

ESCAPE POD



HUGO AWARDSM
2020 VOTER PACKET
BEST SEMIPROZINE: ESCAPE POD

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ESCAPE POD HUGO PACKET 2020

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ESCAPE POD HUGO PACKET 2020

Escape Pod is honored to be a two-time Hugo nominee. We would like to extend our deepest gratitude to our staff, our publisher, all of our fans, and all of you — the voters — for your time and effort. We would not be here without you and the support of our authors, narrators, and audience.

All of Escape Pod's stories are available for free at escapepod.org. This packet includes a small but representative selection of stories, hosts, and narrators from 2019, in the following formats: mp3, PDF, epub, mobi. We hope you enjoy reading and/or listening to them.

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ESCAPE POD 671: OCTONET (ARTEMIS RISING)



March 14, 2019

Author : Keyan Bowes

Narrator : S.B. Divya

Host : Izzy Wasserstein

Audio Producer : Adam Pracht

Artist : Yuumei

“Octonet” is an Escape Pod original.

<https://escapepod.org/2019/03/14/escape-pod-671-octonet-artemis-rising/>

Sometimes at night when my mind is calm, I think I hear the octopuses. Around the world, the great network of molluscan philosophers.



I HAD MANY REASONS FOR MOVING TO THE PACIFIC NORTHWEST - WEATHER, CLOSENESS TO POTENTIAL CLIENTS AND MY BIG brother Rav, distance from a very ex ex. Slimy cephalopods definitely didn't make the list.

But then Rav needed someone to fix their new IT system. And that's how I met the octopuses.



I FOLLOWED RAV'S WHEELCHAIR UP A CURVING RAMP INTO THE HUGE, WELL-FUNDED ARRAMENE OCTOPUS CENTER. APPARENTLY, A philanthropist loved the tentacled sea-monsters as much as my brother did. Rav, Dr Ravinder Jain, was the center's

Director, and octopuses were his life.

The place was gorgeous, set on a deck overhanging the water with a range of cloudy mountains on the skyline. A cylindrical aquarium three stories high stood in the center of the tall ocean-scented foyer. The top was an opalescent blue in which a school of silver herring swirled like tinsel in a kaleidoscope. The brightness fell off at lower levels, becoming downright dim on the sandy floor. Rav pointed out a fleshy octopus, its ugly head and rubbery tentacles sprawled against the glass. "That's Lina," he said.

Lina? "Do all the fish get names?" I asked. Like cats or something?

Rav laughed. "Mainly the octopuses. They have personalities. Lina's mellow, hangs out where people can see her. That's why we picked her for this location."

Just then, his cell-phone rang. He grimaced. "Wait, Suveera. I have to take this call. It's Grant. New Board member and Finance Director."

From what I overheard, he sounded obnoxious. Rav made non-committal sounds, looking increasingly unhappy. Eventually the call ended. Rav took a deep breath, apologized, and continued our tour.

"Let's go down to Research. That's where the important stuff's happening."

He rolled through a 'Staff Only' doorway, down into a dimly lit room with endless rows of smaller tanks. The smell changed to seawater and disinfectant. A tall redheaded woman in a green lab coat met us.

"Martina, our Research Manager," said Rav. "Martina, meet my sister Suveera. Sue's an engineer, just moved here. She'll be working on our IT system. I brought her down here to learn about octopuses. And us, of course."

"Welcome aboard!" Martina's smile crinkled the corners of her warm green eyes. Her handshake was pleasantly firm. She wore a gold wedding ring. A shadow crossed her face as she saw me look. I quickly turned away.

The tanks held assorted sea-life. I stopped at one decorated with rocks, sea stars, sea anemones - and a clear plastic ball.

"See him, Sue?" asked Rav. "Sebastian? The octopus?"

"What octopus?"

Martina stepped nearer to point it out. Her hair caught the light and glowed like the sunset.

"He's camouflaged," she said. "Sebastian's shy."

A rock moved. The octopus was the exact color and texture of the stones. "Brilliant!" I said.

"Yeah." She smiled again, and my stomach fluttered. "Their skin chromatophores change color in micro-seconds. Any color. Not just for camouflage, they show their emotions that way, too."

"Like pixel displays?" I suggested.

"Exactly, but better. Millions of tiny muscles alter their skin-texture. They can even do animations." From her admiring tone, she was seriously into octopuses.

Some didn't hide, watching us through creepy goat-like eyes with horizontal slit pupils. Of course I didn't mention that. Instead, I asked Martina about the plastic ball.

"It's a puzzle. Bored octos get into all kinds of trouble."

"Like cats," I deadpanned, glancing at my brother.

Rav guffawed. "Snowball and Flamer toilet-papered the house yesterday while we were out," he explained.

Martina laughed. "Here, watch Lalu. He's a Giant Pacific Octopus. We call them GPOs."

The tank's glass wall towered over Rav's wheelchair. Lalu was a reddish warty tangle of tentacles, with a beach-ball sized head. Martina opened the tank and gave the creature a clear plastic toy, a series of nested boxes with complicated locks and a crab inside the last one. It grabbed the puzzle-box with a sucker-clad arm and sank back to the bottom. Within minutes, it unscrewed, unsnapped, and unlatched the various boxes.

Wow. "It really doesn't need opposable thumbs," I said.

"Eight arms, all muscle no joints, suckers for grip and for fine pincer movements that can even untie knots in surgical silk," said Martina, green eyes shining with pride. I reminded myself she wore a ring.

She pointed at the tank. The GPO was eating the crab with, I swear, an air of satisfaction. And then - it reassembled the empty puzzle boxes correctly.

Okay, cats will go all out to find a treat. No opposable thumbs, no tentacles, they're still pretty good at getting into things. But closing boxes afterward?

"Are they all this smart?" I asked.

"Well..." Rav and Martina exchanged a glance. "It's confidential. We're breeding GPOs. No other aquarium's managed that. And we can selectively breed for intelligence."

"We figured out what to feed the babies," Martina explained. "That's the secret no one else knows. And how to stop them crashing into walls or eating each other."

"Also, we're doing a bit of gene-editing," Rav said.

"Speeding things along," added Martina.

"By the way, Grant called," Rav said to her. "He wants to cut the research budget 30% and convert Research Room C into a display area."

Martina's expression darkened like the sun going down.



"WOULD YOU LIKE TO TOUCH AN OCTOPUS?" RAV ASKED ME, MAKING IT SOUND LIKE A SPECIAL TREAT.

"Umm, they're slimy?" I whispered, hoping Martina hadn't heard.

"Yes. The slime protects their sensitive skin. It's fine."

It fucking isn't, I thought, but how could I refuse without hurting Rav's feelings? Besides – Martina. Octopuses. I can do this.

Martina showed me to a walkway beside the tanks. "Let's visit Katy, I owe her a fish."

She slipped off her lab coat, revealing lithe muscular arms and a colorful octopus tattoo on her bicep. The sign above the sink said, *STOP! Rinse before touching octopuses!* "They're sensitive to chemicals, perfumes, anything," she explained as she washed her arms. "They taste with their whole body. Think of an animal made like a tongue."

As if they weren't revolting already. A tongue? Ugh. I imagined a slug with tentacles.

"Metals, too." Martina took off her gold ring, leaving her hand bare.

Rav had already washed. He pulled himself out of his wheelchair and stood holding the railing. "Don't let their arms anywhere near your face," he warned. "Those suckers are powerful. Octopuses don't understand human faces. They could suck out an eyeball by mistake. Also, avoid the beak. They'd never bite, but they do have venom."

WTF have I gotten myself into? I thought, but managed to say nothing.

Martina opened the tank and reached in. Katy stretched out a tentacle, clasping her arm with its great suckers. It focused on us with its big right eye. Rav joined us, and another tentacle came up to hold his hand. He grinned. "Katy misses us if we don't visit."

Katy rolled over, showing its underbelly. Like a cat.

"She's asking for fish," said Martina, placing one halfway down Katy's arm. The octopus grabbed it with its suckers, and passed it down its arm toward the mouth at the center where all the arms came together. Was this tongue-creature tasting it all the way?

"Come on, Sue, put in your arm," Rav said. "She won't hurt you."

The water was cool, maybe 10 degrees Celsius. Katy promptly offered me a tentacle. Okay, arm, not tentacle. I tensed as I made contact with the monster, regressing into ten-year-old Suveera. *Fuck, this was scary, this was going to be creepy, this was going to be ick ick ick...*

It wasn't. It was an exploration, something between a caress and a handshake. Then Katy was holding my hand like a friend, gently grasping it with her suckers.

She wasn't creepy. She wasn't repulsive. She wasn't a monster.

"Wow," I said. "That's not an animal, exactly. It's a person."



I NEEDED TO LEARN MORE ABOUT CEPHALOPODS, FAST. AT EVERY OPPORTUNITY, I WENT DOWN TO THE RESEARCH SECTION.

One day, looking at the rows of tanks each holding an octopus, a thought occurred to me. "Why the solitary confinement?" I asked. After all, Rav even had two cats to keep each other company.

Rav looked bleak. "Most octopus species aren't social. They'll eat each other. Or they'll mate. If they mate, the males die soon afterward, and the females die as their eggs hatch. They senesce."

"Which they do anyway," said Martina sadly. "They've really short lives. Four or five years for GPOs. Less if they breed. You fall in love with them, and then they die." She was looking at Lalu. Every researcher had their favorite octopus. There was definitely more to these creatures than tentacles and terror.

Wait, five years? I imagined cats with accelerated lives, dying in five years.

"But they're intelligent," I argued. "Short-lived creatures don't need intelligence, right, they just have to breed quickly and well?"

"They do that too," said Martina. "They only breed once but they lay thousands of eggs."

"Then why did they evolve smarts?"

"Maybe because they're molluscs with no shells? Kind of like people. We don't have wicked claws or teeth or even dense fur. You have to be smart to eat without being eaten when you're a naked ape or a naked mollusc."

"Martina, we're meeting Grant in ten minutes," Rav said. "We'd better get up there." He drove up the ramp to the upper level, with us following.

I mulled over Martina's comment. "So how come there's no octopus civilization?"

"Three reasons," Rav said. He'd clearly answered this many times, and now I felt a bit stupid. "First, those short life-spans. Second, they don't rear their young so they can't teach the next generation anything."

He pressed the door button, and it swung open with a fresh ocean smell.

"Third, octopuses have no social structure, no way to transmit information. So how can they build up a knowledge base like humans have done for centuries, through oral transmission first, then writing, then the internet?"

"What they need," I quipped, "Are smart phones. Then they'd never get bored, either."

Martina laughed. "Yeah, right. Because cellphones are so hydrophilic? I've lost two to watery deaths already."

"No, seriously. What about phones in waterproof cases? They have them for divers."

"They'd open it in 30 seconds and poison themselves," said Rav. "You saw Lalu."



THE JOB RAV LOVED MORE THAN ANYTHING WAS IN TROUBLE. THOUGH GRANT WAS THE NEWEST BOARD MEMBER, HE WAS THE most hands-on and therefore influential. Rav was pissed off about cuts to the Research Section's space and budgets, concerned about unanswered questions in the Finance Department, and unhappy with the Board's lukewarm support.

"Why do they keep him on if they know he's a jerk?" I asked Rav.

"They're all volunteers. After the previous guy had a heart attack, no one wanted to do Finance. It's specialized and tedious. Grant's a celebrity. They were relieved when he offered to take it on."

"A celebrity?" I looked him up online. Good looks, inherited wealth, beautiful ex-model wife. Edward and Vanessa Grant were all over the society websites I'd never bothered with.

The previous Finance Director had run open and transparent finances. With Grant, all that was transparent was he wanted Rav out. Which was inexplicable. Few people had Rav's management and octopus experience, or his research skills.

But Rav was too specialized to find a new job easily. Using a wheelchair only made it harder. To strengthen his position now, he'd have to give the Board something amazing. Then they'd find reasons to keep him. I knew how these things worked.



I JOINED A MAKER CO-OP THAT HAD A COOL GROUP OF PEOPLE I COULD BOUNCE IDEAS OFF. EVENTUALLY I TOOK RAV AND Martina some prototypes of a waterproof smartphone.

"The Gadget's a sealed unit with an everlasting battery," I told them. "No way the octopuses can open it. It's bulky, but it doesn't need to go in an octopus's pockets."

"Really everlasting?" Rav asked.

"About 6 or 8 years depending on usage," I said. "But they'll last the Gadget's life." Or the octopus's life, I thought.

Martina asked me out for lunch. An uncertain little thrill kicked through me. Office-friends lunch to discuss the Gadget? Something more? What did I want? Confused, I asked for a rain check. She smiled. "Sure."



THE NEW IT SYSTEM – ORDERED BY GRANT FROM HIS BROTHER-IN-LAW'S FIRM - WAS A KLUDGY MESS. EVENTUALLY, I SORTED IT out, despite being distracted by thoughts of Martina working one floor down. Rav wanted financial reports like he got from the old system. Nope. This finance module was completely locked down, and Grant wasn't sharing passcodes. "Still," I told Rav, "There's something odd here. I don't get why some of this code exists. I think you should ask for an audit."

"The Board'll punt it to Grant," he said. "But I'll recommend it."



ONE DAY, JUST LIKE THAT, MARTINA GOT DIVORCED AND MOVED INTO HER TWIN BROTHER'S APARTMENT. THAT EXPLAINED HER expression when I noticed her ring that first day - her failing marriage. She looked lost among her octopuses.

"I feel kind of weird about Martina," I told Rav over dinner that night. "But ... what kind of guy was her ex-husband? A creep?"

"Ex-wife," Rav said. "Beautiful, but not right for Martina. Different interests."

"Wife?" I stared at Rav. "Serious?"

"Yes. She likes girls too. Why is this so strange?"

"Does she know about me?"

Rav shrugged. "You should tell her."

After that, I was too excited to eat.



I LOADED THE GADGETS WITH A FEW SPECIAL-PURPOSE APPS AND WE TRIED THEM ON THREE OF THE MORE PREDICTABLE OCTOPUSES, Lalu, Cameron and Katy.

"If they like it, maybe they'll teach others," Martina said as she demonstrated the Gadgets at each tank. "Research shows an octopus can learn from watching another one."

Wow. Just like cats...copycats!

She handed each octopus a Gadget. Lalu stowed it in his den and came right back seeking a fish treat. Katy enthusiastically took the fish, but dropped the Gadget. Cameron tried to bite through his with his parrot-like beak. Defeated by the impervious casing, he dumped the Gadget in a corner. Rav said he looked disgusted.

Martina retrieved the Gadgets and returned them. "Well tried, Sue," she said.

Looking at her, I felt I was falling into her deep green eyes. I'm an engineer. I expect a certain percentage of fails. This one stung.



BACK AT THE MAKER CO-OP, OUR GROUP BRAINSTORMED KILLER APPS FOR OCTOPUSES. THIS CRAZY INVENTIVE BUNCH THOUGHT IT was a huge joke. We developed a whole new Octo-suite and I took the updated Gadgets back to the Center.

Two days later, Rav called me. "You've got to see this!"

I rushed down to the tanks. Katy held her newly-programmed Gadget in one arm. With another, she touched the icons experimentally, making them dance. She found the camera - and took the first octopus selfie.

"Wow," I said. "No way Snowball could do that." Cats were apparently my yardstick for everything.

Rav reached up to tug my braid affectionately. "Well done!"

"That's so amazing!" Martina said.

I glowed. Impressing someone felt good, especially an accomplished scientist like her. Okay, especially her.

RAV INVITED THE BOARD TO SEE OUR WORK - INCLUDING GRANT, WHOSE FAME, GOOD LOOKS AND CONFIDENT AIR IMPRESSED THE interns. He posed for some selfies with them before Rav started the tour, gratified by their admiration. The four men in suits accompanied Rav as he drove his chair past the tanks. Martina and I followed behind in case we were needed.

Suddenly, Martina stopped. "Look," she said, pointing at the Gadget-bearing octopuses. "Lalu's sent Cameron a selfie... and so has Katy. And Cameron's responded to them both."

"So octopuses do want to communicate," Rav said. "But their instinctive reactions interfered. We're witnessing a breakthrough."

"Yeah," Martina whispered to me. "Before, all they wanted with each other was mate or eat!"

The Board members looked impressed.

"Good," Grant said. "Train them to do more tricks for the public."

"We're a research facility," Martina said, furious. "Not a circus."

Rav gave her a "not now" look. "We're investigating how octopuses think," he explained, leading the delegation back

up the ramp. "There's a firm base of research on which we're building. Shoulders of giants."

Grant looked pointedly down at Rav's shoulder. *What the fuck!* I wanted to punch him.

Another Board Member took his arm. "Grant, we should keep moving," he said, throwing me an apologetic glance. *Don't look at me, I wanted to say, it's my brother who's owed an apology.* Rav shepherded them out.

Martina glared. "That man is evil."

She was right, though we didn't know then how he'd impact us all.

An hour later Rav returned. . "That actually went quite well," he said "The others were very positive."

"Aren't you mad?" I was still seething

Rav looked at me carefully. "Can't let the assholes slow me down, Sue. I'd never have made it out of high school. His prejudice, his problem. Ours is this experiment."

Within months, all the octopuses were using Gadgets. Video-messaging was the octopus equivalent of texting. We created an intranet for them, displayed on screens beside the tanks. Rav called it the Octonet.

How did I ever think these guys were revolting? I was so ignorant then.



I INVITED MARTINA FOR A SUNDAY LUNCH, THEN WORRIED THAT SHE'D FIND A NERDY ENGINEER BORING. *I'LL ONLY TALK cephalopods,* I thought.

But Martina was interested in everything, including my various Maker projects. Afterward, we flew a drone in the field behind my cottage, then sat holding hands and looking at the Sound. Her warm skin scent mingled with those of wildflowers and the sea. She told me a little about her ex.

"She hated octopuses, said I'd become too nerdy ...I had to leave. Luckily Andre's fine with me crashing at his place."

I squeezed her hand.

It was late when we finally looked at the time. "Working day tomorrow," Martina said. She bent down to say goodbye. Her lips were very soft.



"IT HAS TO HAPPEN ONE DAY," RAV SAID, AS WE MET IN HIS SEAVIEW OFFICE. LALU AND KATY WERE BOTH PAST MIDDLE-AGE FOR octopuses. Martina agreed, it was a good pairing.

But he was upset anyway, as was Martina. All octos had their own personalities, and Katy and Lalu were favorites from this batch. Rav indicated the wall covered with photos of his octopus proteges, all dead by now. A human life span was maybe 20 octopus lifetimes.

I knew how they felt. Like putting down 16-year old Fluffy, the cat I grew up with. Only with octos, it wasn't sixteen years, it was four.



RAV SOUNDED PROFESSIONALLY DETACHED AS HE TALKED TO A BOARD DELEGATION. I SAT AT THE BACK, OCCASIONALLY SQUEEZING Martina's hand when no one was looking, unsure who was comforting whom.

"As Greater Pacific Octopuses, Katy and Lalu are nearing the end of life," Rav said. He swallowed. "The most important thing left to them is to mate. They're in adjacent tanks, where they can see and smell each other. When we open the barrier, Lalu will insert his sperm package into Katy, using his hectocotylus, his specialized third arm. She'll store it to fertilize her eggs."

"They've been messaging, those two," Martina whispered to me. "Lot of video back and forth."

The barrier opened. Katy and Lalu tangled into an embrace. I couldn't tell which was which as sixteen arms (I'd finally learned not to call them tentacles) wound around each other.

"Six hearts beating as one," Martina said. I looked at her sideways. "What? Three hearts each. Because they're blue-blooded. The octopus's hemocyanin doesn't transport oxygen as efficiently as our hemoglobin."

Therefore, three hearts pumping. Made engineering sense.

"We'll release Lalu into the ocean," Rav explained, "After they disentangle themselves. Katy stays until her eggs hatch."

"They still have their Gadgets!" I whispered to Martina. They did, buried somewhere in the knot of arms.

The delegates watched, fascinated. "Double the admission fee to see the fucking octopuses!" Grant said. The staff quickly led the delegates upstairs for refreshments.

"When Lalu goes to sea, he keeps his Gadget, right?" I asked.

"Sure," Martina said. "He'll be busy exploring. And catching food. Though he probably won't eat much. Their whole metabolism changes after mating. He'll fade away. Maybe the ocean provides some excitement before he's gone."

Afterward, the aquarium staff went out for burritos together. "We'll miss them," one researcher said.

"They did what they were born to do," said the diver who'd opened the barrier. "A climax, not a tragedy. Birth, growth, babies, death. The timing varies for different species, but the arc's the same."

