"Are you a child of DNA?"

Rakesh was affronted; if he'd considered this to be information that any stranger wandering by had a right to know, it would have been included in his précis. After a moment's reflection, though, his indignation gave way to curiosity. The stranger was either being deliberately offensive, or had a very good reason for asking. Either way, this was the most interesting thing that had happened to him all day.

"Why do you wish to know?" he replied. The stranger's own précis contained extensive details of its ancestry and sensory modalities, but Rakesh wasn't in the mood to acquire the necessary skills to apprehend it on its own terms. By default, he was already perceiving it as human-shaped, and hearing it speak in his own native tongue. Now, in place of its declared chemosensory label, he assigned it a simple phonetic name chosen at random: Lahl.

Before Lahl could reply, Viya had risen to her feet beside Rakesh and gestured toward an empty spot on the annular bench that surrounded their table. "Please join us," she said.

Lahl nodded graciously. "Thank you." Lahl's actual gender didn't map on to Rakesh's language neatly, but the arbitrary name he'd given her was grammatically female. She sat between the other two members of the group, Parantham and Csi, facing Rakesh squarely. Behind her in the distance, water cascaded down a jagged rocky slope, sending a mist of fine droplets raining down on to the forest below.

"I couldn't help overhearing your complaint," Lahl said. "Everything has been done. Everything has been discovered." To Rakesh, they were seated in the open air, near the edge of a mesa that rose above the treetops of a vast jungle. The murmur of multilingual conversation from the tables around them might have been the sound of insects, if it had not been for the occasional translated phrase that Rakesh allowed himself to hear at random, in case anything piqued his interest. Perhaps to Lahl his words had come across as a distinctive aroma, standing out from a jumble of background odors.

Csi spread his hands in a gesture of apology to this stranger unfamiliar with their customs. "That's just Rakesh's way of talking," he confided. "You should pay him no attention. We get the same speech every day."

"Which makes it no less true," Rakesh protested. "Our ancestors have sucked the Milky Way dry. We were born too late; there's nothing left for us."

"Only several billion other galaxies," Parantham observed mildly. She smiled; her position on this subject had barely shifted since Rakesh had met her, but for her it was still a worthwhile debate, not the empty ritual it had become for Csi.

"Containing what?" Rakesh countered. "Probably more or less the same kinds of worlds and civilizations as our own. Probably nothing that would not be a hideous anticlimax, after traveling such a distance." A few thousand intrepid fools had, in fact, set out for Andromeda, with no guarantee that the spore packages they'd sent in advance would survive the two-million-light-year journey and construct receivers for them.
Rakesh turned to Lahl. "I'm sorry, we keep interrupting you. But what exactly does my molecular ancestry have to do with this?"

"I could be mistaken," Lahl said, "but it might have some bearing on whether or not I can offer you a cure for your malaise."

Rakesh hesitated, then took the bait. "I do come from DNA," he said. "But I warn you, I think that's a strange way to pigeonhole people." His human ancestors had fashioned descendants in their own image—who in turn were largely content to do the same—but membership of the broader DNA panspermia implied no particular cultural traits. Entirely different replicators had given rise to creatures more similar to humans, in temperament and values, than any of their molecular cousins.

Lahl said, "I don't mean to judge you by your ancestry, but in my experience even molecular kinship can sometimes lead to a sense of affinity that would otherwise be lacking. The DNA panspermia has been extensively studied; every world it reached was thought to have been identified long ago. Adding the first new entry to that catalog in almost a million years might well hold more interest for you than it does for me."

Rakesh smiled uncertainly. This was not exactly the kind of momentous discovery that people had made in the Age of Exploration, but in this blackest hours he had often imagined contributing far less to the sum of knowledge than this modest footnote.

It was a pity he'd been beaten to it. "If you've found such a world," he said, "then you're the one who has extended the list."

Lahl shook her head. "Strictly speaking, the crucial evidence was obtained by a third party, but that's not the point. We can quibble all day about the formal attributions, but at present only a fragment of the story is known. Almost everything about this world remains to be discovered, and until someone is willing to pursue the matter vigorously, the few scraps of information I'm carrying will mean very little."

Viya said, "So you're here to trade what you do know?"

"Trade?" Lahl appeared startled. "No. I'm merely hoping to find someone who can do justice to this, since I don't have the time or inclination myself."

Rakesh was beginning to feel as if he was being prodded awake from a stupefying dream that had gone on so long he'd stopped believing that it could ever end. He'd come to this node, this crossroads, in the hope of encountering exactly this kind of traveler, but in ninety-six years he'd learned nothing from the people passing through that he could not have heard on his home world. He'd made friends among the other node-dawdlers, and they passed the time together pleasantly enough, but his old, naive fantasy of colliding with a stranger bearing a surfeit of mysteries—a weary explorer announcing, "I've seen enough for one lifetime, but here, take this crumb from my pocket"—had been buried long ago.

