The Shoulders of Giants

by **Robert J. Sawyer**

It seemed like only yesterday when I'd died, but, of course, it was almost certainly centuries ago. I wish the computer would just *tell* me, dammitall, but it was doubtless waiting until its sensors said I was sufficiently stable and alert. The irony was that my pulse was surely racing out of concern, forestalling it speaking to me. If this was an emergency, it should inform me, and if it wasn't, it should let me relax.

Finally, the machine did speak in its crisp, feminine voice. "Hello, Toby. Welcome back to the world of the living."

"Where—" I'd thought I'd spoken the word, but no sound had come out. I tried again. "Where are we?"

"Exactly where we should be: decelerating toward Soror."

I felt myself calming down. "How is Ling?"

"She's reviving, as well."

"The others?"

"All forty-eight cryogenics chambers are functioning properly," said the computer. "Everybody is apparently fine."

That was good to hear, but it wasn't surprising. We had four extra cryochambers; if one of the occupied ones had failed, Ling and I would have been awoken earlier to transfer the

person within it into a spare. “What’s the date?”

“16 June 3296.”

I’d expected an answer like that, but it still took me back a bit. Twelve hundred years had elapsed since the blood had been siphoned out of my body and oxygenated antifreeze had been pumped in to replace it. We’d spent the first of those years accelerating, and presumably the last one decelerating, and the rest—

—the rest was spent coasting at our maximum velocity, 3,000 km/s, one percent of the speed of light. My father had been from Glasgow; my mother, from Los Angeles. They had both enjoyed the quip that the difference between an American and a European was that to an American, a hundred years was a long time, and to a European, a hundred miles is a big journey.

But both would agree that twelve hundred years and 11.9 light-years were equally staggering values. And now, here we were, decelerating in toward Tau Ceti, the closest sunlike star to Earth that wasn’t part of a multiple-star system. Of course, because of that, this star had been frequently examined by Earth’s Search for Extraterrestrial Intelligence. But nothing had ever been detected; nary a peep.

I was feeling better minute by minute. My own blood, stored in bottles, had been returned to my body and was now coursing through my arteries, my veins, reanimating me.

We were going to make it.

Tau Ceti happened to be oriented with its north pole facing toward Sol; that meant that the technique developed late in the twentieth century to detect planetary systems based on subtle blueshifts and redshifts of a star tugged now closer, now farther away, was useless with it. Any wobble in Tau Ceti’s movements would be perpendicular, as seen from Earth, producing no Doppler effect. But eventually Earth-orbiting telescopes had been developed that were sensitive

enough to detect the wobble visually, and—

It had been front-page news around the world: the first solar system seen by telescopes. Not inferred from stellar wobbles or spectral shifts, but actually *seen*. At least four planets could be made out orbiting Tau Ceti, and one of them—

There had been formulas for decades, first popularized in the RAND Corporation's study *Habitable Planets for Man*. Every science-fiction writer and astrobiologist worth his or her salt had used them to determine the *life zones*—the distances from target stars at which planets with Earthlike surface temperatures might exist, a Goldilocks band, neither too hot nor too cold.

And the second of the four planets that could be seen around Tau Ceti was smack-dab in the middle of that star's life zone. The planet was watched carefully for an entire year—one of its years, that is, a period of 193 Earth days. Two wonderful facts became apparent. First, the planet's orbit was damn near circular—meaning it would likely have stable temperatures all the time; the gravitational influence of the fourth planet, a Jovian giant orbiting at a distance of half a billion kilometers from Tau Ceti, probably was responsible for that.

And, second, the planet varied in brightness substantially over the course of its twenty-nine-hour-and-seventeen-minute day. The reason was easy to deduce: most of one hemisphere was covered with land, which reflected back little of Tau Ceti's yellow light, while the other hemisphere, with a much higher albedo, was likely covered by a vast ocean, no doubt, given the planet's fortuitous orbital radius, of liquid water—an extraterrestrial Pacific.

Of course, at a distance of 11.9 light-years, it was quite possible that Tau Ceti had other planets, too small or too dark to be seen. And so referring to the Earthlike globe as Tau Ceti II would have been problematic; if an additional world or worlds were eventually found orbiting closer in, the system's planetary numbering would end up as confusing as the scheme used to

designate Saturn's rings.

