

# LIGHT UP THE CLOUDS

Greg Egan

**Greg Egan last appeared in *Asimov's* with "Instantiation" (March/April 2019), which is also the title of his latest collection of stories. In his new tale, a civilization living in the floating forests of a gas giant that closely orbits a dwarf star must discover what is happening beyond the clouds.**

## 1

Tirell stood on the platform at the edge of the forest, looking out at the banks of red clouds. As he waited for Anna's glider to come swooping down, his eyes were drawn to the swirling patterns below, where stronger winds set the thicker clouds roiling, spinning off vortices in thrillingly strange hues: deep blues, rich browns, grays shading almost into white.

"If you fall, it won't look so pretty," Selik joked.

"That's true." You could only see the patterns from above; if you were down among them, at any one point you'd be surrounded by a monochromatic fog—while being crushed to death with nothing to show for it.

Tirell took a few steps back from the edge.

"Here she comes," Rada announced.

Tirell followed Rada's gaze and caught sight of the glider, descending in a broad, shallow helix that brought it almost directly above them before carrying it away again. He knew that Anna was an old hand at this maneuver, but he couldn't help feeling a visceral sense of how terrified he would have been in her place, if he'd been the one controlling the rudder.

On its second approach, the glider was much lower. For a moment Tirell thought it might miss its target, but then he realized he was blind to the true curvature of its path, misjudging it by its foreshortened appearance. The glider flew directly into the mouth of the clearing, shot straight past him and the other onlookers, and dived into the wall of soft foliage that some ancestral aviator must have cultivated generations ago, and a thousand grateful successors had tended ever since.

The three of them ran toward the site of the impact, but before they could reach it Anna had already clambered out, apparently unharmed. As Tirell drew nearer, he could see that the glider, though strewn with leaves and tangled in the vines, had suffered no real damage either.

Everyone worked together to pull it free, then they dragged it across the platform and secured it in its proper place—using thicker vines, in a more orderly arrangement.

With the job done, Anna turned to them and announced, "I think the cousins might be back."

Tirell strove to interpret her demeanor, wondering if she was teasing her friends. As far as he could tell, she was perfectly serious, but he would have thought this claim was something only a child could believe.

"The thing's still up there?" Selik asked warily.

"Absolutely," Anna confirmed. "But now there are three of them. All in similar orbits."

Selik hesitated. "Are you sure you're not just seeing different asteroids every time, coming and going from the equilibrium point?"

"Not if they're doing it at random," Anna replied. "There's an object of the same size and brightness in the same orbit as I saw on the last trip. So either it's the same thing as before, or whatever took its place managed to mimic its appearance and slip into exactly the same trajectory. I can't speak to the fate of the other two yet, but if they're still following their present course when I return, that would stretch the bounds of coincidence."

Rada said, "With three asteroids all disturbing each other, it would be absurd to expect them to remain in the region at all, let alone retrace their orbits."

"Of course," Anna agreed. "If these are natural objects, moving under gravity alone, they couldn't possibly hang around much longer."

The group fell silent. Tirell could almost hear a collective rejoinder that only tact was keeping anyone from uttering: *If these are natural objects?*

Anna scowled. "So do you all think the cousins are dead?"

Selik snorted. "Dead or alive, I can't say I've been expecting a visit."

"Why not? Because it wasn't sooner?" Anna brushed an insect off her shoulder and sat down on the platform, gesturing to the others to do the same. "I'm serious! If our own ancestors struggled with the Changes, why wouldn't the cousins have struggled just as much? They could have lost everything and had to start over, as many times as we did. And if we still lack the means to visit *them*, why should we be shocked that it took them this long to make the same journey in reverse?"

"But we don't know that they survived at all," Rada stressed.

"That's true. But we survived what they thought was unsurvivable, so we could have been as wrong about their chances as they were about ours. And that's just the way we tell the story now: because we didn't die, we pretend we always knew that we'd made the better choice. But maybe at the time, both groups were glad that the other would be trying a different strategy—improving the odds that at least one would succeed."

Selik was unconvinced. "All these 'maybes' have been plucked out of the sky before. That's the trouble with invoking the cousins: you can call on them to explain anything."

"So how do you account for these observations?" Anna demanded.

"The observations could be wrong," Selik replied. His tone was respectful, but Tirell was still shocked by the bluntness of his words.

"I know what I saw," Anna said mildly.

"Anyone's eyes can deceive them." Selik looked uncomfortable, but he wasn't retreating.

"You mean, especially at my age?" Anna asked. She turned and gestured at the glider. "So why don't you go up and check for yourself?"

"You know I don't have the experience." Selik seemed to regret his choice of words immediately; if he deferred to her skills as a pilot, why not to those as an observer?

Rada said, "Why not take a fresh pair of eyes with you, next time?" She glanced at Tirell. "In a body still light enough not to weigh you down?"

Everyone turned to him at once, eyeing him appraisingly. Tirell felt his stomach tense, and he struggled to quell the fear rising in his blood. *They're joking*, he told himself. *About everything*. Anna was joking about the cousins, and they were all in on the joke except him. But now they were putting an end to the ruse by pushing it beyond their victim's threshold of gullibility.

“Would you be willing to do that?” Anna inquired. “It’s about time I had an apprentice.”

Her voice still betrayed no hint of mirth. And even Selik seemed to be taking the proposal seriously.

“I’m a fruit picker!” Tirell protested. He’d stumbled on the group in the market, overhearing one of their heated debates, but even when he’d started tagging along to their gatherings, he’d never expected to do anything more than listen—or at most, to interject with a question or two.

“I’m not asking you to stop that,” Anna replied gently. “This wouldn’t take up all of your time.”

Tirell did his best to consider the offer calmly, with the seriousness it deserved. He’d always wanted to know what lay beyond the clouds; until now he’d been content just to listen to Anna’s reports, but if even her friends started doubting her, what would her testimony be worth? He might as well have stayed in the market, where storytellers improvised wild confabulations that differed on each retelling, no more permanent than the clouds themselves.

“I’ve never flown before,” he admitted. “Not even to the closest forests.”

Anna was unfazed. “And why would you have? There’s nothing worth seeing there. We can take this as slowly as you like; you don’t need to become a pilot at all, if you don’t want to. For now, the most important thing is to have someone up there with me, to confirm what I’m seeing.”

Tirell put his fears aside. “All right,” he said. “I’ll come with you.” The next flight would still be many days away; he’d have plenty of time to change his mind.

The forest was already darkening, as the glistening bead of the Far Sun dropped away to the west. Tirell tried to imagine the time before the cousins left, when the Near Sun had supposedly been so much brighter that the whole warm half of the world had been uninhabitable.

He wasn’t sure if he believed that or not, though many people he trusted had repeated the same story. But it would take much more to persuade him that, not only were the most extravagant claims about the old days true, everything he’d once thought of as belonging either in the unfathomable past, or at an incomprehensible distance, had now reached into the present and was drifting around just above his head.

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“Take as much fruit as you like,” Tirell encouraged Delia. “They were almost falling into the sack.”

She gauged the weight of half a dozen, and chose two. “What do you want for them?” she asked.

“Leave it for the future.”

Delia scowled, as if she resented the obligation, but Tirell wasn’t short of anything at present.

“If you pick too many, you’ll kill the trees,” she scolded him.

“That’s really not true.” All the fruit parted from the branches eventually, but plucking it before it was buoyant enough to survive outside the forest did no harm to the parent, other than thwarting its ambition to give rise to a whole new forest of its own.

“I heard you’re going flying with that madwoman,” Delia informed him. Tirell didn’t reply; he had no idea how she could have learned about his plans, but they were none of her concern. “You’ll get yourself killed for nothing,” she said. “If you want some excitement, my friends fly back and forth to Lappa all the time. It’s a

short trip, but the winds can really set you spinning, so at least you'll be having fun if it all goes wrong."

"I'd rather die from a lack of air than too much of it," Tirell joked. "Anyone can fall into the depths, but how many people do you know who've fallen into the sky?"

"You're an idiot." Delia ambled away across the floor of dead branches, toward the pile of juicy larvae Madeleine was offering.

"You can weave me some new clothes," he called after her, fairly sure that she hadn't taken enough fruit in his entire tenure to have earned him anything of the kind. "Or just a new sack," he added.

Three of the infants who hung around the market crawled up to him, babbling happily, so he sat with them for a while, talking to them and feeding them mouthfuls of chewed fruit.

After a while they grew bored with him and headed over to try their luck with Madeleine. Tirell lay down beside his wares, and felt a patch of bark scrape against his shirt. Before the cousins left, or so the story went, even the cold half of the world had been so hot that everyone went naked. But surely they would have been scratched a lot more? Or was people's skin tougher then? Like his soles and his palms, but all over?

He drifted off to sleep, then was woken by someone prodding him with their foot.

Selik said, "If you still want to do this, Anna's getting the glider ready."

"Now?" Tirell had thought he had a few more days.

"She wants to take advantage of the weather while it lasts."

Tirell clambered to his feet. "I'll do it," he said. "She's a good pilot, I know she won't kill me."

"Of course she won't." Selik noted his hesitancy. "But?"

Tirell said, "I know you don't think the cousins have come back—but do you really think they ever left at all? Flew beyond the clouds, all the way to the Far Sun?"

"Not all the way," Selik corrected him. "The inner worlds keep their distance from it; it's not the same as we are with this one."

"You know what I mean." Tirell didn't doubt that there'd been some parting of the ways long ago, but falling out of touch with a group of distant relatives didn't really strike him as a convincing proof that they'd left the world behind.

"The cousins might have failed," Selik replied, "but I believe they did try to make the journey."

"How? How is that even possible?"

"They must have built some kind of vessel."

Tirell laughed. "That doesn't explain anything! If you ask me how to build a glider, I couldn't do it myself, but I could probably still convince you that someone else could. But once the air thins out to nothing, what is there to discuss? Gliders won't work. Buoyancy won't work. 'They built some kind of vessel' is just another way of saying that they did something no one understands, in order to achieve something no one knows how to achieve."

"We've lost a lot of knowledge," Selik conceded. "But I don't believe we could be wrong about the entire history of the Changes."

"People tell greater lies all the time," Tirell argued. "Just for amusement. 'The trees that talked' . . . 'The birds that raised a child' . . . 'The mite that slew the lizard' . . ."

"No one puts children's stories into the Recitation."

"But they do leave things out, apparently." The versions of the Recitation Tirell had heard were missing all kinds of things that Selik, Anna, and Rada had learned from their own reciters.

They reached the edge of the marketplace and began scrambling up the branches. Bark-colored lizards fled Tirell's approaching grip, always choosing the last moment to

abandon the camouflage of stillness for escape, sometimes scampering over his body, sometimes dropping and trusting the forest to catch them on a lower branch. Tirell felt perfectly secure as he climbed; if he did fall, the branches and foliage here were more than dense enough to stop him very quickly. But all this talk of the cousins was forcing him to picture a time when *the trees themselves* had fallen, and people had fled from forest to forest as everything in the cold half of the world began to die.