Now that it was being resurrected before his eyes, he felt more wary than excited. He addressed Lahl respectfully, but chose his words with care. "I can't promise you anything, but if you have the time to tell us what you've learned, I'd be honored."

Lahl explained that she belonged to a synchronization clan. Its members roamed the galaxy, traveling alone, but had agreed to remain in contact by meeting regularly at prearranged locations, and doing their best to experience similar periods of subjective
time between these reunions. She was on her way to the next such event, in a planetary system twelve hundred light years outward from this node. Given that the meetings took place just once every hundred millennia, travel plans could be made well in advance, and there was no excuse for tardiness.

However, for reasons she did not wish to detail, when the time had come to begin the journey Lahl had found herself on the wrong side of the galaxy, with no prospect of fulfilling her appointment by any conventional means. The communications network run by the Amalgam skirted the crowded sphere of stars that formed a bulge at the center of the galactic disk, adding several thousand lightyears to the journey compared to the straight-line distance. So she had weighed her options, and her sense of obligation, and placed her fate in the hands of the Aloof.

Viya gazed at her wonderingly. "You've been through their network?"
"Yes."
"You would have been encrypted, though?"
"That's the usual practice," Lahl said. "But I came at a bad time. There'd been an unexpected surge in traffic a few decades before, and there were no encryption keys available for my destination. Keys have to be distributed the long way around; shortages can take centuries to fill. So I had no choice. I traveled in plain sight."
"Yet you emerged unscathed?"
"I believe I'm intact," Lahl replied. She added mischievously, "Though I would think that, wouldn't I?"

Three hundred millennia ago, certain brash citizens of the Amalgam had studied the Aloof's data traffic, deciphered its basic protocols, and constructed links between the two networks. This unilateral act of bridge-building had apparently been tolerated by the Aloof, albeit with only a trickle of data passing through, since few people were willing to trust the short cut. The Amalgam had tried many times to extend its own physical infrastructure into the same territory, but the Aloof had calmly and methodically reversed the trajectory of every spore.

Csi said, "I think I would have arranged for a suitably located backup to wake, and attend the reunion on my behalf instead."
"That would have been grossly discourteous," Lahl explained. "And to have the slightest chance of pulling it off, I would have needed to start planning about sixty millennia ago. If I'd had that much foresight, I would never have ended up cutting things so fine in the first place."

The table fell silent as the four of them contemplated the risk she'd taken. The Aloof had never been known to act maliciously—even the insentient engineering spores they'd swatted back out of the bulge had been left unharmed—but their stubborn refusal to communicate gave them an aura, if not of danger, at the very least of unaccountability. Worse, the part of their network accessible to the Amalgam did not carry quantum data, so the Amalgam's standard protocols—which rendered it physically impossible for an eavesdropper to decipher a transmission, or to alter it without detection—could not be employed. That problem had been addressed, in part, by distributing matched pairs of quantum keys around the edge of the bulge via the Amalgam's own network, creating stockpiles that could be used to encrypt the classical data of travelers taking the short cut. If demand for the keys outstripped
supply, though, it could take a while for the stockpiles to be replenished.
Rakesh said, "The explorer you mentioned: did she take the same route? Is that
how you met?"
"Explorer?"
"Didn't you say that a third party found this uncatalogued DNA world?"
"They found evidence for it," Lahl said. "Not the world itself, as far as I know."
Rakesh was perplexed. "As far as you know?"
"The Aloof embodied me," Lahl explained, "deep inside their territory. I was
shown a meteor, which appeared to be a fragment of a planetary crust ejected by an
impact event. Inside, it was riddled with DNA."
"So you've met them?" Viya asked, incredulous now. "You've met the Aloof?"
"Of course not," Lahl replied. "They kept me at arm's length. They woke me in a
small interstellar habitat, well suited to my customary embodiment, alone with this
rock and the instruments needed to examine it. The short cut had bought me five
thousand years' grace, so I had no qualms about spending a few days obliging my
hosts, and satisfying my own curiosity. The cells inside the meteor were all dead, but
there was enough intact genetic material to reveal that it hadn't been blasted straight
off the surface of any of the known DNA worlds. It was from a mature divergent
branch of the panspermia. It must have originated on a world of its own."
"Do you know where they collected it?" Parantham asked. "They would have had
to travel out of the bulge, surely?"
Lahl said, "There was a map showing where they'd found it: not far from the
place where I was examining it. Particle tracks in the outer layers of the rock seemed
to bear that out; it looked as if it had been exposed to ambient radiation levels for
about fifty million years. And as best as I could date the impact event, that was about
fifty million years ago, too."
Viya frowned. "That makes no sense. For ejecta to get from a typical DNA world
down into the bulge would take at least half a billion years."
"Exactly," Lahl said. "So it can't be from a typical DNA world. The planetary
system itself must be deep in the Aloof's territory."
Rakesh felt a thrill of astonishment, though he was far from convinced that Lahl's
conclusion was the right one. All eleven panspermias were believed to have originated
at middle radii in the galactic disk, between twenty and thirty thousand light years
from the center. Certainly, the worlds on which the eleven replicators were known to
have thrived were confined to that zone, where the galactic chemistry favored the
formation of suitable planets, the radiation levels were reasonably low, and such
biosphere-sterilizing calamities as supernovae were relatively rare. The process by
which collision ejecta had spread the replicators between star systems was supposedly
well understood, and though nothing ruled out the possibility of debris carrying DNA-
based micro-organisms all the way down to the galactic bulge, no one would have
expected them to gain a foothold there.
"Perhaps the Aloof were showing you their cousins," Parantham suggested.
"Perhaps this was their first attempt to introduce themselves." It was widely assumed
that the Aloof had been born in the disk, like everyone else, and migrated to the bulge
before any other civilization had traveled widely enough to encounter them.
Lahl shrugged. "If they'd wished to convey something like that, they could have made themselves clearer. They deciphered my transmission and embodied me; there was nothing mysterious to them in my nature to stand in the way of communication."