Clearly a name was called for, and Giancarlo DiMaio, the astronomer who had discovered the half-land, half-water world, gave it one: Soror, the Latin word for sister. And, indeed, Soror appeared, at least as far as could be told from Earth, to be a sister to humanity's home world.

Soon we would know for sure just how perfect a sister it was. And speaking of sisters, well—okay, Ling Woo wasn't my biological sister, but we'd worked together and trained together for four years before launch, and I'd come to think of her as a sister, despite the press constantly referring to us as the new Adam and Eve. Of course, we'd help to populate the new world, but not together; my wife, Helena, was one of the forty-eight others still frozen solid. Ling wasn't involved yet with any of the other colonists, but, well, she was gorgeous and brilliant, and of the two dozen men in cryosleep, twenty-one were unattached.

Ling and I were co-captains of the *Pioneer Spirit*. Her cryocoffin was like mine, and unlike all the others: it was designed for repeated use. She and I could be revived multiple times during the voyage, to deal with emergencies. The rest of the crew, in coffins that had cost only $700,000 a piece instead of the six million each of ours was worth, could only be revived once, when our ship reached its final destination.

"You're all set," said the computer. "You can get up now."

The thick glass cover over my coffin slid aside, and I used the padded handles to hoist myself out of its black porcelain frame. For most of the journey, the ship had been coasting in zero gravity, but now that it was decelerating, there was a gentle push downward. Still, it was nowhere near a full g, and I was grateful for that. It would be a day or two before I would be truly steady on my feet.

My module was shielded from the others by a partition, which I'd covered with photos of people I'd left behind: my parents, Helena's parents, my real sister, her two sons. My clothes had waited patiently for me for twelve hundred years; I rather suspected they were now hopelessly out of style. But I got dressed—I'd been naked in the cryochamber, of course—and at last I stepped out from behind the partition, just in time to see Ling emerging from behind the wall that shielded her cryocoffin.

"'Morning," I said, trying to sound blasé.

Ling, wearing a blue and gray jumpsuit, smiled broadly. "Good morning."

We moved into the center of the room, and hugged, friends delighted to have shared an adventure together. Then we immediately headed out toward the bridge, half-walking, half-floating, in the reduced gravity.

"How'd you sleep?" asked Ling.

It wasn't a frivolous question. Prior to our mission, the longest anyone had spent in cryofreeze was five years, on a voyage to Saturn; the *Pioneer Spirit* was Earth's first starship.

"Fine," I said. "You?"

"Okay," replied Ling. But then she stopped moving, and briefly touched my forearm. "Did you—did you dream?"

Brain activity slowed to a virtual halt in cryofreeze, but several members of the crew of *Cronus*—the Saturn mission—had claimed to have had brief dreams, lasting perhaps two or three subjective minutes, spread over five years. Over the span that the *Pioneer Spirit* had been traveling, there would have been time for many hours of dreaming.

I shook my head. "No. What about you?"

Ling nodded. "Yes. I dreamt about the strait of Gibraltar. Ever been there?"

"No."

"It's Spain's southernmost boundary, of course. You can see across the strait from Europe to northern Africa, and there were Neandertal settlements on the Spanish side." Ling's Ph.D. was in anthropology. "But they never made it across the strait. They could clearly see that there was more land—another continent!—only thirteen kilometers away. A strong swimmer can make it, and with any sort of raft or boat, it was eminently doable. But Neandertals never journeyed to the other side; as far as we can tell, they never even tried."

"And you dreamt—?"

"I dreamt I was part of a Neandertal community there, a teenage girl, I guess. And I was trying to convince the others that we should go across the strait, go see the new land. But I couldn't; they weren't interested. There was plenty of food and shelter where we were. Finally, I headed out on my own, trying to swim it. The water was cold and the waves were high, and half the time I couldn't get any air to breathe, but I swam and I swam, and then ..."

"Yes?"

She shrugged a little. "And then I woke up."

I smiled at her. "Well, this time we're going to make it. We're going to make it for sure."