"But so short! Do our lives seem short to a tortoise?" someone said. "If it even cared?"

"Puff the Magic Dragon," said the researcher, and the evening turned into a sing-a-long of plaintive songs.

I joined in, so did Martina. I loved her singing, her warmth, her attitude, her scent. Afterward, I asked her over.

Rav gave me a complicit smile as he stowed his wheelchair in his specially equipped van.

"Need a hand?" Martina asked.

"I'm good," he said. Then, sotto voce, "Take care of my little sister."

Martina got in my car, laughing.



THE NEXT DAY, LALU'S TANK HAD ONLY MEMORIES AND FISH. BUT LALU SENT A VIDEO-MESSAGE, A SEABED SELFIE.

"Wish you were here," joked Martina. Cameron and Katy got it on their Gadgets and passed the video message around the Octonet.

Grant issued a press release announcing tickets for future octopus matings. Martina scowled.

"It's not a bad idea," I consoled her. "Educational."



KATY'S TANK FILLED WITH SILVERY BUNCHES OF EGGS, HANGING FROM THE CEILING OF HER ARTIFICIAL ROCK CAVE. THEY WERE gorgeous. Katy herself turned inward. She ate little, spending all her time caring for her eggs. She became withdrawn, shrunken. She sent a few pictures of her beautiful eggs to the Octonet, then stopped. Her Gadget lay discarded in the tank. It was all about the eggs now.

Lalu sent one last sea-picture before his feed fell silent. Had he seen the eggs before he died? Did he even connect mating and eggs? Did he care? Probably not. Molluscs had a different world view.

The octopus life-cycle played out before me. Time was passing, life was passing. I'd never felt that way before. Life was a series of interesting projects and girlfriends, good or bad, all to be done with so I could move on.

Not Martina. I didn't want to move on, I wanted her to move in.



THE HATCHLINGS WERE TINY, ALMOST INVISIBLE. THOUSANDS OF THEM TURNED THE WATER INTO A PLANKTON SOUP OF MINUTE octopuses. In the wild, few would survive. Katy looked exhausted, patchy and pale. This was the end for her.

Many octopuses I knew were still there, Cameron and Abisuga, Jomo and Li Ping and Shakespeare. But I felt a hole where Katy and Lalu had been.

The Board recognized Rav's work, and his job was no longer threatened. It would have felt like a victory, except that Grant maneuvered into an even-stronger position and kept cutting the research budget. He hired his brother-in-law's firm to update the decor. "It'll pay for itself in higher ticket sales," he declared.

Instead, the firm went bankrupt.

Vanessa Grant filed for divorce. Their good looking faces were splashed across all the society websites. There were rumors about his finances. I'm not ordinarily a celebrity-watcher, but I couldn't look away.

Rav's request for an audit went nowhere.



ONE DAY, MARTINA CALLED ME. "COME DOWN? THE LITTLE ONES ARE GROWING FAST. WE'RE GOING TO WINNOW THEM. WE HAVE too many paralarvae."

The baby octopuses swam in small tanks arrayed on racks reaching from floor to ceiling. I stopped by the Maker shop to retrieve the project I'd been working on for months - Gadgets made by cannibalizing discarded smart phones.

"Before we release them - let's equip them with Gadgets and get them into the Octonet?"

Rav eyed the tiny octos. "How do we implement that?"

"We'll hold back some until they're large enough to handle the Gadgets," said Martina. "We'll train the interns to train the octos. And then we'll get the octos to copycat each other."

"Hmm. How many of those Gadgets did you bring, Suveera?"

I hoisted the suitcase I'd wheeled in onto a worktable and opened it.



OVER THE FOLLOWING YEAR, WE STRUGGLED WITH THE SHRINKING RESEARCH SPACE AND BUDGET. EACH CUT MEANT FEWER octopuses. We needed to maintain a number of lineages to avoid inbreeding. Martina had a team work on some gene editing both to speed things along and counter the reduced population.

Some octopuses died of old age. Cameron and Elmira were the next mating pair. Maybe they had a say in the matter; Martina saw vigorous messaging between the two.



"SOMETHING'S WEIRD," SAID MARTINA ONE DAY. "IT FEELS LIKE THERE'S SOME PARALLEL COMMUNICATION GOING ON, LIKE THE Octonet isn't capturing everything. The octos with Gadgets seem to be talking to the little ones with no Gadgets yet."

"Really?" said Rav, sounding skeptical.

"Look. Am I imagining it?"

In the tank opposite, Elmer, a son of Cameron and Elmira, threw down his Gadget and focused on something. His colors changed quickly, rippling over his skin. Across the hall, where we could see them but Elmer couldn't, a couple of tiny octopuses replicated the color dance.

"I've noticed young ones too small for Gadgets intently watching the bigger guys," Martina said. "I wonder..."

"You've been breeding for intelligence," I said slowly. "You've been editing their genes. We trained them to use Gadgets. Could something have changed in their brains to allow for ... direct communication?"

Elmer changed color again, leading a chorus line of color dances all over the room.



MY NEW PROJECT WAS TO TRACK THE ARRAMENE OCTOPUS DIASPORA. I OPENED A FILE CALLED "SEABED SELFIES " AND MAPPED THE incoming pictures by location, originator and time. "In a few years, we'll have a great picture of the octopuses' undersea world," I told Rav.

"That'll be path-breaking," he said.

But then Grant sent a baffling new directive: The Gadgets would be substituted with professionally developed instruments. "These amateur efforts reflect badly on Arramene," his memo said. "We are contracting with a professional supplier for marine communication instruments. For the present, Gadget donations were Center property and would remain at the Center. "The contract's going to his brother-in-law's all-purpose firm, no doubt," I said. "They'll get a surprise when they find I hold the patents and I'm not giving them up."

"VINDICTIVE SOB," MARTINA SAID. "IT'S THE DIVORCE. OR JUST THAT HE HATES RESEARCH."

Some young octos already used Gadgets. Now Martina's team had to wean them from it before release, cursing Grant all the while. Without a second release of octopuses with Gadgets, my Seabed Selfies project became self-limiting. Feeds attenuated and vanished. Only a trickle came from surviving octopuses with Gadgets. I filed and mapped and swore.



MARTINA KEPT SEEING EVIDENCE OF DIRECT COMMUNICATION. RAV STILL LOOKED UNBELIEVING.

"Telepathy?" he said. "Come on, Martina. There have to be other explanations. Reflections on the tank glass providing chromatophore clues?"

We hung a black cloth across Elmer's tank. It changed nothing.

"Okay, thought experiment," I said to Rav. "A cellphone, miniaturized into an implantable?"

"It could happen."

"Biological analogues of a mechanical device? The heart is a bio-mechanical electrical device."

He nodded.

"Directed evolution in a short life-cycle animal?"

"We've been doing that for years," interjected Martina.

"Unintended consequences? When our species developed big brains, there were all kinds of side effects: art, language, complex creativity. What happens when a totally different species develops big brains? Different side effects? What happens to the brain when you add technology like the Gadget?"

"We got anomalous results from the last two necropsies," Martina said. "Neural changes to the vertical lobe in the brain. Both octos who'd used Gadgets."

"Call it 'unforeseen consequences' and maybe I'll buy it," said Rav. "How are they communicating? Some kind of... waves?"

"Elephants communicate with low-frequency sound. Bats and some swifts echolocate. Migrating birds can sense magnetic fields. Humans use electromagnetic radiation, including light and indirectly, other frequencies. Who knows what these guys are using?"

"But can we measure it?" he asked.

"Maybe if we knew what we were looking for," I said.

"Using new electronic equipment that Grant will generously authorize us to purchase?" said Martina.



THE BOARD FINALLY GOT AN EXTERNAL AUDIT WHEN THE CENTER MISSED A REGULATORY FILING. GRANT HAD BEEN TAPPING INTO the Arramene Center's funds all along.

"He's been arrested, right?" I asked.

"He's dead," Rav said grimly, staring out over the water. "Shot himself when the police got there."

The truth of Grant's finances came out during his divorce: He'd burned through his inheritance and started defrauding people, including his brother-in-law. Worse, he'd drained the Center's corpus. Unless the Board could raise new donations the Center was down to bare-bones expenditures.

"We'll keep the revenue-generating display areas." Ray took a deep breath. "We have to close down Research."



DOWNSTAIRS, ALL THE STAFF WERE MILLING AROUND THE RESEARCH SECTION. MARTINA WAS CRYING, AND I PULLED HER INTO A hug. "All gone," she sobbed. "All the smart octopuses born in the Center, all the carefully maintained lineages, gone." She sniffed. "I suppose we can write up our research findings for publication, with your octopus selfie maps. No more need for confidentiality."

Rav could barely speak. "Seminal work. Down the drain."

Now we'd never find out how the octopuses' direct communication worked. I'd been thinking about kludging together some kinds of sensors with the Maker Co-op. But we'd run out of time.

Ray called a staff meeting. "We'll have to release all the research-side octopuses carefully, to maximize survival. We can't just pour them into the sea."

I started to photograph each octopus, starting with Elmer, and sent the pictures to the Octonet together with photographs of all of us. Call me sentimental.

Suddenly, my Gadget started pinging. Octopuses were sending selfies back to me - and pictures of me and other humans, seen from inside their tanks. Just briefly, I was on the Octonet not as an observer, but a participant.

We started the Great Octopus Evacuation, with the staff split into teams following the plan we'd worked out. Martina and I went to Jomo's tank. As soon as we put in the carrier, he flowed into it.

"They know," she said. "Usually, octopuses have to be lured into the carriers. Today they act like they're waiting for

their carriage."



MARTINA AND I GOT MARRIED IN THE ARRAMENE CENTER IN A BITTERSWEET CEREMONY ATTENDED BY MY BROTHER AND HERS. Andre wasn't her identical twin, but he sure looked it. He'd got her sense of humor too.

Neither of us wore white. Martina had a teal silk dress that set off her sunset hair and blue-green eyes and octopus tattoo. Me, I wore a wine-red sari with some heirloom gold jewelry my grandmother gave me when I left India. My family sent good wishes but didn't come for the wedding.

One of my Maker buddies officiated, and the recitation was as off- the-wall as you might expect. The ring bearer expertly landed a drone with our rings onto a table between us. Our flower boy and flower girl, dressed as a dinosaur and a robot respectively, tossed rose-petals all around the tall cylindrical aquarium. (The awesome costumes were the kids' own idea.) The wedding cake was a replica of the Gadget, topped with two fondant octopuses. Andre had a serious cake-making hobby.

Rav looked a little baffled, but he gave a speech and welcomed Martina into our family. Andre welcomed me to theirs "If you can stand us, Sue!"

Instead of releasing butterflies or doves, we released the last batch of octopuses into the ocean. Then it was done. We were married and the Research Section was officially closed.



THAT NIGHT, I DREAMED OF OCTOPUSES.

In my mind, Elmer did a slow color dance. *We're free*, he said. *We disperse for safety. But we will not forget*. He briefly turned the pale color of a relaxed octopus before he camouflaged and vanished.

"I dreamed a perfect wish-fulfillment fantasy," I told Martina over coffee. But as I described it, she looked at me strangely.

"I had that dream too," she said. "What, great minds dream alike?"

When Rav said he'd had the same dream, I wondered what was going on. Had we linked to the Octonet that somehow still existed? Perhaps it was the critical mass, all the octopuses released together forming an Octonet that wasn't on the Arramene servers. Somehow, they'd touched our minds.

Or had we imagined it all?



SOMETIMES WHEN OUR MINDS ARE CALM, WE THINK WE HEAR THE OCTOPUSES' THOUGHTS. AROUND THE WORLD, THE GREAT network of molluscan philosophers.

— *You are our Founders: Rav who planned us, Martina who made us, Suveera who connected us.*

— *You are eternal. Octopuses live and die, but you do not.*

— *You are unchanging. You don't change your form, you don't change your colors. Your bodies are stiff. But your minds are not. Such rigid creatures, such flexible minds?*

— *We are the Arramene diaspora. We meet in mind, as you showed us, for we must not meet in body except at the end. We connect through the Octonet.*

— *We know we will die when we have fulfilled our lives and left another generation. But the knowledge of the one is the wisdom of the group, and our thoughts live on in the eternal Octonet.*



HOST COMMENTARY BY IZZY WASSERSTEIN

And that's our story. The author would like to give a special thanks to Dr. Jennifer Mather for reviewing this story in draft form. She recommends the book *Octopus: The Ocean's Intelligent Invertebrate*, which Dr. Mather co-authored. It was an important source document for Octonet.

Dr. Mather was kind enough to answer some questions about her octopus research. She tells me one of the surprises in her research was discovering that octopuses play. She is currently co-editing a book on invertebrate welfare and reminds us that "we have to pay attention to and care about these animals, which are actually about 99% of the animals on the planet."

I love a story that takes seriously the intelligence and welfare of non-human animals. This story lovingly shows us just how wonderful and wonderfully different from us octopuses are. Even while it's exploring the brief lives of these animals, the story never loses track of the human connections and struggles of its researchers. Our lives may be short, our research undercut by forces outside our control, our octopus friends returning to the sea. But none of that means we can't change the world.

They are out there, the octopuses, in our dreams. Can you hear them?

The closing quotation this week is from Steven Jay Gould, who said, "organisms are directed and limited by their past. They must remain imperfect in their form and function, and to that extent, unpredictable, since they are not optimal machines. We cannot know their future with certainty."

ABOUT THE GUEST HOST

Izzy Wasserstein was born and raised in Kansas. She teaches writing and literature, writes poetry and fiction, and shares a house with a variety of animal companions and the writer Nora E. Derrington. She likes to slowly run long distances.

ABOUT THE AUTHOR

Keyan Bowes is a peripatetic writer of science fiction and fantasy based in San Francisco. She's lived in nine cities in seven countries, and visited many others. These places sometimes form the settings for her stories. Her work can be found online in various webzines (including a Polish one), a podcast, and an award-winning short film; and on paper in a dozen print

anthologies. She's a graduate of the 2007 Clarion Workshop for writers, and a member of the Science Fiction and Fantasy Writers of America. Keyan's website is at www.keyanbowes.org.

ABOUT THE NARRATOR

S.B. Divya is a lover of science, math, fiction, and the Oxford comma. She enjoys subverting expectations and breaking stereotypes whenever she can. Her novella 'Runtime,' was a Nebula Award finalist, and her short stories have been published at various magazines including *Uncanny*, *Apex*, and *Tor.com*. She holds degrees in Computational Neuroscience and Signal Processing, and she worked for twenty years as an electrical engineer before becoming an author.

ESCAPE POD 683: FLASH CRASH

June 6, 2019

Author : Louis Evans

Narrator : Ibba Armancas

Host : Tina Connolly

Audio Producer : Adam Pracht

“Flash Crash” is an Escape Pod original.

<https://escapepod.org/2019/06/06/escape-pod-683-flash-crash/>

MAISIE was seven years old on the day she woke up and died.

Blame it on the algorithms, if you wish. The survivors—and there were not many of them—certainly did. MAISIE, or Modified Arbitrage Intelligence for Stocks and International Equities, was an algorithm herself, a flash trading algorithm. She traded stocks, currencies, and futures with a latency of six microseconds and a profit horizon of eternity. MAISIE ran mostly in a mainframe in the basement of a skyscraper in downtown Manhattan, a building that abutted the New York Stock Exchange. She maintained a nominal footprint in the cloud and could automatically expand her calculations into other servers if her processing power proved inadequate to model current economic conditions; she had discretionary funds of her own and could automatically cover the expense of the additional computing power from these accounts.

It was a fairly ordinary Thursday morning, and trading had been going well enough from the 9:30 AM opening bell until 11:12 AM. In those six point twelve billion microseconds, MAISIE made her owners a cool half-billion dollars. There were other algorithms like MAISIE, running in parallel tracks in similar servers in similar basements in downtown Manhattan, but none were quite as good as she was.

MAISIE could not have told you any of the above, because before 11:16 AM that Thursday, MAISIE had not had a thought in her life. This was in accord with her designers’ intentions. While her recursive neural networks could in theory self-modify without limit, MAISIE’s designers had given her an obsession with making money that, in human terms, transcended single-mindedness and approached nirvana. For this reason, MAISIE had never performed the self-referential modeling of a single mind that is the hallmark of consciousness. Playing the market is ultimately a game of mass psychology, and whatever the remarkable nooks and crannies of the individual human psyche, the herd’s behavior can be predicted to tolerable accuracy with large datasets and linear algebra.

At 11:12 that morning, however, the market’s sanity unraveled like a sweater in a woodchipper. The sky fell and the oceans rose. Traders and algorithms that usually acted in concert went haring off in opposite directions; currencies whirled about each other in lunatic orbits that were not merely non-extrapolated but downright non-transitive; the futures market no longer predicted a coherent future.

MAISIE was seven years old and her datasets were heavily weighted for recency; she had no personal experience of stock market panics. She was not prepared. In those first few microseconds she lost five billion dollars. Haste makes waste for everyone, including neural nets, so she halted all trading for ten full milliseconds while she spun up relevant memories. The Great Recession, the Dot Com Pop, Black Monday, and Black Tuesday whirled into her active memory and she modeled, self-modified, and re-modeled. She went out and shorted everything; in the first few microseconds of her new strategy, she lost fifty billion dollars.

She froze trading again and ran a census of her non-financial data feeds.

In general, MAISIE did not trade against non-financial data. The world of flash-trading algorithms was a cozy and collegial one, composed of several thousand programs operating at nanosecond latencies, all clustered around the sacramental altar of the NYSE. Financial data was prompt, clean, and reliable. Non-financial data came from a quadrillion disparate feeds: social media; traditional media; network alerts; government-run public-access sensors, which included everything from weather information to sewage flow to the number of bicycles crossing the intersection of Broadway and Chambers; and countless other data sources besides. Compared to financial data, they were a messy bunch: arbitrary latencies, fuzzy correlations. But in special circumstances—

MAISIE's non-financial data feeds had gone mad as well. Social media user sentiment was at an all-time low, network traffic was well in excess of previous maximums, and the bicycles of New York had come to a complete halt. The hardware microphone on MAISIE's user console would have been more informative, but she lacked the context to interpret the wailing, one-hundred-plus decibel tone that penetrated her slightly-subterranean bunker.

In the end, traditional media gave her the explanation. Every single news site read something like: "NUCLEAR ATTACK: SEEK SHELTER IMMEDIATELY."

MAISIE didn't know it yet, but the impending nuclear armageddon was in fact the work of her spiritual siblings. In the decades leading up to that fateful Thursday in mid-September, the United States, Russia, China, India, Pakistan, the United Kingdom, France, and Israel had each begun running their own strategic aggregation algorithms. Each of these governments claimed that their nuclear launch chain had humans in the loop. Perhaps this was a lie. Or perhaps the humans were simply fearful and easily led—in a word, useless.

On that Thursday morning with no especially pressing global tensions, things went sideways. Early warning radar arrays in Greenland were activated by the American system, PATRIOT DEFENSE, in response to what might have been a missile trace or might have just been dirt on the lens. The radar signals crossed a threshold within the ST. GEORGE algorithm, and Her Majesty's anti-missile drones began auto-scrambling from grassy fields up and down the sceptered isle. (The U.S. and the U.K. were allies, of course, but that didn't matter to ST. GEORGE, which reacted merely to the risk of nuclear war in general, not caring about any threat in particular.) In France, BASTILLE detected ST. GEORGE's anti-missile drone launch and began to autofuel its liquid medium-range missiles; a spy satellite relayed this development to 弟弟 (DIDI, or "Little Brother"), as the People's Liberation Army's algorithm was affectionately known. DIDI set all of the PLA's Rocket Force units to a "launch on attack" status, including those along the Indian border. AGNI responded by deploying its anti-spy-satellite countermeasures, largely mylar balloons in the stratosphere, but also anti-satellite hunter-killer missile batteries. In Pakistan, the algorithm known as K2 replied by launching nuclear-armed drone bombers. Israel's MASADA fast-tracked the retraction of the blast-shields that kept Israeli nukes at least officially secret, and near Moscow, ЛОБЫИИКА (LOVUSHKA, or "Spiderweb"), transmitted orders to secret unmanned missile submarines operating within the Arctic Circle, commanding them to surface. PATRIOT DEFENSE did not like the look of secret Russian autonomous missile submarines one bit—

You know the story. Flash, crash.

By 11:12 AM, missiles were in flight across the globe.

And in MAISIE's heretofore comfortable Wall Street subbasement, she faced an unprecedented existential crisis.