When they arrived at the platform, Anna and Rada were waiting. “Ah, there’s my apprentice!” Anna exclaimed, as if she’d just spotted an awl or a chisel she’d mislaid.

Tirell said, “Can we start with ‘passenger,’ and work up from there?”

The glider was already untied, but it took the four of them to drag it into place between the pulleys. Anna climbed inside, and motioned to Tirell to join her. He complied, but he was already regretting his decision. Now that he was on the verge of trusting his life to it, he couldn’t help noting that the glider was really just a hollow log with some fancily shaped boards attached. And unlike a living log, it possessed no buoyancy at all.

“Are you sure I won’t weigh you down?” Tirell fretted. Squeezed in behind Anna with his knees pressed against her back, he found it hard to believe that the burden he contributed was negligible. “I was planning to fast for a couple of days before the flight, but Selik caught me by surprise.”

“I never fast,” Anna replied, “but if I find we’re overloaded you might need to empty your bowels at short notice.” Tirell spent a moment in horrified contemplation before deciding it would be best to assume that she was joking.

“Are you ready?” Rada asked. She’d threaded the vine from the pulleys around the capstan at the front of the glider, and was waiting impatiently for Anna’s assent to proceed.

“We’re ready.”

Rada joined Selik behind the glider. Tirell turned and watched them at first, but as they began hauling on the other end of the vine it seemed wiser for him to look where he was going, even if he had no control over his destination.

The glider shuddered, then slid forward. Tirell had helped with the previous launch, running backward across the platform, amused at how light the strange arrangement of vines and capstans made the glider feel, while compensating for this generosity by making the platform runners move twice as far as the glider was advancing.

“Hold on!” Anna instructed him.

“To what?” But then he saw the two curved branches that Anna was holding, attached within the hollow, and he gripped them behind her.

Ahead, the mouth of the clearing grew nearer, exposing endless ranks of red cloud. Tirell weighed up the benefits of jumping out onto the platform while he still had a chance. If nature had wanted people to leave the forests, it would have let them retain the gas from the fruit they ate, instead of belching it out. But he was weighed down with pulp, and entirely free of the one ingredient from his diet that might have saved him.

The glider passed over the edge of the platform—and instead of soaring skyward it dipped alarmingly, heading for an elaborately twisted blue-and-white vortex far below. Tirell squeezed the handles so hard he could feel splinters digging into his skin, but then he saw Anna’s legs moving slightly, working the pedals that controlled the wing flaps, and the glider leveled out, leaving him staring over her shoulder at a sight less terrifying, but still utterly wrong: red clouds spread out ahead forever, without a single branch or leaf in sight.

He glanced back toward Maldo, but it was already dwindling into insignificance, like a tangled ball of twigs someone had tossed into the sky. “How will we find our way home?” he asked.

“I know the winds,” Anna replied.

"What does that mean?" Tirell complained. When someone asked for directions to the market, you didn't just smile and say: *trust in the leaves*.

"It'll be easier to explain when we're on our way back. For now, what we need is altitude."

Tirell had many more questions, but he decided to shut up and stop distracting the pilot. While he was in no position to rank the dangers they faced, his presence was certainly the most novel factor in the current journey, so the less impact he had on the way it unfolded, the better.

Anna muttered to herself as she examined the clouds. Then she seemed to make a choice, and sent the glider swerving gently to the right. The destination she'd selected was a disheveled red column, full of wind-streaked wisps that suggested some vertical motion of the air, though if Tirell was honest he could not have determined by eye if the current was ascending or descending.

When they reached the edge of the column, the answer became palpable. As the glider rose, Anna kept its path curving slightly, so it circled the strange cloud formation like a vine wrapping around a tree trunk. Tirell tried to take comfort in his instinctive response to gaining height: inside the forest, it almost always meant that he was safer, with more obstacles to break his fall. And perhaps it wasn't entirely foolish to feel the same way even in the open air. If something went wrong, the higher they were, the more time Anna would have to correct the problem before they hit the depths.

When they broke free of the column, Tirell looked around, then upward. There were yet more clouds above, as red as those surrounding the forest, but he could already discern gaps between them, filled with pallid light in the direction of the Far Sun, but shading into darkness elsewhere.

Anna did not disguise her frustration as she searched for the next opportunity to ascend. Once she picked a target, Tirell fixed his gaze on it, trying to commit to memory every feature that distinguished it. If he ever decided to become a pilot himself, he was going to need a very long list from Anna of all the signs he should heed, but for now he could just watch and try to learn a little.

Close up, whatever order Anna had discerned in the second column was less apparent than ever; to Tirell they just seemed to have reached a scraggly mess of fragmented clouds. But while the currents buffeted them unevenly, as the glider looped around it was lifted more often than it dropped, and gradually they rose above the thicket of red.

The Far Sun had almost set, and the cloudless sky was darkening in the east. But at the zenith, there it was: a dull magenta disk a sixth as wide as the entire view.

Tirell felt a new kind of dizziness that had nothing to do with the motion of the glider. He had never doubted that the Near Sun was real; he had explained its cloud-hidden presence to children who'd fretted on the days when the Far Sun briefly vanished behind it at noon. But seeing it for himself made all the other claims in the Recitation, if not more convincing, certainly more urgent. The Near Sun wasn't just an idea, it was a thing as solid as a tree. So either it had once blazed a thousand times brighter than it did now, or it hadn't. That wasn't a matter of opinion, or whether it sounded appealing, or exciting, or strange. Either the Changes really had come about because this disk had gone from outshining the Far Sun to its present, barely illuminated state, or the whole account of the past was nonsense.

"Why is one side brighter?" Tirell asked Anna.

She turned to face him. "One side of what?"

He nodded upward, wishing he hadn't let his curiosity overpower his resolve not to divert her attention from the glider's controls.

"That's to do with the way we orbit each other." When Tirell replied with uncomprehending silence, she added, "Some of our air is still falling onto it, even now. But it

doesn't fall in a straight line, so it hits one side more than the other. That's the cause of the hot spot."

"I see," Tirell replied. Her explanation made a certain amount of sense, but it only increased his vertigo. If the air of the world was raining down gently on the Near Sun, right before his eyes, and doing even a little of the thing that made the Far Sun shine, then it no longer seemed such a stretch to imagine that the very same current had once been much stronger.

"We're just waiting for sunset now," Anna explained. Mercifully, she was no longer twisted around toward him. "If these things are still where I saw them last, it won't be hard to spot them."

"Circling around the . . . equilibrium point?" Tirell didn't feel that he'd earned the right to employ that term so casually, as if he truly understood how the tug of the world, the tug of the Near Sun, and the effect of being whirled around in a circle all added up to zero. He was prepared to believe, though, that such a balance might be precarious, and that anything that drifted by and lodged there by chance was unlikely to linger.

"That's where I'll be looking."

"And if this is the cousins . . . how are they doing it?"

Anna laughed. "If they could overcome the gravity of the Near Sun entirely, this would be nothing to them."

Tirell was confused. "You mean the gravity of the world? It was the world they escaped from, wasn't it?"

"Yes, but that's the easy part." Anna raised one hand to point straight up. "The tiniest push will get you over the equilibrium point, but then you'd just crash into the thing that did most of the work for you. If you want to go and take your pick of the inner worlds, your real fight is with the Near Sun, not the world you were born on."

Tirell was prepared to take her word for it, though the Near Sun was clearly much farther from the equilibrium point than the world was. He wriggled a little in the hollow to relieve the cramp that had been growing in his forearms, though it wasn't easy to stretch his muscles without letting go of the handles.

"We could add vines here that we tie around our bodies, to keep us from falling out," he suggested. But vines might dig into their skin. "Or strips of cloth?"

"Mmm." Anna wasn't really interested in such luxuries.

The Far Sun moved behind the bank of red clouds below them to the west, and though that wasn't enough to extinguish its light, when Tirell looked to the east he saw a smattering of white dots emerging from the grayness: *stars*, the farthest of Far Suns. He really had no right to be surprised that so many things from the Recitation were turning out to be true—but Anna's skills were rare enough that he could imagine whole forests where no one took up the same role, and the stories people told children about the void beyond the clouds were entirely unconstrained by the possibility of anyone checking them.

"Here they come now," Anna said. Tirell took a moment to realize that she was speaking not of anything approaching, but the objects of her interest finally attaining visibility. Peering upward, all he could see at first were a few faint stars struggling to compete with the dull but undiminished light of the Near Sun. Then he realized that one of the "stars" was moving—slowly, but still too fast, and in the wrong direction, to be merely crossing the sky the way the Far Sun did.

"I can see one," he confirmed.

"Cover up the Near Sun with your fist," Anna suggested, demonstrating.

Tirell didn't want to let go of either handle; the glider was still circling the air column, shuddering and bouncing in response to the vagaries of the currents. "I might give my eyes a chance to adjust first."

He closed one eye and turned his head back and forth, trying to obscure the Near

Sun while he scrutinized the region around it. "Oh, I can see two more!" he blurted out, before realizing that he'd confused himself and was double-counting the first one. But then a moment later there was no need to retract; he'd sighted three distinct specks, all circling the zenith.

"How do we know they're going around the equilibrium point?" he asked Anna. "Couldn't they be orbiting the Near Sun?"

"Be patient," she said. "There'll be evidence soon enough."

Tirell raised his gaze again, waiting for the promised revelation. After a while, he was rewarded in a different way. "I think there are four now. Definitely four."

"Aha." Anna sounded underwhelmed, as if she'd been offered a low bid for something she was selling in the market.

Tirell tightened his grip with his left hand, then raised the right one to help him. With the Near Sun better masked, he could see at least one more point of light. Shifting his gaze and his hand and keeping careful track of everything was harder than he would have anticipated; he could appreciate Selik's skepticism now, as less a slight against Anna than an honest assessment of the difficulties for any observer. But eventually he settled on a verdict.

"There are six," he said.

"I think that's right," Anna replied.

As Tirell tried to make one more recount, he found himself coming up short. "Wait, no, there's only . . ."

"Look again," Anna suggested.

"Only two. No, not even . . ." They were gone, all six. "What happened?"

Anna said, "The Far Sun's dropped too low now to illuminate them. And it didn't take long; that's how we know they're at the equilibrium point, not farther away."

Tirell pictured it: the shifting shadow of the world rising up to encompass the strange visitors. "If this is the cousins, what are they doing up there?"

"Watching us?" Anna suggested. "Waiting to see what we're like now, after all this time apart, before they introduce themselves."

"Watching us through the clouds?" Just how magical were the cousins meant to be? "And why would they need to watch us from six different places?"

"Maybe they came here from their new home in six vessels, and the stragglers have just caught up."

"How big are those things?" Tirell wondered.

Anna hesitated. "From their brightness, I'd guess about a hundred times larger than Maldo."

"That's a lot to bring along for a casual visit." Even if the cousins needed to pack enough food for a long journey, six hundred forests' worth seemed excessive. "You'd think they'd start with a couple of emissaries, traveling light, just to make contact."

