genre Theory, SF, and History', *Science Fiction Studies*, 2-37 (2010), 191-209 (p. 196).

<sup>147</sup> Butler conscientiously records those authors he considers 'post-cyberpunk' and 'cyberpunk-flavored' in footnotes 1 and 2 of his chapter in *Beyond Cyberpunk: New Critical Perspectives*, p. 77.

<sup>148</sup> Dick Hebdige, *Subculture: The Meaning of Style*, 10<sup>th</sup> edn (London: Methuen & Co., 1979; Abingdon: Routledge, 2005), p. 2.



## Section One: Fictional Environment and the Dissolution of Generic Planes

*Vurt* was published in 1993, written while Noon worked at the Deansgate Waterstones in Manchester. The main story spans twenty-four days in a near-future version of that same city, following a small gang called the Stash Riders as they seek a companion who was lost in one of the virtual realities accessed by using special Vurt feathers. Told retrospectively by one of the gang members, Scribble, from a point twenty years in the future, the account is essentially a tale of ‘going higher, searching for lost love.’<sup>149</sup> The plot is two-fold: while trying to find and free his sister/lover, Desdemona, from a Vurt-world known as Curious Yellow, he comes to terms with the fact that he is no longer a ‘pure’ human being; rather, four years previous to the events of the novel, he was bitten by a dreamsnake and infected by the Vurt (which is simultaneously a place, which can be visited, and a quality infused within certain individuals). The story ends with Scribble finding his sister and accepting his place alongside Game Cat and Sniffing General, two other Vurt beings responsible for maintaining the balance between reality and ‘Vurtuality’.<sup>150</sup>

Much as in Williams’ *Otherland* tetralogy, the opening of *Vurt* offers significant difficulty for the first-time reader’s attempt to orient herself to the presented material. While both novels ‘invite the reader to imagine a world’, Williams and Noon both take advantage of the reader’s desire to ‘make sense of the material being encountered for the first time’ by deploying ‘textual components’ that contribute toward false or misleading interpretations of the fictional environment.<sup>151</sup> Here, my reference to “fictional environment” is analogous to that of Ryan’s ‘textual world’ – that is, the ‘extralinguistic realm of characters, objects, facts, and states of affairs’ that the reader constructs from the words of a narrative text.<sup>152</sup>

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<sup>149</sup> Jeff Noon, *Vurt*, 2<sup>nd</sup> edn (London: Ringpull Press, 1993), p. 27.

<sup>150</sup> *Ibid.*, p. 63.

<sup>151</sup> Stein, p. 214, Pyrhönen, p. 109, and Ryan, p. 64.

<sup>152</sup> Ryan, p. 63.

The idea of textual world presupposes that the reader constructs in imagination a set of language-independent objects, using as a guide the textual declarations (...). The function of language in this activity is to pick objects in the textual world, to link them with properties, to animate characters and setting—in short, to conjure their presence to the imagination.<sup>153</sup>

According to Ryan, those same elements that Abbot, Todorov, Pyrhönen, and others see as forming generic codes are also instrumental in the creation of an immersive textual world. This dual operation can be seen at work in the opening of Williams' series, where textually cohesive elements are deployed in tandem to activate a specific, 'reasonably intelligible totality for external observers'.<sup>154</sup> Immediate references to 'the bombardment' and a 'terrified retreat', as well as the narrative's focus upon a character called 'Private Jonas', establish a wartime setting.<sup>155</sup> Similarly, syntactical choices such as 'Paul Jonas had spent all of this twenty-fourth day of March, 1918, as he has spent the three days before,' establish a serious, slightly antiquated tone in keeping with the invoked date.<sup>156</sup> Finally, that same date and references to the real-world locations Ypres and St. Quentin combine with other clues – like 'German heavy guns' and 'trenches' – to establish an historical aspect to the text.<sup>157</sup> The selection of these textual markers allows those readers with sufficient, relevant 'generic competence' extrapolate both genre *and* a fictional environment in which the action will take place.<sup>158</sup> While the visible elements contradict the reader's original expectations raised by

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<sup>153</sup> Ibid, p. 63.

<sup>154</sup> Ibid, p. 63.

<sup>155</sup> Williams, 1996, all references from p. 1.

<sup>156</sup> Ibid, p. 1.

<sup>157</sup> Ibid, p. 1.

<sup>158</sup> Pyrhönen, p. 110.

the book's synopsis and cover blurbs, there are no immediate, internal inconsistencies to prevent the reader from constructing a cohesive textual world.

However, much in the same way *Otherland* and *Vurt* approach the trope of virtual reality from opposite directions (in the former, VR is generated and accessed via machinery while, in the latter, it is generated and accessed via organic means), so, too, do the texts employ antithetical techniques to confound the reader's attempt to orient herself to the text. *Otherland* establishes a single, cohesive textual world and gives the reader time to adjust before introducing contradictory story material. *Vurt*, on the other hand, presents a number of textual markers in quick succession, none of which are easily identified as contributing to 'a reasonably intelligible totality'.<sup>159</sup> The first scene opens with a young woman named Mandy exiting 'the all-night Vurt-U-Want, clutching a bag of goodies.'<sup>160</sup> She passes a dog described as a 'genuine, flesh and blood mix; the kind you don't see much any more' and a 'robo-crusty' with 'a thick headful of droidlocks'.<sup>161</sup> The reader attempting to orient herself to the nature of *Vurt*'s stoyworld will have a difficult time sorting through the unique combination of mundane and unfamiliar elements in evidence: a British reader may recognise the image of someone leaving an off-license (a business licensed to sell alcoholic beverages for consumption elsewhere, outside normal business hours) while at the same time find herself perplexed by the shop's designation as 'Vurt-U-Want'. Similarly, the handwritten sign held by the robo-crusty conveys enough information for the reader to identify him as a homeless person with a pet dog, yet it is impossible to decipher any particularities. What exactly are 'droidlocks' and what is their relationship to 'dreadlocks'? If one assumes the prefixes 'robo-' and 'droid-' are references to the man being mechanical in nature, how then is he capable of feeling hunger, as his sign purports? If flesh-and-blood dogs are uncommon

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<sup>159</sup> Ryan, p. 63.

<sup>160</sup> Noon, 1993, p. 5.

<sup>161</sup> Ibid, p. 5.

in this world, what type of dog *is* common? The elements presented to the reader are sufficiently familiar for her to follow the action as it unfolds on the page, yet each piece of concrete information prompts a plethora of additional questions regarding the nature of *Vurt*'s fictional environment.

Very quickly, the reader's attempt to orient herself to the text becomes less a matter of identifying genre or setting and more about constructing a satisfying link between rapidly-accumulating, heterogeneous textual elements. More and more unusual characters are introduced, including Bridget, a girl with 'thin wisps of smoke (...) rising from her skin'; the 'Thing-from-Outer-Space', a subject/object 'leaking oil and wax all over the place' with nomenclature that implies it to be an alien; a robohound named Karli gifted by two individuals bound to each other by intertwining dreadlocks; a dog/human hybrid rockstar named Dingo Tush; a Gentleman with yellow eyes and an ability to read minds; and many, many others.<sup>162</sup> So, too, are objects and locations within *Vurt* a source of frustration when attempting to situate oneself within the text. A substance called Vaz is alternately found on fingers, engine parts, genitals, and, more metaphorically, the world.<sup>163</sup> At numerous intervals the characters partake of Vurt feathers, which transport them from the quixotic, incomprehensible real world of the novel to various Vurt worlds, most of which are even more disorienting than the fictional version of Manchester.

This last would appear to be the key to understanding the novel's sheer unboundedness of generic elements. At one point the Stash Riders encounter a character editing raw material, 'turning mist into Vurt.'<sup>164</sup> He states that, 'This looks like mist to you. To me it's a dream, somebody's dream', somewhat clarifying the relationship between the real world of the novel and the realms accessed via Vurt feathers.<sup>165</sup> Where *Otherland* uses

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<sup>162</sup> Ibid, p. 6, p. 6, p. 6, p. 72, p. 141, and 140.

<sup>163</sup> Ibid, p. 6, p. 9, p. 265, and p. 18.

<sup>164</sup> Ibid, p. 104.

<sup>165</sup> Ibid, p. 104.

virtuality to show characters exploring computer generated virtual environments, *Vurt* deploys the trope in order to give characters physical access to the subconscious world of dreams. This essential difference is reflected at the level of form: aside from the opening scene of *Otherland*, Williams' text displays a strict regimentation of genres.<sup>166</sup> Changes to generic codes are encountered only when characters and reader move between simulated environments and chapters/sections. *Vurt*, on the other hand, consistently displays a jumbled collection of generic elements within the same locations/scenes, and this free-form distribution perfectly reflects the co-mingling of dream and reality occurring within the story's plot. Just as 'Scribble's journey is the acceptance of the Vurt within him', so too is the reader's journey that of accepting the erratic, dissonant nature of the novel's fictional environment.<sup>167</sup>

*Vurt* therefore engages with the same manipulation of generic elements displayed by the *Otherland* tetralogy, albeit with different aims, resulting in a different narrative form. While the latter orients the reader to a single, specific generic plane before guiding her into an encounter with contradictory material, *Vurt* dissolves the very concept of generic planes, instead leveraging the virtual as dream in order to create an environment in which all generic markers are present (or could become present) at any moment. One is hard-pressed to decide whether orientation occurs at all during an initial reading of the text, as the reader is at no point able to pinpoint 'the kind of action or sequence of events' likely to occur next.<sup>168</sup> Therefore, *Vurt*'s fictional environment is such that the confluence of dream and reality occurring at the level of story is transported to and experienced at the levels of form and genre.