We came to the bridge door, which opened automatically to admit us, although it squeaked something fierce while doing so; its lubricants must have dried up over the last twelve centuries. The room was rectangular with a double row of angled consoles facing a large screen, which currently was off.

"Distance to Soror?" I asked into the air.

The computer's voice replied. "1.2 million kilometers."

I nodded. About three times the distance between Earth and its moon. "Screen on, view

ahead."

"Overrides are in place," said the computer.

Ling smiled at me. "You're jumping the gun, partner."

I was embarrassed. The *Pioneer Spirit* was decelerating toward Soror; the ship's fusion exhaust was facing in the direction of travel. The optical scanners would be burned out by the glare if their shutters were opened. "Computer, turn off the fusion motors."

"Powering down," said the artificial voice.

"Visual as soon as you're able," I said.

The gravity bled away as the ship's engines stopped firing. Ling held on to one of the handles attached to the top of the console nearest her; I was still a little groggy from the suspended animation, and just floated freely in the room. After about two minutes, the screen came on. Tau Ceti was in the exact center, a baseball-sized yellow disk. And the four planets were clearly visible, ranging from pea-sized to as big as grape.

"Magnify on Soror," I said.

One of the peas became a billiard ball, although Tau Ceti grew hardly at all.

"More," said Ling.

The planet grew to softball size. It was showing as a wide crescent, perhaps a third of the disk illuminated from this angle. And—thankfully, fantastically—Soror was everything we'd dreamed it would be: a giant polished marble, with swirls of white cloud, and a vast, blue ocean, and—

Part of a continent was visible, emerging out of the darkness. And it was green, apparently covered with vegetation.

We hugged again, squeezing each other tightly. No one had been sure when we'd left

Earth; Soror could have been barren. The *Pioneer Spirit* was ready regardless: in its cargo holds was everything we needed to survive even on an airless world. But we'd hoped and prayed that Soror would be, well—just like this: a true sister, another Earth, another home.

"It's beautiful, isn't it?" said Ling.

I felt my eyes tearing. It *was* beautiful, breathtaking, stunning. The vast ocean, the cottony clouds, the verdant land, and—

"Oh, my God," I said, softly. "Oh, my God."

"What?" said Ling.

"Don't you see?" I asked. "Look!"

Ling narrowed her eyes and moved closer to the screen. "What?"

"On the dark side," I said.

She looked again. "Oh ..." she said. There were faint lights sprinkled across the darkness; hard to see, but definitely there. "Could it be volcanism?" asked Ling. Maybe Soror wasn't so perfect after all.

"Computer," I said, "spectral analysis of the light sources on the planet's dark side."

"Predominantly incandescent lighting, color temperature 5600 kelvin."

I exhaled and looked at Ling. They weren't volcanoes. They were cities.

Soror, the world we'd spent twelve centuries traveling to, the world we'd intended to colonize, the world that had been dead silent when examined by radio telescopes, was already inhabited.

#

The *Pioneer Spirit* was a colonization ship; it wasn't intended as a diplomatic vessel. When it had left Earth, it had seemed important to get at least some humans off the mother

world. Two small-scale nuclear wars—Nuke I and Nuke II, as the media had dubbed them—had already been fought, one in southern Asia, the other in South America. It appeared to be only a matter of time before Nuke III, and that one might be the big one.

SETI had detected nothing from Tau Ceti, at least not by 2051. But Earth itself had only been broadcasting for a century and a half at that point; Tau Ceti might have had a thriving civilization then that hadn't yet started using radio. But now it was twelve hundred years later. Who knew how advanced the Tau Cetians might be?

I looked at Ling, then back at the screen. "What should we do?"

Ling tilted her head to one side. "I'm not sure. On the one hand, I'd love to meet them, whoever they are. But ..."

"But they might not want to meet us," I said. "They might think we're invaders, and—"

"And we've got forty-eight other colonists to think about," said Ling. "For all we know, we're the last surviving humans."

I frowned. "Well, that's easy enough to determine. Computer, swing the radio telescope toward Sol system. See if you can pick anything up that might be artificial."