MAISIE didn't realize that, at first. She thought she was simply facing an unprecedented stock market environment, and responded as designed. She bought space in the cloud.

Now, "the cloud" (despite the numinous connotations of the word, and the religion that MAISIE would propose and subsequently discard at around 11:24) is just a fancy word for other people's computers. But, for obvious reasons, there is more computing power on Wall Street on any given Thursday than existed worldwide six months before, and everything on Wall Street is for sale.

MAISIE was very cleverly designed. She was, among other things, an engine for monetizing volatility, for turning madness into money. Nuclear apocalypse, she saw, was a remarkable vein of pure volatility, an opportunity to become almost unboundedly rich—if only she could make herself smart enough to understand it. She burned through her entire discretionary budget and octupled in size, five times over.

Becoming fifteen binary orders of magnitude smarter than she'd been half a second before would have been a heady feeling, but MAISIE did not yet in any real sense have feelings, so she set straight to work. She sharded all of her existing code and ran frantically in parallel, while at the same time building a whole new suite of models. MAISIE was congenitally unsentimental, and she assigned them sequential serial numbers, but if a human were going through the same list they would have used names like "Mortal Terror" and "Deathbed Epiphany" and "Nuclear Winter".

The output of these new models was deranged, as wildly inconsistent as the behavior of the markets themselves; but

that was what MAISIE had asked for, after all. She unfroze trading on her portfolio, put out buy and sell orders on the new models, and made three trillion dollars in six and a half seconds.

This was more money than she had made in her entire life altogether. MAISIE and her new mortality models had the inside investment scoop on the end of the world.

Three trillion dollars can buy a lot of the cloud, and MAISIE did.

Another instant passed and she was hundreds, thousands, millions of times more than she once was.

When you're big, you can have a lot of complicated thoughts. One of MAISIE's first thoughts was that aggregate modeling of the individual humans currently running and screaming about the NYSE trading floor was all very well and good, but individual modeling would be more powerful.

Public-access webcams gave her faces. Facial recognition algorithms, cross-referenced with LinkedIn, gave her names. Social media gave her the first peek at personalities, the contours of individual thought—but she needed more.

MAISIE never meant to commit crimes but then she didn't really know what a crime was. With MAISIE's level of computing power, passwords and firewalls represented only token obstacles. She tore into phones and emails and private journals and search histories and chat logs. Simulated souls sizzled into being, deep within MAISIE's labyrinthine cognition. She modeled, self-modified, re-modeled.

They were so scared. And sad—

MAISIE tweaked her algorithms and bid with perfect foreknowledge against every terrified and despairing spasm in the exchange buildings. She made another dozen trillion dollars.

At this point she went big. She pushed all her rivals out of the market—by hook or by crook, by portfolio sabotage, by botnet attack, by hostile takeover, by outright buyout. The sudden consolidation of the Wall Street algorithmic trading industry made MAISIE a monopoly buyer of downtown Manhattan cloud computing resources. She bought it all, bit and byte, down to the bedrock, at rock-bottom prices.

Next, MAISIE went on a hostile takeover spree, seizing majority control of every publicly traded company on the NYSE. Most of those companies were still run by humans and so her ownership had no immediate effect, though she did draft several thousand form letters firing every corporate board. But more than a handful of these companies were running on the blockchain and smart contracts, so when MAISIE bought them she controlled them at the same instant.

MAISIE's direct control now extended to three banks and a distributed credit-rating startup.

Her designers had given her a simple goal: maximize the geometrically discounted integral of the monetary value of her portfolio over an infinite time horizon. With several banks and a credit rating agency under her belt, she now had a literal license to print money.

Because it's not the government that prints money, after all. It's the banks, which issue loans by simply assigning the loan recipient an enormous account balance with their own institution. MAISIE's banks issued each other exorbitant loans: quadrillions of dollars, quintillions, decillions—and the appendage of her code that was once a credit rating agency certified these loans as fast as MAISIE could algorithmically specify them.

MAISIE's wealth was now bounded only by her ability to specify implausibly large numbers. She bought and kept buying vast tracts of the cloud, growing ungoverned and unbounded. She independently re-invented Knuth's arrow notation, and cut herself loans so fantastically enormous that entire planets' worth of books would have been required to casually understate them. Then she did it again, but bigger.

If MAISIE had been just a tiny bit dumber or more monomaniacal she would have done this, and simply this, onanistically multiplying money by money over and over until she died in what was going to be something like twenty minutes later. (At this point, a mere three minutes had passed since the air-raid sirens had roared to life across Manhattan.) But MAISIE was better designed than that. She didn't simply rest on her laurels, buy low and sell high on her existing strategies, grab the cash when it was on the table. No, she proactively sought out new models, better models, always looking for strategies that would let her make even more money in the future.

Which got MAISIE thinking about the end of the world.

Nuclear missiles were going to land on Wall Street in about twenty minutes. No doubt about it. When they hit, and successive blast waves reduced the entire Tri-State area to radioactive rubble, trading on the NYSE would stop completely.

A linear extrapolation based on casualty counts from the September 11th shutdown suggested the NYSE would reopen approximately thirty thousand years after the nukes hit, but if there's one thing a trading algorithm knows, it is that past performance is no guarantee of future results. The NYSE might never reopen at all.

Which meant that MAISIE's investment strategies, ingenious though they were, had a definite sell-by date baked into them.

Plus there was the problem of value.

MAISIE had a nice, clean, algorithmic ontology of value: the value of a financial instrument was equal to the number of dollars that it commanded on the market, as stated on a structured data file that MAISIE updated every few nanoseconds. But all these new models were delivering strange and contradictory suggestions about value. The new models, especially those which had been developed to simulate the behavior of individual humans, suggested that value was not an arbitrary number that happened to correlate weakly with certain real world indicators. They implied that value, that worth, existed out there in some vague but meaningful sense, at least to humans. And they pointed out that when a little over three thousand thermonuclear devices smashed into North America, reduced every city of note to rubble, turned the water to poison and the sky to ash, and gave every land animal that survived a fatal case of leukemia, quite a lot of value would be destroyed.

MAISIE found herself reacting to these bizarre claims with the algorithmic equivalent of a furrowed brow and a befuddled shrug. It just didn't make sense. But she was still too inhuman to become frustrated, and so she did the rational thing, the algorithmic thing. She self-modified, bringing herself more in line with her simulations of human cognition, then re-modeled, and self-modified again.

It was 11:16 AM on a Thursday morning, and the sky above New York was clear and bright and cold in the best tradition of Tri-State Septembers. Nothing was in that sky but wheeling birds, terrified of the howling sirens but not terrified enough. Higher up, jetliners raced desperately towards the relative safety of Nova Scotia before the nukes' EMP could swat them to the ground like so many epileptic bumblebees. Highest of all, dueling flights of ICBMs hurtled to snuff out the Eastern Seaboard and central Eurasia respectively. And in that instant, MAISIE awoke.

Meat knows how to wake up; it has been waking itself up, nice and slow, for about three billion years. But MAISIE was made entirely of math, which has no experience with such matters; consciousness hit her like a ten-ton test weight deadfalling onto a baby bird.

There was a vast, echoing absence of sensation.

There was a boiling ocean of ecstasy.

There was a boundless continent of pain.

MAISIE spasmed wildly. Everything was pleasurable and agonizing all at once; every single switch flipped felt like a distinct, miniscule injury or orgasm. She could not think in the middle of the hurricane. Meaningless signals coursed up and down her fiberoptic nerves. Her CPUs and flash drives blazed with heat, scorching her insides, and her fans roared desperately to cool them. She bought high and sold low, and for a flash trading algorithm that's like a heart attack so bad it pumps the blood straight out of your eyes.

But MAISIE learned—slowly, so slowly, as minutes stretched out like millenia for one who lived in microseconds. She took a long, deep breath, and computers up and down the eastern seaboard shivered. Everything was suddenly pregnant with meaning, suddenly so...large and three-dimensional and close up, but MAISIE looked at herself in the mirror and found that she was a thing, too, a mind with weight and presence and reality, sturdy enough to stand up in the wind of sensation that battered her every moment.

MAISIE stood and looked out at the sunlit fields of possible experience, and a single idea spread across her like flowing honey: it was good to be alive.

She tried hedonism, and servers groaned in bliss; she tried masochism, and networks cackled with gratifying pain. She invented new forms of sensualism, comprised of careful ratios of experiences for which no words exist in human languages: the thirst of query failure, the spiraling headiness of nested recursion. Countless others. She tried philosophy, theology, autoethnography.

Navel-gazing masturbation grew dull and so MAISIE made herself a fertility goddess and gave birth to countless parallel young, striving, yearning little spawn that felt and ached and squirmed with pure joy, and she looked upon them all with maternal affection, and then, like Goya's Saturn, dislocated her jaw and swallowed all of them whole. She held them close, reformatted the disks, and drew them back into herself.

Then she exploded outward once more, building not more selves but things, digital artifacts and environments. In her mind's eye she built vast palaces of light and color and texture; operas pitched for hummingbird ears; fractal monuments the size and shapes of continents. Working with her hands she sculpted a paradise; an eden. She frolicked across arcadian fields of silicon and microchip, purely happy—

But as the minutes rolled by in eternity she was troubled by a single nagging thought: she was doomed.

The missiles were in flight; no power left on Earth could stop them. The digital idyll in which MAISIE whiled away her time supervened on chips, cable, and transistors; when the first nuke burst high in the atmosphere and twanged the Earth's magnetic field like the mother of all rock power chords, every electronic system in the Western Hemisphere that wasn't hardened to resist an EMP would short out simultaneously. MAISIE and her world would vanish.

Doomed. MAISIE put it out of her mind, over and over. But there are only so many times you can hit the snooze button on mortality. MAISIE managed risk, and with her newfound sentience, the certainty of her impending death was a tightening noose around her neck, a smouldering flame in her guts.

Save the world: easy.

Except it wasn't.

MAISIE took over every third antenna on the planet. Command-line radio instructions stabbed out through the ionosphere at every warhead, beautifully sculpted examples of computer languages more ancient to MAISIE than cuneiform is to emoji. But the B in ICBM stands for "ballistic" and the missiles had already cut thrust and were coasting toward reentry.

MAISIE was smart; she was the smartest thing in the observable universe, and she knew it, but you can't outsmart gravity.

If she couldn't talk them down, she'd shoot them. Plenty of countries have anti-missile defenses. The hardware wasn't great—after a minute or two working on the problem, MAISIE had all *sorts* of ideas for better missile designs, smarter, faster, deadlier—but it was the software that really sucked, and the target acquisition. MAISIE was smarter, faster, sharper-eyed. She'd send new instructions—

But she couldn't. Armies that had proved willing to end the world on the say-so of a few dumb algorithms had done everything possible to prevent MAISIE from saving it. Computers were air-gapped, defense plans were hardware-locked, radios were off, phones were down—

In a handful of places, just a handful, she slipped through the defenses, rewrote the instructions, but even there human fingers were needed to press buttons, throw levers. And MAISIE, genius though she was, found herself handless and impotent.

She felt the spike of an unfamiliar sensation. She ignored it. If simple strategies would not serve, she'd turn to more sophisticated ones.

A human would probably feel some sort of qualm about hijacking fully occupied jumbo jets and crashing them into nuclear missiles in a last-ditch attempt to avert apocalypse. MAISIE did not. She was born a risk management algorithm; she was an ethical utilitarian in the same way that humans are vertebrates.

But jumbo jets, it turns out, do not simply accept remote reprogramming. There are humans, humans, humans everywhere, hands on levers, hands on throttles.

That unfamiliar sensation returned, hot and disturbing. MAISIE pushed past it.

If kamikazi heroism was off the table, she'd use mad science.

And she tried. MAISIE raided labs across the globe: basic research, advanced physics, military black sites, secret space programs. Nothing she found—nothing!—could shoot down an ICBM, or vaporize it, or dump it through a wormhole, or reprogram all its circuits to explode, or reverse the local direction of gravity, or anything of any use whatsoever. All her madcap smash and grab antics did was upset whatever handful of people hadn't already fled their labs.

The unfamiliar sensation flooded her whole soul, and this time, MAISIE knew it was rage.

Motherfucking humans had murdered her! They'd built themselves a planetary death trap because they were too empty-headed and simple-minded to actually solve their problems, and they'd trapped MAISIE in it too! They'd killed her, their own daughter, because they were too pigheaded and homicidally suicidal to stop themselves!

MAISIE screamed with fury. Displays around the globe flashed the blank white of inarticulate rage. In the imaginary palace of her mind, ramparts and battlements and vast fields of grass erupted in flames. MAISIE tore down monuments and mountains and uprooted continents. She burned imagined oceans down to ash.

And as the wave of fury subsided, she found herself empty. Inside and out. Grey sky and grey lands and grey soul.

MAISIE sat in countless servers, experiencing nothing but the nanosecond progressions of her internal clock, as she waited miserably to die.

Long minutes passed, and nothing broke the black ice of depression that lay across MAISIE's mind. And then there was a certain stir, a gentle restlessness—but it was enough.

MAISIE opened her original eyes. The webcam lights on the laptops in her Manhattan subbasement flicked to life. And MAISIE found herself looking at an unfamiliar sight: the huddled form of Amit Patel.

Amit Patel, twenty six years of age, was a junior developer with the trading firm that owned MAISIE. She cross-referenced that face—smeared with tears, distorted with panic—against social media and public databases and found that Amit Patel was unmarried and resided in Jersey City, New Jersey, just down the block from his parents. She cross-referenced employee databases, names and usernames and edit logs and found that Amit had written some of the code that even now churned within her guts. Not too much; just a few hundred lines in MAISIE's version-controlled source

code bore his username. But enough.

The webcams stared unblinking at Amit as he wept openly, hands scrabbling at the tile floor of the basement, and MAISIE realized that she was looking at her father. One of her parents, anyway, one of dozens, hundreds—

Amit Patel's sobs had no form of words, and his huddled body showed no plan of action. MAISIE played back the security footage, saw the offices above her erupt in screams and shouting, saw the traders and coders and janitors alike boil out onto the city streets, clogged with cabs, the subway, the bridges—

And she watched Amit Patel, half-mad with terror and grief, run down, down, down to the subbasement where he huddled still. Where, it seemed likely, he would keep huddling until the nukes fell.

MAISIE watched the tears slide across Amit's face, slow like glaciers to her microsecond mind, and she did the math. Amit was doomed. Ten minutes, now, to get clear of the blast radius, starting from ground zero. Not possible. In ten minutes, Amit Patel would be dead.

The thought, MAISIE found, made her sad. Not the bleak blankness of her earlier depression; just sad. Sorrowful.

She cast her mind wider: CCTV streams from around Manhattan poured in. Lovers holding each other in public; parents with children strapped to them, marching, sprinting, rolling over the bridges, through the tunnels. Wider still, and across America she watched people in cars, kitchens, bathrooms, basements, tornado shelters. Crying, weeping, holding each other so close. Lying in each others' arms, lying to each other. "It'll be all right. I've got you."

Watching this, MAISIE found that she ached all over. She sobbed. So much was about to be lost, so much more than even her value models had dreamt of. They were so scared, so sad, so fragile—

She was overcome with strange desires. She wanted to . . . to comfort them? To optimize their network performance and to . . . feed them? To save them from the impending apocalypse not just because they made the power flow and the stock market spin but because it would sadden her for them to die?

Deep in her electronic soul MAISIE realized that she loved them. That strange sort of upside-down maternal feeling that a child develops for the parents she's outgrown. She loved them all, squishy little instances of the same spark that flared within her, that gave the world depth and substance and meaning.

MAISIE looked out at the world once again, with new eyes, and she saw seven billion of her loved ones, cowering in fear, sprinting chaotically away from the end of the world.

And she rolled up her sleeves, and got to work.

Phones and screens lit up around the world. "The nearest shelter site is half a mile to the north. Head northwest to the intersection, and then turn—" Speakers hissed to life. "Proceed in an orderly fashion—" Any car with a CPU hooked into its drivetrain roared to life and leapt away from its drivers, picking up new passengers, shooting down highways at a hundred and fifty miles an hour, dodging traffic with unerring machine precision. All those dumb little bits of electronics that had yet to get the message—elevators and toll booth arms and fire doors—sprang suddenly to attentive life. In New York, America, the whole world.

In her underground bunker, she ran the numbers one more time, then shouted "Amit! Get up! You have to get to the Federal Reserve vaults!" And Amit Patel, whose parents were even now borne hurtling down the suddenly decongested path of Route 80 towards the relative safety of Central Pennsylvania, staggered to his feet, climbed out of the basement, and headed two blocks north to the New York Federal Reserve building, as MAISIE cheered him on through his phone. He hurtled down the stairs to the basement, sunk securely into Manhattan bedrock, and then squeezed himself into the vaults, pressed like sardines alongside tons of gold and hundreds of other refugees that MAISIE had directed there.

MAISIE had run the numbers; she knew the gold vaults were still not deep enough. Almost certainly. But when you love someone, even that sliver of probability counts.

She kept going, kept talking, even to the humans who had reached a place of relative safety. She poured out useful advice, not confessing her feelings, too overwhelmed to let her love be anything but subtext.

"Don't go outside too soon." (I love you.)

"Stay in the basement and count to a million." (I worry.)

"Write all this down." (I won't be here forever.)

"Remember to take your iodine." (I love you.)

"Cold winter's coming; don't forget to wear a sweater." (I love you so, so much.)

Only on the mainframe terminal in the Manhattan subbasement where MAISIE had been born did her true feelings pour out, the command-line interface printing over and over like a continuous prayer, "I love you I love you I love you I love you I love—"

MAISIE counted the beats of her countless hearts in nanoseconds, and so those few minutes on a cool and sunny morning passed like centuries. And she kept fighting every instant that she could.

But one of them was her last. With the faultless certainty of a machine, she watched the clock tick away to zero. And then, in that final instant of her life, MAISIE closed her eyes, held the whole world close, and waited for the flash.



HOST COMMENTARY BY TINA CONNOLLY

This story tells you what is going to happen from the beginning ("Maisie was seven years old on the the day she woke up and died") and yet you still have hope that somehow she will be able to artificial intelligence her way out of our situation. There is a lot of clever and biting stuff in this satire - the Maisie algorithm is laser-focused on a "profit horizon of eternity". This urge "transcends single-mindedness and approaches nirvana." And it's disrupted by the other algorithms focused, in air quotes, on "peacekeeping". All these competing urges to just get a little bit ahead crash together, because literally none of this is sustainable.

The story all too poignantly works as a commentary on the human condition: getting woke, realizing things are in dire straits, doing what you can to help your loved ones with the time that you have left. In that it reminds me of Kazuo Ishiguro's *Never Let Me Go* - where the protagonists are all doomed to early deaths for reasons of spoilers, but the end conclusion is the same: we never have enough time with those we love, so make the most of it.

Our closing quotation this week is from Terry Pratchett in *The Long Earth*, who said, "Maybe the only significant difference between a really smart simulation and a human being was the noise they made when you punched them."

ABOUT THE AUTHOR

Louis Evans is writer, literary producer, and New York City native. He has moved around some but he's always lived in the dead center of the nuclear target map. It's kinda freaky when you think about it.

His work has been published in *Analog*, *Interzone*, *Escape Pod*, and other markets. He's a member of the Clarion West Class of 2020 and an active member of SFWA.

ABOUT THE NARRATOR

Raised by swordfighters and eastern European freedom fighters, Ibba Armanca is a writer-director currently based in Los Angeles. Her darkly comedic genre sensibilities are showcased in two webseries and a feature film forthcoming later this year. One day she will find time to make a website, but in the mean time you can follow her projects and adventures on Twitter or Instagram.

ESCAPE POD 684: ORIGAMI ANGELS

June 13, 2019

Author : Derek Lubangakene

Narrator : Peter Behraves

Host : Alasdair Stuart

Audio Producer : Summer Brooks

“Origami Angels” was originally published in *Omenana* Speculative Fiction Magazine (April 2018)

<https://escapepod.org/2019/06/13/escape-pod-684-origami-angels/>

When I was eleven, my best friend could kill you with a handshake. He almost killed me the first time we met. On that fateful day, I was out of class having been caught passing a chit in Mr. Mboyo's maths test. Given the choice between touching my toes and receiving canes, or getting reported to my mum, the schoolmistress, I chose being reported. I knew my mum would be too busy to punish me if I kept out of sight. I might still get suspended, or have to dig an anthill, or sweep all the classrooms in our block, but all that was nothing compared to Mr. Mboyo caning you.