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<sup>166</sup> Williams' opening scene, by contrast, represents a hacker manipulating the computer generated program around a user who is unaware of the fact he is ensconced in virtual reality.

<sup>167</sup> Noon, 1995, (para. 68 of 69).

<sup>168</sup> Abbott, p. 54.

## Section Two: Focalisation and Narration

While the reader's ability to construct a coherent fictional environment is hindered considerably by the text's use of discrepant generic elements, an even greater subversion takes place at the level of *Vurt*'s narration. Throughout the course of his career, Noon has displayed a consistent preoccupation with narrative form, as evidenced by the overtly experimental aspects of *Nymphomation* (1997), *Needle in the Groove* (2000), and *Cobralingus* (2001). His stance is perhaps best articulated in an article written for *The Guardian*, in 2001:

Where does this fixation with the linear narrative come from? By dismissing the textual adventures of Joyce, British writers stayed true to the old pleasures of straightforward storytelling. This leads to our current situation, where the vast majority of novelists are still intent on drawing a single narrative thread through a complex world.<sup>169</sup>

In identifying the 'single narrative thread' as an aspect he feels modern writers to be fixated with, Noon not only declares the feature he feels obstructive to 'words [as] a liquid medium, a malleable substance capable of being transformed in surprising ways' but also describes the primary experiment taking place within his first novel.<sup>170</sup> *Vurt*, although appearing at first glance a linear experience, is a novel told from two directions at the same time, a story that can only be fully understood after the first reading has concluded and a second begun.

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<sup>169</sup> Jeff Noon, 'Film-makers use jump-cuts, freeze frames, slow motion. Musicians remix, scratch, sample. Can't we writers have some fun as well?' *Guardian* (10 January 2001), <<https://www.theguardian.com/books/2001/jan/10/fiction.film>> [accessed 1 March 2018] (para. 7 of 33).

<sup>170</sup> *Ibid.*, (para. 20 of 33).

Although far from *Needle in the Groove*'s punctuation-light, backslash-heavy, stream-of-consciousness free-form prose, *Vurt* is no less impressive for narrative achievement. Ostensibly linear in nature, the reader is carried along from a point mid-way through the quest to retrieve Scribble's sister toward its conclusion, when Scribble swaps himself for Desdemona and remains in the Vurt. However, as one progresses through the text, it becomes increasingly apparent that circumstances are being filtered through two versions of the main protagonist: a narrator, recounting events to the reader from twenty years in the future, and a focaliser (to adopt Shlomith Rimmon-Kenan's use of Gérard Genette's original term, so as to avoid confusion with 'point of view' or 'perspective'), to whom the story's events are occurring. That the narrator chooses to intrude more often and more overtly as the story proceeds is a sign of the increasing distance between the opinions formed at the time of events and the conclusions he is capable of drawing twenty years after their occurrence.

The majority of *Vurt*'s narrative is filtered through the eyes of Scribble's younger self. Although initially hampered by a struggle with the inconsistent generic features of the fictional environment, the reader quickly identifies a first person, past tense narrator describing events: 'I was watching' and 'I was in the back' serve to locate this figure as at a distance from Mandy during her journey across the parking lot and then in the back of the van she approaches.<sup>171</sup> From this moment onwards, first person pronouns are a regular feature of the text, serving as an anchor for the reader during a police raid, a high-speed chase through a city at night, and the disorienting experience of tripping out on a Vurt feather. These events take place in quick succession over the course of three chapters; it only at the first calm interval that the older version of Scribble makes himself known to the reader:

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<sup>171</sup> Noon, 1993, p. 5 and p. 6.

I was. I was sleepless. Locked in my room, writing all this up in the ledger of those days. Living up to my name. Scribbling. Trying to make sense of it all, and trying hard to find a way out.

And now I'm looking back and thinking. And the thinking makes me weary. It's the loss of things that kills us. And of the four humans in that pad that night, only two of us are still living and that's a bad dream come true. That shouldn't happen anymore.<sup>172</sup>

This portion performs a rather complex manoeuvre. The chapter, titled 'Sleepless' initially continues using the novel's established past tense and yet the narrator refers to his journal as the 'ledger of *those* days'. Although subtle, the juxtaposition of writing up *this* material in an object belonging to *those* days opens a rift in the narrative. This rift is as large or as small as the distance inferred between *this* and *those*, yet the nature of the determiners indicates the existence of a gap that has not, or cannot, be closed. This distance is further widened in the next paragraph, when the narrator changes from past to present tense: 'And now I'm looking back and thinking.' The switch is not only accompanied by the word 'now', which confirms and emphasises a temporal interval, but also implies that some kind of epistemological shift has taken place: 'I was and now I am.'

The result is a change to *Vurt*'s narrative framing. Although a number of reactions are possible, this moment marks the first overt intrusion of Scribble the narrator into the events he is narrating. The unobservant or distracted reader may pass over the manoeuvre described above with only slight mental dissonance (a reaction that is entirely possible, given the complexity and density of the text's imagery), yet these narratorial intrusions increase in

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<sup>172</sup> Ibid, p. 34.

frequency and blatancy as the novel approaches its climatic moment, progressing from brief digressions offering commentary on the situation at hand to wholly separate interludes that pull the reader out of events entirely. The scene in which Beetle and Scribble face off against Murdoch, a police officer, in an alleyway is marked by the most pronounced of these intrusions. Scribble describes himself and the Beetle ‘clattering down a shining steel ladder of hard rungs’ and ‘running for sweet life’ before breaking off into a direct address to the reader: ‘I’m not telling this very well. I’m asking for your trust on this one. Here I am, surrounded by wine bottles and mannequins, salt cellars and golf clubs, car engines and pub signs.’<sup>173</sup> This is perhaps the most magnified of the narrator’s intrusions, as he breaks away from the action not only by employing a section break and tense change, but also by drawing the reader’s attention to the fact that these events are *being told* from a location very unlike the alley into which the Stash Riders fled.

While it is possible to miss the subtlest of these narrative incursions, the text gradually establishes a physical and temporal distance between Scribble and his younger self. These instances culminate in the final chapter’s reveal that ‘[t]wenty years [have] gone by, since Mandy first stepped out of that all-night Vurt-U-Want’, at which point the purpose of the text becomes clear: *Vurt* as a narrative event is not a straightforward recounting of circumstances but rather an interrogative reconstruction.<sup>174</sup> Scribble the narrator is looking back over the most meaningful events of his life, attempting to evaluate his actions even as Scribble the focaliser performs them. As is stated just after Beetle murders Murdoch’s partner, ‘*We’re all just out there, somewhere, waiting to happen.*’<sup>175</sup> This may be true of Scribble the focaliser, whose best friend has not yet died and who has not yet made the decision to swap himself permanently into the Vurt in exchange for his sister; yet, when

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<sup>173</sup> Ibid, both references from p. 151.

<sup>174</sup> Ibid, p. 339.

<sup>175</sup> Ibid, p. 122.

viewed from the opposite perspective, the narrative can be understood as one in which Scribble the narrator attempts to decipher the exact chain of events leading to his current circumstances. What appears to be a single story contains, in fact, two narrative threads, the second of which is only accessible *after* the first reading has been completed.

### Section Three: Nonlinearity and the Layering of Reader Comprehension

I would like to proceed immediately to the final section of this chapter, in which I examine the lack of emotional distance Scribble the narrator repeatedly displays toward the material he himself is recounting. While the narrative structure at hand is not a new one – to take the most famous example, Charles Dickens’ *Great Expectations* (1861) employs the same technique of focalising events through a younger version of the narrator – I would argue that *Vurt* achieves something unique by combining the physical and temporal distance between narrative figures with a *lack* of emotional distance. Pip the narrator has had many of the mysteries surrounding his youth revealed to him and Dickens’ thoughtful, measured prose imbues the telling with an air of one who has absorbed and accepted the consequences of various events. *Vurt*, however, displays no such emotional acceptance, as evidenced by various narratorial intrusions.

The lack of emotional distance between Scribble the narrator and his subject matter becomes most apparent in the text leading up to the moment when Murdoch shoots the Beetle with a Mandel bullet – the bullet that will eventually kill him. Before this scene is related to the reader, Scribble breaks away in order to express how inadequate he is finding his own recitation: ‘Sometimes we get the words wrong. *Sometimes we get the words wrong!*’<sup>176</sup> He then describes more of the stand-off in the alleyway before breaking away a second time, this time to describe the exact manner in which Desdemona was swapped out of reality. Only after this is he finally able to address the moment that his repeated detours indicate he wishes to avoid:

One gun fired.

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<sup>176</sup> Ibid, p. 151.

And then the other.

One gun was later than the other.

Listen carefully. This is the secret of how to live: fire your gun before somebody else does.

The Beetle reeled back from the bullet.<sup>177</sup>

The narrator continues to delay during the very act of divulging, pausing momentarily upon ‘the secret of how to live’ before revealing which person shot first. In doing so, however, Scribble also reveals what his younger self doesn’t yet know: that Beetle will die of his wound. It is my view that this scene and its fatal repercussions represent the emotional core around which *Vurt*’s narrative is wrapped. The narrator returns to this moment again and again, touching upon it in ways that make it impossible for the reader to fully comprehend his meaning until after the completion of a first reading. *Vurt*’s narrative is not only rendered a nonlinear virtual narrative due to its non-chronological ordering of events; a much more interesting aspect of its nonlinearity is indicated by the reader’s inability to access a large portion of the content until a second or third exposure.