"Just a sec," said the female voice. A few moments later, a cacophony filled the room: static and snatches of voices and bits of music and sequences of tones, overlapping and jumbled, fading in and out. I heard what sounded like English—although strangely inflected—and maybe Arabic and Mandarin and ...

"We're not the last survivors," I said, smiling. "There's still life on Earth—or, at least, there was 11.9 years ago, when those signals started out."

Ling exhaled. "I'm glad we didn't blow ourselves up," she said. "Now, I guess we should find out what we're dealing with at Tau Ceti. Computer, swing the dish to face Soror, and again

scan for artificial signals."

"Doing so." There was silence for most of a minute, then a blast of static, and a few bars of music, and clicks and bleeps, and voices, speaking in Mandarin and English and—

"No," said Ling. "I said face the dish the *other* way. I want to hear what's coming from Soror."

The computer actually sounded miffed. "The dish *is* facing toward Soror," it said.

I looked at Ling, realization dawning. At the time we'd left Earth, we'd been so worried that humanity was about to snuff itself out, we hadn't really stopped to consider what would happen if that didn't occur. But with twelve hundred years, faster spaceships would doubtless have been developed. While the colonists aboard the *Pioneer Spirit* had slept, some dreaming at an indolent pace, other ships had zipped past them, arriving at Tau Ceti decades, if not centuries, earlier—long enough ago that they'd already built human cities on Soror.

#

"Damn it," I said. "God damn it." I shook my head, staring at the screen. The tortoise was supposed to win, not the hare.

"What do we do now?" asked Ling.

I sighed. "I suppose we should contact them."

"We—ah, we might be from the wrong side."

I grinned. "Well, we can't *both* be from the wrong side. Besides, you heard the radio: Mandarin *and* English. Anyway, I can't imagine that anyone cares about a war more than a thousand years in the past, and—"

"Excuse me," said the ship's computer. "Incoming audio message."

I looked at Ling. She frowned, surprised. "Put it on," I said.

"*Pioneer Spirit*, welcome! This is Jod Bokket, manager of the Derluntin space station, in orbit around Soror. Is there anyone awake on board?" It was a man's voice, with an accent unlike anything I'd ever heard before.

Ling looked at me, to see if I was going to object, then she spoke up. "Computer, send a reply." The computer bleeped to signal that the channel was open. "This is Dr. Ling Woo, co-captain of the *Pioneer Spirit*. Two of us have revived; there are forty-eight more still in cryofreeze."

"Well, look," said Bokket's voice, "it'll be days at the rate you're going before you get here. How about if we send a ship to bring you two to Derluntin? We can have someone there to pick you up in about an hour."

"They really like to rub it in, don't they?" I grumbled.

"What was that?" said Bokket. "We couldn't quite make it out."

Ling and I consulted with facial expressions, then agreed. "Sure," said Ling. "We'll be waiting."

"Not for long," said Bokket, and the speaker went dead.

#

Bokket himself came to collect us. His spherical ship was tiny compared with ours, but it seemed to have about the same amount of habitable interior space; would the ignominies ever cease? Docking adapters had changed a lot in a thousand years, and he wasn't able to get an airtight seal, so we had to transfer over to his ship in space suits. Once aboard, I was pleased to see we were still floating freely; it would have been *too* much if they'd had artificial gravity.

Bokket seemed a nice fellow—about my age, early thirties. Of course, maybe people looked youthful forever now; who knew how old he might actually be? I couldn't really identify

his ethnicity, either; he seemed to be rather a blend of traits. But he certainly was taken with Ling—his eyes popped out when she took off her helmet, revealing her heart-shaped face and long, black hair.

"Hello," he said, smiling broadly.

Ling smiled back. "Hello. I'm Ling Woo, and this is Toby MacGregor, my co-captain."

"Greetings," I said, sticking out my hand.

Bokket looked at it, clearly not knowing precisely what to do. He extended his hand in a mirroring of my gesture, but didn't touch me. I closed the gap and clasped his hand. He seemed surprised, but pleased.

"We'll take you back to the station first," he said. "Forgive us, but, well—you can't go down to the planet's surface yet; you'll have to be quarantined. We've eliminated a lot of diseases, of course, since your time, and so we don't vaccinate for them anymore. I'm willing to take the risk, but ..."