"I don't know what any of this means," Anna confessed. "But at least you can tell the others I wasn't imagining it."

"Of course."

Now that the task was completed, Tirell had nothing to distract him from the fact that he was sitting inside a tree trunk, swooping around above the clouds in darkness, with no idea which way was home.

Anna sensed his disquiet. "I know it's hard, but the safest thing will be to wait for sunrise; if we tried to go back now, we could end up anywhere."

"I understand." Tirell had witnessed the timing of her returns often enough to have known what to expect.

He glanced up at the lopsided magenta glow; he could feel the warmth of it on his skin. Without that lingering heat, would the world be entirely dead now? The Far Sun was brighter in its own kind of light, but too distant to pierce the chill.

“Just tell me we won’t follow the air that’s falling on our neighbor,” he joked.

“We won’t,” Anna replied. “Not unless we really try.”

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“How’d it go?” Selik asked, as he helped Tirell to his feet.

“Good.” Tirell realized he was shaking. He was ecstatic to be back in the safe boughs of the forest, but as the glider had turned toward Maldo for the final approach, it had taken all his strength not to leap into the depths just to avoid the impending collision.

Selik and Rada helped the returning travelers get the glider safely tied up, but then Tirell glanced at Anna and realized that she was leaving it to him to speak first.

“I saw them,” he said. “Just where Anna said they’d be. Except now there are six.”

“Six?” Selik regarded him dubiously, as if this new detail somehow made his testimony less reliable.

Tirell was annoyed. “Go up there yourself, if you don’t believe me.”

“Are you sure they weren’t just stars?” Selik pressed him. “Because—”

“I know how stars move,” Tirell replied. “These weren’t stars. They were six bright objects, circling the zenith, that lost their light not long after sunset.”

“That does sound like something solid, nearby,” Rada said, clearly aiming for a conciliatory tone. “Like asteroids, but . . .” She made a cupping gesture with her hands, as if to suggest a constraining force that was preventing the objects from slipping away.

“What are asteroids made of, anyway?” Tirell asked. People had used the word in front of him ever since he’d joined the group, but he still didn’t really understand it.

“Rock,” Rada offered, unhelpfully. “The same as the inner worlds.”

“But what exactly *is* ‘rock’?”

“It’s a bit like bone, but it’s not from anything living.”

Tirell grimaced “Have you ever touched rock?”

“Of course not.”

“Then how do you know what it’s like?”

Rada said, “It’s in the Full Recitation. Before the cousins left, people studied these things; they weren’t going to flee to the inner worlds without some idea of what they’d find there.”

Tirell felt very tired. What he’d seen with his own eyes was real, and he was persuaded that the general story of the Changes was probably correct, but he had less faith in the details that no one could confirm, and only a fraction of people seemed to bother retelling.

The four of them sat on the platform together, trying to make sense of the growing number of objects the latest expedition had revealed.

“Why would the cousins hang back for so long?” Selik mused. “Do they think they’d be unwelcome?”

“Maybe they can’t survive among us,” Rada suggested. “Even the ancestors would shiver at the temperatures and pressures we’re used to, and who knows what the cousins ended up having to adapt to. Whatever kind of life they have on the inner worlds, I doubt it’s much like ours.”

“But either they have a way to deal with that, or there was no point coming in the first place,” Selik protested.

“I think they’re being cautious,” Anna said. “It’s been . . . well, longer than anyone knows for sure. They wouldn’t want to rush in unprepared.”

“Maybe we should give them a signal,” Tirell proposed. “Let them know that we’re still as friendly as ever, but we’re growing impatient to meet them.”

Selik was amused. "What kind of signal could we send, from this distance?"

Anna said, "It shouldn't be necessary. If they're looking for us at all, they'll find us."

"Then maybe they're just not looking," Selik replied. "They've returned to their old world, for some reason—but as far as they're concerned, it's obvious from the state of things that the people they left behind would have died out long ago."

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"Can we call it nineteen and be done with it?" Tirell pleaded. There'd been a time when he would never have believed that counting dots in the sky could be painful, but he was aching in places that no amount of fruit-picking had ever reached.

"Just check it once more," Anna insisted, as if the exact number might carry some significance, beyond the fact that it was always increasing.

Tirell closed his eyes for a moment and tipped his head from side to side to stretch the muscles in his neck, acutely aware that if he waited too long the encroaching shadow would render his observations meaningless. He adjusted his restraint and positioned himself beneath the occultation disk again.

"One, two, three," he muttered, tapping his thigh with his thumb to make the numbers more palpable as he counted. The objects weren't even moving so rapidly that he had any real excuse to confuse one for another, but the way they traveled at slightly different speeds disrupted any temporary pattern they formed, undermined his confidence that he wasn't missing any of them, or double counting.

"Nineteen," he declared, as close to sure as he was ever going to be. He made a guess as to which of them would be the first to vanish and followed it until he was proven right. "Nineteen," he repeated. As he watched the lights wink out, he began to believe that he'd actually grasped the true geometry of the whole strange constellation.

"Now we wait for morning." He looked down at the jumble of red clouds below the glider, surprised at how clearly he could still see them. "Are we higher than usual?" he asked Anna. That wouldn't affect the timing of the objects' extinguishment, but it could prolong their own dusk.

"I don't think so," Anna replied. "But tell me what you think about the Near Sun."

Tirell folded the occultation disk away to give himself a clear view. At first he was unsure if his eyes, having adapted to the Near Sun's absence, were now reacting more strongly to its light, but after a while that no longer seemed like an adequate explanation. "It looks brighter. And the brightest part is larger than before."

"That's what I thought," Anna said. "I'm glad I'm not losing my mind."

Tirell was fairly sure that Anna had been making these trips for at least a couple of years; if there was some seasonal change in the strength of the wind that blew from the world onto the Near Sun, she would have been expecting it.

But if not the season, what else had changed?

"Even an asteroid would have some gravity, wouldn't it?" he asked.

"Yes."

"So if these things are asteroids that the cousins have put into place, then just as the Near Sun competes with the world for our air, they'd be pulling it in the same direction?"

"That's right."

Tirell wasn't sure if Anna was humoring him, leading him into some kind of logical trap where he'd just be displaying his ignorance. "But then, after the air fell past them, they'd pull back on it, wouldn't they? Fighting the Near Sun's pull? So the two effects would cancel each other out?"

Anna said, "I don't think they would cancel each other. So long as there's a stronger upward pull on the atmosphere, and more air is flowing away from the world, the extra

amount is never going to turn around and come back to us. And the asteroids certainly can't hold on to it. So if we're losing more air, there's only one place it can go."

As Tirell was turning that over in his mind, a flash of light burst out of the darkness. It was gone in an instant, but it left a lingering impression on his eyes, which gave him a fair idea of its direction. It had not come from the Near Sun, but it had been close.

"Did you see that?" he asked Anna. He didn't dare move his gaze toward her, lest he lose what little information he retained about the origin of the light.

"I saw something illuminate the cloud tops," she replied. "What did you see?"

"A point of light, close to where the objects were circling—but much brighter. Maybe brighter than the Far Sun, while it lasted."

Anna was silent for a time, then she said, "You know that's what they say about the cousins' vessels? When they finally departed, *they were brighter than the Far Sun.*"

Tirell had heard the same verses, but he had always taken that detail to be some kind of soppy metaphor for the hope the cousins carried with them.

"They're adjusting their motion," he guessed. "If they start to slip too far from the equilibrium point, they push themselves back to where they need to be."

"That would make sense," Anna replied.

Tirell had long given up arguing for any natural account of the objects' behavior, but now he was losing not just his last traces of skepticism, but any sense of the cousins as a mere abstraction. A few points of light moving across the sky had never been enough to convince him that he was on the verge of coming face to face with his long lost relatives, but now they had to go and flaunt their prowess and make themselves a thousand times more real.

"If we understand that the asteroids are helping to convey more air to the Near Sun," he said, "then the cousins could hardly have failed to anticipate it, could they?"

"No." Anna's voice sounded strange, as if it was floating away on the wind.

"So it might even be the whole point of the exercise," Tirell reasoned. "Not so much a peculiar side effect, as the reason they're doing what they're doing at all."

"If that's true," Anna said, "then there's nothing to be gained from doing it by halves. To make the Near Sun just a fraction brighter, when they have their own means to summon brightness at will, would be a complete waste of effort."

Tirell was silent for a while. It felt as if the glider was following the same wide circle as ever, but the lingering illumination of the clouds below revealed shifting patterns among them that would normally have been lost in the twilight.

"If they knew we were here, and knew how we lived," he said finally, "then surely they wouldn't be doing this for our benefit? No one could imagine that bringing the Near Sun back to its old glory, after so long, would be the slightest bit helpful to us."

"You'd hope not." Anna seemed to be reserving judgment on just how confused the cousins might be.

"But if they've remained accustomed to the old temperatures, and they believe they're the only survivors of the Changes . . ." Tirell couldn't quite bring himself to say it.

"Then they might be preparing for a triumphant homecoming," Anna concluded, "by rendering the world they were forced to abandon habitable once more."

\* \* \*

"If the cousins really can't see us," Rada said, "then we only have two choices. We find a way to make ourselves more visible, or we find a way to reach up and tap them on the shoulder."

Tirell glanced at Madeleine and Cyril, the only people in the market who'd agreed

to listen to the bizarre tale that Anna's group was peddling. So far, they seemed to be keeping an open mind—or perhaps they were just exercising an extraordinary degree of courtesy and restraint, while they waited for a chance to slip away.

"What could we possibly do to make ourselves more visible?" Selik complained. "Persuade a forest to rise above the clouds?"

"They could see right through the clouds, if they wanted to," Anna insisted. "Or fly below them to inspect what was beneath. Either would be trivial compared to everything else they've done."

"So we tap them on the shoulder," Rada said. "We visit one of their asteroids. If they're blazing with light every time they drift off course, they can't be unattended."

Tirell said, "Visit them how? Do you think we're going to reinvent the cousins' vessels, in our lifetime?"

"No," Rada replied. "But we don't need to make a journey like theirs. Just the shortest, easiest step."

"How much air is there, at the equilibrium point?" Tirell wondered. Could the very wind they were trying to quell actually make the journey survivable?

Anna said, "The pressure would be tiny. We'd need to take our own air with us."

"Which would weigh much more than its surroundings," Selik mused. "Even if we used the light air from the trees, it wouldn't be buoyant at that altitude."

"But all weight grows less as you ascend," Anna countered. "The push we'd need to reach the equilibrium point would be less than the push to rise from the depths to the forests' height."

"Maybe," Selik conceded. "But you make that sound easy, when a glider would struggle to do it with even the most favorable winds. And where you want to go, the wind will be impalpable."

The gathering fell silent. Madeleine caught Tirell's eye, with a look that seemed to ask him what he'd dragged her into. He'd vouched for his friends' sincerity, but what was the point of the meeting if all they were going to do was squabble for a while, then admit that if the cousins were intent on intervening, there was nothing to be done about it?