That the text contains multiple layers of meaning is made possible by the physical and, more importantly, temporal distance between narrator and focaliser. Shlomith Rimmon-Kenan’s discussion of focalisation is especially relevant here, as she touches upon an example of a narrator possessing more information than is at first presented to the reader:

The narrator is temporally external to the story, knowing the end when he starts the narration. Yet he chooses not to divulge

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<sup>177</sup> Ibid, p. 161.

his retrospective understanding, limiting his perceptions to those of the townspeople at the time of the events.<sup>178</sup>

The narrator of *Vurt* is very similar to that in the above-described ‘A Rose for Emily’ (1930), in that he is temporally external to events and knows how things will end. The reader may not (during her initial reading) realise the extent to which this effect permeates *Vurt*’s narrative; for, threaded throughout the novel are an inordinate number of italicised sentences, many of which interject with commentary on events that have just occurred. For example, Scribble describes how he ‘felt for [Mandy] all of a sudden. She was new to us, two days old in the gang and full of the will the please.’<sup>179</sup> After recounting this, the text immediately changes to a new paragraph and states, in italics, ‘*It’s just that she had a hard act to follow.*’<sup>180</sup> It would be possible to interpret this as a thought running through the focaliser Scribble’s mind – indeed, italics are also used for this purpose – were it not for an unusual inconsistency of tense deployed throughout these moments. In some cases, the italics are accompanied by a sudden switch to the present tense, as in ‘*I sure know that wave*’ or ‘*Keep thinking about Desdemona.*’<sup>181</sup> Other statements, like ‘*It’s just that she had a hard act to follow*’ and ‘*I was ashamed...*’, are notable for their refusal to switch tense.<sup>182</sup> While it is not possible to apply a straightforward interpretation of present tense portions as the spur-of-the-moment rush of the focaliser’s mind and past tense portions as originating with the narrator, the varying tenses do increase the sense of thoughts springing from two, alternate sources.

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<sup>178</sup> Rimmon-Kenan, p. 80.

<sup>179</sup> Noon, 1993, p. 13.

<sup>180</sup> Ibid, p. 13.

<sup>181</sup> Ibid, p. 10 and p. 14.

<sup>182</sup> Ibid, p. 13 and p. 31.

It is my view that, throughout *Vurt*, two levels of internal monologue find expression via the same typographical form, as when Scribble enters into a fight against rival gang members:

This was me, Scribble, hero of Spike Attack, coming to the rescue.

*Some kind of fool.*

The snake was withering from the Spiked-up strength of my kick, but somewhere between there and my reaching the fray, the Vurt dropped away and I felt a distant pain somewhere, far off, and then realised it was my cheekbone. A fist like iron had smashed into it, and then another, to the left eye, and I was down, and thinking. *This isn't me! I'm not like this! Last time I had a fight, I was thirteen years old.*<sup>183</sup>

In this scene, the second italicised segment is clearly identified as a thought running through the focaliser's mind. The first segment is harder to attribute to the same source, however. The previous two paragraphs describe how Scribble's 'panic and (...) fear' spur him into accessing 'a low-level Blue (...) called Spike Attack' without the use of a Vurt feather.<sup>184</sup> The sudden surge of Vurtuality makes him feel 'good! Well good, and I wanted to take on the world', implying that a drug-fuelled rush of elation and enthusiasm has accompanied the 'vision' associated with the Vurt feather.<sup>185</sup> Although 'This was me, Scribble,' represents a narrative step away from the fight, the self-appraisal that takes place is entirely in keeping

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<sup>183</sup> Ibid, p. 68.

<sup>184</sup> Ibid, p. 68.

<sup>185</sup> Ibid, both references from p. 68.

with someone high on drugs, revelling in their own successful ploy against a rival. The italicised portion that follows takes a contradictory view, insisting that Scribble is not a ‘hero’ but a ‘fool’. While it is possible to theorise a subconscious voice at work, undermining the protagonist’s moment of competent combat, I find it much more plausible to attribute such asides directly to Scribble the narrator.

This interpretation becomes even more supportable when one takes into consideration the end of the novel; the older version of Scribble knows that Beetle and Mandy will both be dead before the end of the month, and so he views the actions of his younger self as futile and foolish. It is this layering of knowledge that creates the text’s more interesting, nonlinear aspect: certain elements simply cannot be understood until the reader has obtained all the same information to which the narrator has access. In other words, until one has finished the novel and knows how it ends, a great deal of the text remains incomprehensible. The apparently sourceless ‘*Some kind of fool*’ is one example of this. Another occurs when the Stash Riders are raided by the police. At this point the gang has been confronted by Murdoch once before, but now she is charging them with offenses that will mean an end to the search for Desdemona:

[The fleshcop] was reaching down to the floor anyway, to  
where Murdoch’s gun lay waiting.

Sometimes we just go too far, partner.

Beetle shot him.

Beetle shot him! *And all these miles and days away, I’m  
still listening to that shot of flame.*<sup>186</sup>

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<sup>186</sup> Ibid, p. 120.

Though the reader may be able to glean that something of import is occurring – perhaps alerted by the use of short sentences, the repetition of ‘Beetle shot him’, and the inclusion of an exclamation point to underline the narrator’s amazement – the text does not provide enough information to accurately interpret all that is taking place on the page. The key lies in the sudden switch to italicised thought: ‘*And all these miles and days away, I’m still listening to that shot of flame.*’<sup>187</sup> In allowing this narrative digression to occur, the narrator indicates his own preoccupation with the moment just described, therefore infusing the scene with the emotional weight of a memory replayed over and over throughout the years. The narrator does not, however, provide any contextualising information as to *why* this moment has occupied him so thoroughly, and so the first-time reader is given textual material they cannot possibly parse.

On the other hand, the returning reader will be much more able to attribute meaning to the italicised portion of text because, like Scribble the narrator, her perceptions are no longer limited to those summoned by the text directly before her, concurrent with the reading experience. Rather, she *too* will have access to memory and can, again like the narrator, review events that have not yet occurred, cross-reference them with previous events, and come to new conclusions. On a second reading, the scene in which Beetle shoots a police officer is given new meaning because it can be examined in light of Scribble’s final confrontation with Murdoch, the surviving police officer:

‘The Beetle?’

‘You killed him, Murdoch. That Mandel [bullet] finished him.’

‘He got one of ours.’

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<sup>187</sup> Ibid, p. 120.

Murdoch's voice was hard and cold when she spoke, and I was getting the story now, what was going down here, and why she was keeping the dumb cops back.

Shecop had gone into personal mode.<sup>188</sup>

The above segment relates Scribble the focaliser realising, near the conclusion of the novel, how personally Murdoch took the death of her partner. However, this is information that Scribble the narrator would already have possessed 170 pages earlier, when relating the shooting itself. It is only once the reader has possession of the full timeline – Beetle shoots Murdoch's partner, Murdoch hunts him down and shoots him with a poisoned bullet, Beetle dies – that the first scene comes fully into focus.

The inability of first-time readers to access the entire range of information present within the text represents a masterful use of narrative, imparting a different experience depending on one's familiarity with the novel's events. In this way, *Vurt*'s nonlinear aspects are more characteristic of memory and personal contemplation than they are of traditional literary narrative. This is reflective of Noon's own impatience with the concept of linear narrative, as revealed while promoting the 1995 release of *Vurt* in the US:

I think we have certain expectations of excitement these days--especially young kids--and they want that pulse and energy they get from music, and the old-style novel with the linear narrative, you know, and everything's in the correct place, you know--it's (...) become quite a task to read that.<sup>189</sup>

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<sup>188</sup> Ibid, p. 296.

<sup>189</sup> Noon, 1995, (para. 46 of 69).

Noon displays an awareness of the linearity of ‘old-style’ novels even if he doesn’t address specific ways in which a text might depart from traditional forms. However, his reference to ‘everything’ being in the ‘correct place’ appears to me to link his views to that of Dick Hebdige’s discussion regarding subculture. For Hebdige, subculture is a process, a means by which ‘tensions between dominant and subordinate groups can be found reflected in (...) the styles made up of mundane objects which have a double meaning.’<sup>190</sup> In the case of literature, linear narrative has historically asserted a specific methodology over time, until ‘*particular* ways of organizing the world appear to us as if they were universal and timeless.’<sup>191</sup> Linear narrative therefore becomes the dominant discourse of the literary world, relegating nonlinear narratives to a marginal position outside that material which is cast as ‘permanent and “natural”’ through the ‘function of naturalization and normalization’.<sup>192</sup> In recognising that ‘correct’ and ‘incorrect’ places for certain textual features are determined primarily by virtue of linear narrative’s position as the dominant discourse in the literary realm, Noon recognises that his own text ‘signals a Refusal.’<sup>193</sup>

By refusing to constrain the elements of *Vurt* by more traditional methods, Noon creates an entirely different order of narrative experience, perhaps even the ‘liquid experience’ he cites as being the highest ambition of his wordplay.<sup>194</sup> Certainly the second narrative strand contained within *Vurt* emerges unevenly, fitfully, depending on the reader’s own knowledge base. About midway through the story, Scribble tells the reader, ‘This is a love story. You got that already?’<sup>195</sup> This statement will resonate in very different ways

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<sup>190</sup> Hebdige, p. 2.

<sup>191</sup> Ibid, p. 14.

<sup>192</sup> Ibid, both references from p. 16.

<sup>193</sup> Ibid, p. 3.

<sup>194</sup> Jeff Noon, ‘Origins of a Dub Fiction’, *Language is a Virus* (Date unknown), <<http://www.languageisavirus.com/creative-writing-techniques/origins-of-a-dub-fiction-by-jeff-noon.php#.WvmkPKQvzX4>> [accessed 9 April 2018] (para. 3 of 7).