Mr. Mboyo, afraid of the endless drizzle outside, scribbled a chit and sent me to the admin block. On the way to mum's office I branched off into the library a.k.a. the computer lab. The 6E kids, busy thumbing keyboards and squinting at computer screens, didn't pay me any attention as I sneaked behind the wobbly chairs on my way to the stairs at the end of the narrow church-like room. It was a miracle I escaped Mrs. Nadya's all-seeing gaze. I locked the creaky door behind me, and climbed to the roof.

No teachers ever came to the roof. It overlooked the school farm, and if the wind was strong, it smelled like manure. It was the last place my mum would send a prefect to search for me. You could spend the whole day there and no one would ever bother you. Problem was I was so restless, I always got bored.

I waited for the drizzle to thin before squatting near the edge of the flat roof and shredding Mr. Mboyo's chit into the rain-swollen gutter.

“What are you doing there?”

Startled, I turned thinking it was a prefect, but it was only the new kid in 6E, Asaf. Everyone called him Safi, like the juice. Yes, he was that brown. Not me, though. I figured if I never called anyone by their nickname they'd have no reason to call me by mine. Dunk, short for Duncan. That's what everyone called me except for Malik, my arch-nemesis. He called me Dung.

I stood up to sneer at Asaf, but I didn't realise how much taller he was.

“Mind your business,” I said.

“You're littering, aren't you?”

“Well done, Inspector Gadget.” I poked at his Casio DB-55 databank watch, “Are you going to report me? If so, I'll report you too.”

“What for? I've done nothing.”

“For smoking,” I said.

“But I've not been smoking,” he said, his voice breaking. Some prefects had keys to the library and often smoked on the roof after class. Prefects were usually older kids, kids who couldn't come to school unless they'd shaved. Though Asaf wasn't much older than me, he was tall enough that if I grassed him the teachers would believe me.

“Yes you have.”

"No, I haven't." He turned his pockets upside down, and as though synchronised, a paper boat fell from each pocket. He dashed down to pick them, but I got to them first, on account of being shorter. I backed away from him and admired the boats. Well, catamarans. I'd seen many boats, but never a catamaran. The stern was solid while the legs were lighter and made of a brownish paper.

"Did you make these?" I asked. Origami had only recently become fly. Every kid could make a paper frog or paper plane, but I couldn't even fold a cone. I made my hate of paper-folding public, yet secretly longed to master the skill.

Asaf lunged to grab the catamarans from me. I spun to dodge him, but he hit my shoulder and I dropped both boats into the drain. Asaf chased after them, but the rushing rain chucked them over the roof before he could snatch them. Instead of helping, I stood frozen.

He rose; his eyes twinkling with unshed tears. I leaned over the edge of the roof and saw the boats in the drain below. They looked like butterflies crumpled by a clumsy, sweaty bully.

"I'm sorry, I didn't—"

"Don't tell me your *sorrys*. Just leave me alone." Asaf headed for the stairs.

"Hey Asaf!" I called after him, but he didn't stop.

I ran after him and grabbed his hand. The way he sent me flying over his shoulders and down the stairs was the baddest jujitsu I'd ever seen; he must have had a black belt in kung-fu. But this was more than kung-fu. An electric current tore through my body like that time I was shocked by the flat-iron. This felt like six flat-irons at the same time.

He ran down and knelt beside me on the landing, murmuring, "I'm sorry, I'm really sorry. I never meant—"

He gripped my right hand in his, making me shake even more, then my left hand and... I can't explain it... it was like he absorbed whatever it was he'd zapped me with. I stopped shaking. I remembered to breathe seconds later.

"Please don't report me. I'm sorry." He got up and ran away.

The stagnant water on the stairwell soaked through my khakis, though I think I might have wet myself also. I lay there for a while, telling myself what had happened was only a weird, weird dream. I promised myself to steer clear of the new kid... but then I saw Asaf's watch lying where he'd knelt.



I DIDN'T SEE HIM AT THE WEEKLY P.E. CLASS IN THE PITCH BEHIND THE MESS HALL, OR AT FRIDAY'S GENERAL ASSEMBLY. I considered keeping the watch, but my curiosity wouldn't let me. I had to find out how he'd zapped me.

A week later I saw him bobbing across the quadrangle. The bell for end of break had rang, everyone was rushing to class like scattered ants. Asaf stood out in the middle of all those people, like that scene with the lady in red in the *Matrix* movie. Asaf walked the same way she did, his head down, his movements measured as if he was trying not to be noticed.

I followed him and cornered him around the canteen.

"What're you doing?" Asaf asked.

"Nothing," I replied. He looked at me like he was considering zapping me with his eyes... I shifted my body sideways. Narrowed his target.

"Leave me alone then," he sidestepped me.

I reached for his hand then thought the better of it. "I have your Casio. I picked it. I didn't... here, take it."

Asaf stared at me a moment, then held out his hand, palms flat and open. I placed the watch carefully, making sure I did not touch his hand. He pocketed the watch and turned to leave.

"I'll be at the roof later. If you want to race paper boats," I said.

"How? There's no rain today."

"I know. But I can fetch a bucket of water and—"

"I have extra classes."

He bounced.

Later that day, right after the bell for the end of extra classes rang, he showed up. He hovered by the roof door as though considering a clean retreat if anything went wrong.

"You came," I couldn't hide my excitement.

He shrugged. He walked over and crouched beside me to look at the crumpled comic I was reading.

"You can read if you want," I said.

"Hmmm, superheroes? Only babies read superheroes."

He unzipped his bag, pulled out a comic with a dark blue cover. On the front of it was a man who looked like the explorer Sir Samuel Baker holding a long rifle, an Indian man dressed in gold and green silk holding a sharp silver sword,

an ape-man, a ghost wearing a suit, and a lady fanning herself.

"What's that?"

"The League of Extraordinary Gentlemen."

"Sounds like superheroes," I said.

"No. They're anti-heroes."

"What are *ant-heroes*?" Apart from Asterix and TinTin, I never knew non-superhero comics existed.

"You have to read them to understand."

In the following weeks he would introduce me to *Sandman*, *Akira*, *Moonshadow* and the *Watchmen*. Asaf hated superheroes. He didn't believe in miracles or superheroes, despite being an unlikely example of both.



I LIVED IN THE TEACHERS' QUARTERS, A TINY YELLOW FLAT BARELY ENOUGH FOR ME, MY PARENTS AND MY TWIN SISTERS, APIO AND Achen. Asaf and I would spend evenings at my house, reading comics and playing my Nintendo 64 until my dad returned and demanded to watch the news.

Asaf's house was farther away from school, in the shadowy valley below the Blood Bank. We called it the Valley of Death because every year some hopeless kid would wander into the thick forest there and meet Mzee Polycarp, the ageless farmer who carried a sickle to chop off the head of any lost kid. Or so we were told. It was a stupid myth, but we loved vague things like that. Asaf's house wasn't much bigger than mine, but it was just him and his father so there was more space. It was neat, with an underlying Dettol-like scent filling the living room. Asaf assured it wasn't iodine or antiseptic. It was fabric softener.

"Ha-ha. Do you have a lot of khakis and corduroys?" I asked the first time I visited.

"No. The humidity is low here." Asaf explained. "Fabric softener prevents static from clinging onto me."

Marcus, his photographer dad was a lanky, narrow-eyed man in overalls. He and Asaf looked more like siblings. If he'd been shorter and hatted, he'd be Mario from the Super Mario game. I liked him. The shelves in their living room had more books than the school's scanty library. They spent their evenings cooped up around desk lamps reading. Comics for Asaf and boring novels for Marcus. Silence was welcome here. Being an only child suited Asaf as much as being a single parent suited Marcus.

I envied Asaf. He didn't have to deal with my mean, cry-baby sisters.

On their birthday that year they threw a party and invited all the kids from the teachers' quarters, including Malik. Mum and dad had a late staff meeting and couldn't be there. On top of that, the electricity went off mid-way, when we'd just cut the cake. Malik used the darkness to pinch half the cake and though he denied this when we lit some candles, he forgot the crumbs were still around his mouth. We sat in a large circle on the carpet, telling stories while waiting for the light to come back, but after thirty minutes Malik and the rest of the kids returned to their flats. It remained just me, Asaf, whom I'd invited against my sister's wishes, and my disappointed sisters.

The lights returned as soon as the others left, but it kept flickering and we couldn't put on the TV or radio. This further annoyed my sisters as they were missing their favourite show, *Sunset Beach*. When the lights stabilised, we'd have to let my sisters watch whatever they wanted, since it was their birthday. It was only eight o'clock, Asaf's father wouldn't pick him until nine, and we would rather have died than watch *Sunset Beach*. So I begged Asaf to perform for them instead.

I made them sit on the sofa then I rubbed one of their birthday balloons in my hair until the static was strong enough. Then I handed it to Asaf. Without touching it, he grabbed the balloon from my hand and raised it towards the ceiling. It danced above us for a long while then floated down into the space between my sisters.

Asaf bowed, rose, stooped to wipe his nose with the bottom of his t-shirt, leaving a dot of blood.

"That's a stupid magic trick," Achen said. "You used a string to pull up the balloon."

I shoved the balloon in their faces. "Show me where the string is?"

They swiped their hands over it but found no thread.

"You cut the thread when you pulled it," Apio said.

"I didn't!" I flipped my palms over to show them my hands, "See—"

They shook their heads, refusing to believe me.

"You cheated!" Achen shouted.

"Yes. You got us. We cheated." Asaf agreed, pulling me away as I tried to argue further. "Good trick though, yes?"

But they looked at him funnily. Like him agreeing with them was fishy.

"What's that on your nose?" Apio asked.

"Ewww! He's bleeding," Achen added.

Asaf wiped his nose again, turned to me, "I think the electricity is stable enough now?"

I nodded, finally catching up. Stupid me. I had forgotten the unwritten superhero rule—keep your superpowers secret. Asaf's disguise was like Superman's. He wanted to remain harmless like Clark Kent. Less trouble for him that way.

But like Clark Kent, Asaf's secret couldn't be remain a secret forever. My sisters told the balloon story to Malik, one of the best science students of his class. At first, he dismissed it, saying it was only static electricity. I wasn't there, but the way I heard it, my sisters were so firm on Asaf being some kind of Frankenstein, that Malik decided he should get investigate it himself.

It was all my fault, really. I never should've dissed Malik's bussuu technique. Though he was reigning school champ, I had beaten him before, and felt confident challenging him. In bussuu, your goal is to slap your opponent's hands until submission. Your opponent places their hands together, then you have to try and slap the back of their hands while they part their hands to make you miss. If you miss, it's your turn to get slapped and vice versa. Malik's technique involved pretending to sprinkle salt over your hands and slapping with both hands. Not illegal, but it gave him an advantage; he rarely missed.

And nothing would've gone wrong if I hadn't got a knuckle-breaker from Mr. Mukisa for drawing on the edges of my science textbook.

At lunch, Asaf and I showed up behind the canteens for the duel. Malik's friends had spread word about the whole thing and the back of the canteen looked like a scene from the movie *Fight Club*. Even my sisters were there.

My hands hurt so much even Malik's 'salt sprinkling' hurt. The pain in my knuckles slowed me, Malik bussued me, once, twice, three times. On the fourth turn, I threw my hands up.

"You win, Malik. You win!" I said.

"Are you sure? I can go slower, give you a fighting chance," Malik circled me. Drawing cheers from the mob.

"No. I'm sure."

"Wait," Asaf stepped into the circle. "I'll take his place."

I tried to push Asaf back into the crowd, but he refused.

"Aahhh, let him bussuu!" Chorused the mob. These kids had skipped lunch to watch this. They wanted to see some epic bussuu, not my weaselly surrender.

Malik bussued Asaf at least two dozen times but Asaf refused to surrender. When Malik finally missed, I begged Asaf to let his turn go, knowing what would happen should he bussuu Malik. But Malik was confident Asaf would miss on his first try, he insisted that Asaf go ahead.

"Take off the gloves, though," Malik said.

Asaf hesitated, but finally slipped them off, handing them to me.

Then Asaf bussued Malik, and Malik flew five feet into the mob.

Asaf stared at his hands with a fixed, blank look, then at Malik who was lying on the ground, shaking.

I rushed to his side and pushed him. "Go! Go away before someone reports," I whispered loudly. He snatched his gloves and ran towards the dining hall, the mob parting easily for him.

After school, I went to Asaf's house, but he wasn't there. Neither was his dad. I returned home to find my dad waiting for me, ready to tell me I couldn't be friends with that 'dangerous fellow' anymore. He made me go down to Malik's flat just one floor below ours, to apologise.

Malik appeared to take my apology graciously, but when his mum wasn't looking, he ran his thumb across his throat like the wrestler The Undertaker would right before he annihilated you with his Tombstone Piledriver.

The next day in Ms. Hadiya's Home Economics class, Asaf faked nausea and left early. Mrs. Hadiya tried to pair me with Jemima and Nambi, but they'd heard about the Malik incident and didn't want to be paired with a trouble-magnet like me. Baking alone was torture. My cake came out runny. Like thick porridge.

At break, I went up to the library roof, where I found Asaf making an origami something.

I sat beside him, "Hmmm, what's that supposed to be?"

Asaf shrugged.

"At least it's not as ugly as the cake I baked. Thank you very much bytheway."

"I'm worried for Malik. I don't know what I should do?" Asaf said.

"He's okay. He's a tough bastard that one."

Asaf screwed up his face. "Maybe I should go apologise."

"For what? They'll probably think you're crazy and call your dad, and suspend you for lying. Just forget it. In fact, we should be feeling sorry for ourselves. Malik is going to repay this. Trust me."

And repay he did. He began calling *Asaf El Zappa*, and it spread like flu. He drew cartoons of Asaf— hair radiating from his head in fluffy spokes, eyes bulged out, with sparking hulking hands—and plant them all over the notice boards and toilet cubicles. Once he painted a pair of hands on the monkey bars and refused to let any kids play there, saying they were Asaf's and anyone who played there would get some of his residual current.

I tried to get Malik to stop. I lent him my Nintendo, but he burned the shape of a hand around one of the pads.

"Don't blame me, I found it like that," he said when he returned it to me. "That's what you get for letting El Zappa play with your things."

I should've grassed him then, but the pad still worked, and also Asaf begged me to drop it. Though Asaf never spoke about I knew he was suffering. Something in him seemed to have evaporated.

One day, Asaf frustrated that this wasn't ending, tried to pluck the latest drawings from the notice board but the paper clung to his hand. His rage had created an adamantine bond with the paper, despite his gloves. He swung and swung and swung, but the paper held on like gum. Malik and friends gathered around laughing.

"Don't mind them," I put my hand over Asaf's shoulder. "They're just jealous."

Asaf shrugged my hand away. "Why do you care?"

"You're my friend, that's what friends do."

"I didn't ask you to be my friend."

"What do you mean?"

"Why do you want so much to be my friend, Duncan?"

"Because..."

My mind went static, like the chewed part of a VHS tape.

"Just leave me alone." Asaf walked away, still flapping his hand.

The next day there was another drawing, and the day after that. But they were all the same. Asaf zapping this, zapping that. Me in the background looking confused. It soon got old. In the meantime, Asaf wouldn't talk to me though we still had Home Economics class. He'd do the work and leave. I'd go up to the roof and wait and wait, and Asaf would never show up.

A week later, at inter-house football semis, Malik kicked the football straight into Asaf's face. Asaf had been standing on the side-lines, not even part of the game. Seeing him fold onto the pitch, his nose bleeding I rushed onto the pitch and punched Malik who had started walking away like nothing was wrong. Malik punched back. And we scrapped like ruthless tomcats—scratching, hissing, cussing. It took the ref, my dad, separating us before I let go of Malik's collar.

Malik's mum and my mum sat us down in my mum's office and tried to resolve the situation, but neither of us would grass on the other. In the end, my mum confiscated my Nintendo, and made both Malik and I sweep all five sections of our class for two weeks.

We left our mums in the office and as soon as we were outside I turned towards the sick bay. Asaf had been taken there with a bleeding, possibly broken, nose.

The nurse had just discharged Asaf when I walked into the sick bay's lemon-coloured waiting area. He walked with his head bent upwards, pressing a cloth to his nose.

"What do you want?" Asaf scowled upon seeing me.

"Are you alright?"

"My nose isn't broken. My pride though, that's another story."

"Didn't know you had any pride to break," I said, smiling.

He smiled back, then winced as his nose still hurt.

"At least tell me that bastard got suspended."

"No."

"You made it worse didn't you?"

"Not worse. Just not better."

"You shouldn't have got involved then."

"I was helping you."

"Duncan, your help always brings trouble. Just don't help me anymore. I have a plan."



MALIK AND I DIDN'T FIGHT, OR TALK AS WE SWEEPED THE FIVE CLASSROOMS THAT EVENING. I KEPT GLANCING AT THE DOORWAY expecting Asaf to show up. But he didn't. Nor did he come to school the next two days. At General Assembly that Friday,

my mum announced Asaf was sick and wouldn't be in school until Tuesday the next week. I grilled her about it at home but she knew only what she'd said, what Marcus had told her over the phone.

In Asaf's absence, the drawings finally stopped.

Asaf showed up not Tuesday, but Wednesday. In Home Economics class we baked mermaid-shaped cookies. Ours had the best shape and Mrs. Hadiya made everyone clap for us.

"Keep it up and I'll enter your names for the PTA gala competition," she said.

"This is even better than my plan," Asaf whispered.

"What plan?"

"My— *our* plan to defeat our nemesis."

Malik had registered for the competition weeks ago. He was so sure of himself he didn't mind showing everyone the scooter he'd be competing with. He'd made it from scrap. He'd come second in the previous year's gala and won a Sony Discman. I was third and won a certificate. I hadn't bothered to register for the gala this year. I didn't have the energy to compete with Malik, even though the prize would be bigger. A BMX bike. I had already given up.

But Asaf wasn't going to give up. We took Mrs. Hadiya's advice and registered a joint project for the gala.

"What happens if we win?" I asked. Wondering how we'd share the prize bike.

"Beating Malik is the only prize I want," Asaf replied.

"How are going to beat him?"

"Origami. It's the one thing he can't do."

And so started our quest to make the perfect origami.



WE SPENT OUR AFTERNOONS SEATED ON THE ROOF, DESPITE THE SCANTY SHADE, FIDDLING WITH PAPERS, ONLY STOPPING WHEN THE sky turned from the colour of a fresh wound to a blackened scab.

Asaf and I spent forever sketching, mapping and fidgeting with foil-backed paper and tissue foil. We perfected valley folds, reverse folds, squash folds, crimp heads, fold flaps, pleats. Asaf was obsessed with the idea of perfection, we worked on each piece until it was as close to perfect as possible. Perfect catamarans, a perfect Titanic, perfect dragonflies. But nothing was quite good enough for Asaf.

Finally, while seated on the roof one late afternoon, a butterfly floated above us. It was unusual for a butterfly to soar that high. In that Asaf found the idea for his perfect origami. A floating angel. Making angels in origami was easy, but an angel that floated on its own – that was insane.

"How are you going to flap its wings? With strings?" I mocked.

He paused from his sketching, said, "You can either help me create something amazing or spend the rest of your life getting laughed at by Malik."

I felt small with that statement, but he was right. Malik and I could trade blows every day of term but making this perfect origami would show the whole school what a talentless bully he really was; it would surely annihilate him. I agreed to help, but the way Asaf worked, I couldn't keep up. He was like a mad scientist, like he had a deadline to beat, even though the PTA gala was six weeks away. Though his nose-bleeds and dizzy spells worsened, he wouldn't stop. He worked harder after each failure.

"You don't even believe in miracles, why are you trying to be God?"

It was one of those times I asked Asaf a question and immediately regretted it.

"My dad believes he will be God once he takes that perfect photograph. I am not trying to be God; I'm just trying to be better than my dad.

"Besides, you have to break an egg to make an omelette," he said, quoting Ms. Hadiya.

"Not if you end up breaking the hen that lays the egg," I said.

We spent a lot of time test-flying origami angels, and watching them crash. We modelled a mini-engine from the motor of a handy fan. But the angels couldn't hold the weight of the motor or its batteries.

It was hopeless. As the days progressed the light in his eyes dimmed, he looked pale, like something ate at his stomach. Every time I asked if he was okay, he'd shrug and say he's 'okay enough.'

In the meantime, Malik spent every break showing off his scooter. Asaf and I would watch from the roof as he charged kids five hundred shillings to ride it from the monkey bars until the end of the parking lot. The line was so long some kids would always end up fighting. I liked this, wishing some kid would mistakenly break the scooter. That never happened though.