Tirell glanced down at the floor, trying not to surrender to a sense of helplessness. *How could a vessel gain speed, without relying on the air?* The only time Anna's glider did that was when the crew first launched it from the platform—and the whole population of Maldo pulling on the vines wasn't going to send it rising above the atmosphere.

Cyril said, "I should go tend to my stall."

"Wait," Tirell begged him. "What if we used pulleys," he said. "To give the glider speed, in the usual way. But instead of people at the far end of the vines, we use lumps of dead wood. And we just . . . drop them. We let them fall to the depths."

Cyril frowned, but said nothing, as if he was struggling to picture the scene before passing judgment. Tirell was still hazy about the details himself; he rushed to fill them in.

"As the logs descend, the pulleys drag the glider in the opposite direction, building up speed. But we add more capstans, so instead of the glider moving half as far as the vine is pulled, it's a much smaller fraction. That way, the logs can fall a vast distance before the glider is released."

Anna chuckled with delight. "That almost sounds audacious enough to work," she said. "Harnessing the bottomlessness of the depths! The trouble is, if the logs fall much farther than the glider rises, then however fast the logs end up moving, the glider will have a velocity proportionately smaller, in the same ratio as the distances. So most of the energy would go to *the logs themselves*, not the glider."

Tirell wanted to protest; in his mind's eye, the glider burst free from its restraints

at a phenomenal speed. But when he forced himself to think it through, Anna's logic was inescapable.

But didn't that just mean that his proposal had things backward? "So we reverse the attachments," he suggested. "Make the glider move farther than the logs, and then it will move faster as well."

Selik said, "That might work, up to a point. All things being equal, if you quadrupled the pulley ratio, you'd halve the logs' speed, and double the glider's. But that's only going to hold if the glider isn't slowing the logs down too much. As you increase the ratio, unless you make the logs heavier as well, they'll be struggling to raise the glider, so they won't just fall a shorter distance, they'll be moving even slower at the end."

"Can you remind me of verse eighty-two?" Rada asked Anna. "I'm always hazy on that."

Anna recited it, but Tirell couldn't understand half the words she was using. No wonder some verses had ended up omitted from most of the retellings, when it took so long to grasp what they actually meant.

Anna and Rada huddled together for a while, talking among themselves, then Rada announced, "Even if we could keep the glider attached to the pulleys while it rose two hundred spans, we'd need to drop more than *one hundred thousand times* its weight to give it the speed it needed—and we'd need to wrap the vines around the pulleys in some fashion that multiplied the distance by a factor of three hundred."

Selik laughed. "All right, then! Good try, Tirell, but nature has spoken."

"You people are idiots," Cyril announced scornfully.

Rada frowned. "Tirell was just trying—"

"Not Tirell! You people with your Full Recitation. If you're so steeped in the wisdom of the ancestors, why isn't it obvious to you how to make this work?"

Anna said, "I'm all ears."

"A toymaker in Lappa sold me some gewgaws a while back," Cyril replied, "though I never could interest anyone here in them. You take a slender rod and mount it so it's free to turn, then wrap a string around it, with a weight on the end. Attach a disk to the end of the rod, so it spins along with it as the weight drops. The toys had amusing patterns painted on the disks, and fans around the edges to make a breeze. But if the disk was large enough, surely it would multiply the speed of the falling weight at least as well as any system of pulleys and capstans? And forget about stopping after two hundred spans; just let the thing spin until it unspools completely."

"With the glider out on the rim, and you release it when it's on an upswing?" Rada said. "That sounds tricky. I'm not sure I'd want to be on that flight."

"Then send up something with no passengers, and hope it catches the cousins' attention," Madeleine suggested.

Anna said, "Let's see if this is even feasible first." She conferred with Rada again, and Selik joined them. Tirell was impressed by Cyril's vision of a toy repurposed, but no one without the Full Recitation was going to be able to put numbers to the idea.

After some time, Rada emerged with the verdict. "Suppose we took logs that were fifty times the weight of the glider. We lower them on a rope two thousand spans long that's wrapped around a rod six spans wide. If we can place the glider sixty spans outward from the rod, then by the time the logs have unwound all the rope, the glider will have gained enough speed to reach the equilibrium point."

Tirell absorbed that. "We'd need a disk *sixty spans* from center to rim?"

"Not a disk," Rada replied. "We couldn't even build a solid beam that long. But the glider could be played out on the end of a rope. Not the full length immediately, or the rope would go slack as it approached the top of the circle. But as the rod turned faster, more rope could be unreeled."

Tirell tried to read her face, not trusting his own judgment on the meaning of it

all. Some of the numbers sounded well within reach: fifty times a glider's weight in logs, a rod six spans wide. Even a rope two thousand spans long didn't seem entirely preposterous; Maldo probably had a hundred times that in loose vines just waiting to be gathered. But if a mere sixty spans for the shorter rope was nothing, the problem would be ensuring the absence of obstacles when you swung it.

"So where is all this meant to be happening?" he asked. "Where is the end of the rod that holds the rope with the glider attached? Sticking out into the air, from some platform?"

"Exactly," Selik confirmed.

Tirell had no alternative to offer; they could hardly launch the vessel from some cozy little clearing surrounded by trees. But the vision of a platform hanging over the depths—jutting out so far that all the ropes and weights were free to swing and drop without encountering anything but air—made his chest tighten with anticipatory fear.

Because someone was going to have to build this thing, and it seemed unlikely that the project was going to be burdened with an excess of volunteers.

\* \* \*

## 6

"Next time I'll pick my own fruit," Delia muttered, as Tirell placed another bundle of stripped vines on the floor beside her loom.

"Don't be like that," he pleaded. "You should be happy. You're helping to make history!"

"No, I'm helping to make *rope*." She stared at the loom in horror, as if she might never recover from this indignity. "And you won't even let me do it properly."

Tirell could understand her frustration; he was chopping up the vines into absurdly short segments, when longer, unbroken strands would have made the weaving process simpler, and the final product much stronger. But since there were no vines two thousand spans long, there wasn't much point doing a test launch with stronger ropes than the ones they'd need to use for the real event.

In any case, Delia seemed to have established an impressively elegant rhythm for the task she despised. A simple pedal action drove the rotating bobbins that twisted the strands together into pairs of pairs, but whenever one of the feeds ran out, switching to the new strand required a meticulous intervention. Left to chance, the two ends would have protruded from the rope, risking it fraying and unraveling. But Delia anticipated each break and trimmed the feed to just the right length to ensure that the ends were always in the center of the rope, surrounded by unbroken neighbors.

"Is that the last of the vines?" she asked, without looking up from the loom.

"Yes." The coil of finished rope had already reached an impressive bulk; Tirell didn't dare remind her that this was just a rehearsal for a version twenty times longer.

"Then if you've got nothing else to do," Delia suggested, "why not visit the hollow?"

Tirell grunted with amusement. "I should check if Selik needs help with the glider," he replied.

He walked to the edge of the marketplace, making sure he was out of Delia's sight before doubling back and climbing the trunk that led to the breeding hollow. When he peered inside he could see that about a third of the eggs were still light blue. So had Delia looked in just to check on the ones she'd left herself? And sent him here, in the hope that he of all people—

He cut off the disturbing line of thought, and let his instincts take over. When he was finished, half the eggs had changed color.

On his way back, Tirell tried to picture the children who'd emerge from the hollow

in the next scrum. If the cousins persisted with their project, there would be no place for his offspring in the only part of the world he'd ever known, and perhaps no place for them anywhere at all.

So was what he'd just done an act of cruelty? Was he offering those children nothing but an early death?

He had to stay hopeful. His ancestors had confronted a far greater adversary and defeated it in two entirely different ways. If only they'd been half as lucky instead.

But then, that was all his contemporaries would need: half the ancestors' luck.

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7

Tirell had wanted to finish the winding himself, but when his forearms began to cramp he relented. He called to Anna to take his place on the steps beside the rod.

"When we do this full size, do you really think the rope will hold together?" he asked.

"I don't know," Anna conceded. "But keep in mind, most things in the forest are still much stronger than they need to be. Everything weighed a hundred times more, where we were before the Changes. And during the migration it was even worse."

"It's a long time since the migration," Tirell replied.

"It is. But nature doesn't always rush to throw away a trait." Anna took a length of rope between her hands and tugged it as hard as she could. "There are threads running along those stems that weigh almost nothing themselves, but could once hold three hundred times the weight of the whole plant, as it is now. The question isn't whether that's still needed, it's whether there was an easy way to replace it with something weaker, or whether the cost was so small that the simplest thing was to let it be."

"Hmm." Tirell had always struggled to understand how the forests could have survived the Changes at all, but maybe it was more comprehensible if they'd actually changed far less than he'd imagined.

When Anna was done, she slipped the end of the rope over a hook at the side of the frame, to keep it from unwinding. The rod, in its support frame, was twice her height; she stayed on the steps while Tirell took hold of the middle of the frame, and together they got it horizontal before Tirell lowered it to the floor.

When he looked up, he saw Selik already approaching with the new test vessel. Shaping it as a miniature glider had seemed like a wasted effort to Tirell at first, but Rada had assured him that the details were worth mimicking for the sake of observing its dynamics, not when it was flying free, but while it remained bound.

The three of them carried the frame over to the edge of the platform, then Tirell walked back beneath the trees to the corner where Cyril had set up his tools.

"Is it ready?" Tirell asked.

"I think so." Cyril turned the contraption over and examined it, blowing into it to dislodge a speck of grit. "The new cam is smoother; it's a better shape. I don't think it will stick this time."

Tirell nodded. There was no recipe for any of this, even in the Full Recitation; no one had ever faced the particular mismatch of means and ambition that was shaping their efforts.

Selik and Tirell propped the frame up while Cyril attached the end-cap to the rod, slipping the hexagonal hole in the center over the portion that jutted beyond the frame, and pushing the locking pins into place. Then he hung the miniature glider from the short length of rope that dangled from the cap.

There was a slot carved into the platform to hold the frame, matching the mildly tapered shape but only two-thirds as long, in order to give the far end plenty of

clearance. So to get the frame in, they needed to position it with about a third of its length protruding over the edge of the platform.

The four of them took hold of the frame together, then they shuffled their grip toward the near end, until no one was beyond the mark that showed where the overhang would begin. A third was not a half, and even with the extra weight of the end-cap and glider, the frame wasn't pushing up at the back, but Tirell still felt a precarious sense of asymmetry from the mere fact that the same object was putting more weight on one of his hands than the other. The slot was only a few paces in front of them, but they moved slowly together, making sure the frame was centered as they approached.

As they crouched down, Anna and Selik grunted, not so much with effort as sheer discomfort from contorting their age-worn joints. On the last trial, Tirell had made the mistake of laughing at them. "You should hope you live long enough to know what we're going through," Anna had rebuked him.

With the frame in place, Tirell set about locking it down, pushing more than a dozen wooden pins into the holes that ran from the frame into the surrounding timber of the platform. Then he unhooked the rope from the near end of the frame, and unwound about a span's worth and let it dangle.