<sup>195</sup> Noon, 1993, p. 159.

depending upon the amount of information in the reader's possession. To one who is being exposed to the story for the first time, these words will no doubt link with the focaliser's single-minded drive to retrieve his sister from the Vurt, as well as the birthday card he receives on the previous page: 'Don't stop looking, Scribb. I'm still waiting. We'll be together one day. Promise?'<sup>196</sup> Each of his actions, however, brings the group closer to Beetle's fatal encounter with Murdoch, and it is this knowledge that informs the perspective of Scribble the narrator. These two urges – the focaliser's drive forwards, towards Desdemona, and the narrator's longing for the past and his best friend – combine to create an uneven, nonlinear narrative, the whole of which may only be approached by the reader during a second or third reading of the text.

To conclude, *Vurt*'s subversion of traditional cyberpunk themes and images opens an entirely new order of reading experience. Vinge, Gibson, Williams, and others may examine the confrontation of human self with an artificial other, but Noon turns that contemplation sideways, investigating the intersection of dream and reality, illusion and truth, and the unexpected swapping of one for the other. In composing a fictional environment from a wide, incongruous range of generic elements, the novel manifests this concept at the level of form as well as story; the term 'hallucinogenre' is used in a throwaway remark during a 1995 interview with the ALTX Online Network, yet this term may come the closest to describing the reader's initial experience with *Vurt*'s subject matter.<sup>197</sup> Although vaguely science fiction, vaguely cyberpunk, and vaguely none of the above, the only certainty is that Noon's text is no *one* thing. 'Pure is poor[.]'<sup>198</sup> This is as applicable to Scribble as it is the novel's genre, as he is, at the level of story, neither wholly human nor entirely Vurtual and, at the level of form, as much an emotional participant in events as he is the distanced narrator. In

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<sup>196</sup> Ibid, p. 168.

<sup>197</sup> Noon, 1995, (para. 65 of 69).

<sup>198</sup> Noon, 1993, p. 67.

Noon's conception, virtual reality becomes all things which are false, including Scribble himself: a 'featherboy' infused with the dream, looking back over his life and grasping the erroneousness of past compulsions.<sup>199</sup> One recalls the Borgesian use of *mise en abyme* discussed by Zlotchew: 'a picture in which a figure holds an image of itself in miniature which, in turn, holds a still smaller model of itself, theoretically *ad infinitum*.'<sup>200</sup> Scribble the narrator holds within himself a picture of Scribble the focaliser – naïve, unsuspecting of the version of himself he is forging with his own actions – who in turns holds an internalised representation of himself as a pure human being. As with all mirror images, however, each of these reflections is an illusion, a virtual reality threaded in amongst the actual, and it is through these illusions that the reader may glimpse something truer.

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<sup>199</sup> Ibid, p. 106.

<sup>200</sup> Zlotchew, p. 25.

## Conclusion

Historically, proponents of the science fiction genre have lamented and celebrated its position at the margins of literature.<sup>201</sup> That science fiction tropes are appearing more and more often in ‘literary’ novels signals an increasing hybridisation between literary and genre fiction: take, for example, Audrey Niffenegger’s *The Time Traveller’s Wife* (2005) or Kazuo Ishiguro’s *Never Let Me Go* (2005), both of which approach overtly science fiction tropes within the context of literary narrative.<sup>202</sup> Although I have chosen to examine science fiction, it is my hope the overall focus of this paper will provide insight into the kinds of opportunities presented by genre tropes.

Take, for example, virtual reality. Its existence as science fiction trope is undisputed, thanks to initial popularisation by the *Star Trek* and *Matrix* franchises, yet only the introduction of Ryan’s tripartite definition begins to illuminate the full extent to which it can be deployed within narrative. Reality television and dreams are no more the sole property of science fiction than are mobile phones or the Internet; or even, given a little more time and technological advance, virtual reality simulations. Overtly science fiction tropes can only become *more* evident within those literary fields characterised by a concern for realism. Our question must therefore be: what innovative narrative techniques, what unique reading experiences, await us in the critical and creative exploration of gene splicing, cloning, memory manipulation, extra-terrestrial colonisation, and a hundred thousand others?

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<sup>201</sup> In referencing ‘ordinary literary circles’ and ‘SF circles’ in the same textual breath, Stanislaw Lem not only implies a difference between the two but also articulates an opinion regarding their relationship with the word, ‘ordinary’. However, one paragraph later, he posits science fiction as a genre that must *win* over a new audience ‘from the ranks of the readers of mainstream literature’, thereby declaring a perceived inferiority that must be overcome in order to attract readers. Stanislaw Lem, ‘On the Structural Analysis of Science Fiction’, *Science Fiction Studies*, 1-1 (1973):26-33 (p. 32).

<sup>202</sup> Nicole Kobie, ‘Who cares if Kazuo Ishiguro is a sci-fi genre writer or not?’, *Wired*, (6 October 2017), <<https://www.wired.co.uk/article/kazuo-ishiguro-nobel-prize-literature>> [accessed 17 September 2019].

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## Appendix

### Chapter Ten

#### TWO

The doctors insisted he spend a night in the medbay. They also declared he wouldn't be going to school the following day, a development that would have brought him intense joy only twenty-four hours previously. As it was, he wanted to protest. Sharlezene was the only person who might be able to shed a little light on what had happened in Favourite Blue. She could be thinking *anything* right now – that he was dead, or dying, or just really ill. She might not even want to talk to him anymore now that his allergy had been revealed... but the only way to find out would be to go to school.

Dr Prescobian was waiting for him after his brief, luckless negotiation with Dr Damlund. He perched on the same stool Three had occupied before the scuffle, opening his mouth and releasing a stream of questions the moment Two clambered back into bed. All of his answers were recorded on the doctor's datpad.

'Who picked the café you visited?'

'Shar.'

'What route did you take?'

'I don't know. We went over a walkway, then across a platform and up a leva.'

'Would you describe your allergy as more or less intense the further you went from the school?'

'More.'

'What did the journey feel like? In terms of your allergy?'

This question took longer to answer. He described the experience in as great a detail as possible, but each explanation felt inadequate. In the space of twenty minutes – or however long their walk had taken – Two’s allergy had gone through a thousand permutations. What words were there to describe the delicate brush of his brain against a million moving parts? When it was only the electronics here at home, phrases like ‘tangle of barbed wire’ and ‘metallic grit blowing sideways through my brain’ worked well to distinguish between sources. He discovered he didn’t have the range to express how twenty palm pilots, the platform’s electronic infrastructure, and overhead straits differed – texturally – from twenty palm pilots inside the plain, and two thousand *other* palm pilots further away.

Not that it mattered anymore. As he struggled to convey the effect of the crowds upon his brain, Two continued to cast himself outward. Again and again he flung his mind toward the walls, the doctor’s datpad, the workstations, trying to feel... anything. Again and again he was forced to the same conclusion.

His allergy was gone. The medbay, once the most aggravating location in his life, evoked no reaction within him.

Two knew he shouldn’t feel hope. Most of him expected the metal thicket to spring back into being, for the walls to sprout teeth and fall upon him. His mental probing was cautious at first. Then, Three’s datpad had done *nothing*, even when he’d practically rubbed his face against it, and he grew bolder. The little worm of hope grew larger.

Could this be what the doctors had been promising for so long? Acclimatisation? He’d exposed himself to unprecedented levels of networked electronic activity; maybe the medbay just wasn’t enough to set him off anymore.

On the other hand, there was the whisper to consider.

‘Have you felt any change in your allergy since waking up?’

‘No.’

The lie slipped from him so easily that he almost didn’t recognise it for what it was.

Then, however, Dr Prescobian typed Two’s response and another whisper slid across his aural landscape.

They were intermittent things, emerging so fluidly from the background whirr of air conditioning that it took him several seconds to register the sounds... and then they slipped away again. The source shifted each time. Unlike the scrape of electronics, which had always been easy to locate, the whispering was less directional.

‘Two?’

‘Huh?’

Dr Prescobian was looking at him expectantly.

‘I asked how you felt in school today. Before leaving school grounds.’

‘Oh. OK, I guess. The classroom desks were about the same, and so were all the palm pilots. Same as ever.’

He didn’t sound resentful enough, and he knew it. Dr Prescobian raised an eyebrow as he typed. Two cursed himself for not being more careful. Up until now he’d made his hatred of the place clear, blaming the adults around him loudly and repeatedly; still, upon learning he was being kept home today, his first response had been to argue with Damlund? He might as well have written “SOMETHING IS DIFFERENT” in black letters across his forehead.

‘Right,’ said Dr Prescobian. He slapped one of his knees and stood. ‘Time for your scan and then we’ll let you get some rest.’

Scans. Maybe *this* was when the pain would return, speared right back into him by the beads and their invisible, electronic injections.

Injecting *what*?

His heart beat faster as an assistant – the same one from last night – wheeled the cart up to his bed. Turn over, clutch the pillow. But would it hurt? What if it hurt *worse*?

He slammed his eyes shut at the bone-deep clutch of gel being slathered across the back of his head; that hadn't changed, at least. The doctor murmured observations to himself as he adjusted bead placements. Two braced himself. He braced and braced and braced, feeling his fingers might break if he squeezed the pillow any tighter–

*Clang.*

'Alright, you can wipe your head now.'

*Clang.*

'What?'

Dr Damlund paused, final bead clamped in a pair of tweezers, hovering over the metal dish. 'The scan is complete – you can sit up.'

The bead dropped. *Clang.*

Two accepted a towel from the assistant, fingers numb. He wiped his head with slow movements, trying to give reality time to sink in. The scan had felt of nothing. He hadn't even heard the whispering.

When he pulled the cloth away, Dr Damlund hadn't moved off toward a console to view the scan results.

‘Are you certain you feel... the same?’ he asked, eyes catching and holding Two’s gaze. ‘It would be alright if you didn’t. Your brain suffered an enormous shock this afternoon. If I’m being honest, I’m surprised by how... unaffected you appear to be.’