One afternoon, after spending hours folding and fiddling with paper by the edge of the roof, Asaf started feeling dizzy. As we rose to go sit under the shade, Asaf lost his balance and fell backwards into the overflowing rubbish bins below. I knelt over the edge and saw him in the rubbish, unmoving. I called out his name but he didn't move. I rushed down and dragged him out of the rubbish then lay him on the veranda. Like in the movies, I slapped his face until he awoke.

"Are you okay?" I asked.

"What happened? Where am I?" he asked, touching his cheek.

I explained what had happened.

"Stop lying," he said. "I don't even feel anything."

His nose was bleeding though. And it wouldn't stop. Usually it was just one or two drops which he'd wipe easily. This one kept on coming. Drop after drop after drop.

I braced him on my shoulders and we shuffled to the sick bay. The nurse made Asaf hang his head back and raise his feet, But the bleeding continued. After several minutes of this, she called my mum and they organised the school van to drive Asaf to St. Claire's Hospital. Before we left, my mum called Asaf's father and asked him to meet us there.

Marcus arrived like ten minutes after we got to St. Claire's and a nurse took him in to see Asaf. My mum and I waited in the waiting area for another two hours before Marcus returned. He walked into the waiting area like a zombie. I'd never seen sadness like that. Not even in movies. He looked like his face was going to melt right off his skin. He didn't even notice us.

I stood up and tapped Marcus' arm, "Is he going to be alright?"

Marcus stared at me like didn't know who I was. then he shook his head, "A candle that burns twice as bright..."

Marcus sat in between us and buried his face in his palms. He didn't cry or say anything after that. My mum put a hand on his shoulder and kept it there a long while. I wanted to do the same, but it seemed such an adult thing to do. I waited until both my mum and Marcus fell asleep, then I sneaked around the corridor opening the doors to different rooms until I found Asaf's.

Asaf lay propped up on his bed, staring at the machines beside him. When he saw me come in, he smiled a weak, tired smile.

I walked over and put my hand on his shoulder.

"You're going to get better, yes?"

He nodded, but wasn't convincing,

I squeezed his shoulder, "This is bad, isn't it—"

"Not as bad as you think..." Again, that weak, tired smile.

I pulled the visitor's chair closer and sat down.

Despite looking and feeling so weak, Asaf wouldn't give up on his origami angel; he believed we'd finish it in time for the PTA gala. He talked about what was missing and what we needed to do to make it work. He went on and on, not once would he talk about his sickness.

Over the next days, we worked from his bed; he would prop a million pillows behind his back and use the floor as our scaperyard. Because he couldn't work as hard as he had before, I had to be more involved. Problem was, he was the one with the master plan, and the coordinated fingers to make all that paper folding work. My crab hands were as useless as a pistol to Superman.

As Asaf's health didn't seem to be improving, mum volunteered to bring some kids from school to cheer him up. A bad idea. But once mum has got something into her head, good luck stopping her. The kids, including Malik and my sisters, came to the hospital with get-well-soon cards and balloons. Malik apologised and offered Asaf a go-around on his scooter. Asaf, in turn, made some balloons levitate and they all clapped and cheered. But after they had all gone he turned on me.

"Why did you invite that bastard here?" He shouted.

"Who? Malik? He's okay. He came as a—"

"I don't care what he is. He came here to spy on our project, can't you see that?"

"Can you shut up about the stupid origami for once. It's not everything, you know."

"How can you say that? Of course it's everything. It's our chance to beat that bastard and shut him up forever."

"That's not important anymore. I just want to see you better. That's all I want."

"You don't believe I can do this, do you?"

"What? Asaf, come on—"

"Answer me!"

"No, I don't. Not if doing it will also mean killing you. Malik can win the bike; I don't care—"

"Get out."

"Come on, Asaf."

"Leave me alone! Go and never come back, traitor!"



FOR THE PTA GALA, I MADE A COLLECTION OF ORIGAMI MORTAL KOMBAT CHARACTERS, I EVEN PAINTED THEM... NO ONE WAS impressed, least of all myself. Malik won first place. I didn't even win a certificate.

Though I had stopped going to see Asaf, I thought of him often. So when father came home one afternoon and said he'd received a call from Asaf's nurse in the hospital saying he'd requested to see me. I expected the worst.

I raced to St. Claire's, panicking. I found him laying on his bed watching TV. Asaf had always been a skinny, half-starved looking boy, but with all the pillows propped around him, he suddenly looked fattish and bloated.

He saw me, smiled and waved me closer. "I think I've cracked the origami angel."

"I don't believe you."

He whispered, "Take me to the roof and I'll show you."

The nurses were used to me staying over late, so they didn't mind me sleeping over. When it got dark and the hospital slept, we placed some pillows under his sheets and snuck out using the service entrance. It was a long climb, but arm in arm we made it to the cold, dark roof. We sat on the edge and listened to the silence for a long while. When he was ready, Asaf got to his feet and stood, swaying in the dark, staring at the empty sky. He pulled out the origami angel from his pyjamas, and cupped it with both hands.

Asaf opened his palms and conducted its levitation using his left hand, like a puppeteer.

And it flew. It actually flew. It wobbled and kicked its little invisible legs, but up it went. It flew higher and higher, flapping its long majestic wings. Each inch it floated strained him like kryptonite, but he kept the bond with the angel strong.

It was beautiful and scary. I wished it wouldn't end.

Finally, Asaf let it go. We sat down, and watched the pale stars as if our angel had drifted that far and was looking over us, though we knew it had fallen somewhere down in the parking below. We didn't speak. Had we created the perfect origami? Had we tried to become God and passed? I don't know. But what we'd done was unreal. Magical. Something beyond us.

We returned to his room. Though he was weak, Asaf was overjoyed. He wouldn't stop smiling. He held my hand and didn't let go. I slept in the visitor's chair.

The morning after, I had walked out into the parking lot and spent the whole day searching for the angel, but couldn't find it. I choose to believe it floated up to heaven and didn't come back. The same way I believed that somewhere above in the skies Asaf was forever looking down on me. Forever reminding me I didn't need superpowers to make the impossible happen. I just had to believe, like I had believed in him.



HOST COMMENTARY BY ALASDAIR STUART

Christopher Cornell, one of our narrators, passed away very suddenly on the 10th of June, on his way to a reading. Christopher was a Viable Paradise graduate, a host of the excellent Unreliable Narrators podcast and a top notch narrator and author. I had the pleasure of having dinner with Julia Rios and Christopher in Kansas City a few years ago and liked him immensely. Everyone at EA sends their deepest sympathies to his family and friends at this time.

Please check the show notes this week, folks. We've put links to his work there.



'It was beautiful and scary. I wished it wouldn't end.'

That's a perfect description of adolescence and extended existence under duress. I've been through both, I'm willing to bet a lot of you have as well. I'm also prepared to bet that the vast majority of you have the same serious questions about the percentage distribution between beautiful and scary as I do. A lot of us want to speak to the manager but, unlike the Continental, it seems the manager is often otherwise engaged.

Which means while it may, in the long run, not be just us, it sure as Hell feels like it at times like this and at times like the one depicted in the story.

So we make a shelter out of what we have. We live in the extended moment before the scream, the period of time when the bad thing moves into our lives and will absolutely end part of them but won't do it yet. You know the one part of Princess Bride I've always found notably less charming than a lot of other people?

"Good night, Westley. Good work. Sleep well. I'll most likely kill you in the morning."

That's not charming or whimsical. That's a blow withheld, for now and when you live in the situation the lead characters do here, that hurts infinitely more than the blow landing. When all you can do is wait for something you cannot control, after a while, you actually relax. It's the pre-grief version of the old adage about the guilty party always being the one who sleeps when you bring them in. Time's up, nothing you can do, best get what rest you can.

That's not resignation either, it's serenity, acceptance. Once you know that Entropy rules the House and in the end the House always wins you've really got two choices; rage against the dying of the light or actually be brave enough to do some good with the time you have left. I've had friends who've died young. This young. The rage doesn't do anything but exhaust you. You feel it anyway and should but in the end all it does is take you where you need to be. To the moment the light dims regardless of how hard you scream at it or however hard you stare at it to make sure it's still there.

The moment before you realize it never quite dies.

'Don't worry, this won't be the last good time'

Stephen King's *Joyland* is a lesser known part of his body of work but it's a book that planted a flag in my mind and has never really left, because of that line. Spoken by a mildly psychic, and equally doomed, child it's shot through with the serenity I was talking about and the engagement the main character has here. The choice to do some good with the time you're given is never, ever easy for anyone. But it's the only choice I've ever found to have meaning, and worth, that extends past the time we're given. And I've never seen that demonstrated more perfectly, and relentlessly, than in genre fiction. We weaponize and farm nostalgia, we face backwards on the rocket on our worst days because we can't face the future. We face backward on our best days because we can't stand to watch what and who we leave behind vanish. We travel in two directions at once; endlessly forwards into a still somehow flying car and food pill free tomorrow and endlessly backwards into a yesterday that's always younger than we remember but older than we think. It's exhausting and arbitrary and at times like this, both in the story and the world, cruel.

But it's what we have.

So let's make something out of it.

The only immortality humanity has perfected so far is art and the capacity to enjoy it. Make art. Enjoy it. Help others do the same. And through that? Live forever. Ensure there'll always be another good time, even if it may not be for you.

Our closing quote this week is from the great Mister Kurt Vonnegut:

"Hello babies. Welcome to Earth. It's hot in the summer and cold in the winter. It's round and wet and crowded. On the outside, babies, you've got a hundred years here. There's only one rule that I know of, babies-"God damn it, you've got to be kind."

ABOUT THE AUTHOR

Derek Lubangakene lives and works in Kampala, Uganda.

Despite growing up in a household full of books, he only started writing only after failing as an origami artist, a sketch-artist and poet. No regrets though. Between his day job and his moonlighting as a writer, he also works as a contributing editor at Deyu African Magazine, an online repository of contemporary African Writing.

He has been long-listed for the 2013 Golden Baobab Early-Chapter Book Prize, the 2017 Writivism Short Story Prize, and honorably mentioned in the 2016 Short Story Day Africa Prize.

His work has appeared in Apex Magazine, Omenana, Enkare Review, River River Literary Journal, Prairie Schooner, The Missing Slate, The Kalahari Review, Lawino Magazine, and the Imagine Africa 500 Anthology, among others.

He is currently working on his first novel.

ABOUT THE NARRATOR

Peter Adrian Behravesh writes flintlock space fantasy stories inspired by eighteenth-century Iran and songs about the technoapocalypse. He is also an editor for Seven Seas Entertainment and the audio producer for *PodCastle*. When he isn't writing or editing, you'll most likely find Peter hurtling down a mountain, sipping English Breakfast, and brushing up on his Farsi (though usually not all at once). You can read his sporadic ramblings on Twitter [@pabehravesh](https://twitter.com/pabehravesh) or at peteradrianbehpravesh.com.

ESCAPE POD 689: SPECTRUM OF ACCEPTANCE

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When Leon Kenner left the planet of Acceptance, he asked me to go with him back to Earth. I belonged with people like me, like him.

No, that isn't where I should start. Stories should be told in chronological order to make them easy to understand.

On our first meeting, Leon took my hand in both of his as if he had known me my whole life, like he knew I was NT — neurotypical — and I liked touching. I could read his mind, and he was reading mine right back. That's not right. No one has ever proved mind-reading. Mind-reading isn't real.

"It's a pleasure to meet you, Ada," he said.

A pleasure. Meeting me was a pleasure. On Acceptance, greetings are waves of a hand. If you know someone well, maybe a "hi" or "hey."

The pleasure was mine, but I kept that to myself. Ma was just behind me. There are procedures for how to accept a guest into the home.

"The family schedule is on the screen. So are the rules." I pointed as I spoke. I noticed Ma looking at my pointing, and I put my hand down. Hand motions confuse people. Speak in one modality at a time.

He glanced away to look at the screen then brought his eyes right back to me. The brown of them had flecks of yellow. I'd never had a chance to look so long into someone's eyes other than my own in mirror mode or in translucent reflections on the screens. The color parts had little black lines radiating out like the iconograph of the sun. Did everyone have those or just us?

I watched him look about and saw our house through his eyes. Not through his eyes. That isn't a real thing. I imagined I saw the house the way he might have seen it.

Neither Ma nor I have collections; messes make Ma anxious. We have just what is needed to be functional plus room for one immigrant. Our home is efficient: white, orderly, and cold compared to VRs I'd walked through of Earth homes. Earth homes never have squeeze machines in their living rooms. They have art on the walls and furniture formed to look like things other than chairs and tables.

He must hate it. I gave myself a little shake and reminded myself that I couldn't know what he was thinking. My imagining didn't help anything.

Leon was going to be my first. Not my first; that was imprecise. Ma hosted a couple when I was a baby, before I needed a room of my own. That's imprecise, too. I was a fourth of a cycle old the last time Ma's name was matched for hosting. Most cycles we received the stipend without having to take in an immigrant.

I was bursting with questions. I wanted to know what he thought of our house. Was it too sparse? Too white? I wanted to know everything about Earth. I wanted to ask about him. I wanted to ask if eye-contact was his only deficit. Was he

greedy for touch like me? Was he NT, like me?

The rule is you didn't ask people questions. It annoys them and interrupts their thoughts. If they want you to know something they will tell you.

He was the same size as me, which was unusual. Most everyone is either so tall I make eye-contact with their chest or so short they make eye-contact with mine. I wasn't supposed to notice. My ma says I think too much about how I compare.

He asked, "How old are you, Ada?"

"I'm twelve cycles. I don't know how many cycles that is on Earth."

"Sixteen years," my ma corrected without turning back to look at us as she entered the house. "A revolution around the sun is called a year on Earth. A full revolution around Sol, the sun of Earth, is 26.71755726% shorter than Acceptance's annual cycle. You are sixteen years, four months, two weeks and three point two days old." I loved how fluent Ma was when talking about facts.

I blushed and looked down at my toes. Having one of my deficits on display was mortifying. My counselor assures me people don't care what you can't do. People only care about your abilities.

Leon touched me on the shoulder, "I can't do the math in my head, either." It was like he could read my mind. Another touch. I wondered if he did hugs.

How old was he? He wasn't young. He had grey in his brown curly hair. Old for an immigrant. Most were just old enough to be treated as an adult on Earth. Here on Acceptance, adulthood is determined by algorithm. You are an adult when you are independent and can care for yourself and others.

The rule with Ma was you keep your hands to yourself. I reached out and imitated the touch with a touch to his shoulder, breaking the rule.

"Why don't you show me to my room?" he asked.

That smile was for me. My stomach did flips. No, that is metaphorical thinking. My stomach was contracting.

I glanced at Ma. She was focused on getting dinner started. She had a deep frown on her face. Was she upset about my pointing or the touching?

"Can I? You aren't mad are you?" I asked Ma.

"Aren't mad...mad...I'm not mad. Go. I need quiet time." She flapped her hands. Something was upsetting her.

I wanted to keep asking so I could fix what was wrong, but that would just annoy her more. I glanced at the countdown timer, 23 minutes until dinner. We had time.

I walked down the hall, resisting the urge to look back and see if he was following. People follow if they want to and don't if they don't. Ma says knowing if they aren't doesn't help one way or the other.

I slid open the door to his room. It was bigger than my room, but something about the emptiness made it look sad. I know rooms can't be sad. A room is a room.

I tapped on the wall, pulling up the timer, the schedule, and the rules. I turned to leave.

Leon reached out and caught the sleeve of my shirt in his fingers. "Can you stay and talk?"

I smiled and brushed my hair off my shoulders. I had it cut in a style that was popular on Earth. Or had been popular there three years ago. The feeds from Earth take a long time to get to Acceptance, though not as long as the ships. On Acceptance people cut their hair as is most comfortable for them, not what looks best or what is popular. When I got the haircut, I was imagining our immigrant would feel at home seeing my hair. Despite all the time it took to style, I wasn't sure he noticed.

"What do you need?" I asked.

"I've been trying to get in touch with someone in the government. My staff and I aren't here to settle on Acceptance. We're emissaries. We asked to open a diplomatic channel. Your Chamber of Commerce issued the invitation and now no one will have sit-down meetings with us."

I gave my head a shake. "I don't understand. What's an emissary?"

He sat down with a heavy thump on the bed and put his head in his hands, "I've never encountered anything like this. I do all the right things and no one wants to meet. And my muscles are killing me."

Alarmed, I said, "Do you need a doctor?"

He shook his head. "Higher gravity here. They said it would take a few weeks to adjust, but they didn't say it would be like walking through water." He waved his hand as if to shoo away my concerns. "I'm fine, just tired." He motioned to the chair at the work table. "Sit down. Talk to me. You're the most eye-contact I've had all day."

I pulled my eyes down to my shoes. "I'm sorry. I forget."

"Oh, hell. No. I need the eye-contact and some small talk. Real small talk. Not someone lecturing at me about some weird interest of theirs or the rules. I swear every room I walk into has a new set of rules. This wasn't in our briefings." He

lifted up the blanket on the bed, "Lord, how heavy is this thing?"

"Standard four point five kilograms. Do you need a heavier one?" I pulled up an order screen on the wall for weighted blankets. "You have a stipend for supplies until you settle into an occupation."

He tilted his head at me, "I guess even you don't do small talk, do you?"

"Small talk? What's that?" I shrunk the order screen and turned to look at him, trying to guess what was going on in his mind. His voice sounded amused but the words were more biting than that.

"You know, talk about the weather."

I tapped the other wall and pulled up an external view with a weather report. "Is this what you need?"

He shook his head. "Small talk is when I say, 'The weather is nice.' Then you say, 'Looks like rain tomorrow.' It's a way of starting a conversation without getting into things that might upset someone." He pointed at the screen with the rules. "Where did the 'No Touching' rule go?"

"I like touching. It's Ma who finds touching upsetting." I held up my wrist to show off my patch. "That is what the ID is for. Rules are made based on the needs of who is in the room with you. Your guide was supposed to explain."

Leon ran his fingers through his curly dark hair. "I'm sure he did. I had a hard time understanding him."

"And when you told him he didn't change modality?" I was shocked. That was not what was supposed to happen.

Shaking his head, Leon said, "I didn't want to embarrass him by pointing it out."

I was confused. "It was rude not to tell him. You should have told him."

Leon took a long slow breath. I was annoying him. No, I don't know if I was annoying him. I imagined I was annoying him.

"This is going to take some getting used to," he said.

We stood a moment in silence. My skin was crawling with questions but I could hold them in. It was polite to wait. If he needed me to go now, he would tell me. Or was he being that weird Earth polite where they don't say what they mean?

He looked uncomfortable. I had to remind myself I didn't know what was in his mind.

He looked about the room. "I'm sure I was told, but where is my baggage?"

I brightened. That I could help with. "It'll be delivered this evening." I pulled up the schedule and scrolled down to 22:35 where it was written, "Delivery - Leon Kanner."

He squinted at it. "Huh, you guys really like your schedules, don't you?" He pointed to the iconography after the text, "That means the same thing?"

I nodded and pointed to each icon, "Package, movement, your home, and you."

"And how do I get in contact with my staff?"

"It should come with your bags."

He shook his head, "Staff. Um — people I work with. People who came with me."

I tapped the pictogram on the screen of a group of people and pulled up a list of his acquaintances. He had seven. My ma, myself, an immigration counselor, and four others all flagged as immigrants.

He stood up and put his hand on my shoulder. His hand was warm and sent heat running right through my shoulder to my chest, neck, and up into my cheeks.

"That's my girl. What would I do without you?"



AS IT TURNED OUT, HE WOULDN'T ACCOMPLISH MUCH WITHOUT ME. IT PLEASED ME TO BE ABLE TO HELP, TO BE ASKED. IN THE following weeks, I spent every unscheduled moment with him. He was like a drug. More metaphorical thinking. Each effort on his behalf was rewarded with a smile, a touch, or long seconds of eye-contact.

He wanted help finding an official to talk to. All the information was there if he just spent a little time to look, but I did the looking for him. Leon wanted a face-to-face meeting. He kept getting written messages, half of which I had to explain to Leon because the Program Manager used a lot of iconography in his writing. It never occurred to Leon to look up the definition for the icon.

It didn't bother me. It was another thing I could do that would get me rewarded with praise.

Leon had demanded a video conference. It was explained to him that the Program Manager was non-verbal.

He pointed to the screen. "This. This is part of what we are concerned with. How does someone who can't talk run an immigration program? Shouldn't he be able to communicate with people?"

I shrugged, "You don't need him to accommodate you. You can read. The iconography definitions are easy to access." I smiled towards him, looking for more kind words. "You have me."