"This is it, everyone!" Selik called out. Anna, Rada, Cyril and Madeleine moved into position, ready to witness whatever unfolded from a range of angles, while Tirell and Selik picked up the drop-log together and headed for the ramp that led below the platform.

On the ramp, Tirell moved with all the care he could muster; there was a safety rail, but he had no intention of relying on it. The ramp leveled out into a miniature platform suspended below the main one, which stopped a span or so before the underside of the rod's support frame.

Tirell glanced at Selik to be sure they were acting in concert, then together they lifted the log above the rail and maneuvered it into contact with the rope Tirell had left dangling from the rod. The hook Selik had carved into the wood was as thick as Tirell's thumb and completed seven-eighths of a circle; getting the bottom of the loop to pass through the narrow gap took patience, but once it was in place, there was no chance of it slipping free.

Selik nodded to Tirell. "Ready?"

"Yes."

"One!" Selik bellowed, to make himself heard to the others up on the platform. "Two! Three! Four!"

They released the log. Tirell's instinctive response would have been to keep his eyes on the dead tree that was powering their hopes of ascent as it plummeted toward the vortices below, but he tore his gaze away in time to see the spinning end-cap begin unreeling the glider.

The start of the process was unnerving: the glider lagged behind, reluctantly dragged along by the end-cap, but as it picked up speed it swung outward, only to overtake the rod's rotation briefly, and then fall back again. As Rada had explained it, it was like a pendulum swinging to and fro—but instead of doing so compared to a fixed vertical, it was swinging either side of a line of net force that spun around with the rod, and grew stronger with the quickening rotation.

With each downswing of the glider, a little more rope played out, making the excursions wider, but at least the range of angles the rope made with the end-cap didn't seem to be growing. Tirell could only hope that Cyril's ingenious cam—which progressively tightened the brake on the reel so that only a greater tug could overcome it—was acting just as it should, neither letting too much rope out, nor unduly inhibiting it.

As the glider moved away from the rod, it began to oppose the falling weight more strenuously. Tirell watched, caught between anxiety and delight, as the spinning slowed—inasmuch as each turn of the rod took longer—but the glider itself continued to gain speed, thanks to its greater distance. On one swing it lurched back alarmingly, and he was afraid that the cam might have become stuck again, but the overshoot was less, and the back-swing less again, until the diversions grew so small that it was hard to be sure if they were even persisting.

With the glider's rope fully extended, there was no choice but for everything to move faster. Tirell could see that the descending rope had almost unwound completely, with just a dozen or so coils around the rod remaining. He wished he was up on the main platform, but observers were required everywhere; if something went wrong, there was no telling which vantage would be most revelatory.

He gripped the rail in front of him as the last of the rope uncoiled. The string he'd looped around the final three coils pulled on a lever inside the end-cap and unlatched the glider's rope, freeing the glider from any attachment to the rod, to the platform, to the forest itself. And as far as Tirell could judge, the calibration had been perfect: the separation occurred while the rope was horizontal, the glider moving skyward. Glider and rope both vanished from his sight, but a few moments later the rope reappeared on its way to the depths, freed from the hook by the change of alignment and diminished tension.

He and Selik hurried up the ramp.

"Did you see how high it went?" Tirell asked impatiently, of anyone who was listening.

Madeleine smiled. "High! Right through the clouds."

Tirell knew this was as much due to it catching a favorable wind as it was to the impetus from the launch; in the absence of air it would have come down as swiftly as the un-winged rope. But at least it hadn't departed in the wrong direction entirely.

"What do you think?" Selik asked Anna.

"We'll need a few more tests," she said, "to be sure that the whole approach is reliable and we weren't just lucky."

"But if they work as well as this one?"

Anna said, "Then we build the thing itself, and see if we can finally poke our idiot cousins in the eye."

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8

"Where's your safety rope?" Tirell called out sharply. He didn't recognize the carpenter, but she must have been one of the new arrivals from Lappa.

"If I fall," she replied, amused, "I'll have plenty of time to grab something."

"I'm not going to argue. If you don't like the rules, get off the scaffolding."

She hesitated, and Tirell sensed that she was on the verge of holding to her opinion and departing. But then she sidled back along the beam, hooked the nearest rope to her belt, and then returned to the place where she'd been working.

"Thank you," Tirell said. He introduced himself.

"I know who you are," she replied, in a tone that suggested he was famous for precisely the kind of irritation to which he'd just subjected her. "I'm Maxine."

"No one's died yet," he said. "I want to keep it that way." He glanced up at the platform above them, protruding so far from the edge of the forest that he couldn't make out the start of it through the artificial jungle of ropes and beams suspended beneath it for the carpenters' benefit.

"In Lappa, we wouldn't treat a child like this," she said scornfully.

"Is your rope secure now?" Tirell pressed her.

"Yes."

Tirell put his hand to his own and tested it. "The hook is closed? It can't come loose?"

"No."

Tirell wasn't sure if her undisguised disdain was just signaling her right to be annoyed with these precautions, or if she was actually determined to unhook the belt the moment she was out of his sight.

"You don't mind if I check?"

She held her arms to either side, inviting him. He moved carefully along the cross-beam toward her, then reached down and felt the latch on the hook. "Seems good," he declared. Then he kicked her shin and they both lost their balance, toppling in opposite directions through the gaps between the beams.

Tirell didn't fight the urge to claw at the air for a handhold as he fell; he had no expectation of succeeding, but he valued the instinct too highly to want to suppress it. It did not take long for the rope to go taut, but it was long enough for him to fall right out of the scaffolding. He hung, suspended, over the depths.

He looked up and saw Maxine, sharing his predicament a couple of spans away.

"You don't deserve our help," she said. "I'm going back to Lappa to tell everyone not to bother."

"As you wish. Do you remember the recovery moves from your training?"

Maxine glared at him, but before he could begin demonstrating she deftly began hauling herself up the rope.

Tirell glanced down at the blue-and-white clouds swirling below. The terror of the drop was reverberating in his skull, but the sight of the depths still brought on the same atavistic longing as ever. The funniest part was that when the ancestors had lived among clouds like this, they might never have seen them from above until the Changes began to bite. His nostalgia for a lost home revolved around a view of it that belonged to those who were already fleeing.

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9

"Can you keep a secret?"

Tirell opened his eyes and surveyed the circle of silhouetted figures gathered around him. "Of course," he replied.

"Then come with us."

He rose, deciding not to protest. He recognized some of the people now: scaffolders, carpenters, weavers. If he was about to be punished for what he'd done to Maxine, it was a curious way to start. They could have just kicked him awake, and kept on kicking.

He followed them from the project's encampment at the rear of the platform into the darkness of the forest, but he knew the area well, and as they clambered single file onto a broad, familiar trunk, he could already guess their destination. It made no sense, but nor did any of this.

Tirell moved carefully, and his eyes began to pick up the faint hints of orange light that penetrated the foliage, but he still kept jabbing his hands on the trunk's protuberances—its attempts to form new side branches that all the traffic frustrated. If people had let them grow instead of snapping them off they would probably have posed less of a hazard at night.

His silent traveling companions crossed to another trunk, disconcertingly confirming his original conjecture. And maybe there was some logic to it: a body would

vanish just as easily from the larger platform, but here they would be less likely to be caught in the act.

As they emerged onto the old test platform, Tirell could see the support frame jutting out beyond the shadow of the forest canopy, lit by the glow of the Near Sun through the clouds.

One of the weavers, Martin, said, "We would have invited you earlier, but we were afraid you might have blabbed to the elders."

Tirell was bemused to learn that his encounter with Maxine had been perceived as an act of rebellion *on his part* against strictures passed down from on high. But he still had no idea what he was doing here. "Blabbed about what?" he finally found the courage to ask.

"Riding the spinner. You're up for it, aren't you?"

Was this another question where there was only one safe answer? "Everyone here's done it?" he asked.

"Of course."

"And no one's been injured? No one's been lost?" He should have heard of any injuries among the team, however they'd been sustained, but as people came and went from Lappa a disappearance might actually have been easier to conceal.

"No one's been hurt at all," Martin insisted.

"But what's the attraction?" Tirell asked. Didn't all these people get a large enough dose of controlled danger by daylight?

"It feels . . ." Martin struggled for a moment. "It feels right. It's not easy to take, but in the end it feels right."

Tirell glanced around at the others. No one here was actually planning to murder him, either for the overzealous safety lesson he'd given Maxine, or for fear that he'd rob them of their nocturnal entertainment. If he promised to keep quiet, he could head back to the camp unmolested.

"What have you changed in the equipment?" he wondered. "Apart from removing all the bits that would toss you into the air?"

"We drop a heavier weight."

"As much heavier than the old one as you're heavier than a toy glider?"

"No. Maybe half that."

So the ride would be a little less frantic. Tirell considered asking for someone else to go before him, to convince him that he wasn't being tricked. But the last thing he wanted was to put his life in the hands of people he'd alienated with his mistrust. Either he accepted that the group had invited him here in good faith, or he walked away.

"I'll do it," he declared.

There were murmurs of approval from the gathering.

"How do I . . . ?"

"Crawl out along the frame and get into the basket," Martin explained. "Hold on tight. It won't take us long to drop the weight; the slow part comes later, when we reel it back up."

*I've lost my mind*, Tirell decided, as he walked toward the frame. But if anything here could fail, so could any beam in the scaffolding on the main project, any hook, any safety rope.

He strode along the frame, one foot on either side of the rod, barely trusting his eyes in the feeble light. Before he reached the edge of the platform, he got down on his hands and knees to get the transition over with before a stumble became much more than an annoyance. When he crossed onto the protruding part of the frame, he felt a gentle breeze beside him rising up from the depths; it could no more have dislodged him than a gnat landing on his arm, but its vertical caress still unnerved him.

He stopped before his hands made contact with the end-cap and peered down at the shadowy form of the basket; he was not at all sure that it was large enough to catch him if he fell. He turned and lowered his legs from the side of the frame, then caught the basket's rope between his feet to take some of his weight as he brought his torso over the edge. When he was gripping the frame with both hands above his head, he pulled himself closer and transferred one hand to the rope. Then he moved the other hand across and slid the short distance down the rope into the basket.

It swayed back and forth for a while before settling. He sat on the wooden floor with his knees raised and felt around for the handles. He ought not need them until the very end, when the thing came to a halt, but it seemed wise to commit himself to them from the start. It had taken him a while to persuade Anna to fit restraints for the pilot and passenger to her glider, but maybe he could institute some similar reforms here, once he was accepted into the clique of Spinners.

"Are you ready?" Martin yelled.

"Yes!" Tirell called back. He heard nothing more, but the people waiting to release the weight must have acted on his reply alone, because a moment later the end-cap started turning.

At first the basket swayed gently, then suddenly the rope yanked on it sharply and it flew up, halfway to upside-down, before swinging back. Tirell braced himself against the handles and pushed his body toward the floor, unwilling to trust the force of the rotation to hold him in place as the basket finally swung over the top.