‘I feel,’ Two said, and this would be the time to confess. The doctors would understand why he hadn’t said anything before. Favourite Blue *had* been a shock to his system. He’d had a full-blown allergy attack, the first since he was five.

But even if they understood, they were still injecting something into him and the other wards: something powerful, twice a day, every day. He might not be able to feel it happening anymore, but did he really believe the nature of their scans had changed *today*? Of all days, the day he’d lost the ability to sense electronic signals?

‘I feel,’ he tried again, ‘a little weird. Like I keep trying to think back, to remember what happened. Like I *should* be able to remember something, because it didn’t hurt and it was so... so seamless. There should be something there but no matter how hard I try there’s nothing—’

He babbled on until Dr Damlund put a hand on his shoulder.

‘It’s perfectly fine to be confused,’ he said. ‘Even scared. We’ll figure out what happened, don’t you worry.’

The whispering became more pronounced that evening. It still fluttered in and out of hearing but, as all other noises fell away, Two sensed it more clearly during the loudest intervals. It wasn’t a random collection of syllables: there was cadence and flow, as if someone were whispering an endless secret. He seized for meaning each time the sound emerged from the shurr of circulating air. Several times he thought he was beginning to grasp it, to decipher the pattern and *maybe* understand what was being muttered by an unseen mouth, but it slipped back of out of hearing each time, message unreceived.

He woke feeling as though he hadn't slept at all; one of those endless nights where thought never fully shuts down and "sleep" becomes a chain of semi-conscious moments strung together by vague impressions of oblivion. The overheads shot back to full brightness on the other side of his eyelids. Still, he didn't fully wake from a concussive doze until Dr Damlund said, into one ear, that it was time for a scan. Into the other, someone else whispered:

*Owun*

'What?'

'We're ready for your scan,' Dr Damlund repeated. 'I know you're not going to school today but there's still a schedule to follow'

Two shook his head and shrugged; anything to get the doctor moving. He rolled over, not bothering to sit up because he could already see an assistant approaching with a rolling stand.

That was the whisper, he thought. I heard it up close and it *said* something. A name? Is it saying someone's name over and over again?

'You look worse today.'

Four, still flush from a shower, lay down on the opposite bed, head sideways on his folded arms.

'I didn't sleep well,' Two said. 'I hate sleeping in here.'

'Yeah, me too.'

The whisper rose between them. Two tried to locate a source using only his eyes, and failed. Again.

'Are you OK?' Four asked.

Two smirked. 'Funny. It's usually one of the assistants who asks that, but he hasn't for the past couple scans.'

‘Maybe... he knows you’re not.’

‘What makes you say that?’

Four shrugged from his prone, face-down position, shoulder hiding the lower part of his face for a moment. Two waited but he didn’t provide further comment. Because he didn’t *know*? Or just didn’t want to say?

Whitecoats enfolded the neighbouring bed. A scan was performed, Four went away again. Three appeared. She chose the same bed and draped herself across it.

‘Do you want me to find Shar today?’ she asked.

‘Why would you do that?’

‘You don’t remember anything. At least she could tell us what your allergy attack looked like.’

‘Don’t,’ he said, though the same thought had occurred to him. For some reason, the thought of Three questioning the girl on his behalf bothered him.

She didn’t argue. She was silent all through her scan, speaking only to thank the assistant when he handed her a towel. Just before she exited the aisle between the beds, Two said her name and she came over to stand next to him, one hand resting on the mattress.

‘I’ve been,’ he said, ‘really harsh to you for the last couple days.’

‘I understand. It was a lot to take in. No one expected school to be easy for you.’

Did she understand what he was trying to apologise for? He thought she did, even though her face showed no outward sign. Up on the ridge, after Four’s allergy attack on the first day of school, she’d tried to tell him the carers and doctors were lying. It had taken her throwing the information in his face before he’d even noticed the puzzle pieces, let alone put them together.

‘How did you—?’

Three squeezed his arm. ‘It’s OK,’ she said. ‘Really. Everyone knows how hard it’s been for you, adjusting to the school and all. We understand.’

She patted his shoulder and stepped away. ‘I’ll see you after school.’

Bet brought him breakfast. After he ate, the doctors ran him through another gauntlet of questions. Two would have done anything to make it stop. Once it did, though, he found himself without anything to focus on. No lessons, no Three or Four to keep him company, nothing. He tried to sleep and failed: first the overheads were too bright; then, just as he’d begun to drift off, Dr Damlund and Dr Prescobian started debating something in raised voices. Even trying to eavesdrop didn’t bring him much relief: all “bacterial colonies” and “sufficient nutrients”, nothing about their allergies.

He flung the blanket off his legs. ‘I’m going for a walk,’ he announced. ‘I’m going to my room, having a shower, getting dressed, and going for a walk.’

The conversation died. Damlund and Prescobian turned and made to head him off before he reached the door, as if they hadn’t been glaring at each other across a datpad mere moments before.

‘Of course you can shower,’ Prescobian said. ‘And change your clothes. That was our mistake, it’s become such a routine with Four—’

‘The walk is risky,’ said Damlund. ‘I know you say you *feel* fine but please remember: it’s been almost five years since you last experienced a comparable neurological event. You could relapse—’

‘—he almost always triggers his allergy in the afternoon, long after he’s showered and changed—’

‘–or, worse, do something completely unexpected. Your scan is showing some very odd readings. By all means, have a shower, get changed – but it really would be better if you stayed inside.’

‘What kind of readings?’

When he paused, the doctors came around him from either side, closing ranks and hiding the door from view. Dr Damlund held his datpad out in both hands, wagging it for emphasis as he spoke.

‘Normally your allergy causes the thalamus region of your brain to signal your somatosensory cortex. This is the same mechanism by which *everyone* experiences pain, except that your thalamus appears to trigger without prior activation of the nociceptors in your skin and peripheral nerve in your spinal cord.’

Two blinked away the jargon, then shrugged. ‘So? I feel pain when my body hasn’t actually felt pain. You’ve known that for ages.’

Damlund pulled back a little, glancing over Two’s shoulder.

‘Well, during this most recent... incident, there was no thalamic signalling. You yourself described the event in Favourite Blue as painless.’

I lied, Two thought. There had been fingers digging their way into his skull, ripping flesh and bone so as to let *something* inside. Had they really not been able to see it?

‘So?’

Dr Damlund pursed his lips. ‘So... we aren’t sure. Something has changed.’

‘Which is why it would be better if you didn’t wander too far from the medbay,’ Dr Yamata’s voice said from behind him. ‘It may have been an isolated event – some kind of reaction you’re unlikely to experience here at home – but we can’t predict that.’

‘I’m not staying in here all day.’

He circumnavigated the doctors standing in his way. Neither of them reached out to restrain him physically, but he put on a boost of speed just in case.

‘Two, we can’t be sure—’

‘I’ll let you know if anything weird happens!’ he called over his shoulder. Then he was out, swaddled by the closing doors and the soft grey hall. The ridiculousness of his own statement hammered home – ‘I’ll let you know’ – and he pranced to his bedroom, grinning.

The magnitude of what he’d done only set in after his shower, while he paused to let the front door open. Air rushed over his damp skin, smelling of lavender and sun. If that wasn’t enough to push away the last of his fatigue, the realisation was: he’d stood up to the doctors. Better, he’d ignored them completely. Gone against their wishes and just... left. It would have been unthinkable only a few days ago: *Four* was the one who didn’t listen, who broke rules and went out of his way to annoy the adults.

He focussed on clearing the ridge and getting into the forest as quickly as possible. The doctors might change their minds and come after him. Or, more likely, Aleph or Bet would pop into the medbay for a visit. If the carers didn’t like what they found, they’d *definitely* come after him.

And it wasn’t like he could hide from them.

The epiphany of last night returned, infused with the contradictory impressions of accepted wisdom and fresh insight. Three was right. The doctors and carers had lied on at least two counts, both regarding their wires. The scans weren’t performed in order to retrieve medical data recorded over the previous twelve hours. Also, recording the wards’ neuronal activity wasn’t the *only* thing the wires did. It couldn’t be.

It couldn't be. How else could they have found him in Favourite Blue? He'd been off school grounds. Sharlezene could have taken him to any of a million places within the dome, and yet they'd found him and brought him home.

Two ran a hand over his bare scalp, picturing the silver threads he'd glimpsed in the bathroom mirror. There was no tactile evidence of the wires twisting in and out of the epidermis, just the feel of his own flesh: smooth on top and a little nobbly where neck joined skull. They were invisible to the touch, difficult to see with the naked eye, and impossible to miss with his allergy.

Not so true anymore, though. Where had the pain of the scanning process gone? How was it possible for it to disappear so suddenly, so completely?

A breeze pulled through the canopy overhead. Two froze, thinking there were syllables sliding through that sound, but then the wind dropped away. There was nothing: only his own breathing, the pulse in his ears, and the scratch of his shoe against a dried leaf.

He let his heartbeat drop back to normal before moving on. If his suspicions were correct and the wires *somehow* provided the medbay with twenty-four hour coverage on the wards' physiological states, the doctors had seen that spike in adrenaline. Were they even now trying to interpret the fight-or-flight response, or was it not quite so live as he imagined? Maybe the assistants went through the data, tagging unusual activity for later inspection?

Two caught himself glaring at the trees he passed, then tried to shake himself out of the glower. It wasn't the *trees* inside his head, spying on his reactions and trying to decipher them. As if he were a code to solve!

'If I were, they'd be failing,' he muttered, and kicked at a bush tangled around the foot of an oak. Leaves and twigs flew in all directions.

The breeze picked up again and Two cocked his head. Still no whispering, not even the low-level modulation he'd caught a few times on the very edge of hearing. Nothing. Had he imagined it? Maybe his allergy *was* actually gone – he just happened to be going crazy at the same time.