Csi said, "I don't doubt that they deciphered you, but are you sure you were embodied?" He spread his arms, taking in the five of them and the whole elaborate scape. The node, in reality, was a few cubic meters of processor, drifting through interstellar space. There was no mesa, there was no jungle, nor any of the alternatives that any of them were perceiving.

"Of course I'm not sure," Lahl conceded. "And even if I was embodied, the meteor itself could have been a carefully manufactured fake, or the instruments I was supplied with could have been contrived to mislead me. But I can't see the point in that kind of deception. Why spread misinformation about the DNA panspermia among people to whom you're largely indifferent?"

"Why spread valid information, either?" Rakesh mused. "I'm surprised they didn't just lob this out of the bulge, muttering about yet another incursion by those awful disk people."

"Lob it where, though?" Csi replied. "And if the planet it came from really does lie in the bulge, this 'incursion' probably predates their own presence."

Lahl regarded them both reprovingly, as if she considered these comments to be willfully obtuse. She said, "I believe they felt obliged to tell someone, to get the word out. In spite of their refusal to communicate with us on any other topic, I believe they considered it their duty to pass this information on to us, to make of it what we will."

"As you considered it your own duty to hand the message on to a descendant of the appropriate replicator?" Rakesh suggested.

"Exactly."

Rakesh was on the verge of pointing out that it was somewhat parochial of her to assume that the Aloof would share her sense of obligation, but then it struck him that, out of all the travelers who'd taken the short cut, the Aloof might have chosen Lahl precisely because she was the most likely to understand, and act upon, their intentions.

Whatever the original cues being translated, Lahl's face had taken on a subtly challenging aspect, as if she was waiting for Rakesh to make clear to her whether or not she'd been wasting her time. Rakesh was still unsure of the verdict himself. Was this his calling? He had never thought of the bulge as a place of genuine mysteries. Many individual citizens of the Amalgam were every bit as private as the Aloof; he had no idea what went on inside their homes, but his ignorance hardly transformed those places into unexplored territory. The higher the gate, the more manicured the garden.

That was the wrong comparison to make, though. The fact that the Aloof fastidiously repelled any physical intrusion into the bulge was no proof that they'd transformed, visited, or even catalogued every last one of the millions of worlds within their domain. If their refusal to engage with the cultures of the disk had its origins in paranoia, they might have adopted a policy of hypervigilance, scrutinizing every last rock for signs of life lest some interloper arise in their midst. Equally, though, stumbling across the DNA-infested meteor might have been sheer bad luck, an unwelcome find imposing obligations that they would never have actively sought.
He said, "If I took this on, where would I pick up the thread? I can't cross the bulge and simply hope to be singled out to be shown what you were shown."

"I have the habitat's address," Lahl said. "The Aloof appended it to my transmission. When you reach the bridge to their network, you could simply name that as your destination."

"With no guarantee that the request would be honored," Csi said. He was staring at Rakesh as if his friend had lost his mind.

Rakesh said, "I haven't come to any decision yet."

Now it was Parantham who was showing disbelief. She turned to Lahl. "If he won't take the address, give it to me! And none of this DNA bigotry. I can only trace my own ancestry back fourteen generations—to a de novo created by a rather hazily documented collaboration—so I can't promise you any mystical molecular affinity. But if the Aloof want someone to hunt down this lost world for them, I'll do it!"

"Hunt it down how?" Csi asked bluntly.

"They recorded the meteor's velocity when they captured it," Lahl said. "And they provided me with detailed maps of the region. I couldn't literally wind all the dynamics back fifty million years; the region is so densely packed with stars that their motion becomes chaotic on that time scale. But it was possible to generate candidates for closer exploration."

"How many?" Csi demanded.