I nodded. "That's fine."

He tipped his head slightly, as if he were preoccupied for a moment, then: "I've told the ship to take us back to Derluntin station. It's in a polar orbit, about 200 kilometers above Soror; you'll get some beautiful views of the planet, anyway." He was grinning from ear to ear. "It's wonderful to meet you people," he said. "Like a page out of history."

#

"If you knew about us," I asked, after we'd settled in for the journey to the station, "why didn't you pick us up earlier?"

Bokket cleared his throat. "We didn't know about you."

"But you called us by name: *Pioneer Spirit*."

"Well, it *is* painted in letters three meters high across your hull. Our asteroid-watch system detected you. A lot of information from your time has been lost—I guess there was a lot of political upheaval then, no?—but we knew Earth had experimented with sleeper ships in the twenty-first century."

We were getting close to the space station; it was a giant ring, spinning to simulate gravity. It might have taken us over a thousand years to do it, but humanity was finally building space stations the way God had always intended them to be.

And floating next to the space station was a beautiful spaceship, with a spindle-shaped silver hull and two sets of mutually perpendicular emerald-green delta wings. "It's gorgeous," I said.

Bokket nodded.

"How does it land, though? Tail-down?"

"It doesn't land; it's a starship."

"Yes, but—"

"We use shuttles to go between it and the ground."

"But if it can't land," asked Ling, "why is it streamlined? Just for esthetics?"

Bokket laughed, but it was a polite laugh. "It's streamlined because it needs to be. There's substantial length-contraction when flying at just below the speed of light; that means that the interstellar medium seems much denser. Although there's only one baryon per cubic centimeter, they form what seems to be an appreciable atmosphere if you're going fast enough."

"And your ships are *that* fast?" asked Ling.

Bokket smiled. "Yes. They're that fast."

Ling shook her head. "We were crazy," she said. "Crazy to undertake our journey." She

looked briefly at Bokket, but couldn't meet his eyes. She turned her gaze down toward the floor. "You must think we're incredibly foolish."

Bokket's eyes widened. He seemed at a loss for what to say. He looked at me, spreading his arms, as if appealing to me for support. But I just exhaled, letting air—and disappointment—vent from my body.

"You're wrong," said Bokket, at last. "You couldn't be more wrong. We *honor* you." He paused, waiting for Ling to look up again. She did, her eyebrows lifted questioningly. "If we have come farther than you," said Bokket, "or have gone faster than you, it's because we had your work to build on. Humans are here now because it's *easy* for us to be here, because you and others blazed the trails." He looked at me, then at Ling. "If we see farther," he said, "it's because we stand on the shoulders of giants."

#

Later that day, Ling, Bokket, and I were walking along the gently curving floor of Derluntin station. We were confined to a limited part of one section; they'd let us down to the planet's surface in another ten days, Bokket had said.

"There's nothing for us here," said Ling, hands in her pockets. "We're freaks, anachronisms. Like somebody from the T'ang Dynasty showing up in our world."

"Soror is wealthy," said Bokket. "We can certainly support you and your passengers."

"They are *not* passengers," I snapped. "They are colonists. They are explorers."

Bokket nodded. "I'm sorry. You're right, of course. But look—we really are delighted that you're here. I've been keeping the media away; the quarantine lets me do that. But they will go absolutely dingo when you come down to the planet. It's like having Neil Armstrong or Tamiko Hiroshige show up at your door."

"Tamiko who?" asked Ling.

"Sorry. After your time. She was the first person to disembark at Alpha Centauri."

"The first," I repeated; I guess I wasn't doing a good job of hiding my bitterness. "That's the honor—that's the achievement. Being the first. Nobody remembers the name of the second person on the moon."

"Edwin Eugene Aldrin, Jr.," said Bokket. "Known as 'Buzz.'"

"Fine, okay," I said. "*You* remember, but most people don't."

"I didn't remember it; I accessed it." He tapped his temple. "Direct link to the planetary web; everybody has one."

Ling exhaled; the gulf was vast. "Regardless," she said, "we are not pioneers; we're just also-rans. We may have set out before you did, but you got here before us."