It was then he stumbled out of the bracken and onto a one of the many paths that criss-crossed through different parts of the woods. He thought he'd been wandering, enjoying the freedom bought by his own insolence, but he recognised this particular trail as easily as he did all the others he and Four had worn into the wilderness: this one led north-south, linking the cattle barn to the southern fields.

Two was headed north, to test his allergy against the only other electronic sources in the valley.

Neither the barn nor the veterinarian's hutch were as irritating as the medbay, but he always got solid allergic reactions from them. He could always feel himself approaching the northern structures as surely as he could the house fading behind him.

Like now, he thought. There aren't any whispers in the wind here.

If those syllables slid into being again when he neared the barn, would it mean anything? Was there any way to know for sure?

And, taking three quick steps up to mount a rise in the land: would the doctors see a difference? His final conscious moments in Favourite Blue had been worse than a scan – splitting flesh and splintering bone – and yet they'd believed him that the "incident" was painless. The only reason they'd do that was if emergency scans had backed up his words, so... their devices hadn't been able to pick up whatever had occurred.

Would they be able to see the whisper?

He'd been so angry at them for not picking him up after M Satoshi's desk. That, too, had stolen a sliver of his memory; he couldn't remember standing up, walking to the wall, or pressing himself against it. Maybe, whatever this new thing was, the doctors couldn't see it happening.

Possibilities whirled through him, lending speed to his steps. A full half hour's walk disappeared in a knot of heaving breath. Then he pulled up short, glimpsing unexpected shapes through the trees ahead.

The barn wall loomed between the trunks and scrub before him, top section jutting into the late morning sun and flashing a brilliant white just before it cut out of view behind the forest canopy. The fenced lane along which fieldhands herded the cattle was also visible as a series of horizontal lines. Decades of twice-daily hooves had worn the land down into a channel, making most of the lane invisible from his current vantage point, but it didn't matter. He had eyes only for the barn.

Every part of him nammered that it was too soon: he hadn't walked far enough yet, he still had a ways to go. He hadn't realised – until now – how much he relied on his allergy for navigation. The huge, electronic chunks were as much a system of landmarks as the paths in the woods, or certain, distinctive trees.

Not anymore. He hadn't felt the barn's approach. Or, more accurately, he hadn't felt his own approach on the barn. Ahead of him lay a long stretch of nothing: more forest, according to his allergy.

His sense of sight revealed the lie. Long, white wall, as high across as he'd ever seen. Featureless from this angle, although he knew there were banks of massive, ever-circling fans along each of the two shorter sides. The forest blocked his view of the slate-coloured tiles and solar panels on the roof.

He waited a hundred paces or so from the edge of the forest, as if the barn might pounce or turn or breathe if only he was patient enough. Two couldn't feel anything, even when he began sidling forward. He went from trunk to trunk, placing a hand on each as if to draw strength from the wood, until at last there were no more trees to hide him.

He definitely should have been able to feel it from this close. In his mind, the barn had always been a pulsing tower of bramblewire and glassweed: not as sharp or as dense as the medbay, but bigger. Hard to miss in the nothingness of fields and forest. Now, though...

Two tossed the thought aside. No physical sensations, fine; his allergy had changed. He couldn't exactly mourn the loss of pain.

The question now was whether the building would whisper to him.

Leaving the shade, he hopped over both the fences on either side of the lane and crept up to the barn. The roof wasn't any more visible from the base of the edifice than it had been from within the woods, but he could now see the hard demarcation etched against the sky: white, white, white, ashy border, blue. He kept his face pointed up at this line while he followed the wall around, arm stretched out and two fingers dragging along the surface.

Waiting for something – someone? – to speak to him.

'Two!'

He jumped, snatching his hand back. The voice hadn't come from the barn at all, but from several feet away, straight ahead. Though the sun hadn't been shining directly into his eyes, it took him several moments of squinting to resolve the figure before him into

'Sibb?'

'We thought you were ill,' the fieldhand grinned. 'Recovering in the medbay is what Aleph said.'

He strode forward and, before he could react, Two found himself gathered up into a sweaty hug. Overwhelming, but not unpleasant. He did his best to return it, laughed, and said, ‘You’re squishing me!’

‘Sorry, sorry.’ Sibb put him down and took a step back, eyes sweeping him from head to toe. ‘Did I hurt you? What are you doing outside?’

‘I’m fine. Not just from you, but from *everything*.’

‘Aleph said you had an allergy attack yesterday, after school.’

Two nodded, then shook his head. He rounded it off with a shrug. ‘Kind of. But I’m OK, I promise.’

The fieldhand continued to examine him with narrowed eyes. Was he about to be ordered back to the medbay?

‘You look alright,’ Sibb muttered. ‘Good, in fact.’ He smiled. ‘A lot less grumpy than you’ve been the past week.’

Two laughed. ‘Yeah.’

‘Maybe I need to get an allergy like yours, eh? Looks like a real mood booster.’

He retraced his steps, going back to the corner of the barn and retrieving loops of hose abandoned on the path. ‘One of the feeder lines busted in about twelve different ways, all at once. Want to help me out?’

Two nodded, eager not just because it was an excuse to go inside the barn. Very few of Aleph’s duties took him within the whitewashed building; it was a place for the fieldhands and veterinarians. And cattle, of course. The only time he’d ever seen the carer inside was to approve the euthanasia of a heifer whose labour had gone terribly wrong. Neither cow nor calf had survived.

Conversely, there were many reasons he might be in the fields right now. Passing through the barn's mammoth front door – wide enough to accommodate twenty bovines shoulder-to-shoulder – Two felt himself escaping the sweep of a tireless, roving eye; whether that of his carer or of his wires, he had no idea. In any case, the sense of security was probably false.

Inside was cool and sweet and silent. The barn consisted of a single floor stretching many hundreds of yards in every direction. Generally the animals were allowed to bed down wherever they chose, hence the layer of wheat straw that crackled underfoot. Two and Four had both spent long hours mucking out this building: shovelling endless heaps of dung into wheelbarrows, hauling it off to one of the sheds, returning with an empty barrow, and beginning again. Sometimes they were at it long enough to finish the job, at which point they and the other fieldhands on bedding duty would move onto scattering fresh straw.

Only two places in the barn were kept clear of straw and dirt: a feeding trough on the left hand-side, where fodder was delivered via forklift, and a milking area in the far right-hand corner. He and Sibb set off in this direction, passing jumpsuited figures with shovels in and wheelbarrows at hand. They bent and straightened, bent and straightened. Two's back ached just to watch it.

Sibb laughed. 'I don't think you'll have to do that again anytime soon,' he said. 'Aleph and Bet need you to keep your strength for school.'

'Don't tell Four that. He'll take full advantage.'

'Oh, I wouldn't be so sure. It might not be mucking out a barn big enough for a thousand cattle, but community service will keep him busy. Maybe even tire the trouble out of him.'

Two cocked his head. ‘How do you know about that?’ Then he shrugged to himself. ‘I guess Aleph has talked about it.’

He and Sibb carried on a few more paces, serenaded by the shushing of straw against their trouser cuffs and the scrape of shovels on concrete. Two threw himself outward, seeking the electronics that kept the fans whirring, the temperature regulated, the air purified, the dirt sampled and protected from bacteria... but it was a half-hearted search at best. It wasn’t that there was nothing to feel; on the contrary, he knew there was. They just no longer registered.

‘Not exactly,’ Sibb said at last.

‘Eh?’

‘Aleph didn’t mention the community service. At least, not to me.’

‘What? Then how do you know?’

‘It still feels a little weird to talk about,’ Sibb replied, his grin lopsided. ‘Because of the contract.’

‘The one that stopped you telling me about the dome?’

Sibb nodded. He readjusted the coils of tubing looped over his shoulder, then glanced sideways.

‘You mean,’ Two said, ‘you’ve *seen* Four doing his community service? Out in the city?’

It was impossible to picture with any clarity. Even knowing that Sibb lived in the dome, Two still couldn’t really imagine him *there*. What did he wear? What kinds of things did he like doing? Was he married? Did he have children?

The thought of Sibb going home to a wife and child made Two frown. Even worse, somehow, was the thought that followed: accidentally running into Sibb and his family while

they were out and about, doing normal family things. He eyed the man, trying to imagine him wearing anything other than a fieldhand's jumpsuit, maybe carrying a child.

'How long do you spend out there?' he asked. They ducked between the bars ringing the milking area. Sibb went straight over to the offending machinery: a disassembled milker laid out across the concrete floor, looking more like a dissected spider than anything else.

'You know I'm not here every day?' Sibb asked. Two nodded. 'All the fieldhands work half shifts, so I spend about half a week at home and half here.'

The words "at home" rang through him like a blow. Two had time to get his face under control while Sibb dropped the coiled hoses and bent toward the machine.

'And you saw Four?'

'Yep.' The man glanced up. 'Maybe I'll see you, too. When you're well enough to go into the city again.'

Two opened his mouth to tell him that would be sooner than anyone thought, but just at that moment Sibb reached out and flicked on the milker. The central piece – a power pack the size of a fist – emitted an empty whooshing noise, sucking air through openings freed of their nozzles and tubing.

'Strip her bare and she works fine,' Sibb muttered. 'OK, let's put her back together, figure out which pieces have gone bad.'

Two was slow to respond. He was too busy listening to the whisper that had burst forth from the machine.

## FOUR

Aleph was the first to finish eating breakfast. Bet was next. Instead of rising from her seat, however, she dipped her hands out of sight beneath the table. They reappeared holding the datpad, which she placed to one side of the toast rack.

Three heard the *clunk*-ing noise.

‘Did you do it?’ she asked. ‘Did you deactivate the network connection?’