"About six hundred."

Csi groaned and leaned backward on the bench, as if to extract himself from the gathering. "This is insane!"

Rakesh could not deny that, but it was an increasingly enticing folly. Uncharted or not, the center of the galaxy was an exotic, bejeweled place, and if its self-appointed guardians really were inviting outsiders in for the first time ever, that alone was a remarkable opportunity. If the reason for the invitation turned out to be a wild goose chase, or even a complete misunderstanding, that need not render the voyage worthless; it was impossible to rule out danger and disappointment, but at the very least he'd be risking much less than the galaxy-hoppers. How many millennia might he while away before another prospect the equal of this came along?

He said, "I'll take the address." He glanced at Parantham. "I assume I'm not required to go alone?"

Lahl said, "Take an entourage. Take a caravan." She held out her hand, the fist closed, then opened her fingers to reveal a glass key sitting on her palm, an icon for all the data she wished to convey to him. As Rakesh reached for it, she said sharply, "This is your duty now. Your burden. You do understand that?"

He hesitated. "What exactly are you asking me to promise? I can't be certain that I'll find this planet."

"Of course not." Lahl frowned, perhaps wondering what distortions her perfectly lucid chemical emanations were suffering in translation. "Succeed or fail, though, you'll see it through?"

Rakesh nodded gravely, reluctant to press her for details lest they transform this reasonable-sounding commitment into some far more rigorous obligation.

He took the key from her, and she stood.
"Farewell then, Rakesh." The scape drew her as almost literally unburdened, her bearing visibly more relaxed and graceful, as if she'd been freed of a physical load.

The four friends rose. As Lahl walked away across the mesa, Rakesh peeked at her version of the scape. A long, translucent, segmented creature pushed its way briskly through a dense carpet of decaying vegetable matter, beneath an overcast sky.

Csi called after her, "Enjoy the reunion!"

Rakesh restored his normal vision and looked around the table. Parantham was jealously eyeing the key in his hand.

Viya smiled. "You're not really going to do this?" She sounded as if she'd be unsurprised if he shook his head and casually pitched the key over the edge of the mesa.

"Of course I am," Rakesh replied. "I gave my word."

"To whom, exactly?" Csi asked. "For all you know, she was just some de novo that the Aloof created and spat out as bait."

"Bait? If they wanted visitors, all they had to do was stop turning us away. We never needed luring."

"We never would have gone in this way by choice," Csi said. "With no guarantee of integrity. Once you're in, they can send you wherever they like, and do whatever they want with you."

Rakesh said, "Why would they want to harm me? Anyway, people taking the short cut have been checked, and there have never been any violations found."

"What proportion have been checked?" Viya asked. "One in a thousand? And the data passing through the network is classical, remember. Even if the original transmission comes through intact, that doesn't prove it hasn't been copied. If you go in without encryption, there'll be nothing they can't do to you."

"All right, it's a risk, I admit it. The Aloof might be deranged sadists who clone travelers in order to torture them for eternity." Rakesh was disappointed. He had no shortage of doubts about the wisdom of his decision, but he'd expected more from Viya and Csi than this timidity masquerading as sophistication.

None of them had come to the node with the intention of staying for a tenth as long as they had. Half their time was spent debating the best way to move on, inventing one fanciful scheme after another, hunting for ways to build up momentum lest they end up stranded, or worse: slinking back to their home worlds with nothing to show for the millennia, or simply drifting aimlessly on through the network.

He held up the key. "This is what I came here for. I'm not going to sit at this table for another century, waiting for something better."

Csi adopted a conciliatory tone. "We all get bored, Rakesh. We all get frustrated. But that's no reason to fall for the first scam artist who comes along."

Parantham said, "If it's a prank, what happens? We cross the bulge, the Aloof ignore us, and we end up on the other side of the galaxy. We lose fifty millennia, but we gain new surroundings, and the minor daredevil status that comes from having taken the short cut."

"And if it's a trap?" Viya asked. "If the Aloof really do mean you harm?"

Parantham hesitated before replying; Rakesh waited gleefully to hear her pour scorn on the idea.
She said, "That's what backups are for."
As the work party dispersed, Roi headed for the nearest tunnel. The warm buzz of cooperation was fading, giving way to a faint sense of melancholy, and she needed to get away from the wind and the weight to a place where she could rest.

She'd lost count of the number of shifts she'd spent with this team, tending the crops at the garm-sharq edge of the Splinter. It was important work, killing the mites and weeds, keeping the crucial reservoir of food healthy and abundant. If the edible plants prospered here, where the hot, fertile wind blew in from the Incandescence, the seeds that ended up scattered throughout the garmside would give rise to enough secondary growth to feed everyone. If that ceased to happen and people were driven by hunger to feed on the reservoir itself, the initial shortfall could spiral out of control.