"Well, my ancestors did," said Bokket. "I'm sixth-generation Sororian."

"*Sixth* generation?" I said. "How long has the colony been here?"

"We're not a colony anymore; we're an independent world. But the ship that got here first left Earth in 2107. Of course, my ancestors didn't immigrate until much later."

"Twenty-one-oh-seven," I repeated. That was only fifty-six years after the launch of the *Pioneer Spirit*. I'd been thirty-one when our ship had started its journey; if I'd stayed behind, I might very well have lived to see the real pioneers depart. What had we been thinking, leaving Earth? Had we been running, escaping, getting out, fleeing before the bombs fell? Were we pioneers, or cowards?

No. No, those were crazy thoughts. We'd left for the same reason that *Homo sapiens sapiens* had crossed the Strait of Gibraltar. It was what we did as a species. It was why we'd triumphed, and the Neandertals had failed. We *needed* to see what was on the other side, what

was over the next hill, what was orbiting other stars. It was what had given us dominion over the home planet; it was what was going to make us kings of infinite space.

I turned to Ling. "We can't stay here," I said.

She seemed to mull this over for a bit, then nodded. She looked at Bokket. "We don't want parades," she said. "We don't want statues." She lifted her eyebrows, as if acknowledging the magnitude of what she was asking for. "We want a new ship, a faster ship." She looked at me, and I bobbed my head in agreement. She pointed out the window. "A *streamlined* ship."

"What would you do with it?" asked Bokket. "Where would you go?"

She glanced at me, then looked back at Bokket. "Andromeda."

"Andromeda? You mean the Andromeda *galaxy*? But that's—" a fractional pause, no doubt while his web link provided the data "—2.2 *million* light-years away."

"Exactly."

"But ... but it would take over two million years to get there."

"Only from Earth's—excuse me, from Soror's—point of view," said Ling. "We could do it in less subjective time than we've already been traveling, and, of course, we'd spend all that time in cryogenic freeze."

"None of our ships have cryogenic chambers," Bokket said. "There's no need for them."

"We could transfer the chambers from the *Pioneer Spirit*."

Bokket shook his head. "It would be a one-way trip; you'd never come back."

"That's not true," I said. "Unlike most galaxies, Andromeda is actually moving toward the Milky Way, not away from it. Eventually, the two galaxies will merge, bringing us home."

"That's billions of years in the future."

"Thinking small hasn't done us any good so far," said Ling.

Bokket frowned. “I said before that we can afford to support you and your shipmates here on Soror, and that’s true. But starships are expensive. We can’t just give you one.”

“It’s got to be cheaper than supporting all of us.”

“No, it’s not.”

“You said you honored us. You said you stand on our shoulders. If that’s true, then repay the favor. Give us an opportunity to stand on *your* shoulders. Let us have a new ship.”

Bokket sighed; it was clear he felt we really didn’t understand how difficult Ling’s request would be to fulfill. “I’ll do what I can,” he said.

#

Ling and I spent that evening talking, while blue-and-green Soror spun majestically beneath us. It was our job to jointly make the right decision, not just for ourselves but for the four dozen other members of the *Pioneer Spirit*’s complement that had entrusted their fate to us. Would they have wanted to be revived here?

No. No, of course not. They’d left Earth to found a colony; there was no reason to think they would have changed their minds, whatever they might be dreaming. Nobody had an emotional attachment to the idea of Tau Ceti; it just had seemed a logical target star.

“We could ask for passage back to Earth,” I said.

“You don’t want that,” said Ling. “And neither, I’m sure, would any of the others.”

“No, you’re right,” I said. “They’d want us to go on.”

Ling nodded. “I think so.”

“Andromeda?” I said, smiling. “Where did that come from?”

She shrugged. “First thing that popped into my head.”

“Andromeda,” I repeated, tasting the word some more. I remembered how thrilled I was,

at sixteen, out in the California desert, to see that little oval smudge below Cassiopeia for the first time. Another galaxy, another island universe—and half again as big as our own. "Why not?" I fell silent but, after a while, said, "Bokket seems to like you."

Ling smiled. "I like him."

"Go for it," I said.

