

A Star Is Born

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When traveling with aliens, it's always a good idea to bring your own toilet paper. There's nothing more frustrating than finding yourself a thousand light-years from home without the bare necessities, so I usually tuck a few rolls in my luggage just in case.

With the Darefta I should have brought my own toilet as well. Not that it mattered to anybody but me. The rest of the crew were content to do their business wherever it was convenient, and those who even acknowledged my existence expected me to do the same.

They're not lousy hosts. The problem is they're *hosts*, in the biological sense of the word. They're huge; imagine a 150-foot snake that has eaten a whale, with six legs—the front two of which could be used for clumsy arms—sticking out beneath the lump. Creatures that big can't help but attract a following. They evolved with half a dozen smaller species who took advantage of their size and less-than-fastidious nature for a free meal ticket, so they never had to worry about cleaning up; their hangers-on were happy to do it for them. They found more and more uses for their companions as they developed higher intelligence, using them for everything from fine manipulation to an emergency food supply, but they grew so dependent on them that by the time they went into space, they had to take the whole ecosystem along for the ride. That meant a shipful of animals, not all of them house-trained or even trainable, run by a crew of seventy-ton behemoths who didn't care much where they stepped.

I could have stayed in my room—really just a packing crate tucked into a protected alcove in the ship's lifeboat—but I was here to observe the crew in action. To do that I had to mingle with them, so I wore high boots, learned to breathe through my mouth, and carried climbing gear with me wherever I went.

That often meant hanging out—literally—at head elevation in the nursery while my main contact among the crew, Dajef, nursed her babies. She had to do it five times a day, so she was happy to visit with me while the crew's four children slurped away at the barrel-sized nipples on her underside.

My rope sling was not the most comfortable nor the most dignified place to be, but it was by far the safest. The children, who looked like six-legged worms about twenty feet long, were omnivorous and not very choosy, so I was happy to be fifty feet above their heads. That put me in *danakak* territory, so I had to watch out for the aerial scavengers who fluttered around Dajef's teeth and snout, but it was better than fending for myself on the floor.

It smelled better, too, but my nose had pretty much burned out by then so that didn't matter as much as it might have. Not all of the smells were bad anyway. Dajef's milk had a gingery aroma that I actually kind of liked. It had the consistency of honey and it was bright orange, which made the children look even more ghastly than usual while they fed, but it smelled okay.

It was my fourth day on board. Dajef was telling me a joke about a *Vipri*, a *Grath*, and a *Nonshweiller* all stuck together on a derelict ship when the intercom clicked on with a thump like an asteroid strike and

the pilot's amplified voice said, "We have reached the Inbazi nebula." What he actually said was " *Da rinoge da bara da Inbazi*," but my earphones translated it into English for me, while incidentally muting the intercom's 150-decibel thunder to a less painful vibration that only rattled my bones.

The " *Da*" part was a meaningless noise the Dareftans all made when opening their mouths, sort of like professional videogame players back on Earth. I suppose that meant Dajef's name was actually just "Jeff," but it weirded me out to refer to something so alien by such a human name so I made sure to pronounce the "duh" part as well. She called me Darobert, so I guess it evened out.

"Fated displeasure," she said when she heard the pilot's announcement. She looked down at her distended udder. "I've still got a couple hundred gallons to go."

"It's a big nebula," I said. "We'll still be in it when you're done." She didn't need earphones; she had uploaded a translation program directly into her mind. The Dareftan ability to do that was one of the many things I wanted to understand by the time I left their ship.

"Yes," she replied, "but I won't get to see the surface structure. I wanted to examine how starlight sculpts the outer edges."

"Won't that be recorded?"

"It's not the same as seeing it with my own eyes."

Dangling as I was like a spider from the ceiling just for the privilege of watching alien rearing habits, I could only agree. "How important is the outer edge to what you're studying?" I asked. "I thought we were here to watch a protostar ignite."

"We are. But who knows what will prove to be important? That's the nature of research. I observe everything, and with luck and enough data it will all eventually make sense."

Spoken like a true optimist, I thought, but I didn't say that. I was counting on the same thing.

The Darefta were studying stellar evolution. I was studying Dareftan evolution, and I planned to tag along and watch them in action for a few weeks as they flew from star to star. A spaceship is a perfect microcosm for examining an ecosystem in detail; it's a closed environment, so unless everyone dies for lack of some vital nutrient you can be reasonably assured that everything important to survival is on board. Also, you don't have to put radio collars on your subjects and you don't have to add more variables as new species migrate in with the changes of season. Most of my work had already been done for me by the Darefta themselves when they'd chosen what to bring with them; my job was really just to catalogue it all and see how it interacted.