Roi was too young to have lived through a famine, but some of her fellow workers had survived two or three. The visceral sense of satisfaction that came from acting in unison was enough to keep her working at almost any task, but this one easily stood up to the scrutiny of conscious reflection.

The tunnel dipped and weaved erratically as it wound its way up. The wind was strong but steady, a nuisance but no great complication. Away from the well-trodden path that marked the easiest ascent, a riot of vegetation colored the light of the underlying rock. Roi resisted the urge to reach out and crush the inedible varieties; most of them had their uses, and as long as they didn't crowd out the food crops they deserved to be left to grow in peace. It was a familiar part of the winding down process to be aware of the weeds everywhere, without responding to the sight of them in the manner that was second nature when she was working.

The tunnel ended in a crowded chamber, where six routes leading up from the garmside edge converged. People were coming up out of the wind after finishing a variety of tasks, and while there was no need for most of these shifts to be synchronized, some kind of social cue seemed to have nudged the timing into a rather inconvenient lockstep. Roi recognized a few members of her own team crossing the chamber, but felt no desire to rejoin them.

At the edge of the flow of bodies a group of wretched males clung to the rock, begging to be relieved of their ripeness. Roi approached them to inspect their offerings. Each male had separated the two hard plates that met along the side of his body, to expose a long, soft cavity where five or six swollen globes sat dangling from heavy cords. Not all of the seed packets were plump and healthy, but Roi made a conscious effort not to be too finicky. With her own carapace split open along her left side, she used her mating claw to reach into the males' bodies, snip the globes free, and deposit them inside herself.

She stripped all the packets from the first three donors, and they shuddered with gratitude and disappeared into the crowd. When she took two globes from the fourth male and found that she was full, she muttered a few consoling words and left him wailing for further assistance.

The ripe seed packets secreted a substance that the males found extremely unpleasant, and while unplucked globes did shrivel up and die eventually, waiting for
that to happen could be an ordeal. There were tools available for severing and discarding them, but that method was notoriously prone to spilling an agonizing dose of irritant. Something about a female's mating claw—something harder to mimic than its shape and its mechanical action—sealed the broken cord far more effectively than any tool.

As Roi continued across the chamber, a pleasant haze of contentment washed over her. The seed packets were battling for supremacy, but the poisons they were using against each other had a thoroughly positive effect on her. The battle was rendered more intense by a weapon of her own: a small quantity of crushed plant material that she replenished regularly. All of her competing suitors would die, valiantly trying to out-poison this thoroughly sterile rival.

Roi left the chamber by the least crowded route, intent now on finding a quiet crevice in which to recuperate. The wind would never fall completely silent unless she traveled all the way to the narrow calm space that divided the garmside from the sardside, but it wouldn't take long to reach some veins of less porous rock that offered a degree of shelter. There was no shelter from the geographical certainties of weight, but after so long working at the Splinter's edge she didn't need much lightening in order to feel unburdened.

Ahead of her, a lone male stood idle in the middle of the tunnel. He wasn't begging for help, and as she drew closer Roi could see that he carried no seeds. A moment later she recognized something else in his appearance: the visibly laboring heart of someone who'd ventured well beyond the weight he was accustomed to bearing.

The male was blocking the easiest way ahead, so Roi, undeterred by the weeds, climbed the tunnel wall to detour around him.

"It must be something simple," he declared.
"Roi paused courteously. "What must be, father?"
"Whatever underlies it all."
"Of course." Roi had no idea what he was talking about, so she could hardly dispute him.

She hesitated, then started to move on.
The male scrambled after her. "My name is Zak."
"My name is Roi." He was exerting himself valiantly to match her pace, but she took pity on him and slowed down a little. "I work among the crops, at the garm-sharq edge."

Zak chirped approval. "Valuable work."
Roi glanced behind them. If this was some kind of recruitment ambush, his teammates were well hidden. "What do you do?"

"I doubt you will have heard of my task. In fact, lately I've been working alone."
Roi didn't ask why he remained unrecruited; he was plainly quite old, and probably in poor health. Being stranded without team-mates was an unfortunate fate for anyone, but she had no power to change that for him. She certainly couldn't recruit him into her own team, in his condition.

"I spend a lot of time in the Calm," Zak continued. "Near the Null Line."
"I see." Resting, hoping to recover from an illness? Or perhaps being weightless
too long was the cause of his weakness. "Doing what?"

"Playing with some contraptions of mine. Trying to find something simple."

"I don't understand. What is it you're looking for?"

Zak said, "I'm not sure. But I'll recognize it when I see it."

They continued on in silence for a while. Roi didn't mind him accompanying her; he could hardly hijack her loyalty on his own, and she was relieved to see him heading for a level more conducive to his health.

"Do you ever wonder why we climb up to the Null Line from the garm and sard quarters," Zak asked, "but down to it from the shomal and junub?"

