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Pressure Seal Contact

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Even though I've been training for the high-pressure environment, when I step out of the lander, I think my suit has jammed. My movements are forced, like I'm pushing against years of rust in the servos, shuffling toward a world that we have only ever looked at through a telescope or probe's camera. Early readings showed the weather here changing rapidly, if predictably. A sector will be at a steady low pressure, 50 or 60 psi, then shoot up to 1,000 or higher in minutes. Hence, the heavy pressurized suit designed to regulate internal pressure and temperature while withstanding rapid external changes. It's a blistering 462 degrees celsius here, on average, so in addition to the mass of pressure seals and dense plating, I'm carrying half my weight in coolant. The ground is blanketed in a dense layer of tubes and tendrils that fracture as I land. Their moldy grays and greens crack to reveal bright red and orange ridges inside hissing like ruptured oxygen pipes. Might be life. Might not.

I'm here for a 48 hour run, awake the whole time on modafinil, a stimulant medication, after a seven month nap aboard The Messenger. NASA has samples from an unmanned mission five years ago, but those spent months in a vacuum-seal burning toward Earth, leaving some doubt as to whether the silicone ribbed fragments that arrived were viable for testing. So this time, they gave me an onboard mobile lab that I get to use for myself, along with the ship computer I named Geoffrey. If you halve the pounds of meat shipped into space you halve the cost of the ship. Which was a deal that looked so good to Congress, they kept cutting people until I was the last one. If they could, they'd have a brain in a jar here instead of me. But, Geoffrey knows my vitals and emotional tics better than I do, and has all the right drugs stockpiled to keep them in the green, so I can't say I hate him.

My body begins to adjust to the pressure as I slog along the ground around the lander, checking for damage and unloading a rover complete with saws, sterile containers, and backup parts for the suit, although sadly too small to ride. Around the landing site, the edges of Helen Planitia draw a jagged horizon, only visible as a bright peach outline, through the current 800 psi of atmosphere,

contrasting with the dim mold-green of the tendrils sprawled across the land. In some places the tendrils curve tightly upward, spiking into the air, three or four of which are clearly visible from our site. I have two tasks today: collect geological and xenobiological samples, and stay alive. As I work, I rattle off observations for the record:

"Suit readings are stable, and so are the pressure readings for now. I'm expecting some atmospheric activity in a few days moving in slowly from the East, but I'll be long gone by then." Geoffrey's voice buzzes in response, as a spindly arm unfolds from the side of the lander:

"Please stay clear. I am going to take some borings from our site."

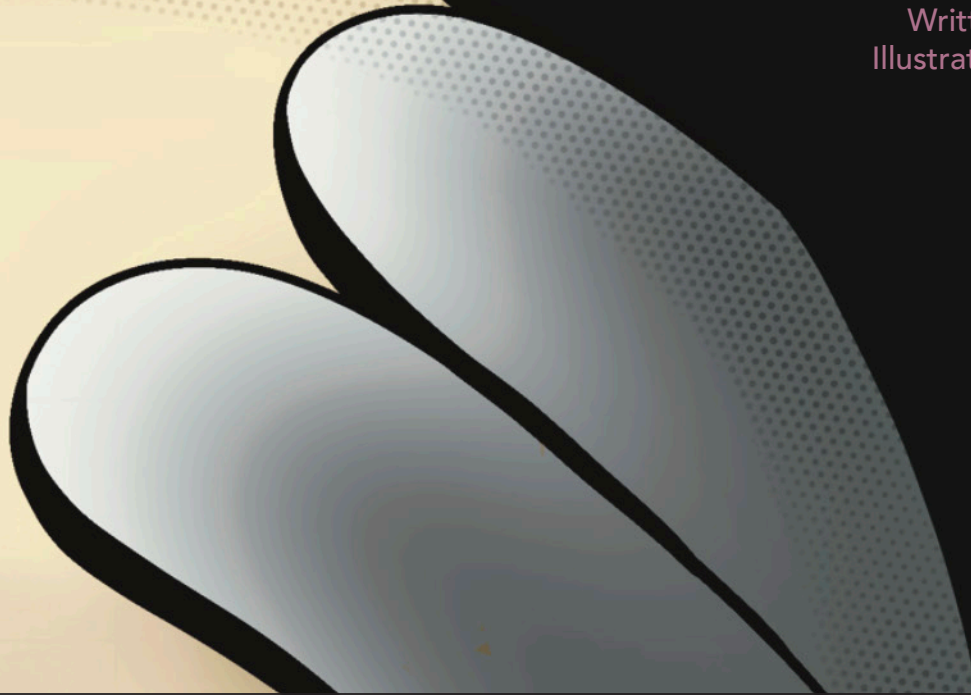
The tendrils snap and hiss, revealing their bright insides before being obscured by dust as a boring drill unfolds from the arm and disappears into the ground. It is still not clear whether these are things we could call plants or whether it even makes sense to refer to them in the plural. They are networked to each other almost like trees on Earth are connected with mycelium, but it's all one organism encompassing the entire planet. For all we know it could be intelligent.