A lot of people back home thought it was a total waste of time. Why study a bunch of alien dinosaurs, anyway? Especially when there were other alien species so much closer to the human model. I had to answer that question a lot while I was applying for financial support, and I told everyone who asked it that the more we learned about species interaction in general, the more we would know about our own selves when we finally killed off everything on Earth and had to patch the ecosystem back together artificially. We thought we knew how ecosystems worked, but studying only terrestrial models was a little like expecting to learn quantum physics by studying only leptons. The Darefta were my hadrons; if they also followed the rules as we understood them, then we would know we were on the right track.

That was my official reason. My real reason was much more personal. Nobody had ever ridden with

the Darefta before, and I thought it might be fun. I kept telling myself that as I dodged leviathans in the corridors and scraped dung off my boots. It was supposed to be fun.

My invitation had come about because of an argument Dajef and I had gotten into about evolution back on Tennerif station. She had promised to show me proof that evolution didn't affect some of the biggest lifeforms in the galaxy, but she had refused to tell me more, saying I would never believe her until I saw it with my own eyes. I had assumed she was talking about her own species, but so far I had found no contradictions.

Dajef was neither male nor female in the usual sense, but that didn't disprove anything. My translator called her a "trimom," apparently cobbling together the closest words it could find to match the concept. Her genetic contribution to the children was transferred through her milk in an ongoing viral infection that slowly replaced the biological parents' genes—the other crewmembers'—with her own as long as she continued to let the babies nurse. It made perfect sense, evolutionarily speaking, because the more she nurtured them, the more of her own genes they would carry.

She complained about the inconvenience just the same. She was the chief astronomer, and there she was stuck inside a mud-encrusted brood chamber half the time with nothing to do but suckle babies and talk to a foreigner who hung from the ceiling on a rope beside her ear.

The ship shuddered as we punched through a particularly thick part of the nebula. "So," I said, "What do you expect to learn once we get to the protostar?"

"I think my translation program must have a bug in it," she said. "It asked me to tell you what I didn't know."

I laughed. "It was pretty close. I asked what you're looking for. What kind of information can you get here that you can't get anywhere else?"

"Dah. I see." She turned her head, looking at me first with one eye, then the other. "I had thought to make it a surprise, but I suppose I can tell you now. We hope to contact the stellar mind at the moment of its birth, to steer its development, and to record it before it dies."

I tried not to let my mouth hang open. There were too many dazazies—little wormlike flies—around. "The stellar mind? You think stars are alive?"

"I know they are. The magnetic fields within the protostar grow incredibly complex as it collapses. I have already proven in simulations that they can achieve consciousness, but that condition only lasts for a few days before the nuclear ignition in the core wipes it out again. I have developed a network of probes that will let me record the state of the magnetic field before that moment, and then I should be able to replace my simulation with the real thing. I will learn to talk with it, and later I will download its mind into future protostars so I can communicate with them, too, in the short time they are alive."

She wanted to catch a star in a bottle. I wondered if she thought on such a large scale because she was so big herself, or if she was ambitious even by Dareftan standards.

I also wondered how close this meant we would be to the star when it ignited. I had assumed we would stand off a few light-hours at least, but it sounded like we would need to be closer than that to make our recording in real-time. Much closer. "How, uh, how dangerous is this?" I asked.

"Define dangerous," she said. "Our ship is designed to withstand the heat and radiation near the stellar

surface. We will only be there a few hours at most. Even if that time coincides with the moment of nuclear ignition in the core, the actual shock wave takes years to propagate to the surface. We will be long gone before that happens."

I relaxed a bit. I had imagined the ignition to be like a small nova.

She belched, setting off a flurry of danakaks and dazazies around her mouth. "On the other hand, we will be skimming the surface of a star. If something goes wrong, we will probably die."

I tried to keep my voice calm. "What are the odds?"

She snapped at a danakak who strayed too close to her left eye. "Who knows? Nobody has ever done this before. Probably worse than half, though."

"Worse than half! Why didn't you tell me that back on Tennerel station?"

"I thought I did."

"You said, 'Come watch us in action if you'd like. It'll be a life-expanding experience.' You didn't tell me I might be expanding as part of a plasma cloud. And you've got children on board. What was I supposed to think?"

She snaked her tiny head—tiny only in proportion to her body—around so she was facing me straight on when she said, "What difference do children make?"

I felt the hair stand up on the back of my neck at the sight of her cavernous mouth so close to me, but it would have been standing up anyway at the news that our lives were in danger. "They could be killed, that's what difference. It's reckless endangerment, and furthermore, it makes no evolutionary sense."

"Da, evolution again. Are you still clinging to that theory? I grant it may explain the actions of primitive creatures, but not those of a being capable of directing its own behavior."

"Of course it does."

"Da, da, da. Despite the many contradictions you have observed on board?"

"There are no contradictions," I told her. "Everything I've seen so far can be explained once I learn the whole picture."