"What is there to ponder?" Roi replied, amused. "That's just the way it is." When Zak said nothing she added defensively, "Do you really think it's surprising? Any point you name must be above some places, and below others. So why shouldn't the four quarters be half and half?"

Zak said, "If you ascend to any other point and then continue on in the same direction, you cross between the two alternatives: the point that was originally above you is now below you. When you cross straight through the Null Line, that doesn't happen. If you go from garm to sard, the Null Line remains above you. If you go from shomal to junub, it remains below."

Roi was tired, but she forced herself to concentrate. She might have let the matter drop for the sake of harmony, but something about Zak provoked her to disputation.

"At the Null Line you have no weight," she said finally, "so there really is no up or down. That's the difference. If any other point stayed above you as you crossed through it, your weight would have to reverse suddenly, changing completely in a single step. At the Null Line it shrinks to nothing, so a change in direction is no change at all."

"Exactly." Her answer was clearly no revelation to Zak, but he sounded pleased that she'd made the effort to think it through. "That still doesn't explain the particular pattern, though. I can see no logical difficulty with a far simpler situation: our weight always pointing away from the Null Line, or always pointing toward it. Nor can I see any barrier to more complex arrangements. Why the four quarters? When you circle around the Null Line, why should it be above you, then below you, then above, then below? Why not six changes of direction, or thirty-six?"

Roi rasped annoyance. "And if it was thirty-six, you'd be asking why not four, or six."

"Of course I would. But I don't believe it could ever be thirty-six."

"You just told me you can see no reason why it shouldn't be!"

Zak said, "I can't see the reason yet. But four is small enough to point to something simple. If it was thirty, I could believe it might be thirty-six. Because it's four, though, I believe it must be four."

They'd reached a junction in the tunnel. Roi moved toward the left branch, which she knew was a cul-de-sac ending in some comfortable crannies.

"Before we part," Zak said, "can I show you something?" He opened his carapace and reached into the empty seed bed to remove a rolled-up sheet of cured skin, which he proceeded to spread out before her. "This is my favorite map of the Splinter."

Roi was unimpressed. The single cross-section portrayed was covered with an
absurdly regular hatching of short, straight lines which bore no resemblance to any routes she knew. And there was no hint of anything really useful, such as vegetation patterns or the lodes of dense, sheltering rock.

"Are you telling me I can get from here to here?" she asked, gesturing at two endpoints of one of the peculiar markings. But it wasn't even clear where these points were meant to be, since there were no cues to indicate how far along the Null Line, rarb or sharq, the cross-section was taken.

"It's not a map of tunnels," Zak replied. "It's a map of weights."
It took a moment for his meaning to become clear. The longest lines were drawn at the edge of the Splinter, where the weight was greatest. The lines' varying lengths, and the way they gradually rotated as you followed them around the center of the map, offered a plausible rendering of the way weight changed from place to place. A small crossbar on each one distinguished the bottom end from the top.

"You drew this yourself?" she asked.

"No, I copied it from a map I found in a library. That had nothing to indicate its provenance, though, and it could easily have been a copy itself. For all I know this could be the seventh or eighth generation."

Roi pondered the strange task the original cartographer had embarked upon. "Everybody knows that weight increases as you move away from the Null Line. What's the need for a map like this?"

"In what manner does it increase?" Zak demanded. "How quickly, as you move in different directions? And which way, exactly, is down, as you move between the quarters?"

Roi couldn't imagine why anyone would need to know these things with more precision than she already knew them herself. Still, there was something compelling about the stretching and shrinking and rolling of the lines. Each individual mark conveyed nothing new to her, but seeing the totality displayed in this way was curiously satisfying.

"It's pleasing to the eye," she conceded. "Like the pattern of seeds on a leaf."

"Oh, it's far simpler than that," Zak replied. "I can characterize it very easily. Suppose you travel three hundred spans shomal or junub from the Null Line. The weight there will be one vazn, back toward the Null Line. If you travel twice as far, the weight will be two vazn; three times as far, three vazn; and so on, in proportion to the distance.

"If you travel garm or sard instead, your weight will point away from the Null Line, and it will grow three times as fast. You only need to go one hundred spans before it reaches one vazn."

"What if you travel in none of those directions?" Roi gestured at the map. "The weight twists around. It's no longer so simple."

"It remains simple," Zak insisted, "if you know one more trick. Think of weight as a line, as it is on this map. Put aside for a moment the length and direction of that line, and ask instead for its extent along two axes: shomal-junub, and garm-sard. However far you are shomal or junub of the Null Line determines the weight line's extent along the shomal-junub axis. However far you are garm or sard determines its extent along the garm-sard axis. That's all you need to know in order to draw the line. Its extent in each direction has a simple prescription, and that fixes the line as a whole."