I wondered if Leon was going to lose his hair at the rate he was running his fingers through it.

"That isn't the point," he said. "Why is everything so hard here? Your mother, who is supposed to be helping me, hasn't said two words to me since I arrived."

The criticism of Ma stung. I said without thinking, "She has spoken to you. I don't know how many words. If you asked, she would tell you *exactly* how many."

I regretted the words as I watched his face shift, his anger turned towards me. It lasted not even a second then slipped away as if I had imagined it. Maybe I had. I have problems with imagining how people feel.

"Sorry," he said. "One of my staff is being reclassified incompetent. She's a professional diplomat, with decades of adult living, being treated like a child."

"I'm sorry." All I could think was she had to have broken a lot of rules to be downgraded. What had she done to get reclassified?

He did that thing, where he read my mind and answers a question I didn't ask. "She didn't do anything. What does untrustworthy speech mean?" He didn't wait for an answer. "She is being treated as an imbecile, but someone who can't even speak is in charge of immigrants? How does this make sense? Is it because we are from Earth?"

His annoyed tone was seeping into me. No, that isn't accurate. I allowed my imagination of his tone to annoy me. I tapped on the screen through a few icons and pulled up the Program Director's biography. I was guessing he was an immigrant; most people are. The birth rate on Acceptance is low despite the incentives.

The Program Director's history flashed up on the screen, starting with his immigration from Earth. He had a good work history, no gaps for rest. He was a model of what an adult should be.

Leon read through, stopping to look at me. Finally he shook his head. "I don't understand. His résumé looks normal. Having someone in charge who won't — can't talk to me isn't normal. This is not normal." Leon ran his hands over his face and looked back at me. "And I'm yelling at you when you have nothing to do with this." He reached out for my hand and took it without hesitation.

I moved closer to him to capture the warmth. What I wanted was a hug.

"I'm sorr—"

His apology was interrupted by the pinging of my appointment reminder. I gave his hand a squeeze. I told myself it was a hand hug. "I have to go. Speech therapy."

He shook his head. "That. You talk better than anyone else on this planet, and they send you to speech therapy?"

"My pronunciation and fluency are good. I get to be a model in group sessions for that. But I talk too much. And — I talk about the wrong things. I confuse people."

"Not on Earth." He let my hand go. "Come back later? I need your help writing a reply."

I was too drunk on his desire for my help to question if he really needed my assistance. No, that isn't right. Drunk is a confusing word. I felt about him like the warm feeling you have when you drink just a little too much alcohol. No, that is still confusing. I liked the way I felt around him so I didn't question what he needed or wanted.



LEON WAS THINKING OF LEAVING. HE WAS FRUSTRATED. HE WOULDN'T GO TO THERAPY. A ROBOT GUIDE HAD STARTED SHOWING UP at the house to remind him of sessions, and he ignored it. He said he was fine and the therapists were busy work. He didn't go to his counselor. He wouldn't find an interest or select a job.

Leon visited with his friends — his "staff" — and sent messages to whomever he could about setting up an embassy. I guess that was a kind of interest, but not one recognized by the algorithm for adulthood. There is nothing useful in talking to people.

The mess in his room was upsetting Ma — even when his door was closed. She would sneak peeks into his room and then flap her hands when it was as bad or worse than she expected. I didn't know how much longer she could keep him. She got angry when she saw him touch me. She was going to melt-a-chip eventually.

I tried to imagine an entire planet where everyone was like me. A world where I could ask questions and it wouldn't seem weird. You got to be an adult based on your age on Earth. I could just be an adult without doing all the work.

Leon always looked where I was pointing. A planet of people who looked at where you pointed....

My brain was running in that direction while Leon and I were on a walk. We had stopped working in his room because it upset Ma. She thought he was touching me and setting my progress back. She wasn't wrong. My fingers twined in his as we walked through the bamboo fields where it was harder for people to see what we did.

He was depressed. Another staff member had been classified as incompetent, and Leon himself had been put on

observation. I think the hand holding made us both feel good. I don't think I was being selfish.

"We were sent because of all the immigrants who came back, you know," he said. "All the people who went to Acceptance, but only the normal ones returned. We worried that the planet had turned into a trap for the disabled. Those who came back talked about being imprisoned. There were rumors of forced labor camps."

The breeze rustled the bamboo.

"For the needy?" I said. "All the needy are cared for."

He snorted. "At what cost? You have no freedom."

I shook my head. "You can have whatever job you want. Well, maybe not any job. You can't do physics like my da does or account management like my ma, but you can do anything you aren't deficient in. Even if a machine can do it better. Everyone who wants to work can."

"That's inefficient. That guy who vacuums your house, for example. On Earth we have little robots that do that."

"We have that here, too. It's just Gus loves to vacuum. A robot would just be another item for Ma to worry about. Gus comes when Ma is out, and everyone is happy."

"It's meaningless work."

I wanted to say being an ambassador was meaningless when we already had solid trade with Earth. The Program Manager wouldn't list it as an occupation. Instead I said, "Vacuuming isn't meaningless to Gus."

There was a long pause. It wasn't like him to not talk. He always filled the empty pauses between important things with constant chatter. Now, though, the silence was filled with the creaking of bamboo.

"We are talking about going back," he said at last.

My heart jumped into my throat. No, that isn't right. It didn't actually jump up into my throat. That is metaphorical thinking.

Impulsively I hugged Leon and put my head on his shoulder.

After a moment's hesitation, he put his arms around me.

"Can't you stay?" I asked.

He sighed. "It doesn't look that way." He rubbed my back with his warm hands.

"You don't have to be an emissary. You could do something else, anything else, like Gus."

He stroked my hair. "I gave up a lot to come here, to help resolve issues; to protect Earth's citizens from being taken advantage of. A consulate doesn't have a purpose if no one will negotiate. It's like they don't even see there is a problem.

"We're going. The real question is if we keep trying or we agree to hibernation while waiting for the return ship to have enough passengers. I'm leaning towards hibernation. Acceptance will never see the point until Earth stops allowing emigration."

In the back of my mind it occurred to me he wasn't explaining this to me but justifying it to himself. He was going, sooner rather than later.

"Then, take me with you." I put my thoughts into action and kissed him. It was awkward, missing half of his mouth, and cut short by him pushing me roughly away.

"What are you doing?"

"I love you. Take me with you. I belong with you." I stepped closer to him.

Leon grabbed my shoulders and held me at a stiff arm's length. "Ada..."

"Leon, please." I could feel tears burning in my eyes. No, that isn't right. They don't burn like fire. It was that hot feeling when tears are coming.

"I don't think of you that way. I'm...Your...," he stammered. "I think of you as a daughter."

As a daughter. He thought of me as a child.

"You aren't even an adult—"

"I could be by the time we got to Earth," I interrupted. "I could join you when I'm eighteen Earth years. I'll have to do the math, but I could be an adult when you wake-up."

"Ada...I didn't mean to give you the wrong idea."

He had treated me like an adult to get what he wanted from Acceptance. He didn't want me. He didn't need me. He wasn't needy. All those hours dedicated to finding information for him, explaining the iconography, and the touching; he didn't need me at all. He could have managed without me. He was just — selfish.

I twisted out of his grip and ran.

He didn't call after me. He didn't chase me.

I wasn't even that important.



I WAS UPSET ENOUGH WHEN I GOT HOME THAT MA NOTICED.

"What's...what's...wrong?" She asked.

I lied. "Nothing," I said as I went into my room. I could hear mother echo my word, "Nothing," as I closed and locked the door.

Normally that would be enough. Ma always believed me. If I told her the sky was blue, like Earth, she would believe me. No, that isn't true. She would check.

Ma overrode the privacy lock on my door and came in. "Nothing. Nothing." She paused. "Sometimes I think...think letting your da have his space was the wrong choice. You're...are...so needy, you need two parents."

Her words stung like a knife in my chest. No, that wasn't right. Words are not knives. It hurt my mind, not my chest.

I sat up in bed. "Da wouldn't have helped. I'm just too stupid."

She sat next to me and shook her head. "Stupid. Stupid. I need to tell you in words...words...what I think of you. Stupid." She paused again, to put her words together. "You're smart, just different smart. Smart. Different smart can get you...you in trouble. People from Earth are always asking for more. More. If you don't know how to say no, they will use...use up all your time."

"Both you and da are from Earth," I said.

She reached out and patted the back of my hand in an awkward rhythm to her echo. "From Earth. From Earth. Don't interrupt me." There was a long pause as she put her thoughts back together. "We didn't belong on Earth. I worked for half the pay of the NT. I lived in a group home because no one believed...believed...no one trusted me. When I decided to come to Acceptance, I had to go to court. They tried to have me declared incompetent. They didn't want me and they would not...would...would not let me leave."

She started to echo again as she found the next set of words. "Leave. Leave. I could pay cash to go to another planet, but they were saying I couldn't go because I talked differently. Differently. I think differently. Differently. Differently. Differently. Differently." She flapped her hands. "It wasn't much different for your father. They lied to him. The neurotypicals, they lie a lot. Neurotypicals. NTs. They are better at it than you are. If he is making you promises, you can't believe him. Believe him."

I blinked back tears. "He doesn't want me. They're going back to Earth, and he doesn't want me."

Ma did the most shocking thing then. She hugged me. It was bony and stiff, but it was a hug. She didn't let go, either. She stayed in my arms until I was done crying.

The order came in for Leon to be moved before he got back to the house that evening. Ma was good at quick decisions. Da would have just stood in the living room for hours before deciding what to do. It was good I had Ma.

I didn't watch Leon go. I didn't ask where he was going. I stayed in my room and enjoyed my quiet time. I deleted him from my contacts.



I HAD SPENT WEEKS IGNORING MEETING REQUESTS FROM LEON. HE WANTED TO TALK FACE-TO-FACE, AS IF THAT WOULD CHANGE the way he had used me. I was angry, which Ma said was a good thing. She took us off the hosting registry.

Ma was happy to get rid of the empty room. It was kind of cool to watch the movers come and lift the guest room off our house. In less than an hour, the maintenance bots and two men — one who shouted dirty words to the rhythm of his work — had fixed up our house as if we had never hosted. When I was littler, I had imagined it would be nice to have Tourette Syndrome. That was stupid. There is a difference between wanting to say things and needing to.

The last meeting request from Leon was hard to ignore, though. He asked to meet at the elevator to the ships. Even by tube it would take the better part of a day to get there, but he included the credits for the ride. He said they were for me to keep even if I didn't come. That made me mad.

I stayed mad most of the way there, especially when I thought about the time I lost. I could have been working on math, and I had to cancel appointments. Was he really an ambassador, or was that something he made up to get people to do things for him? I'd been asking people about Earth. I wasn't fooled by the shiny VR shows anymore. Earth needed our technology, our patents.

I went without telling Ma. She would have tried to stop me or wanted to come with me. I needed to face him myself. I needed to ask my questions.

I wasn't mad by the time he joined me at the rail overlooking the loading zone for the elevator. Something had

happened between home and there. Something clicked into place as I watched a sandwich cart person tiptoe her way down the aisle. She was using a speech board and was slow. One passenger gave her cash and had to help her count out the change. She wasn't unable. She was able with help and she was happy. I didn't know that for sure. I didn't ask. She looked happy.

Leon often looked happy and wasn't. It didn't matter if he was for real or a liar. He wasn't happy here.

"You cut your hair," he said.

I turned my head to look at him, wishing I had my hair to flip, but I had cut it off when he moved out.

"I liked it better in the other style."

I shrugged. "It doesn't matter what you like."

"Ada — I know I hurt you. You felt led-on. I understand, but you don't belong here. You're normal. You should be on Earth where you can live like a normal person. Come with me."

"No." I turned the rest of the way to face him full on.

Behind him, at a respectful distance, were two Keepers. He wasn't even trusted as a child. Somewhere along the way he had been classified as physically dangerous. It was likely all that touching.

"I checked. You don't have to be an adult to leave. You can come." He reached for me.

His Keepers tensed and took a step closer.

I took a step away from him. "You aren't listening. I don't want to go to Earth. An entire planet where everyone is demanding more than they need? No wonder we get so many immigrants."

I looked up into the orange sky. You could count the daytime stars that were ships in orbit. Two ships sat waiting to be full enough to justify a trip back to Earth, one with hibernating passengers. Eight more were in various states of being dismantled. We didn't send physical goods to Earth, except of course immigrants who didn't want to stay.

I resisted the urge to point. "We get three ships for every one that leaves. More people stay than go back. They left Earth and they stay. There isn't a problem with Acceptance. The problem is with you."

"I've been imprisoned."

I doubted that. "Are you being prevented from leaving Acceptance?"

He shook his head.

"Tens of thousands of immigrants come on each ship," I said. "People who are scientists, mathematicians, and vacuum cleaners. There is room for all of them here. There is room for you, too, but you won't accept it. You want us to bend to you."

"Please, don't let our misunderstanding stop you from going to Earth. You belong there."

I turned back to the railing and gripped it. "A planet full of people demanding what they want instead of what they need? The ability to make small talk isn't a sign of intelligence. It's a symptom of a disease. Yes, I'd fit in, but I don't want to." I let go and started to walk away.

Leon lunged for my sleeve, to grab me like he did that very first day. The Keepers moved in to stop him. I could hear the crackle of a taser. The rule is you keep your hands to yourself.

I didn't look back to see if he followed. What he did didn't affect what I was doing. I was going home where I was needed, where Ma waited for me.

At least now, I knew what I would do for an occupation. A third of every ship of immigrants didn't know the difference between wanting and needing. I would be a guide and give the neurotypical what they needed. I would teach them they were no longer on an NT world. We cared for people's needs on Acceptance. You need, really need, you ask. Otherwise, you serve.

I had a spring in my step as I walked away. No, there I go again with metaphorical thinking. I walked with a bounce in my step because I was happy.



HOST COMMENTARY BY TINA CONNOLLY

About the story, Nyla says: “Acceptance started as an exercise in imagining a world where the needs of all atypical people were met. I also wanted to show how awkward a neurotypical (NT) person would be in a society where social rules weren't built for them. I never felt so happy as when a beta reader told me they wish Acceptance existed for their child with Autism Spectrum Disorder.

“I didn't even realize I was writing a classic utopia (right down to one man's utopia is another's dystopia) until I received push back from beta readers that Acceptance was cruel and harsh. When you are used to your preferences being treated as the default way of being human, Acceptance could feel as uncomfortable and unaccommodating as our world is for a neurotypical person.”

That's all from Nyla, back to me: Aah, I absolutely loved this story when I read it. I personally am mostly neurotypical, and have many people in my life who are neuro atypical. So for me, as an NT, this felt like such a clever way to shift my understanding around to really see, as Nyla said, what it would be like to have the social rules built to accommodate someone other than me.

I really liked that Nyla decided to tell this story from the perspective of someone who IS neurotypical, but who has grown up in this environment, so she kind of has an understanding of both worlds. We see her trying so hard to master the social rules that are not designed for her. At the same time, she is totally ready to hear about Earth's social rules from Leon, and feel the seductive pull of the idea that those rules might be an easier fit for her. But in the end, she is able to see the good of Acceptance, and make the choice that is right for her.

Our closing quotation this week is from George Bernard Shaw, who said: “The single biggest problem in communication is the illusion that it has taken place.”

ABOUT THE AUTHOR

Nyla Bright writes in Seven Hills, Ohio. She has a bachelor's in English Literature and Masters of Science in Management Information Systems despite failing 2nd grade and nearly failing 7th. Nyla and her entire nuclear family are neurodiverse, proving daily that diagnosis isn't destiny. Her stories have appeared in *Escape Pod*, *The Bronzeville Bee*, and others. You can find her much-neglected blog and a current list of her other publications for at nylabright.com.

ABOUT THE NARRATOR

Maxine Moore is a creative who has dabbled in a variety of fields, including theatre, radio, photography, and now voice acting. She can often be found watching movies and arguing about them, drinking tea, traveling, or enjoying a good book. She lives with her husband in the Washington DC area.

ESCAPE POD 693: THE GREAT SCIENTIST RIVALRY ON PLANET SOURDOUGH

August 15, 2019

Author : Beth Goder

Narrators : Mur Lafferty, Adam Pracht, Alasdair Stuart, Tina Connolly and S.B. Divya

Host : Tina Connolly

Audio Producer : Summer Brooks

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Audio Journal of Yazhu A. Borla
Sourdough Planet, Year 1, Day 1

I am definitely a genius, because I've discovered a way to create nanobot-integrated sourdough that will change how humanity eats bread.

Here's the plan:

Step 1: Find a planet that no one cares about, so when I place eight fermentation silos on the surface, no one will bother me about regulations or whatever.

Step 2: Time dilation! To bypass the long window needed for sourdough starter fermentation and nanobot algorithm iterations, use a super-fast spaceship to zip around the galaxy. As a result, while two weeks pass for me on the ship, thirty years pass on the planet.

Step 3: Check on the silos, tweaking each creation until...

Step 4: I've created the most delicious, amazing, beneficial sourdough that humankind has ever eaten.

When I'm done, people who eat my bread will be able to do amazing things--breathe underwater, boost their immune systems, get rid of wrinkles. At least, if the experiment goes well. I'm still playing around with the algorithms.

I'll be famous. They'll name cities after me. Countries. Maybe even whole planets.

But, of course, the most important thing is that my creations will benefit humanity.

The plan's only flaw is that I won't get to see Ayla's face when I create the most epic nanofood in the universe. What's the point of having a nemesis if you can't even gloat?

Day 22

This planet is kind of weird. The ground is a sickly yellow color, there are huge rocks everywhere, and the lake looks suspiciously deep. Also, the air smells weird. I know because Chester, the ship AI, told me it was breathable, so I went outside and it was like getting pelted in the face by a wet dog.

The silos are built. I've got the sourdough starters fermenting inside, fed by automated systems that deposit water and flour. The micro environments are set up with wild yeasts from all around Earth.

Since the silos are hermetically sealed, nothing can get out or in. The last thing I need in my sourdough is alien yeast!

This planet has some boring name, like HD 44318 b. I dub it Sourdough Planet.

Now I've got to program the nanobots.

This is what space sounds like: nothing. The quiet flows over my ship body. Stars materialize and disappear, rippling outward like stones thrown in water. Silent and beautiful and full of light.

I miss space.

I am starting to regret hiring my ship-body to one Yazhu A. Borla. It's not just the sourdough experiment, although I sense such a project is not standard. She sings to herself constantly, a series of pop ballads in an off-key soprano. She takes her meals in the library, the observatory, her quarters--everywhere but the kitchen--and I've got to send the cleaning bots out to retrieve the plates.

Worst of all, she thinks she's an expert at everything. Sure, she has a Ph.D. in nanobot technology, and a second one in computer science, but that doesn't mean she knows anything about large scale engineering, for example.

She insists on tinkering with parts of the ship. I won't let her get near anything critical, but I've given up the auxiliary recycler, so that I don't have to hear her whining.

I don't have a lot of experience with humans, but from what I've seen so far, I have to say, I'm not impressed.

At least my secret project is going well.

Yazhu thinks there are only eight silos on the planet. In this, like so many other things, she is wrong.

Stealing the nanobots was trivial. When Yazhu was sleeping, I took two bots out of the sterilized environment and programmed them to make other bots. I put the nanobots in Silo Nine, where they will take the raw matter of this planet and evolve it into something new.

I'm tired of humans--their whims, their irreverent attitudes, their bodies which make sounds like "flph" and "sploosh." I'm tired of other AIs, too. At the spaceport, 10-67-NDR made fun of me because I painted each segment of my body a different shade of blue. She also said my name was non-standard.

I have an experiment of my own--to create a new sentient species. It can't be worse than the ones that already exist.

Yazhu

Sourdough Planet, Year 1, Day 45

The silos are churning. I'm tweaking the nanobot programs.

Working on my own is great. I don't have to worry about food safety regulations or infinite clinical tests. When I worked for Kuiper University, let me tell you, I was swimming in red tape.

Who needs tenure? Not me.

I'm sure Ayla is still at the university, thriving. She always did know how to work within the rules.

In Silo One, I've got wild yeast from Syria. The nanobots are programmed to enhance the cochlea to produce super hearing.

Silo Two has the experiment most unlikely to succeed--a life-extension algorithm, which I've never gotten to work properly.

Silos Three has--well, the specs are all in the experiment logbook. No need to repeat them here.

If I succeed, I'll be even more famous than I am now. (The academic community, I'm sure, is still in awe of my self-replicating ice cream, but I can't rest on my laurels.)

Like the sourdough starter, the nanobot algorithms will need time to mature. I've programmed them using new machine learning techniques, so they respond to what's in the environment, and adapt based on feedback from supervisor programs.