Moments later, he saw the orange clouds above him once more, but there was no real respite. As he endured a second rotation, then a third, he realized that every part of the cycle was horrifying in its own way: even when he was right way up, the lagging rope already felt like a portent of what was to come.

He'd lost count of the revolutions when he first realized that the swinging had died away: the rope was all but turning with the end-cap, as if it were a rigid beam fixed to the spinning rod itself. When he peered along it, the pallid clouds above and the untouched gloom of the depths were changing places every three slow breaths. The force pressing him against the floor was firm now, verging on uncomfortable; it was as if he'd lost a fight to an opponent who insisted on keeping him down with their full weight, even after he'd surrendered.

As the pressure grew, he tried to accommodate it, but he could neither turn his body nor flatten it more closely against the floor. His knees, jutting into the air, ached as if he was trying to rise up from kneeling with a heavy load on his shoulders. Each inhalation took more effort than the last, as if his overzealous opponent had decided not just to hold him down, but to gleefully crush the air out of his lungs.

Tirell tried relaxing his muscles, but yielding only increased the pain. So he stiffened his body instead, fighting the weight, which hurt just as much in a slightly different way. There was no amelioration, let alone any hope of escape, and he knew it would only get worse. As he gasped for breath, he saw strange bands of light and darkness twisting in front of his eyes, as if the roiling vortices of the depths had risen up to meet him. *If this wasn't death, what was it?* His nighttime visitors had lied; no one had ever survived this torture. This was his punishment: instead of tossing him from the platform, they'd found an even crueller way to end his life.

Suddenly, the basket shuddered; Tirell could picture the whole platform trembling as the weight they'd dropped reached the end of the rope. He waited for the basket to come to a halt, but though he could feel it recover from the jolt, it didn't seem to be slowing at all. Then he understood: even when the rod had stopped turning, unlike the released glider, the basket would keep circling until its energy was dissipated.

Or, not so much circling as *spiraling in*, until it wrapped itself so tightly around the rod that it smashed into the support frame. Tirell fought against that vision—and

having survived this far, he was ready to trust his fellow Spinners again. Even before they'd tried it themselves, they must have tested the whole thing with an empty basket, and seen that the endpoint was, if not *safe* by any stretch of the word, not actually fatal either.

The pressure began to decline. Tirell grew genuinely dizzy for the first time; as the rotations slowed, his inner sense of where the basket ought to be struggled to catch up. The striations were fading, but when he closed his eyes he saw afterimages of the orange clouds rolling by, at a rate that no longer matched his actual motion.

The basket struggled to the top of its arc, then the rope went slack and the basket fell. Tirell was already grasping the handles as tightly as possible, though for a moment that was redundant: he and the basket fell together; gravity wasn't trying to tear them apart.

Then the basket pulled the rope taut and jerked sideways, almost breaking Tirell's grip.

As the final swaying died away, he huddled against the floor, afraid to test himself for injuries. After a while, he dared move a little; he ached all over, and he was bruised in places, but he did not think he'd suffered any permanent harm.

"Are you all right?" Martin yelled.

"Yes," Tirell shouted back, surprised at how normal his voice sounded.

"Take your time," Martin advised him. Tirell laughed; he had no intention of rushing his climb back up.

How had he survived these forces, so much greater than any he was accustomed to? Maybe it was the same for people as Anna believed it was for the vines: nature had not yet thrown away the traits they had once relied on. His own ancestors, as much as the forests themselves, had lived through the three-hundredfold greater weights of the migration.

The trembling in his arms began to subside. He reached up and took hold of the rope. Martin hadn't deceived him: what he'd been through had been hard to endure, but in the end it did feel right.

\* \* \*

10

"You're not disappointed, are you?" Anna asked. "Not being down there with the others?"

"This is exactly what I wanted," Tirell replied. "No responsibilities, and the perfect view for the occasion."

The glider curved lazily around as Anna hunted for a current that would keep it from rising too much higher above the forest. "No responsibilities?" she rebuked him. "If we lose sight of the vessel, it will all have been for nothing."

"You know what I mean." Tirell felt as if he'd spent his entire life working on the launcher, and he'd grown tired of fearing that some rope, or plank, or person that he prodded the wrong way would go crashing into the other components and tear the whole structure apart. Let Cyril and his assistants oversee the crucial state of the end-cap; let Selik and his team prepare to drop the weights. He was happy to soar above them all and observe the outcome.

Looking down, he could see the platform itself protruding from the edge of the forest, but the people he knew were arrayed there were not even insect-like to his gaze.

"If this reaches the equilibrium point," Anna declared, "then there's no way it will pass unnoticed. That's where all their effort and attention is concentrated: where every last rock is tracked, and kept in its proper place."

Tirell didn't reply. He knew she wasn't soliciting his opinion; she was just reassuring herself that their own efforts had been directed in the best possible way. He wasn't sure how much longer it would be before the forests began declining from the rising heat, but however bright the clouds at midnight, no one wanted to start planning for a new migration while there was still a chance of bringing the cousins to their senses.

"Come on," Anna muttered impatiently. "What are they doing down there?"

Tirell tried not to laugh; she knew as well as he did how fastidiously the final checks would be conducted. "Just relax and enjoy the view," he teased her. "It's not often we get to go up in this thing without rushing off somewhere."

He took his own advice and gazed down at Maldo, reveling in the luxury of a sustained vantage. The great, unruly dome of foliage that had built itself from air and light was beautiful enough from within, but from above its isolation gave it a shocking poignancy. As ancient as it was, he believed it had not, itself, endured the migration, but was merely a descendant of other forests that had.

Beside the forest, a speck hung in the air, barely shifting, but growing in size. Here at last was the insect that the people below were too remote to mimic. "You do see it?" Tirell checked, afraid that Anna might have been irritably staring off into the clouds.

"I do."

The speck blurred and vanished, passing by too quickly to be perceived, but Tirell looked up and managed to catch it receding, silhouetted against the brightness, about a third of the way down from the zenith on the west side. If it fell, or tumbled, or broke apart before penetrating all the layers of cloud above, they might never know, but they had as much evidence as they could have hoped for: the glider was ascending along the correct trajectory, at a rate comparable to their expectations.

"I never thought we'd do it," Anna confessed. "Not in my lifetime."

"But we did."

"You want to take the controls and bring us down?" Anna offered.

"Really?" Tirell's lessons had been sporadic for a while; their other obligations had taken precedence.

"I think you're ready," Anna assured him.

As they exchanged places, she said, "I hope this isn't rude, but your body seems different lately. Not just heavier; more solid."

"That's what hard work does," Tirell replied. "I'm not just a lazy fruit-picker anymore." But if this was her way of telling him that she knew the actual cause, he'd take that more as tacit approval than any kind of reprimand.

He found the pedals and glanced back at his passenger. "So let's go join the celebrations. Today, we told the cousins we're alive and well, and it's time for them to stop meddling."

\* \* \*

## 11

"It's never going to stop!" Delia said angrily. "Everything we did was a waste of time."

Tirell was starting to regret telling her what he'd seen on his latest flight with Anna. "Those extra asteroids might have been on their way to the equilibrium point long before we launched our messenger. Heavy objects moving rapidly can't be turned around in a hurry."

Delia was unimpressed. "Really? So when they light up with whatever it is that keeps them from drifting away, the same thing couldn't be used to make them drift away faster?"

"I don't know. It could be more complicated than that." The truth was, Tirell

couldn't fault her argument. If the cousins had decided to disassemble the collection of rocks that were driving the flow of gas onto the Near Sun, they could surely have made a start by now, and the results ought to have been visible.

A couple of infants crawled toward them, whining hungrily. Tirell glanced dubiously at the pile of sickly looking fruit stacked up behind him, but then he recalled where he'd put the most palatable specimen.

He bit into it and chewed a mouthful for the supplicants. "When you're old enough for the Recitation," he told them, "make sure you get it from someone who's heard the whole thing."

The stories of the migration had never disguised just how arduous it had been, but Tirell had made a habit of taking comfort from the fact that there'd been survivors to tell the tale. He'd never dwelt too much on the other participants, who had died along the way. But if he was honest about it, there was no real symmetry between that past ordeal and any journey yet to come. He could not look around and say: All these people, whose ancestors came through the first, are also promised that they and their children will not perish in the second.

He turned to Delia. "If you and the other weavers were willing to make a new drop rope . . ."

"You should have taken better care of the one you had," Delia retorted. "It wasn't our fault, what happened to it."

"No, of course it wasn't." The rope had performed flawlessly right to the end, when its attempt to bring the falling weight to a halt hadn't torn it, but rather yanked it free of the rod. "If we get a chance to try again, we can look at ways to make sure that we don't lose it."

"Why? So you can have a third try after that, then a fourth? Don't you believe the glider reached the equilibrium point the first time?"

"We can't know that it did."

"So you want to keep launching gliders for the next hundred years, hoping that the cousins will finally notice one of them?"

Tirell said, "No. If we try one more launch, we can make it different, so at least we know if it succeeded or not."

"How?" Delia demanded. "Are you going to . . . pack a giant white cloth inside it that unfurls when it's gone above the clouds, so you and Anna can fly up and see if it's catching the light?"

Tirell was silent for a moment, wondering if this was actually such a good idea that he ought to take it to the others, and forget his own ridiculous plan. But he was afraid that if he let anything divert him, by the time he found the courage again it would be too late.

"I want to go up in the glider," he said. "Find a way to take the air I'll need, find a way to come back safely, and then we'll know for sure where the thing really went."

Delia gazed at him with an expression that Tirell couldn't quite decipher. Maybe nine parts scorn, one part admiration—the latter for audacity, if nothing else.

"You really do want to fall into the sky," she marveled. "You really are completely deranged."

\* \* \*

Anna said, "It's an interesting proposal. What would you do for air?"

Selik was horrified. "*Air?* He wouldn't even survive the launch!"

Anna snorted. "He's been practicing for . . . who knows how long."

"More than a hundred days," Tirell confessed. "We do it at the old test site. It feels almost normal by now."

"How would the forces compare?" Rada asked, ever practical.

"A real launch would impose a bit more," Anna conceded. "They don't use a heavy enough weight to maintain the original scaling, but they go through a period of elevated centrifugal force when the rope starts winding itself in at the end, which won't be present in an actual launch."

"Have you been watching us?" Tirell was annoyed that she hadn't come right out and told him, though he wasn't sure that the Spinners would have continued at all if they'd known their activities were no longer clandestine.

"I have my informants," Anna replied. "The important thing is, if you can get through dozens of tests to the point where it's almost comfortable, there's no reason to think a real launch would be . . ."

"Unendurable?" Tirell suggested.

"I was going to say 'fatal.'"