Roi absorbed this, then re-examined the map, which seemed to bear out Zak's claim. But if his recipe for combining the effect of travel in different directions seemed simple enough to be inevitable, it was the basic ingredients that now struck her as puzzling. Why did being garm or sard of the Null Line add three times more to your weight than being shomal or junub? Why not four times, or five? And why did "garm-sard weight" push you away from the Null Line, while "shomal-junub weight" pulled
you back to it? She couldn't even guess at the answers, but she could understand now why Zak was pursuing this strange, lonely task. These patterns demanded an explanation.

"When you find what you're looking for," she said, "I hope to hear of it."

The shadow of Zak's heart grew visibly faster, as if she'd hefted a large rock on to his carapace. He said, "Why not help me in my search?"

Roi looked around again, but he was still alone. Did he honestly believe he could recruit her, unaided? She said, "I've told you the work I do."

"I don't expect you to leave your team," he replied.

"That's wise of you." Roi felt a stab of pity for him, followed by a treacherous thrill of disloyalty. It wouldn't have been the worst fate in the world if Zak had had forty team-mates waiting to ambush her, a throng of eccentric questioners to lure her away from the worthy monotony of the crops.

"What I'm asking won't interfere with your work. I only want you to take some measurements, as you travel around the edge."

"Measurements?"

"To confirm the weights." Zak began rolling up the map. "I have no idea who drew this. I can only guess about the scales they used to represent distances and weights. And what if it's not accurate? I can't just take it on faith! Even if it was correct when it was drawn, what if something has changed since then?"

Roi was still trying to wrap her mind around the notion of a solo, partial recruitment, but this last comment electrified her. "Someone told me a story once," she said, "about the weights growing stronger."

"So strong that they tore the world to pieces. Hence our name for what remains."

Roi said, "Do you believe that's true?"

Zak hesitated. "Who can say? Maybe it's simply in our nature to imagine a larger, more glorious world in the past. To console ourselves, as we confront our limitations, with the idea that we were once part of something greater."

Roi joked, "I think I'd find more consolation by imagining a larger world in the future."

Zak took her words perfectly seriously. "Exactly, but how? Should we hope to catch up with our mythical cousins who went tumbling away into the Incandescence?"

This was becoming too strange for Roi. "You said something about measurements."

"Yes." Zak opened his carapace again, and removed a long tube wrought from susk cuticle. As he offered it to her, the shifting light revealed a coil of metal inside, with a small, smooth stone attached to the end of it.

Roi took it, trying not to show her astonishment at how casually he was handing over this extraordinary device. "See the numbers carved along the side?" Zak asked her.

"Yes."

"The greater the weight, the further the spring stretches."

"Of course." That principle was clear, but how would she measure the exact direction? There were a number of slender rods lying against the side of the tube; Roi
tugged gently on one of them, and it unfolded into a spindly leg. There were three legs, and a system of shorter rods as well.

"You need to take sights of some reference points," Zak explained. "And then record the angles between the legs and the weight tube."

"This is beginning to sound complicated."

In fact, it was beginning to sound like work. What she felt about Zak's plans, though, was nothing at all like the buzz of camaraderie. He wasn't competing with her team; he was offering her something entirely different.

"You only have to record a few numbers," Zak assured her. "I'm not asking you to do any of the calculations."

He set up the tripod and demonstrated. There were navigation signs painted on the walls of all the main tunnels at regular intervals, and Zak had devised a set of rules for choosing points on them to orient the apparatus.

"You should ask some members of the signage teams," Roi suggested. "They go everywhere."

"I did. They refused."

When she'd completed a successful measurement for herself, Roi folded up the device and stored it in her fallow right cavity, along with a roll of skin for recording the results.

They parted, promising each other that they'd meet in the same place after thirty-six shifts.

As Roi searched for a resting spot, the encounter began to seem increasingly remote and implausible, as if she'd heard about it from a friend of a friend, not experienced it for herself. Zak had spoken of plans to look for other helpers, but she didn't think much of his chances. Even now, her own conviction that she could spare the time to indulge in this charming, pointless activity was beginning to waver. Then again, she was tired, and even the thought of tending the crops with her team-mates made her feel weary.

She found an empty crevice near the end of the tunnel, and slid into the welcoming fissure. She could still hear the constant susurration of the wind, but the mass of dense rock behind her was strong enough to divert the flow away from her weathered carapace.

With her eyes pressed against the rock, her vision was filled with a shapeless radiance. Everything in the Splinter glowed with the warmth of the Incandescence; sheltered or not, she was always bathed in that same light.

Roi relaxed and let her eyes grow unresponsive. The radiance began to fade, dissolving into a colorless absence. Images of the weeds she'd sought throughout her shift marched across the emptiness. Then her body became numb, and her mind quiet.
Csi had organized the departure, designing a scape to suit the occasion with versions tailor-made for every participant. Rakesh found himself on an ocean-going vessel some fifty meters long, surrounded as far as the eye could see by heavy, gray-green seas. The sky was cloudless, but the sun was low and the wind relentless. There were five other people assembled on the deck: Parantham, Csi, Viya, and two old friends of Parantham, Jafar and Renu.