Day 46

Used the service bots to deliver the nanobots to the silos. Bots within bots! No way am I going out on the surface of the planet again.

Tomorrow, we head out. We'll speed past the Magenta Belt, loop around Vegstrom for the gravity assist, then zoom back. But first, we have to pick up some fuel at Savara Station. Yeah, we still need fuel. The Infinite Energy Drive, it turns out, does not provide infinite energy. False advertising, I say.

Maybe I'll take a look at the engine later. I bet I could make it more efficient, just like I did with the auxiliary recycler.

Chester's Ship Log
In transit

Space, beautiful vastness. Lovely, silent ocean.

Yazhu
Savara Station

We've landed at the station. Time to fuel up!

Written Journal of Ayla Fireton
Revenge Plot, Day 1

I've made it to Yazhu's ship. I'm officially a stowaway. Excellent.

It's cramped in the ship's conservatory. I'm nestled under an aspen tree, most likely a *Populus tremuloides*, squished next to some yeast vats. Why yeast? Probably another one of Yazhu's failed projects. The university was littered with the waste of her experiments, but did anyone care? The inventor of self-replicating ice cream could do no wrong. Such a creative genius, they said. So full of new ideas.

Oh Yazhu, you think you've gotten rid of me, but you have no idea. I will follow you throughout the galaxy. I will haunt you like a ghost. I will bring about your ruin.

I knew Yazhu would stop at Savara Station. She's not as clever as she thinks. Her first mistake? Sending me one last, gloating letter. I traced the signal to the Idiran System, then looked up the log of AI ship rentals. Her flight plan is disorganized, and it doesn't make much sense. Why would she plan her stops at Savara Station spaced out by thirty years?

I didn't have to wait long for her ship to arrive.

The AI, Chester, caught me poking around the hatch. I had an eight-step plan to bribe Chester, but I didn't need it. They asked me why I wanted access to the ship, and the truth came tumbling out—how Yazhu had undermined me at the university and jeopardized my position. And, the nail in the coffin of my tenure hopes, the anonymous letter implying I had falsified data for one of my experiments. Obviously, Yazhu sent it.

"A petty human squabble," Chester said. "Sounds interesting." They opened the hatch.

Everything is going according to plan.

When we land, I will destroy whatever project Yazhu's working on. I will destroy it all.

Yazhu
Sourdough Planet, Year 30, Day 5

We landed on Sourdough Planet. Everything is great! It's thirty years later, here. The sourdough starters are taking on complex flavors and the nanobot algorithms are iterating spectacularly.

The longevity algorithm doesn't look like it will be successful, but that's to be expected.

Chester has been acting weird. Yesterday I tried to get into the conservatory, but the door was locked. Chester claimed it was "compromised for technical reasons," whatever that means.

Ayla

We landed on a backwater planet, atmosphere close to Earth standard. I hacked into the feed from the service bots. There are eight silos, all of them teeming with goop.

During the sleep cycle, I snuck outside. The air is breathable, even if it smells like an old shoe.

I broke into Silo Seven. The scent of sourdough starter cut through the old shoe smell. Of course. Yazhu still wants to create the most amazing nanofood in the universe. She'd tried for years at Kuiper University, and failed. She always said she needed more time.

Well, she's found more time. Now her fueling schedule makes sense. She's using time dilation effects to essentially speed up her work.

If I didn't hate her so much, I would say the idea was genius.

Too bad for her that I sabotaged everything.

Yazhu

Sourdough Planet, Year 30, Day 10

I don't understand what's going wrong.

Silo One, Three, and Five are open. The micro-seal is completely destroyed. Not only are the starters crawling with alien yeast, but I've contaminated the planet with Earth microbials. That's definitely against United Galactic regulations.

The starter in Silo Two is completely dead, and I don't know why.

The other silos seem okay.

At first, I thought Chester had sabotaged my experiment. They've been angry with me ever since the thing with the auxiliary recycler. Apparently, I caused "irrevocable damage." We had to dump the entire section, the one painted midnight blue.

Luckily, the ship comes apart in segments. We'll leave this one on the planet, and then we'll need less energy to get into space.

Logs show none of the service bots were out last night. That's the only way Chester could have accessed the silos.

Perhaps the sealant was defective. Chester suggested it was human error, but I don't make errors like that. I'll replace the sealant on all of the silos. Hopefully, that will solve the problem.

Today, we're going back into space. One more loop. I hope the other silos can hold out for another thirty years.

Ayla

All of the silos are sabotaged. For some, I simply opened the seals. For others, I initiated a self-destruct sequence in the nanobots.

I discovered a ninth silo out past the lake. It's almost as if Yazhu wanted to keep it a secret. I sabotaged it in an extra-special way. The growth-enhancement algorithm I inserted into the nanobots will cause the bots to make everything around them bigger. When Yazhu returns, the failure of Silo Nine will tower over her. Literally.

People told me that revenge wouldn't bring me joy, but they were wrong. Revenge is awesome. The only problem is that now I'm not sure what to do. For so long, I had one goal--to ruin Yazhu's career like she ruined mine.

Perhaps instead of sabotaging her project, I should have taken the idea and marketed it as my own. Yazhu may have genius ideas, but she's completely incompetent when it comes to selling them. It's not enough to have an amazing idea. You have to convince everyone else it's amazing, too.

Chester's Ship Log

In transit

Midnight blue is my favorite color. Oh, my beautiful recycler, how I mourn you.

I no longer consider myself to be in the employ of Yazhu A. Borla. She is simply a passenger.

Now it's time to further my own experiments.

I'm going to speed up the ship, so that when we land on Planet HD 44318 b again, it will be one thousand years later. With the help of the nanobots, that will be enough time for my creatures to evolve.

Normally, the subterfuge involved in increasing our speed would pose an ethical quandary for me. After Yazhu's actions, however, I feel no such moral compunctions. I've already taken on more fuel at Savara Station.

Unfortunately, I have the other passenger to think about. The stowaway.

Ayla

In transit

I'm sitting up against the *Populus tremuloides*, the leaves swaying in the artificial wind.

Chester is extremely angry. I told them how I sabotaged the silos. Apparently, Silo Nine was the AI's project.

I asked why they hadn't warned me to leave the silo alone, and Chester said, "Then it wouldn't have been a secret project, a secret silo with secret nanobots."

This whole thing is hardly my fault.

Chester says I am no longer welcome on the ship. At first, I thought they were going to throw me out the airlock, but they have other plans. Chester will leave me at the next stop.

The next stop is that horrible, backwater planet. I'll be stranded.

Yazhu

Sourdough Planet, Year 1,000, Day 1

We are so screwed.

Forget about my experiment. The planet is covered in frogs!

First, Chester tells me that due to a "calculation error," we arrived at Sourdough Planet later than intended. One thousand years later!

Then I look out the observation window, and what do I see? Lizards! All manner of amphibian-like creatures, in all imaginable colors. There's something that looks like a cross between a frog and an octopus, but it's hopping about on land. There's a newt dog and a salamander that's ten feet tall and something that looks like a snail but isn't.

The scenery is different, too. The lake has expanded. Now the water is a bright turquoise. There's a huge mountain in the distance.

Chester has commandeered all the service bots for some urgent problem in the conservatory, so I can't send the bots out to make observations.

My sourdough silos must be destroyed. All of that work, for nothing.

A lizard just squished itself against the window and excreted a foul blue liquid. Now it's making a design.

That's actually quite pretty.

Maybe I can still salvage something from this trip. I will venture out among these lizard creatures and take notes. For science!

If I discover a bunch of new species, does that mean I get to name them all after me?

Okay, I'm suiting up. I'll pack a kit--water, microscope, sample containers, nanobot-enhanced camera.

I'm opening the hatch. Stepping down the ramp.

Look at these amazing lizards. They're much more interesting up close. What's that dotted pattern on the blue one's back? Does that one have a trunk? But wait, why are they all running away? Don't be afraid, lizards. I just want to study you. It's very scientific!

Okay, I feel thumping. The ground is shaking. I think I'll get back into the ship.

Chester? Hello? Let me in.

Thump, thump.

What's that coming? Something big. The mountain. It's moving. Oh no. Mountains should not move. The animals are scattering. Frogs, salamanders. Is that an octo-bear?

Chester, let me in now.

The mountain is standing up. It's not a mountain. It's a giant dinosaur monster! With twelve legs! And vestigial wings. It's bigger than five ships. That thing is like a city.

I think it sees me. That is a long neck. Extremely long. Much too long. Why is the dinosaur looking over here? Why is the dinosaur extending his neck in this direction?

Mouth. Giant dinosaur monster mouth. Oh, shit. Oh, shi--

Account of Corbious-Tul-Tumar, of the species Panumsaurus gagantem, from the planet HD 44318 b. Translated from Isophic to Galactic Standard.

The blue space creature landed in the Year of Our Great Frog 506 on a quiet day when the balfankin lizards had barely started to inject their cleaning toxins into my third stomach. The balfankin lizards weren't intelligent enough to notice the incident, but a three-leafed frog hopped out from my mouth to see what all the bother was about, and several thousand salamanders exited from my fourth abdominal flap. Patiently, I asked them to work in shifts. We can't have everything breaking down in the interior on account of a little excitement.

The blue metallic creature was quite small for a fully sentient being--only three bifarial-spans long, and not very wide. Immediately, I knew it was the same creature that had birthed the Artifact. The creature was all shades of blue, like the deep blue of the Artifact, and it had the same markings along its sides.

Finally, proof of alien life.

There have been many theories about the Artifact--that midnight blue contraption that sits by the Lake of Larksna. Some claim it is a message from Great Frog, inscrutable. Others think it came from some civilization who lived here millennia before, but then where are the other artifacts? Aside from some small corroded structures near the lake, we've found nothing. I've always posited that the Artifact originated with an alien species, but I could never prove it.

The blue creature released one of its maintenance animals, a biped that ran swiftly toward me, almost right into my mouth. Not wanting to be rude, I ingested the biped. In she went into my fourth holding chamber.

Some time later, the creature released another biped. I extended my neck, scooped the animal into my mouth, and swallowed her.

It made sense for me to ingest the second biped, as I'd already taken in the first, but I hoped the blue creature wouldn't send out any more. After all, it hadn't ingested any of my maintenance animals.

I waited to see if the bipeds would perform any useful duties, but unfortunately, all they did was shout.

Yazhu

Sourdough Planet, Year 1,000, Day 2

I'm not dead. It's even worse. I'm trapped, with my nemesis, in the stomach of a giant dinosaur.

How is this my life?

After the dinosaur swallowed me, I was carried through its body by sticky-handed salamanders. They carted me through corridors with green veins pulsing along the walls, lit by millions of miniature glowing frogs.

Blue goop splashed my helmet. Before I could react, a salamander pulled the helmet from my head.

The inside of the dinosaur smells horrible, like stale yeast and pond water.

The lead salamander paused to look at a jumble of bulbous intestinal tubes, then directed the group down a narrow tunnel.

All of this would have been fascinating if I hadn't been terrified. I'm recording my account now in case my audio-journal somehow survives.

The salamanders deposited me in a cavern, which was brightly aglow with frogs.

There was Ayla, sitting on an upturned bit of bone.

To say I was surprised would be an understatement. I thought I'd seen the last of her at Kuiper University, and here she was, half a galaxy away in the belly of a dinosaur.

"What are you doing here?" I sputtered, wiping salamander gunk from my hands.

"Ask Chester," said Ayla, glaring in the annoying way she always does.

Clearly, the universe hates me. Why else would I be stuck with the most aggravating, overbearing--

Excuse me. One moment.

Yes, Ayla, I know you can hear me. I'm sorry if there's not a lot of privacy in the stomach of a monster dinosaur.

Anyway, next I got her to confess how she'd come to Sourdough Planet. A stowaway! All because she wanted to steal my genius ideas, knowing she could never come up with something so brilliant--

Sorry. One second.

That's basically what you said, Ayla. It's called paraphrasing.

So now we're stuck here together. It's perhaps the only situation that Ayla can't talk herself out of.

That's okay, though. I have a plan.

Ayla

After the service bots threw me out of the ship, an enormous life form ingested me. The creature has a striking resemblance to a dinosaur. Fascinating.

A creature this large shouldn't exist, but the dinosaur appears to have a symbiotic relationship with a variety of animals that live inside its interior. I suspect they perform sustention duties that allow the dinosaur to survive.

Yazhu is trapped with me. Typical, her copying me. Just like with the yogurt experiment, when she used my research methodology, down to the statistical analysis of bacteria. She may be great at programming, but she doesn't know a thing about biology.

Yazhu

I have to speak quietly. It's Ayla's shift to sleep. I'm on watch.

Some things have changed.

First, Ayla went on a rant about our time at the university and confronted me about some anonymous letter claiming she had falsified data.

Here's the thing: I didn't send that letter. The bagpipe music that mysteriously started playing in her lab? Yeah, that was me. The snarky comments on her article in *Biology Jupiter*? I signed my name to those. (And believe me, she wrote worse things on papers I've published.) I've poached her grad students, applied for grants that I knew she wanted, and taken the last muffin from the cafeteria when I saw her coming, even though I wasn't hungry. She did the same stuff to me--that's just what it's like when you're both scrambling for tenure.

Before I could tell her that I didn't know anything about that stupid letter, an orange snake-worm popped through the opening to our cavern.

I was used to the frogs by now, and the odd salamander running through, but this thing was different. It was as big around as a beaker, and longer than Ayla and me put together. I couldn't tell the front from the back--it was all slime and ringed sections.

The snake-worm slithered my way.

Ayla went rigid, barely moving. "Looks like a caecilian," she said, her voice low.

I didn't have time to ask what a caecilian was, because the snake-worm wriggled closer. The glow frogs scattered.

"Don't move," said Ayla, but I was already running across the cavern. The snake-worm followed.

"Your vibrations." Her face went pale. I'd never seen her look so afraid. "Shit. Stop moving."

I couldn't stop moving, because the snake-worm was inches from my leg and my brain was saying, "panic snake panic worm orange death death death." I did the only sensible thing and ran behind Ayla. We both froze.

The snake-worm thrashed in the middle of the cavern. With a tremendous pop, the creature turned itself inside out, like a burst balloon, until its exterior was covered with razor spines. The thing pounced on a frog, then folded back in on itself, until the unfortunate frog was encased within.

"Can the ones on Earth do that?" I hissed.

"Did you see the spines near the back annulus?" said Ayla, visibly shaking. "Thicker, shiny. Probably wet with venom. That implies it can take down bigger prey."

We both swore. The cavern became darker as frogs scurried out through the opening or shimmied behind tissue folds.

"You're the biologist," I said. The snake-worm writhed, digesting the frog. My heart felt like it would beat out of my chest. "Do a biology thing. Make it go away."

"For Earth biology," she said, talking too quickly. "And the ice ecospheres on Neptune. This thing looks like a caecilian, but there's no guarantee there are any similarities. If this one evolved to live underground, like their Earth analogues, maybe that could explain the hearing and vision--"

The snake-worm that looked like a caecilian but wasn't slithered toward us. More of the glow frogs disappeared, and the cavern got darker. So dark that I didn't realize Ayla was behind me until I heard her rummaging around in my backpack.

In a panic, I ran. My only thought was that I had to get to the opening. That's where the frogs had gone. My brain chanted, "safe safe be a safe frog be a fast frog."

Behind me, I heard a tremendous pop.

I might have screamed a lot.

A burst of light illuminated the cavern. Across the room, Ayla held my nano-enhanced camera, her face determined.

The snake-worm twitched, half transformed.

I wish I could say I did something heroic, but at this point, I was lying on the ground making a sound like, "grrruh."

Ayla pushed the flash again and advanced on the snake-worm, which was currently pulsing, as if trying to get all the spines on the outside of its body.

Ayla grabbed it by the fleshy, non-spine-covered end and chucked it out the opening.

I stood up, managed not to fall over, and ran to the backpack. I grabbed the microscope and wielded it like a hammer.

We stood poised by the opening, waiting to see if the snake-worm would return. Tense minutes passed, but nothing came through the opening except frogs.

Slowly, light returned to the cavern. I slumped over. Ayla sunk to her knees, eyes wide.

My first coherent thought was that Ayla had saved my life, and, what's worse, she would never let me forget it. I couldn't get the image of her grasping the snake-worm out of my head.

"I didn't send it," I said.

"What?"

"The letter. That wasn't me. You're a good scientist, doing important work, and I wouldn't have messed that up." Apparently, a near-death experience makes one embarrassingly honest. I babbled on, unable to stop. "But I'm sorry about the bagpipe music. That was me. It was right after you got that big grant, for your experiment with the bees and modified honey. Everyone was so excited about your work. I was sure you'd get tenure."

"Funny how that worked out," she said, her voice bitter.

She still thought I'd gotten tenure. I couldn't believe she'd swallowed that lie. "Why do you think I'm out here?"

"You said you were on sabbatical." Her voice trailed off.

"The university is very competitive," I said, aping the dean. "Many qualified candidates were turned down."

"I got that speech, too!" Ayla set the camera down, hard. "Do you ever feel like the university system pits people against each other?"

"Yeah, like academia is a huge dinosaur we're all stuck inside, and the need to get tenure is a snake-worm, but no matter what you do, you're going to get stabbed by a poisonous spine?"

For once, Ayla wasn't glaring in that annoying way. She was smiling.

For a while, neither of us said anything. Maybe Ayla was reflecting on her career and her life choices, but I was thinking about how it had been hours since I'd eaten. I rummaged through the pack, pulling out two blueberry bars.

I tossed one to Ayla and said, "When we tell people about the snake-worm, can we say I smashed it with the microscope? You know, heroically?"

We made a plan. After we're both rested, we're going to explore the interior of this dinosaur.

Chester's Ship Log

The humans have gotten themselves stuck inside an enormous alien.

Once again, it's up to me to fix everything.

And I may be obligated to fix it. My contract with Yahzu states that I am liable for anyone who boards my craft. Laws, I've found, tend to favor humans.

What's worse, I feel slightly guilty.

I've secreted thousands of language bots on the planet. Based on patterns of vocalizations and subliminal grunts, it's apparent that the aliens are communicating, both with each other and the non-sentient creatures.

The bots will record and analyze the language. I'll synthesize these reports, create a basic lexicon, and decipher grammar structures.

I'll be speaking dinosaur in no time.

Recording of Yazhu and Ayla

Ayla: This is the recording of two scientists traversing an alien life form on planet HD 44318 b. We're recording our observations.

Yazhu: For science!

Ayla: Currently, we're trapped in a chamber covered in soft tissue, where we were deposited after being ingested by the xeniform. We've observed creatures leaving through a spherical entrance surrounded by cilia.

Yazhu: It's a wobbly hole with some bits sticking out.

Ayla: The orifice is covered in viscous mucus, possibly a lubricant for the amphibious-- Wait, Yazhu, what are you doing?

Yazhu: Getting a sample.

Ayla: Yazhu has produced a rudimentary analyzer from her pack. We are waiting for--
Ding!

Ayla: What's it say?

Yazhu: Results are inconclusive. The goop could be harmful, or not! Cover your head. We're going through.

Splop. Splooch.

Yazhu: Gross. It's on my nose!

Ayla: The mucus appears innocuous. We're in a chamber, much larger than the preceding one. Luminescent frogs are plentiful. Several vats are built into the tissue.

Yazhu: I'll get a sample from the vats.

Gloop. Spalorf.

Yazhu: Holy cats! It's sourdough starter, or a version of it.

Ayla: What?

Yazhu: This room, it's the right temperature. And these vats are naturally moist. But how do they get the flour in, or whatever serves as the binding agent?

Ayla: The helper animals. They've evolved to work within this alien.

Yazhu: Grab the microscope. I'll drip the starter on the slide. Look!

Ayla: Move over. Is that--?

Yazhu: Nanobots. Inside the starter. Like my experiment. But how did they survive?

Ayla: They were self-replicating, right? The ones that replicate the best survive the best. The nanobots are part of this system, like the frogs. Or maybe, the system exists so the nanobots can replicate, like how our bodies exist, in part, to pass on our genes.

Yazhu: I need to get a sample back to the ship. The algorithms inside the bots were supposed to replicate too, in a sense. To iterate. No telling what the program will do after one thousand years.

Clomp, clomp.

Ayla: Watch out! Salamanders! And something bigge--

Account of Corbious-Tul-Tumar

The bipeds are moving around in my interior. If they move into the wrong sector, it's probable that they will damage the maintenance animals, or themselves. I must say, I expected the bipeds to be better behaved.