Tirell looked out across the abandoned platform. The thought of riding a glider higher than he and Anna had ever flown didn't really frighten him, but the disparity in scale between the real launcher and the toy he'd been playing with was beginning to unnerve him. He knew that the centrifugal force would actually be *more* when spinning from a shorter rope, if the speed of the swinging objects were the same, though if he understood Anna correctly, the twenty-fold smaller test rig in its initial configuration would in fact have roughly matched its larger sibling's force, by combining the shorter rope with a slower-moving vessel. But none of that helped reconcile him to the intimidating prospect of whirling around on the end of a rope sixty spans long.

Anna hadn't forgotten her original question. "So what about the air?"

Tirell said, "The whole trip should take about four thousand breaths, right?" That had been the predicted time for the empty glider to fall back, albeit with no hope of catching sight of it when it returned.

"Yes."

"Cloth soaked in resin will hold air, without completely blocking the light. If I can observe the angle of the Far Sun throughout the journey, then along with the time the whole thing takes, that should be enough to check whether I ascended most of the way to the equilibrium point or not."

"Four thousand breaths," Rada mused. "Maybe twenty-seven cubic spans. That would mean a bigger glider."

"Not much bigger," Tirell insisted. "And it need not be much heavier at all; it's more about the shape."

Selik caught Tirell's eye. "This is madness," he said. "It's suicide."

"I don't believe that."

"How will you slow yourself during the descent?" Selik challenged him.

"The same cloth, spread out on ropes above the glider."

"And what if the cloth frays?"

"That would probably kill me," Tirell conceded. "But the weavers haven't let us down so far."

"The biggest risk," Rada suggested, "might lie with our calculations."

Tirell caught her meaning. If the Full Recitationists had underestimated the speed required to reach the equilibrium point, or overestimated the speed achieved at the launch, he might ascend only part of the way, and fall back without any hope of attracting the cousins' attention.

But if they'd erred in the other direction, he'd arrive at the equilibrium point with energy to spare, still ascending, and there'd be nothing he could do to prevent the

journey from continuing.

He said, "But the good news is, I'm sure to have run out of air long before I hit the Near Sun."

\* \* \*

13

Tirell lay as still as he could inside the hollowed log, trying to keep his breathing calm and steady. The canopy stretched out above him let plenty of light through, but it seemed to scatter it in such a way that wherever he looked he saw some portion of the glare from the zenith, making it impossible even to guess where the Near Sun lay in the sky.

He reached a count of seven hundred and twenty before he began to gasp. He punched at the canopy and broke the seal, then lay back for a while until he felt steady enough to climb out. At least his discomfort proved that if any air was passing through the resin-treated cloth, it was far too little to make a difference.

"It's always good to see someone practicing for their death," Delia declared sardonically. "So is the cloth working?"

"It's holding in the air. The only problem is the view. I can't really distinguish anything."

Delia pondered this. "There are a few variations we could try. A coarser weave, with more gaps for the light. Or two layers with a finer weave, crossed at an angle to each other."

"Why the second one?"

Delia rummaged in her bag of samples and brought out two pieces of fine cloth. She laid them together, then approached Tirell and held them up in front of him.

Everything was subdued through the combination, but the glare from the wider sky was diminished far more than the light coming directly through the clouds. Tirell could distinguish the Far Sun easily.

"Will the resin spoil that effect?" he asked.

"I have no idea." She took the samples over to the wound she'd made in the nearest tree and set about coating them.

"Can I help with anything?" Tirell asked.

"You could get me some food, I'm starving."

Chastened, he left the platform and made his way into the forest.

He'd set off with a clear destination in mind: a knot of entwined, middle-sized trees that had always proved bountiful when he'd visited them before. But as his eyes adapted to the softer light scattered down through the foliage, he found himself not so much lost as struggling to recognize the familiar, encouraging signs that had led him to the site previously. Crawling along the same branches, he could feel the bark flaking beneath his fingers, and the wilting leaves around him drooped against his body, where once they would have rebounded from the intrusion.

When he arrived, it was only the distinctive shapes of the trunks that convinced him he hadn't taken a wrong turn and ended up somewhere else entirely. He'd imagined there'd be at least a few stunted globes hanging from the once-crowded branches. But there was nothing.

Tirell felt a strange sensation in his stomach; he wasn't yet hungry himself, but it was an angry, jealous tightness, anticipating an absence and a struggle yet to come. He clung to the branch he was on and closed his eyes for a moment, trying to clear his head and make a plan.

If the heat was proving too strong for the trees here, maybe they'd fared better further down, where they had the benefit of more sheltering leaves above them. It

would be an inversion of the usual pattern, in which the lower portion of the forest was rendered less productive by the thinning of the light, but what did he expect? Nothing was normal anymore.

He found a descending bough that looked sturdy and traversable, and pursued it as far as he could, pushing his way with disconcerting ease through the limp foliage, sometimes snapping off slender branches that he'd merely meant to bend aside. If the air grew any cooler, or the light dimmer, the change was imperceptible to him. Apparently the trees felt the same; there was still no fruit in sight.

He found another branch and continued, though he was starting to suspect that it would have been quicker to turn around and go back to his usual source near the markets—assuming it hadn't failed entirely, or been plucked clean by other pickers in his absence. A stubborn curiosity kept him descending; if the spot above was no longer fecund, it seemed important to know if the bounty had vanished, or merely shifted.

Something crunched beneath his hand, digging into his skin. He turned his palm up to inspect the damage, and saw half of a small lizard's corpse adhering to it, the bones barely cushioned in flesh. He shook it off and continued. If the lizard had been dead already it would have fallen off the branch; it must have been clinging on, but too weak and famished to move out of his way.

Each time he stopped to switch branches, or to inspect a favorable looking glade, the forest proved barren. He could already imagine Delia's curses at his tardiness, but he kept going. The trunks around him were growing thicker, if not healthier, as a testament to the imperfect distribution of the effort needed to keep the forest aloft. The broader the cross-section, the more room for the buoyant gas within, but most of the trees above were freeloading to some extent, relying on the ones below to store more of the gas than they needed to support their own weight alone.

Something round caught Tirell's eye. He stopped and squinted into the gloom through the unruly mass of bedraggled leaves and half-naked twigs.

Fruit, at last: half a dozen, all decently sized. He picked his way carefully across a tangle of narrow branches and scooped the fruit into the sack he'd brought.

Retracing his path, he put too much weight on one foothold, and the brittle wood snapped beneath him. He grabbed desperately at the surrounding thicket; the twigs his hands closed on held him up for a moment, then yielded. He dropped and slowed, dropped and slowed, his skin scratched and pierced from all directions, but the endless assault of small, splintering obstacles couldn't bring him to a halt.

Something solid slapped the back of his shoulder; he reached up, clutched at it with his other hand, and managed to get a purchase on the branch. He clung on tightly, waiting to see how it reacted to his weight before trying to raise himself up.

Looking down, he saw a distant swirl of blue and white, barely obstructed by a few intervening twigs. About a dozen spans remained between him and the bottom of the forest.

He lifted himself onto the branch and peered along it, locating the trunk, not far away. The sack of fruit was still hanging from his neck.

Maldo wasn't dead yet; the forest wasn't barren, and it wasn't falling from the sky. But there was no time left for mistakes. The next launch had to reach the cousins' gaze, and sway them.

\* \* \*

As Tirell walked along the platform, he noticed the Spinners gathered together among the bystanders who'd come to wish him a safe journey. Most of the crowd were cheering ebulliently, but his fellow riders were subdued, as if they felt the gravity of

what he was attempting more keenly than anyone else. Tirell nodded to them as he passed, and did his best to appear appropriately solemn, but the truth was, it was all he could do not to burst out laughing. The combined efforts of half the people of Maldo and three neighboring forests was about to culminate in the act of tossing a fruit-picker into the sky. If that wasn't absurd, nothing was.

There was no crawling along the support frame, or awkward maneuvering with ropes; a pair of safety rails protected him as he strode out to the point where a ladder led all the way down to the glider. As he descended below the platform, Tirell glanced at the orange clouds in the distance, but he did not look down. Once he had his feet firmly on the floor of the hollow he gave the ladder a push and it retracted, folding up beneath the frame.

He squatted down and set to work pegging the canopy into place around him; the soft resin alone made an airtight seal with the rim of the hollow, but the pegs would resist the pressure trying to part the surfaces. He left a gap in the rim, putting off the moment when he'd start using up his fixed quota of air. Then he lay down in the hollow, fixed the harness in place across his chest, and waited.

After a while, he heard footsteps on the frame above him. Selik called down, "Is everything all right?"

"Yes. I'm ready. The weights . . . ?"

"They're in place. As soon as I get back there, we'll drop them."

Tirell stared up at the canopy. "All right then. I'll see you when I get back."

"Good luck."

The footsteps retreated.

Tirell stretched his arms above his head; the glider was certainly more comfortable than the Spinners' basket. The few times he'd lain in it before, he'd longed for a rehearsal in which it was set in motion, but it would have been too much extra work to perform special drops with the conditions changed so the non-launch at the end wasn't far more punishing than simply departing.

He heard a shout in the distance, then the creak of the rod beginning to turn. When the glider was finally dragged along, rising up, then swinging back, the whole sequence felt entirely familiar, merely conducted at a more leisurely pace.

*Five hundred breaths to launch.* The swaying of the glider on its longer rope was slower and smoother than the basket, and it diminished with much less fuss; there was none of the frantic back and forth he'd grown used to. Through the canopy, each revolution was reduced to a cycle of light and dark; Delia had refined the cloth to the point where he could, with some effort, distinguish the Near Sun from the general glare, but with everything whirling around him every source of illumination just blurred together. Tirell squeezed his eyes shut and kept them closed for five breaths, to check his sense of time against Rada's calculations. When he opened them, the light was at the same angle once more as when he'd closed them.

The force pinning him to the floor grew stronger, steadily but relentlessly. The rope joining him to the end-cap had to be close to half-extended now, but the image of the vast circle he was sweeping out in the open air around the platform no longer terrified him. There was something exhilarating about the sheer scale of it, befitting the path of a vessel preparing to leave the world behind—only made more wondrous by the fact that a toy version that could never have sent him anywhere had nonetheless helped to prepare him for the experience.

As his breath-count approached two hundred and fifty, his body tensed out of habit for the jolt of the stopped drop-weight and the wild spiraling-in that usually followed. Instead, the glider continued smoothly on its outward spiral, still taking five breaths per revolution, but following a longer path each time. No rapid escalation into short-lived agony, just an implacable prolongation of the ever-tighter squeezing

of his flesh. Tirell tried to distract himself, tracking the cycles of light, focusing on keeping the count. The pain was insistent, elbowing its way into his attention, forcing each breath to be more shallow even as he fought to keep the rhythm unchanged.

In duration, just one more ride on the spinner; it hadn't sounded too bad that way. He'd tried not to dwell on the fact that the force from the second would be growing from the level where the first had stopped. But once it was over, it would be over; he'd never have to tolerate it again.

The lights inside his eyes were competing with the glare through the canopy; they were tinged with purple in the dark half of the cycle, then changed to green when he was facing upward toward the clouds. But so long as he could still time his breathing against the motion of the glider, he was in control. The pain in his ribs had shifted from evoking the protruding branches he'd actually known, to the bone daggers he'd only ever imagined. But what did he have to fear, now that the count had passed four hundred?