"We are gathered here to bid farewell to Rakesh and Parantham," Csi declaimed, "who have heard the song of the sirens, and decided, against all of our wise counsel, to follow it." Parantham smiled, perhaps at the very same reference; her own cultural background was such a mosaic that the human legend was probably just as meaningful to her as any alternative.

Rakesh tried to stay focused on the details of Csi’s parting gift. The timber beneath his feet was warped, as if by decades of humidity. The salt in the air was pungent. The bodily parameters that he’d ceded to his friend’s design guaranteed that the relentless swaying of the deck left him mildly queasy. All this theater was not so much a distraction as an adornment, refracting the strange truth of the event without ever trying to conceal it.

Rakesh had not anticipated how hard it would be to cut his ties and move on. When he’d left Shab-e-Noor, his home world, he’d been preparing for a thousand years. Since his youth it had been his plan to remain in the local system for no more than a millennium, and by the time the self-imposed deadline approached all his family and friends were convinced of his sincerity and had worked to make things easier. Even so, the wrenching feeling that came from the realization that one step would separate him from everyone he knew—for at least six times longer than he’d known them—had been almost unbearable. It was like marching into a white-hot furnace and being seared to the bone, losing every nerve ending, every connection, every link to the world outside his skull.

The first node he’d reached had been three thousand light years away. He’d jumped again, twice, almost immediately, after finding that nearly everyone he met had either come directly from his home world, or had visited it not long before. At the third node, in contrast, the intersecting currents of travelers had seemed thoroughly cosmopolitan, rich with complex histories and anecdotes ready to be mined.

So he’d stayed, but he’d kept himself suitably aloof, eschewing all but the most pragmatic associations, priding himself on his readiness to depart in an instant with no goodbyes. If even one in a thousand of the travelers passing through had come from a place worth visiting, he’d reasoned, it would not take long to choose a destination.

In a sense that premise had been true, but many people were returning from ageless spectacles that Rakesh had known of since childhood. Whether it was a million-year-old jungle, the immaculately preserved city of an ancestral civilization, or some delicately beautiful nebula, detailed images had already reached Shab-e-Noor long before his birth. Witnessing such sights firsthand rather than in a scape might merit a local planetary hop, but not the burning of millennia and his alienation from
everything and everyone he'd known.

Other travelers took their chances as they searched for less famous, more transient pleasures. By their very nature, though, such destinations could rarely be shared: after five or ten millennia, the most energetic social or artistic renaissance would certainly have faded. Sometimes the insights of these movements could be passed on, but away from the time and place that had given birth to them, most, far from being potent memes ready to spark new revolutions, were uninspiring. Rakesh hadn't traveled thousands of light years to return home with a handful of bland, second-hand slogans.

Eventually, he'd settled into a state somewhere between cynical resignation and injured bemusement. A logical strategy might have been to make the best of the imperfect information flowing through the node to build up a list of promising worlds, and then wait for that list to include a sequence of planets that could be visited efficiently in a single grand tour. Rakesh had known people who'd done just that, and after five or ten years of planning departed happily on a trip that would take them twenty or thirty millennia. He'd toyed with his own lists, and then set them aside. His heart wasn't in it. If he was ever to break free, he needed something more: a penetrating new insight into the intractable theory of travel.

Or, as it turned out, some sheer dumb luck.

"By your own free choice, you are abandoning your loyal companions for this dangerous folly," Csi announced dryly, "so all we can offer you in return are these talismans to help you on your way."

From an ornate chest sitting on the deck beside him, Csi extracted two weighty metal chains. With Viya's help, he tied one around Rakesh's upper body, while Jafar and Renu did the same for Parantham.

Two robust, seasoned-looking planks lay on the deck, neatly slotted through a convenient gap below the guard rail to protrude over the edge. Rakesh supposed they might have been carried on ships like this for the sake of repairs. That prospect struck him as somewhat cheerier than if they'd been brought along with only their present purpose in mind.

Parantham shot him an amused look and casually hefted herself over the guard rail. Rakesh clambered over more cautiously, then crouched down to lower his center of mass, wondering at the overpowering need he felt to keep his balance and stay out of the ocean until the very end.

He couldn't turn his head far enough to face the people watching from the deck, but he called back to them, "Don't think we'll never cross paths again. It's a small galaxy, and I plan to be in it for a very long time."

Viya laughed. "Is that a threat of retribution, from the mouth of Davy Jones's locker?"

Rakesh held up a length of the iron chain to demonstrate how loosely it was tied, and rattled it dismissively. "You think this is enough to hold me down? You should know I studied under Houdini!" The ship lurched abruptly, almost toppling him. He managed to steady himself, but his heart was pounding.

While Rakesh was still inching his way forward, Parantham marched to the end of her plank. Watching her poised swaying at the edge made his stomach clench.