"Even reckless endangerment of our children?"

"Maybe," I said. Anger made me add, "Then again, maybe you're just insane."

She made a cat-purring sound deep in her long, sinuous throat that vibrated the walls, and my teeth. Laughter. "I am probably that. After all, I'm the one who believes she can talk to a star."

I looked at the nursery around me. Three hundred feet across, with mud walls dripping from condensation. A couple feet of dung mashed underfoot, mixed with hay the size of bamboo stalks and crawling with "darats" and "daspiders" and "dabeetles" the size of coyotes. The place stank like a cattle dome. On the other hand, Dajef may have had the appearance of a clumsy, six-legged mountain of flesh, but the three-foot squids she called "dabaras" that hung like tentacled remoras from her flanks were

remote-controlled hands, programmed before their release by a brain the size of an elephant in the forward part of that immense body. There was plenty of gray matter left for abstract thought. That didn't guarantee sanity, but I didn't think she was suicidal, either.

She was merely adventurous. Just my luck. I had figured my worst danger on board the Dareftan ship would be from clumsy leviathan feet, not from their careless sense of derring-do.

"Do you want to leave?" she asked. "You could take the lifeboat now and wait for us outside the nebula."

The expedition ship was nearly half a mile long, and shaped like a blunt teardrop. About halfway down its curved topside, a lifeboat bigger than most human-built starships stuck like a tick on a dog's back. It was my temporary home while I was on board, and I actually thought about fleeing in it while I had the chance, but not for long. "Oh, sure," I said, "and strand you on the surface of a collapsing star with no chance of escape if something goes wrong."

"Was that a yes or a no?" she asked.

Translation problem again. Never trust language software to do your thinking for you, even if it's part of your brain.

"That was a no," I snapped. "If I lived and you died, I'd feel guilty the rest of my life."

"You prefer death to guilt? Yet you continue to believe in evolution?"

"It's not that simple," I said. I took a deep breath, trying to calm down. "If I *knew* we'd die in there, I'd take the lifeboat in an instant. But since there's a possibility we'll all survive it, maybe in that same lifeboat, I can't lower your chances just to increase mine. That's—well, I guess that's called honor. It's a long-term survival trait. Benefits the race rather than the individual."

"I fail to see how."

"It increases the status of my offspring," I said. "That improves their chances for reproductive success, so the race gets more copies of the genes that make people help each other in an emergency."

"I thought you had no offspring."

"I don't," I said. "But if I did—"

"Evolution makes such theoretical leaps? I am making a pretense of being impressed."

Was that the translator again, or had she made a joke? I didn't know, and I wasn't in the mood to pursue it. Neither was she, apparently. She rolled to her feet, pushing her young ones aside so she wouldn't step on them, and said, "I must go ready the magnetic sensors."

"You do that," I replied, looking down to where the children squalled and snarled at each other, their orange-stained mouths and pointed fangs matching my mood. One of them looked up at me, then stretched to its full length, trying to reach me. Just like any child, it wanted to touch everything it saw. It probably wanted to put everything in its mouth, too. I shivered and reeled myself closer to the ceiling, but I wondered why I didn't just do a swan dive into their midst instead. What difference did it make if I was vaporized in a star or eaten by a twenty-foot grub and then vaporized in a star? Dead was dead.

The cavernous door irised open to let Dajef out. My path back to my room or wherever I wanted to go would be through the air duct overhead, but I didn't crawl through the grate just yet. As long as I was there, I might as well watch the children play now that they had been fed. It seemed stupid to just continue on with my research while the ship plowed deeper and deeper into trouble, but it would be even more stupid to go sulk in the domesticated packing crate I called a stateroom and wait for the end. If we didn't go up in flames, I would look pretty foolish.

The young ones were just starting to develop the swelling in the middle of their bodies that would become the digestive system and muscle mass they would need to support a heavier body. It wasn't yet big enough to keep them on all sixes, especially in the half-gravity the Darefta maintained on board. They could still rear up on their coiled tails and reach for me, and when they grew bored with that they dropped on each other, the solid meaty *smacks* and their happy squeals echoing in the brood chamber. They tumbled together into one big, writhing heap, tugging on each other's heads and biting each other's tails like kittens.

How could rational parents expose their offspring to a worse-than-even chance of death? Even if Dajef was crazy, each of the kids had two other parents among the crew. They couldn't all be nuts. There had to be some advantage I wasn't seeing, some potential gain that made the risk worth taking. Maybe it was the same as my own reason for not taking the lifeboat. If we succeeded in recording the mind of a star and returned home with the evidence, everyone on board would be instantly famous. In Dareftan society, that might be worth the risk.

Hell, it might be worth it in mine. I smiled grimly at the thought. If I lived through this, I could come out of it smelling like a rose. After I took a week-long shower