I break off a tendril beside Geoffrey's bore continues talking into my recorder: "They seem to break okay, but I bet it's like squeezing an egg. At high pressure from all angles, they've been stable at when I would be mashed potatoes."

After being on the ground for about 15 minutes, the rover is loaded, and I'm on the way to the closest spike. Around 40 minutes later it towers over me, emerging at almost a right angle with the ground, and the tip disappearing into the orange sky. There are openings the size of my fist, along the sides of the tendril, spiraling up its length at semi-regular intervals. I reach into one of these with a small electric saw and begin to cut in deeper. The edges are rough, and my gloves keep snagging on bits that I've cut into. The farther in I get, the reds and oranges become brighter as if this thing was some melancholy artist with a deep passion for the sublime that it was embarrassed to show.

Pressure Seal Contact

Written by Caleb Rader
Illustrated by Claire Wong



I'm three hours in when Geoffrey's voice comes over coms: "We have an unexpected high pressure front coming in. Please return to the lander."

I pause. "I'm two kilometers out and on foot. How fast do I need to get back?"

"It is unlikely you will make it. Please move quickly."

I turn toward the lander when the wind suddenly knocks me forward. I get up just in time to see the structure behind me shiver, the hole I cut in its side splits wide open like a torn seam or a knife wound. There is a moment of total stillness, the slightest straining, and then it disappears, exploding completely, in a fraction of a second. There are no fireworks, only a sudden absence and a sudden weight.

Geoffrey comes in over coms again: "What did you do?!"

"Got knocked over. I'm pretty sure the sample I took out of this spike compromised the structure enough that it collapsed when the storm front came in. I'm okay, on the way back."

"Not the spike. The weather. It just changed again. Pressure is dropping surrounding Helen Planinia. Expect heavy winds."

As I walk, I am watching the ground, little sparks of bright red blink into existence in the tangled mass of moldy green, then it disappears again. I watch the trail of crushed tendrils collapse and then reinflate as the pressure seesaws, like something taking a quick breath. I open coms. "Geoffrey, I think this is us."

"I am ten steps ahead of you, but proceed with your epiphany"

"If the vines here are holding some pressure, we release it when we break them. We disrupt the network even just a little, and then it corrects. I think that it's responding to us. It's speaking."

Imagine you are a planet. Micro-ecosystems are your organs. Your timescales exist in the millions of years instead of tens. Your moods sweep across you in stormfronts, the molecular friction in clouds roughly equivalent to what you imagine a synapse to be. Well, not really. But for the sake of imagining ...

When the object touches down it is not a good time for us. We want to be working on a harmonic, and instead here is this cold thing which softens and depresses where it touches. It itches, like a meteor but smaller. If it were a meteor it would land, soften where it landed, itch, but settle quickly and we would begin the work of putting ourselves back together. But instead this thing lands and keeps landing, zipping around, trailing hissing wounds on our surface. We are annoyed where it has landed and must re-regulate the surrounding space to accommodate, lightening our mood. It will take a long time to heal the bits of us it has broken.

But this new thing is interesting, nothing has left such a trail of bother on our surface before. It moves like a mood, so perhaps it is like a mood in other ways as well. If we greet it, will it inflate, crumple? Will it respond with its own mood, pushing back, or pulling? We open along our ridges and release a chord of introduction. Mood sweeps across us, interrupting the subtle patterns of our harmonic, heavy excitement pooling in our valleys and solidifying into anger and desire at low points, lightness and ease slipping in along the outskirts. Where the object has landed we are just heavy enough to be curious, desirous. It's a simple song, but we don't know this object. It's best to start easy, complicate as we become familiar. If it sings back perhaps we can make this work, communicate at the least. Perhaps we have happened across another musician. Instead it moves again, trailing itch across us more quickly now making it difficult to control our release where it has passed. We feel our introduction and welcome dipping into desire and almost anger, and quickly re-regulate, opening ourselves across the plains and pulling mood through ourself away toward the surrounding space. Its shape has not changed but ours has as though it was taking something from us. Jealousy haunts our valleys and the beginnings of fear. We do not think that it knows what it is doing, but nonetheless it is doing it. We begin to complicate our song.

Much later it is still, and we reach toward it like vines reclaiming something dead.