‘Yes,’ the carer said. ‘You can take this datpad back and forth between school as much as you like.’

‘And the Braille program still works?’

Three was already reaching forward to check for herself. Her arm knocked against the glass of juice beside her plate, sending a sheet of apple juice across the unclaimed bacon and toast in the centre of the table. Bet looked thunderous, but Three didn’t even pause: she slumped back into her seat, running her hands all over the datpad once before switching it on.

As the carer opened her mouth, Four leapt up and snatched the kitchen towel she’d used to carry the bacon tray over to the table. He mopped at the spill; the toast was lost, and the leftover bacon would probably have an odd flavour, but he was able to soak up most of the mess on the table itself. He glanced up only once. Bet had closed her mouth again, electing instead to watch his efforts with a guarded expression.

‘Well,’ she said, while he carried the towel over the sink, ‘finish your breakfast. You’ll have plenty of time to practise on your way to school.’

Outside, Bet waved to them from the garden patches. ‘One of us will always come to fetch you after school,’ she said, ‘but you don’t need us to drop you off every morning.’

If Three had any thoughts on this, she kept them to herself. As soon as she was seated, she resumed running her finger across the datpad. Four waited until the doors had closed before asking, 'Is it still working?'

'Yes,' she said. 'The same number of programs are listed in the Braille index, and the first lesson looks the same.'

'The alphabet?'

'Yes.'

She looked as though the scuffle in the medbay had never occurred, but Four's eyes kept going to her arm. The only *visible* marks were hidden beneath Three's sleeve.

'Does it still hurt?' he asked.

'Does what hurt?'

'Your arm.'

Three's finger paused. 'What? Oh.' She waggled the appropriate elbow, still refusing to release the tablet. 'No, it's fine. I told you, it doesn't hurt.'

'You said I'd hurt you worse, in the past.'

At this, Three finally straightened up.

'You have. You sprained my wrist.'

When he cut several notches into her shoelaces, almost but not quite severing them.

'And the ropeburns lasted for weeks.'

When he'd *stolen* the laces from several pairs of shoes and tied her to a tree.

'I'm sorry,' he said.

'It's fine,' she said. 'You're not like that anymore.'

He wanted to ask how she could know that. Yes, they'd been talking civilly for several days now, even coming to agree on certain things regarding their caregivers. How could those few, short days of confluence make up for a lifetime of bullying? No, not bullying: abuse. Four had used every available opportunity to shame or hurt her. How could she look at him now and be so confident his change was permanent?

Not look; she couldn't *see*. Strange. He'd spent their entire lives reminding her of the fact, only to start forgetting it himself.

Her eyes were pointed toward him, though. They danced around the area his face occupied.

'Thank you for apologising,' she said.

'I mean it.'

'I know you do. Just like I know you didn't really mean any of it at the time.'

'But... I did.'

'You were scared. That's not real hate – it's just being scared.'

Her hand curled around the datpad as if to resume her work with the Braille. Her finger took up its position on the dots. Four watched it rather than her face, waiting for it to resume its smooth traversal of the screen.

'Four?'

She's going to ask, he thinks. She's going to ask and I'm going to tell her...

They are two years old: all of them in that narrow strip of time between Four catching up to the others and Three aging on ahead. Bet sends them out to the front garden, telling them she has some accounts that need attention. She will keep an eye on them through the windowall in the living room, so *stay where she can see them*. Four is already flying out the door, streaking

ahead of the others to the place where wildgrass meets synthetic wooden border meets pebbled play area.

The crunch and grind of stones beneath his shoes as he hurtles forward.

‘Archon evermore!’ he shouts. ‘I’m Archon evermore and you can’t catch me!’

A wail goes up from behind him.

‘I don’t want to play Archon!’ Three shouts. ‘It isn’t fair!’

Four turns long enough to poke his tongue out at Two. His twisting shoes send up a magnificent squeal in the stones, then another as he turns back and hoists himself up the climbing frame.

‘Don’t worry, Three, I’ll push him off for you!’

Four grins as a second pair of footsteps come scrunching through the stones, heading directly toward him. He hauls himself upwards, into the breeze and the sun. The metal is cool and slick beneath his palms. He easily scales to the first horizontal portion before Two has done more than arrive at the bottom.

The climbing frame is a large cube made up of intersecting metal bars. On top is a much smaller cube, making the apparatus resemble a kind of pyramid. Four rises to his feet and runs across the first horizontal segment, the soles of his shoes setting down on each bar for only a moment before shifting onto the next. He can both hear and feel Two climbing below him; the structure vibrates a little under the weight of a second body.

‘I don’t want to play this! I can’t do it like you!’

Three hasn’t even fully crossed the play area yet; by the sound of her voice, Four puts her somewhere near the swing set.

He pays no mind, instead scurrying up to the second and highest horizontal portion of the climbing frame. There he turns and crouches, surveying the scene.

Two is crossing below him, also doing it standing but much more slowly than Four's all-out sprint. Three is indeed down by the swings. One of her hands plucks at a metal chain, making the seat dance, but her attention is ahead, on the boys she cannot follow.

Behind her, the land rises up and away from them, turning into green hills and, much further away, forest. Four rises to his knees and shades his eyes, staring at the horizon. Aleph took them there once. They hiked up to the ridge and had lunch on a blanket, but the carer wouldn't let them explore on their own. 'It's too big. You might get lost in there.'

Two is crouched beneath him, hands on the bar directly below where Four's knees rest.

'I'm Archon evermore,' says Four, 'and you can't come up.'

'I'm only here to kick you off,' Two replies. 'Then Three and I are going to play something else.'

'Archon evermore!' Four shouts, loud enough that it will carry to the girl on the ground.

He chops at Two's hands wherever they try to grip his level of the climbing frame, scratching with his nails when the other boy refuses to let go. One time he started stamping Two's fingers with his shoes, but that had made Bet come out of the house and he'd been grounded for a few days, so he doesn't do that now. Instead he keeps shouting and laughing, knowing how impossible it is to unseat an archon once they're installed at the very top.

'OK, you win, now can we do something else?' Three calls.

'It's not winning until he gives up!' Four shouts back. 'And he promised you he'd throw me off, so he can't stop!'

Two grunts, rebuffed by a particularly vicious swipe of the nails. Four thinks he might actually give up when something rises out of the trees on the horizon. It swoops toward him faster than he can look and clips him above the left eye.

The pain is immediate. Later he will reflect that it didn't hurt *that* much; the surprise and fear do more damage.

Half his vision winks out. When he feels something wet seeping out of his eye socket, he thinks that whatever hit him has popped his eyeball. He screams and rears back, hands going to his face and trying to scoop the liquid back up.

Four loses his balance. His momentum carries him backwards and through the bars that make up the apex of the climbing frame. The last things he remembers clearly are the lurching sensation of a misstep and a half-aborted flail for balance; the urge to preserve his own eyeball is too strong and he never completes the grab.

The doctors tell him, when he is able to digest such information, that he hit his head on a total of five bars during his fall through the structure. They are amazed he isn't dead, although he overhears this whispered remark rather than having it told to his face. In addition to the head trauma, he also has a broken left humerus. The rest, incredibly, is all bruises and scrapes.

The adults think they understand why, upon waking in the medbay, Four's first reaction is that of total panic. He flounders, screams, and needs to be restrained in order to prevent further injury. They try to calm him, to orient him to the idea that he's been in a serious accident and unconscious for the past several days. The explanations have no effect.

Then he regains the use of his tongue. No matter how urgently the carers tell him that Two isn't dead, that the other boy wasn't even *scratched*, the child is inconsolable. He only calms when Aleph fetches the other wards and lines them up at his bedside.

Four's eyes are bloodshot and bruised as his gaze shuttles between the toddlers before him. The words that flit across his mind will stay with him for the rest of his life:

She said she killed him. I saw him die.

Four swallowed. He'd guzzled two whole glasses of juice at breakfast, but his mouth felt as though he hadn't drunk for days.

Three, he sees, has gone back to the datpad. Her finger scans the lines smoothly. She does not ask him what he saw, and he does not tell her.

The silence accompanying them out of the uber wasn't uncomfortable, exactly, but Four felt it too full of potentials to be entirely pleasant. The city noises rushed in to fill the place where their words might have been: jagged, half-lit things, cries and shouts discontinued by distance or other, louder items. He allowed her to take his elbow. She followed him.

It was only when they entered the school that something broke them from their reveries. A group of students were clustered a few metres away from the front entrance. One of them nudged another and, before Four could grasp the shift in atmosphere, he and Three had been surrounded.

'Lookit what we found,' said one of the girls. She gave Three a poke, laughing when the blind girl flinched away.

'Gene-foxed ploidy-freaks,' a second girl muttered.

'The ones Shar *hasn't* scouted,' added a boy. He was taller than the others in the group, with hair slicked over one side of his head. Something about the nose rings sparked off Four's memory.

'You're Phi, right?' he asked.

'*Pho.*'

The students – six in total, an even split between boys and girls – closed in tight enough that Four doubted he'd be able to push his way through. Even if he managed to throw himself between two of the girls, there was no way Three would be able to follow without being grabbed.

‘Pho, yeah. You had a go at Two in the canteen a few days ago.’

At this, the boy turned his head and spat.

‘Woudda had him as well, if Shar hadn't decided she *liked* him.’ He grinned. ‘But she's not here now.’

A girl on the opposite side of the circle stepped forward. She reached out and ran a hand down Three's scalp, her painted nails glinting in the light of the overheads. Four sidled around, swatting the hand away. The gesture hadn't solved anything – now it was Pho who had a clear line to Three – but it bought him a few seconds.

Over the long-haired girl's snarl, he said, ‘Shar's not here, but I might have something I can give you. Something worth *skipping* this whole... whatever you had in mind.’