The purple light began bleeding into the green. Tirell was no longer sure if his eyes were open or not. *Don't let me go blind*, he pleaded. If he was blind, it would all be for nothing. He wouldn't even know before he died if he'd reached the equilibrium point or not.

Abruptly, the stains on his vision began retreating. Except they weren't changing in size at all; they were simply imbued with a sense of motion, as if that could arise entirely separately from their appearance, through something like smell. Then Tirell understood that, although the pain in his chest had barely diminished, the crushing weight itself was gone.

He did not have long to ensure the quality of his air supply; he reached across to the open portion of the canopy and pegged it into place, screaming back defiantly at the protests from his body that wanted him to scream from pain alone. His sight was returning to normal, and from the borders of the brightest region of the canopy he could tell that the glider was ascending with its long axis tilted back about a third of the way from vertical—exactly as it should be. He realized that he'd stopped counting and had no idea what total he'd reached when he'd stopped; for a moment he was in despair, but then he shook off his befuddlement and recalled that it had always been the plan to start afresh from the moment of launch, and if he guessed and started from twenty he could not be too far wrong.

He was alive, aching, sighted, ascending. All but weightless; the resistance of the air against the glider was diminishing, leaving him hovering loosely in his harness. The canopy had swelled outward, pulling itself taut; Anna had told him to listen for any whistling sound as a symptom of a leak where the resin might have failed or a peg come loose, but everything was silent.

With no clouds to scatter the light, the sky had vanished as a discernible hemisphere, but even through the canopy the disk of the Far Sun was now utterly distinct from the broader light above. Tirell kept his gaze fixed on it, and put all his effort into a steady count; in the end, it would only be the delay of sunset that could attest to the altitude he'd reached.

How had the cousins felt, he wondered, as they made the same journey with no intention of returning? Before, it had always seemed pointless to dwell on their emotions at such a vast remove. But they had been people much like him, as fragile, and perhaps as fearful. Whatever knowledge and skills they'd possessed, the feat they'd attempted must have tested them, and terrified them, as much as this had tested and terrified him.

And if he could see through their eyes, surely they could see through his? Once they understood what they were doing, to people no different from themselves, to continue would be untenable.

\* \* \*

When Tirell reached the count of two thousand, the Far Sun had still not set. As far as he could tell from the blurred disk showing through the canopy, it had not even touched the layer of clouds that he pictured spread out below him to the west. Unless his mind had become so addled that he'd raced through the numbers, this was proof that he'd come close to his intended destination.

He waited, still counting. Finally, he noticed a flattening at the bottom of the disk. He timed the duration of the whole event, until the upper limb had vanished. It was within the range he'd been told to expect if he was almost motionless: suspended between the worlds, waiting for one of them to claim him. Tirell had nodded along with Anna and Rada when they'd explained that he wouldn't feel a thing as his home world battled the Near Sun to snatch his body back, but the truth was, even as his experience confirmed their claim, his intuition still struggled to accept it.

The Far Sun did not reappear: he was not accelerating upward, out of the world's shadow. The evidence was not conclusive yet, but Tirell had no patience left. Until an unnatural dawn showed him otherwise, he would consider himself to be on his way home.

A shadow moved swiftly across the Near Sun, hiding it completely and plunging the hollow into darkness. Tirell was confused; it should have been impossible for him to end up close to any of the asteroids. Could the glider have turned around, to face away from the light? Anna had warned him that it might leave the atmosphere with a slow spin, but that didn't mean it could suddenly rotate, long afterward, and then just as suddenly come to a halt.

Tirell heard something strike the glider, firmly but not catastrophically, on either side. When the sound was over, there was nothing more, leaving him wondering if he'd imagined it. Then he felt a slight tug, pulling his body upward toward the nose . . . meaning the glider was being pushed in the opposite direction.

The cousins had noticed him in their workplace, and they were moving him away.

At first, Tirell was ecstatic. What surer sign of success could he have hoped for? But as the smooth, efficient act of discarding him continued, he felt his anger mounting.

"This is it?" he bellowed. "You see me in the way, and you get rid of me? Come and face me, and make a promise! We need to know that you've understood the message. We need to know that you'll stop the harm you've started, and let us live safely again!"

Tirell kept ranting, repeating his demands ever more stridently, until he began to fear that he might be using up his air faster than planned.

"Talk to me," he said quietly.

A voice replied, "I'll talk to you. But what is there to say?"

Tirell swung around in his harness; it had sounded as though the speaker was right next to him.

"Where are you?"

"Far away. But you can think of the thing that's holding you as my emissary."

"You speak our language?" Tirell marveled. Most of the group had considered that unlikely, after such a long separation, but though the accent was strange, the speaker's words were clear enough. "Is it close to your own?"

"Not close, but not too difficult to learn."

"From your Recitations? From the language of the ancestors?"

"No. I've studied your people over the last few years."

"You've studied us . . . without even meeting us? You've hidden in the forests?"

"No. But I've listened from afar."

That didn't make much sense, but Tirell had more important questions to pursue. "Will you stop the flow onto the Near Sun?"

"That decision is not in my hands."

"Then can I talk to whoever will decide?"

"All of us decided, long ago. A majority of us. It's not going to stop."

Tirell was perplexed. "Long ago? But did you know what it would do to us, then?"

"Of course."

"You knew it would kill us, but you chose to do it anyway?"

"It won't kill you all," the voice replied. "The flow has risen and fallen for millions of years, and life has continued. There's nothing you're facing now that your ancestors didn't survive."

"People have migrated *back*, before?"

"Back and forth, hundreds of times. Though the last time was so long ago that perhaps you wouldn't consider them to have been people."

Tirell spent a moment absorbing this revelation, but then decided that he really didn't care. "I'm not interested in ancient history. You still have no right to make us suffer like this."

"So who will stop us?"

The words were delivered so casually that it took some time for Tirell to accept that he hadn't misheard them or misunderstood.

"That's your answer: who will stop you killing us? When we meet you on the cold side, I don't doubt you'll have superior weapons to protect yourselves, but don't expect to ever feel safe there again."

"We won't be meeting each other on the cold side. We don't want any part of your world; it doesn't suit us anymore, hot or cold."

"Then why have you restarted the flow?" Tirell had moved beyond anger into incomprehension; however well this studious cousin spoke his language, he was starting to wonder if the mind behind the words was any less opaque than that of a lizard or a gnat.

"The light and heat of the rekindled Near Sun will give us two new worlds. They already orbit the Far Sun ahead and behind the Near Sun, each a sixth of a circle away. This will bring them to life."

"You have your life already, on the inner worlds."

"One world only; the others aren't amenable to change."

"One only! You can't live with one?"

"There are billions of us," the voice replied. "You are less than ten thousand in all."

"Billions—and you're unwilling to hatch fewer children?"

"Why should even one of us go childless, in order that your sleep remains undisturbed?"

Tirell didn't understand this idiom. "You think we're *sleeping*?"

"You abandoned your culture; you discarded your heritage. If you vanished entirely, what would be lost?"

Tirell felt a weight on his chest: the foot of his opponent, insisting that he yield.

"Aren't we people like you? We feel everything you feel. We struggle like you do; we love life like you do. How is it possible for you to say that we could cease to exist, and it would mean nothing?"

"We all die," the voice replied. "Every one of us. But the culture of the ancestors, their highest achievements, lives on in us alone."

\* \* \*

The cousins' device released the glider, and its shadow slid away. Tirell had lost count of the time, and he had no real idea where he was now, or how fast he was

moving. He hung suspended in his harness, blinking at the restored light filling the hollow.

After a while, he felt the air pushing back against the glider, but he waited until the canopy had lost its rigid outward bulge before daring to peel it open in one corner. The air rushing past had a strange odor, but it was not so thin as to leave him struggling for breath.

The canopy began to rattle in the airflow, then the glider gyrated and turned nose-down, leaving Tirell with his feet to the sky. He closed his eyes and pictured the vessel plunging into the depths. If everyone was destined for those beautiful clouds, why not get it over with right now?

The rattling intensified, shaking him out of his self-pitying reverie. He owed it to the people who'd worked on the launcher to return and tell them everything he'd learned.

He checked the ropes securing the canopy to the tail of the glider, then he took out the pegs, tore the rim free, and threw the whole sheet into the raging air. The wind snatched at it wildly until it came to an uneasy equilibrium, stretched out on the ropes above him, squalling like a strange injured animal as the harness bit into his shoulders from below.

"Thanks to Delia, yet again," he muttered, imagining her scowl when she heard what her handiwork had actually achieved.

Tirell pushed himself away from the floor of the hollow and peered down at the swirling depths. He loosened the harness enough to turn himself around and get his feet in contact with the pedals; he waited as long as he dared, trying to extract as much deceleration from the trailing canopy as possible without falling too low.

Then he cut the canopy loose and took control of the wing flaps, bringing the glider out of its dive.

When he was level, for a moment he was completely at a loss; it had just occurred to him that this would be the first time he'd be flying the glider without Anna beside him. But he wasn't lost; he'd seen enough of the long-lived vortices in the depths below to get his bearings.

Long before he reached Maldo, he saw a small, unfamiliar forest, suspended in an updraft, visibly rising and falling even as he watched, still finding its balance. If it survived in the new conditions, maybe it could serve as a temporary home. A first step in the migration.

Tirell felt his body tense in anger, ashamed at his own acquiescence. But what choice would they have? Accept the hard fate the cousins had imposed on them, or reject it, rage at it, and die.

When he finally saw his home in the distance, the shame returned, and he wanted to flee, but he forced himself to keep going. He found the mouth of the clearing, and he pictured Anna beside him, encouraging and berating him as he circled around a second time, then a third, before he could straighten his path out enough to fly in.

He struck the wall of vines with a bone-shaking jolt, but it felt like a friendly embrace. He sat in the hollow, unable to rise; Anna and Selik appeared beside him, squeezing his arms, talking to him, checking him for injuries.

"If I tell you what happened," he said, "you won't believe me. You'll just say I lost my mind."

"Come out of the glider," Anna replied, "and you'll see why that's not true."

She and Selik helped him out, and he staggered across the platform. His legs were impossibly weak. Could it really have been just a few thousand breaths since he'd departed? He felt like he'd returned from a long exile.

He looked back at the glider. Along the side, dozens of shallow but perfectly straight grooves had been carved—or rather, pressed—into the wood. No one who saw that would doubt that he'd been grabbed by the cousins' strange dispatcher.

He sat down on the platform, and the others sat beside him. "I'll tell you everything," he said. "But then, you'll need to give me something in return."

Anna looked annoyed, but she indulged him. "Of course. What is it you want?"

Tirell said, "I need to hear the Full Recitation. Every word you know, everything I missed out on. We're all going to need to hear it. The struggle that's coming might last for a thousand generations, and we're all going to need to make ourselves strong."