"What?" She sounded surprised.

"Go for it, if you like him. I may have to be alone until Helena is revived at our final destination, but you don't have to be. Even if they do give us a new ship, it'll surely be a few weeks before they can transfer the cryochambers."

Ling rolled her eyes. *"Men,"* she said, but I knew the idea appealed to her.

#

Bokket was right: the Sororian media seemed quite enamored with Ling and me, and not just because of our exotic appearance—my white skin and blue eyes; her dark skin and epicanthic folds; our two strange accents, both so different from the way people of the thirty-third century spoke. They also seemed to be fascinated by, well, by the pioneer spirit.

When the quarantine was over, we did go down to the planet. The temperature was perhaps a little cooler than I'd have liked, and the air a bit moister—but humans adapt, of course. The architecture in Soror's capital city of Pax was surprisingly ornate, with lots of domed roofs and intricate carvings. The term "capital city" was an anachronism, though; government was completely decentralized, with all major decisions done by plebiscite—including the decision about whether or not to give us another ship.

Bokket, Ling, and I were in the central square of Pax, along with Kari Deetal, Soror's president, waiting for the results of the vote to be announced. Media representatives from all

over the Tau Ceti system were present, as well as one from Earth, whose stories were always read 11.9 years after he filed them. Also on hand were perhaps a thousand spectators.

"My friends," said Deetal, to the crowd, spreading her arms, "you have all voted, and now let us share in the results." She tipped her head slightly, and a moment later people in the crowd started clapping and cheering.

Ling and I turned to Bokket, who was beaming. "What is it?" said Ling. "What decision did they make?"

Bokket looked surprised. "Oh, sorry. I forgot you don't have web implants. You're going to get your ship."

Ling closed her eyes and breathed a sigh of relief. My heart was pounding.

President Deetal gestured toward us. "Dr. MacGregor, Dr. Woo—would you say a few words?"

We glanced at each other then stood up. "Thank you," I said looking out at everyone.

Ling nodded in agreement. "Thank you very much."

A reporter called out a question. "What are you going to call your new ship?"

Ling frowned; I pursed my lips. And then I said, "What else? The *Pioneer Spirit II*."

The crowd erupted again.

#

Finally, the fateful day came. Our official boarding of our new starship—the one that would be covered by all the media—wouldn't happen for another four hours, but Ling and I were nonetheless heading toward the airlock that joined the ship to the station's outer rim. She wanted to look things over once more, and I wanted to spend a little time just sitting next to Helena's cryochamber, communing with her.

And, as we walked, Bokket came running along the curving floor toward us.

"Ling," he said, catching his breath. "Toby."

I nodded a greeting. Ling looked slightly uncomfortable; she and Bokket had grown close during the last few weeks, but they'd also had their time alone last night to say their goodbyes. I don't think she'd expected to see him again before we left.

"I'm sorry to bother you two," he said. "I know you're both busy, but ..." He seemed quite nervous.

"Yes?" I said.

He looked at me, then at Ling. "Do you have room for another passenger?"

Ling smiled. "We don't have passengers. We're colonists."

"Sorry," said Bokket, smiling back at her. "Do you have room for another colonist?"

"Well, there *are* four spare cryochambers, but ..." She looked at me.

"Why not?" I said, shrugging.

"It's going to be hard work, you know," said Ling, turning back to Bokket. "Wherever we end up, it's going to be rough."

Bokket nodded. "I know. And I want to be part of it."

Ling knew she didn't have to be coy around me. "That would be wonderful," she said. "But—but why?"

Bokket reached out tentatively, and found Ling's hand. He squeezed it gently, and she squeezed back. "You're one reason," he said.

"Got a thing for older women, eh?" said Ling. I smiled at that.

Bokket laughed. "I guess."

"You said I was one reason," said Ling.

He nodded. “The other reason is—well, it’s this: I don’t want to stand on the shoulders of giants.” He paused, then lifted his own shoulders a little, as if acknowledging that he was giving voice to the sort of thought rarely spoken aloud. “I want to *be* a giant.”

They continued to hold hands as we walked down the space station’s long corridor, heading toward the sleek and graceful ship that would take us to our new home.

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