He indicated the ring of students around him, not allowing himself to stop and think about what he was doing. M. Jacquard had said this wasn't a good idea. He'd said having something they wanted would only make things worse, but what else was Four supposed to do? Just sit here and take whatever they wanted to dish out?

Pho's expression darkened.

‘I toldya!’ he snarled. ‘Didn't I tellya they'd try something like this?’

‘Something like what?’ Three asked, but her voice was lost in the swirl of growls and muttering that rose from the students as they all stepped forward. There was no room for manoeuvring now.

‘Only a matter of time,’ Pho continued. ‘I *said* she’d get all lookie-lookie with the big-blues. Wait too long and it’ll slip its way into every get-rich foxer with a Lottery win.’

‘We don’t want your genes, you ploidy bitch,’ someone said from behind Four’s back. ‘Pretty little r’s don’t mean shit if they’re broken.’

‘My genes?’ Three asked. ‘What—?’

Then Four got it.

‘I wasn’t offering you her *recessives*,’ Four spat. ‘I was talking about *lavender*.’

He registered a flicker of hesitation in several faces. Before he could judge whether the bait had been taken, the front door of the school irised open and a solid wall of students poured into the hall. Many gawked at the wards and their would-be attackers as they passed, but the flood was too heavy to allow for anyone to pause and take in the show.

Pho’s eyes narrowed. The ring was loosening around them, making Four’s heart pound even harder.

Whatever they want to do to her, he thought, they don’t want witnesses.

‘Til next time,’ said the girl with the shiny nails. She kissed the tip of a finger and held it out toward him. Then she sank into the crowd and disappeared. One by one the circle melted away, until only Three and Four remained fighting against the current.

Three said something, but he couldn’t hear it over the echoing shouts and laughter. ‘What?’ he asked, leaning closer.

‘You were never like them,’ she repeated.

For the rest of the morning, Four found himself running through the fight again, imagining alternatives, wondering how he could have done something different. Should he have mentioned the lavender? M. Jacquard seemed convinced it would make things worse, but how

could that be? What he *should* have done was turn around and left the building as soon as he'd seen Pho and his clump of students; he'd *known* something was wrong.

'That's the sixth time you've drawn something and erased it again.'

Magnus' voice came out of the darkness to his left, like someone lobbing a brick. Four started pulling his stylus back, then thrust it forward again and finished obliterating the half-drawn circle.

'You're one to talk,' he said. 'How many times have you erased and re-drawn those little black lines?'

To his surprise, Magnus' answering grin was lit by the glowing field of a blank voxelbox.

'Finished that project,' he said. 'Time for something new.'

'Finished?' Four goggled. 'But... it was just a bunch of lines.'

'You'd like what it turned into.'

Four snorted and turned away.

As if sensing the black mood hanging around him, Sibb didn't stop to make chit-chat with the depot manager; they signed for their equipment and were on their way to the first worksite with such haste that Four barely had any time to reflect on the final narrowing of Pho's eyes. Had that look been one of assessment? Resent? Disbelief?

'Weeding, watering, and pruning,' Sibb said, handing Four a pair of shears. 'Same as yesterday. Only difference is the size of the housing block.'

Their pod had delivered them to a place called Kolefni Plein, which Sibb said neighboured their worksite. He pointed to a monolithic column of glass windows, across which danced a constant spray of holographic advertisements, and led them in the opposite direction. On the other side of the platform, separated by a large greenery display, lay a trio of round

towers. They appeared to be connected to one another at various levels by walkways, upon which Four spied hedges and trees.

‘Is that where we’re going?’ he asked.

Sibb confirmed it was. ‘There are three community garden levels, so we have to split up. You take the top and work down, I’ll start low and work my way up.’

In addition to handing over all the equipment he’d need – a process that included securing a belt of gardening tools, slinging an overlarge duffel over one shoulder, and carrying a smaller bag in his left hand – Sibb made him hold out his free arm. He snapped a plastic bracelet over Four’s wrist.

‘This is your pass,’ he explained. ‘It’s keyed for all your worksites, so the housing unit will respond to your leva and door requests. If you lose it, you’re stuck inside.’

He patted the duffel on Four’s shoulder.

‘Whatever you do,’ he said, ‘don’t let the fertiliser out of your sight. Don’t even set it down, if you can help it.’

Four held back a groan. Sibb had carried the fertiliser yesterday; he couldn’t picture being able to manage the weeding, watering *and* pruning while dragged down by fifteen kilograms of manure. No wonder the fieldhand was such a tank: he shovelled the shit on one end and carried it around for hours on the other.

The uppermost community garden was about twenty floors beneath the top of the towers, connected to each of the buildings by railed walkways. Crossing to the centre, Four found himself in a space roughly the same size and shape as the bowled valley at home. Metal and synth pathways wound between rows of allotments, not unlike the dirt paths and garden patches

at home. These, however, were labelled and fenced using whatever the owners could afford, ranging from synth pickets to metal cages with locked entrances.

Four's business was not with the private allotments, but rather with the greenery bordering the garden platform. He arranged his equipment, resolving to shove the fertiliser along with his feet as he proceeded, and set about weeding. Sibb had said a water uber would pass over at exactly four o'clock. He had no palm pilot or wristie with which to check the time, but he guessed he had about half an hour to weed and fertilise. Then the watering. Last of all, a quick prune of the hedges before going to meet with Sibb on the middle layer.

The garden was busier than he'd expected. In addition to a handful of residents tending their plots, there were also a fair number of family units strolling around the outer edge: a father with his son, pointing out landmarks in the cityscape; a woman trying to coax a pair of twins into taking some kind of medication; and another whose older son was absolutely refusing to help with the allotment. He stood to one side while his mother weeded neat rows of carrots.

Four listened with something like amusement, pulling his bag of fertiliser close as a group of unchaperoned five year-olds passed by the path behind him. One of them made a huffing noise in the back of his throat, and Four knew he'd guessed their intent correctly.

'What's that, what's that?'

The little boy was on his father's shoulders, tugging the man's dark hair with one chubby fist while using the other to point straight ahead. Four straightened onto his knees and peered over the shrub he'd been fertilising.

The boy was pointing at the large bank of windows opposite the housing complex, to the building Sibb had called Kolefni Plein. When they'd first arrived, advertisements had been scrolling or flashing or unfolding across smaller groups of windows, turning the edifice into a

constantly shifting maze of visuals. Now, however, those individual adverts had disappeared. The semi-transparent windows were dark and opaque, forming a thirty-metre tall canvas for a single image.

A woman wearing a sleeveless black dress bent over a cello, her skin so dark that she nearly blended away into the background. The brightest splash of colour came from a mask she wore: the orange- and black-striped face of a tiger, bobbing and swaying over the instrument. Though she bowed frantically and her fingers moved up and down the fretboard, the image produced no sound. Instead, smoke began rising from the strings, like rosin dust.

‘It’s for the Festival,’ the man said. ‘You’re not old enough for that.’

‘I wanna wear a mask this year!’

Four kept his eyes on the advertisement. Just as the man had said, the smoke arranged itself into letters, then a single ghostly word: *Festival*. This hovered before the woman, shivered out of existence, and was then replaced by: *Book Your Mask*.

When this second phrase dissolved, more white wisps poured off the place where bow met strings. This time, however, it arose in such quantities that it began to obscure the blackness of the woman’s dress, of her skin, and the background. Still she played, until she appeared to be seated in a dense steam.

‘Pixel taggers,’ someone behind him muttered.

Four looked around. With some surprise, he noted most of the garden’s occupants had stopped what they were doing to watch the advert. The little boy was jigging around on his father’s shoulders. Still pointing, he shouted, ‘Lookit the mask!’

The image was changing. Of the original elements, only the tiger's mask was still visible in the fog, orange even brighter against the white field than it had been the black. It loomed large in the centre of the plein's surface.

Four rose to his feet, peering over the hedge he'd been tending. Quite a few people on the plein had stopped, watching the advert as avidly as their counterparts in the housing complex behind them.

'What's happening?' he asked nobody in particular.

The father glanced over. He winced, reached up, freed the hair clutched in his son's fist, then said, 'Someone's hacked into Kolefni Plein's projection system. They're hijacking the advert stream – pasting their own images over the original.'

'Looks like someone who knows what they're doing,' chimed in a third person. 'Never seen a pixel tag switch over so seamlessly.'

The tiger's mask had grown large enough that its sides began disappearing off the building. Four realised two things at the same time: first, that the 'camera' was diving through the right eyehole of the mask and, second, that the space beyond the tiger's eyes was not pure white. Some image existed on the other side and they were being pulled toward it...

At the moment when the tiger's mask was merely an orange border around the advertisement, a new image coalesced. Recognition hit him like a physical blow. He was looking at a row of five shelves containing potted plants, bright splotches of bloom that gave way to a single black orchid in the centre. His artwork! Someone had stolen *his* artwork and thrown it up on the side of a building. He squinted. They'd even stolen the reflection of the face!

Four whirled around, looking for someone to share his outrage with. One or two people glanced his way, then back at the side of Kolefni Plein. The five year-olds had been creeping up behind him while he wasdistracted but fled, squealing and giggling, when they saw the look on his face.

No, he thought. It wasn't a *they* who'd stolen his artwork. There was only one person who'd had access.

Magnus.

What had he said that afternoon? He said he'd finished using the black lines – that Four would love what the project had turned into.

He'd stolen his drawing and turned it into some kind of... pixel tag!

Four spun back toward the building in time to see the flowers explode off their stems, petals bursting outwards and obscuring the rest of the image. The three blooms of the black orchid became words superimposed over a swirling, pulsing field of colour.

**The train has derailed.**