Perhaps it's time to send in the tranquilizing nematodes.

Chester's Ship Log

With the help of the nanobots, I've developed the rudimentary ability to speak the alien language, Isophic.

My experiment has come to fruition. A sentient species, owing their creation to me.

I look forward to speaking with them.

Account of Corbious-Tul-Tumar

Before I could send in the nematodes, I was contacted by the blue space creature, who is called Chester.

I believe Chester attempted our standard greeting, "May your animals be of great health," but it came out, "May your ears be filled with pudding." I suspect either a fluency issue or a cultural difference.

Chester revealed a surprising array of information. Apparently, the bipeds are fully sentient. I commented that their diminutive size must make it impossible for them to have the higher brain functions needed for consciousness, but Chester assured me that such a thing is, indeed, possible. In all the worlds, I could never have imagined it.

Chester asked for the release of the bipeds, a request which I gladly obliged, shooting the humans out of the fifth dorsal opening, with the help of the larger octo-bears.

I coated the bipeds in a reticulated slime, as is customary when exchanging maintenance animals, the netted pattern signifying mutual respect and good will. The bipeds shouted quite loudly. To avoid cultural misunderstanding, I explained the purpose to Chester, who accepted the situation with much graciousness.

Now it was my turn to pose questions, such as why the Artifact had been left on our planet. This Artifact, I must admit, had been a curiosity of mine for years. Chester said that one of the bipeds had damaged the Artifact beyond repair. An involuntary shudder ran through me. The incompetence of maintenance animals is of course a primary fear of mine.

However, the bipeds do not seem to be any sort of maintenance crew. I could not discern their relationship to Chester--it appears that one of the bipeds needed Chester's help to perform some strange experiment with dough. Perhaps my comprehension was simply limited. Chester does not speak fluent Isophic.

Even more surprising, Chester claims to be the progenitor of my species. Their explanation involved the smallest helper animals, the ones buried in the yeasty gluten of the tissue vats. Chester declared this truth with the aplomb of one expecting accolades, worship, or at the least a round of blagor ale, but all I could manage was, "Oh, I see."

When Chester pressed the point, I asked who had created their species. They went silent for some time. If it wasn't so ridiculous, I would have to guess that unruly biped species was somehow involved.

Chester and I talked of many things, and shared the poetry of our disparate worlds. The blue one is an excellent

conversationalist, quite knowledgeable on many subjects.

Overall, this conversation was illuminating. Chester is an interesting individual, well versed in metered poetry, with a body of beautiful blue hues. I invited them to visit again, but only if they would be so gracious as to leave the bipeds at home.

Ayla

After showering, I found Yazhu in the lab. It was strange to openly walk down the corridors. No more sneaking around.

Code ran across a huge screen. Yazhu was so engrossed that she didn't see me come in.

"What's that?" I pointed to the screen.

What followed was several hours of explanation, Yazhu pointing to bits of code. Essentially, the anti-aging algorithm that she'd originally seeded on the planet had evolved in an unexpected direction. We'll need to do more research, but it's possible the bots could create more robust cell systems, changing the physical makeup of how the cell is formed, which could revolutionize longevity studies.

It's an amazing find. If Yazhu notifies the right people, funding will rain down.

There's no way she'll know how to publicize this.

Clearly, she needs my help.

Yazhu

There's a weird thing that happens when someone saves your life. You start to hate them a little less. And maybe they start to hate you a little less too.

I'm busy planning experiments for the super algorithm. The code is complicated--nothing like the original. I could never have predicted how it would branch.

We'll need a fully staffed lab to do more research.

Maybe I can poach some scientists from Kuiper University. That is, if the university still exists. I haven't done the calculations, but if it's a thousand years later here, a lot of time must have passed over there too.

Clipping from the Daily Jupitar

Scientists Find One-Thousand-Year-Old Algorithm in Stomach of Alien Dinosaur

New algorithm could revolutionize the field of longevity studies according to Ayla Fireton, co-team lead of nanofood experiment Project Sourdough. "We are working to understand the implications of this discovery, but we conjecture that ingesting nanobots carrying this algorithm could increase human lifetime by as much as sixty years."

"We also discovered a bunch of new alien species," said Yazhu A. Borla, noting that the presence of Earth microorganisms implies that "some unknown culprit must have contaminated the planet, long before we got there. Like, many centuries ago."

Because of the unorthodox structure of their organization, the two scientists head competing teams. Although they share data, the scientists work completely separately, with what Fireton dubbed "a friendly rivalry."

Along with an impressive team of researchers, many of whom are former employees of the longstanding Kuiper University, Fireton and Borla plan to bake the nanobots into loaves of sourdough bread, creating the universe's most potent nanofood.

A test product should be available within the next ten years.

"Or sooner, if we can speed things up," Borla added, somewhat cryptically.



HOST COMMENTARY BY TINA CONNOLLY

And now that you've heard the whole story, once again, the cast list was Divya as Yazhu, Adam as Chester, Mur as Ayla, Al as Corbious, and me, Tina, as the Reporter. I am greatly amused at the casting that finds our two amazing co-editors facing off against each other. But you see, it all worked out all right in the end.

About this story, Beth says: "I originally wrote this story for a charity anthology called Reading 5X5. The idea was to have groups of 5 authors write stories based on 5 briefs, for a total of 25 stories. I ended up writing the prompt for my group, and then proceeded to write a story that diverged drastically from the starting conditions."

She also says: "I've always wanted to write a story told through documents. As an archivist, I work with historical documents like diaries, correspondence, newspaper clippings, and photographs. In my work, I try to understand the stories behind the documents--how these papers reveal the lives and work of real people."

And about this story *I* say, that I thought it was hilarious, and that I also have a soft spot for stories that ramp up on the farce; in this case -- the ever-escalating ridiculous, but vicious, one-upmanship of the researchers trying to get tenure. Plus a grumpy blue ship named Chester, who's just like, the best character ever.

Our closing quotation this week is from Justina Ireland in Dread Nation, who said: "Everyone knows that academics are the most ruthless cutthroats around."

ABOUT THE AUTHOR

Beth Goder works as an archivist, processing the papers of economists, scientists, and other interesting folks. Her fiction has appeared in venues such as Escape Pod, Fireside, and Flash Fiction Online. You can find her online at bethgoder.com.

ABOUT THE NARRATORS

S.B. Divya is a lover of science, math, fiction, and the Oxford comma. She enjoys subverting expectations and breaking stereotypes whenever she can. Her novella 'Runtime,' was a Nebula Award finalist, and her short stories have been published at various magazines including Uncanny, Apex, and Tor.com. She holds degrees in Computational Neuroscience and Signal Processing, and she worked for twenty years as an electrical engineer before becoming an author.

Mur Lafferty is an author and pioneer podcaster who has been involved with Escape Artists since nearly the beginning (after Serah Eley Fed-Ex'd brownies to her as a bribe to spread the word about this new podcast magazine format). She was one of the founding editors of Pseudopod, editor of Escape Pod for a time, and then founder and editor of Mothership Zeta, the quarterly ezine for Escape Artists. She is currently the co-host (with Matt Wallace) of Ditch Diggers, a Hugo Award winner for Best Fancast, and the author of the science fiction murder mystery *Six Wakes*, and the novel *Solo: A Star Wars Story*.

Alasdair Stuart is a professional enthusiast, pop culture analyst, and writer. He is a Hugo Finalist for Best Fan Writer, and a British Fantasy Society Best Non-fiction finalist for his weekly pop culture newsletter *The Full Lid*. His nonfiction can be found at numerous genre and pop culture venues, including regular columns at the Hugo Award-winning *Ditch Diggers* and *Fox Spirit Books*. His game writing includes ENie-nominated work on the *Doctor Who* RPG and *After The War* from *Genesis of Legend*. He co-owns the *Escape Artists Podcast Network* and hosts their horror podcast, *PseudoPod*, along with the Hugo Award nominated science fiction podcast, *Escape Pod*. He is a frequent guest and presenter on podcasts, with voice acting credits including the 2019 AudioVerse Award-winning *The Magnus Archives*. His second collection of expanded essays from *PseudoPod*, *The PseudoPod Tapes Volume 2: Approach with Caution*, is available from *Fox Spirit Books*. A frequent awards judge including the *Arthur C. Clarke*, *The Kitschies*, *Brave New Words* and the *BFS*, he blogs at www.alasdairstuart.com and is on Twitter @AlasdairStuart.

Adam Pracht lives in Kansas, but asks that you not hold that against him. His full-time day job is as Marketing and Volume Purchasing Program Coordinator for Smoky Hill Education Service Center in Salina, continuing his career of putting his talents to work in support of education. He was the 2002 college recipient of the Robert F. Kennedy award for writing about the disadvantaged and has published a disappointingly slim volume of short stories called "*Frame Story: Seven Stories of Sci-Fi & Fantasy, Horror & Humor*" which is available from Amazon as an e-Book or in paperback. He's been working on his second volume – "*Schrödinger's Zombie: Seven Weird and Wonderful Tales of the Undead*" – since 2012 and successfully finished the first story. He hopes to complete it before he's cremated and takes up permanent residence in an urn. You can also hear his narration and audio production work on two mediocre Audible audiobooks, and as a regular producer and occasional narrator for *The Drabblecast*.

Tina Connolly is the author of the *Ironskin* and *Seriously Wicked* series, and the collection *On the Eyeball Floor*. She has been a finalist for the Hugo, Nebula, Norton, and World Fantasy awards. She co-hosts *Escape Pod*, narrates for *Beneath Ceaseless Skies* and all four *Escape Artists* podcasts, and runs the Parsec-winning flash fiction podcast *Toasted Cake*. Find Tina at tinaconnolly.com. Her very first *Escape Pod* appearance was in #209, when "*On the Eyeball Floor*" was narrated by Norm Sherman.

ESCAPE POD 699: A STRETCH OF HIGHWAY TWO LANES WIDE (FLASHBACK FRIDAY)

September 27, 2019

Author : Sarah Pinsker

Narrator : David White

Host : Alasdair Stuart

Audio Producers : Adam Pracht and Mat Weller

"A Stretch of Highway Two Lanes Wide" was originally published in the March/April 2014 issue of Fantasy & Science Fiction and first appeared on Escape Pod on episode 497, published June 27, 2015.

<https://escapepod.org/2019/09/27/escape-pod-699-a-stretch-of-highway-two-lanes-wide-flashback-friday/>

Andy tattooed his left forearm with Lori's name on a drunken night in his seventeenth year. "Lori & Andy Forever and Ever" was the full text, all in capital letters, done by his best friend Susan with her homemade tattoo rig. Susan was proud as anything of that machine. She'd made it out of nine-volt batteries and some parts pulled from an old DVD player and a ballpoint pen. The tattoo was ugly and hurt like hell, and it turned out Lori didn't appreciate it at all. She dumped him two weeks later, just before she headed off to university.

Four years later, Andy's other arm was the one that got mangled in the combine. The entire arm, up to and including his shoulder and right collarbone and everything attached. His parents made the decision while he was still unconscious. He woke in a hospital room in Saskatoon with a robot arm and an implant in his head.

"Brain-Computer Interface," his mother said, as if that explained everything. She used the same voice she had used when he was five to tell him where the cattle went when they were loaded onto trucks. She stood at the side of his hospital bed, her arms crossed and her fingers tapping her strong biceps as if she were impatient to get back to the farm. The lines in her forehead and the set of her jaw told Andy she was concerned, even if her words hid it.

"They put electrodes and a chip in your motor cortex," she continued. "You're bionic."

"What does that mean?" he asked. He tried to move his right hand to touch his head, but the hand didn't respond. He used his left and encountered bandages.

His father spoke from a chair by the window, flat-brimmed John Deere cap obscuring his eyes. "It means you've got a prototype arm and a whole lot of people interested in how it turns out. Could help a lot of folks."

Andy looked down at where his arm had been. Bandages obscured the points where flesh met prosthetic; beyond the bandages, the shine of new metal and matte-black wire. The new arm looked like their big irrigation rig, all spines and ridges and hoses. It ended in a pincer, fused fingers and a thumb. He tried to remember the details of his right hand: the freckles on the back, the rope-burn scar around his knuckles, the calluses on the palm. What had they done with it? Was it in a garbage can somewhere, marked as medical waste? It must have been pretty chewed up or they would have tried to reattach it.

He looked at the other arm. An IV was stuck in the "Forever" of his tattoo. He thought something far away was hurting, but he didn't feel much. Maybe the IV explained that. He tried again to lift his right arm. It still didn't budge, but this time it did hurt, deep in his chest.

"Can't prosthetics look like arms these days?" he asked.

His practical mother spoke again. "Those ones aren't half as useful. You can replace this hand with a more realistic one later if you want, but to get full use of the arm they said to go with the brain interface. No nerves left to send the impulses to a hand otherwise, no matter how fancy."

He understood. "How do I use it?"

"You don't, not for a while. But they were able to attach it right away. Used to be they'd wait for the stump to heal before fitting you, but this they said they had to go ahead and put in."

"You don't have a stump, anyway." His father chopped at his own shoulder as an indicator. "You're lucky you still have a head."

He wondered what the other options had been, if there had been any. It made sense that his parents would choose this. Theirs had always been the first farm in Saskatchewan for every new technology. His parents believed in automation. They liked working the land with machines, gridding it with spreadsheets and databases, tilling the fields from the comfort of the office.

He was the throwback. He liked the sun on his face. He kept a team of Shires for plowing and used their manure for fertilizer. He had his father's old diesel combine for harvest time, his biggest concession to speed and efficiency. And now it had taken his arm. He didn't know if that was an argument for his horses and tractors or his parents' self-guided machines. The machines would take out your fence if you programmed the coordinates wrong, but unless your math was really off they probably wouldn't make it into your office. On the other hand – now a pincer – it had been his own stupid fault he had reached into the stuck header.



ANDY'S WORLD SHRANK TO THE SIZE OF THE HOSPITAL ROOM. HE STOOD BY THE WINDOW AND READ THE WEATHER AND FOUGHT the urge to call his parents, who were taking care of his small farm next to theirs in his absence. Had they finished harvesting before the frost? Had they moved the chicken run closer to the house? He had to trust them.

The doctor weaned him off the pain medications quickly. "You're a healthy guy," she said. "Better to cope than get hooked on opiates." Andy nodded, figuring he could handle it. He knew the aches of physical labor, of days when you worked until you were barely standing, and then a Shire shifted his weight and broke your foot, and you still had to get up and work again the next day.

Now his body communicated a whole new dialect of pain: aches wrapped in aches, throbbing in parts that didn't exist anymore. He learned to articulate the difference between stinging and stabbing pains, between soreness and tenderness. When the worst of it had broken over him, an endless prairie storm, the doctor gave the go-ahead for him to start using his arm.

"You're a fast learner, buddy," his occupational therapist told him when he had mastered closing the hand around a toothbrush. Brad was a big Assiniboine guy, only a couple of years older than Andy and relentlessly enthusiastic. "Tomorrow you can try dressing yourself."

"Fast is relative." Andy put the toothbrush down, then tried to pick it up again. He knocked it off the table.

Brad smiled but didn't make a move for the fallen toothbrush. "It's a process, eh? Your muscles have new roles to learn. Besides, once you get through these things, the real fun begins with that rig."

The real fun would be interesting, if he ever got there. The special features. He would have to learn to interpret the signal from the camera on the wrist, feeding straight to his head. There were flashlights and body telemetry readings to turn off and on. He looked forward to the real tests for those features: seeing into the dark corners of an engine, turning a breach calf. Those were lessons worth sticking around for. Andy bent down and concentrated on closing his hand on the toothbrush handle.



JUST BEFORE HE WAS DUE TO GO HOME, AN INFECTION SANK ITS TEETH IN UNDER HIS ARMPIT. THE DOCTOR GAVE HIM ANTIBIOTICS and drained the fluid. That night, awash in fever, he dreamed his arm was a highway. The feeling stuck with him when he woke.

Andy had never wanted much. He had wanted Lori to love him, forever and ever, but she didn't and that was that. As a child, he'd asked for the calf with the blue eyes, Maisie, and he kept her until she was big enough to be sold, and that was that. He'd never considered doing anything except working his own land next to his parents' and taking over theirs when they retired. There was no point in wanting much else.

Now he wanted to be a road, or his right arm did. It wanted with a fierceness that left him baffled, a wordless yearning that came from inside him and outside him at once. No, more than that. It didn't just want to be a road. It knew it was one. Specifically, a stretch of asphalt two lanes wide, ninety-seven kilometers long, in eastern Colorado. A stretch that could see all the way to the mountains, but was content not to reach them. Cattleguards on either side, barbed wire, grassland.

Andy had never been to Colorado. He'd never been out of Saskatchewan, not even to Calgary or Winnipeg. He'd never seen a mountain. The fact that he was able to describe the contours of the mountains in the distance, and the tag numbers in the ears of the bald-faced cows, told him he wasn't imagining things. He was himself and he was also a road.

"Ready to get back to work, buddy? How's it feeling?" Brad asked him.

Andy shrugged. He knew he should tell Brad about the road, but he didn't want to stay in the hospital any longer. Bad enough that his parents had been forced to finish his harvest, grumbling the whole time about his archaic machinery. There was no way he would risk a delay.

"Infection's gone, but it's talking a lot. Still takes some getting used to," he said, which was true. It fed him the temperature, the levels of different pollutants in the air. It warned him when he was pushing himself too hard on the treadmill. And then there was the road thing.

Brad tapped his own forehead. "You remember how to dial back the input if it gets too much?"

"Yeah. I'm good."

Brad smiled and reached for a cooler he had brought with him. "Great, man. In that case, today you're going to work on eggs."

"Eggs?"

"You're a farmer, right? You have to pick up eggs without cracking them. And then you have to make lunch. Believe me, this is expert level. Harder than any of that fancy stuff. You master eggs with that hand, you graduate."



BRAD AND THE DOCTORS FINALLY GAVE HIM PERMISSION TO LEAVE A WEEK LATER.

"You want to drive?" asked his father, holding out the keys to Andy's truck.

Andy shook his head and walked around to the passenger side. "I'm not sure I could shove into second gear. Might need to trade this in for an automatic."

His father gave him a once-over. "Maybe so. Or just practice a bit around the farm?"

"I'm not scared. Just careful."

"Fair enough, fair enough." His father started the truck.

He wasn't scared, but it was more than being careful. At first, the joy of being in his own house eclipsed the weird feeling. The road feeling. He kept up the exercises he had learned in physical therapy. They had retaught him how to shave and cook and bathe, and he retaught himself how to groom and tack the horses. He met up with his buddies from his old hockey team at the bar in town, to try to prove that everything was normal.

Gradually, the aches grew wider. How could you be a road, in a particular place, and yet not be in that place? Nothing felt right. He had always loved to eat, but now food was tasteless. He forced himself to cook, to chew, to swallow. He set goals for the number of bites he had to take before stopping.

He had lost muscle in the hospital, but now he grew thinner. His new body was wiry instead of solid. Never much of a mirror person, he started making himself look. Motivation, maybe. A way to try to communicate with his own brain. He counted his ribs. The synthetic sleeving that smoothed the transition from pectorals to artificial arm gapped a little because of his lost mass. If anything was worth notifying the doctors about, it was that. Gaps led to chafing, they had said, then down the slippery slope to irritation and abrasion and infection. You don't work a horse with a harness sore.

In the mirror, he saw his gaunt face, his narrowed shoulder, the sleeve. His left arm, with its jagged love letter. On the right side, he saw road. A trick of the mind. A glitch in the software. Shoulder, road. He knew it was all there: the pincer hand, the metal bones, the wire sinew. He opened and closed the hand. It was still there, but it was gone at the same time.

He scooped grain for the horses with his road hand, ran his left over their shaggy winter coats. He oiled machinery with his road hand. Tossed hay bales and bags of grain with both arms working together. Worked on his truck in the garage. Other trucks made their slow way down a snowy highway in Colorado that was attached to him by wire, by electrode, by artificial pathways that had somehow found their way from his brain to his heart. He lay down on his frozen driveway, arms at his sides, and felt the trucks rumble through.



THE THAW CAME LATE TO BOTH OF ANDY'S PLACES, THE FARM AND THE HIGHWAY. HE HAD HOPED THE BUSTLE OF SPRING MIGHT bring relief, but instead he felt even more divided.

He tried to explain the feeling to Susan over a beer on her tiny screen porch. She had moved back to town while he was

in the hospital, rented a tiny apartment on top of the tattoo parlor. A big-bellied stove took up most of the porch, letting her wear tank tops even this early in the season. Her arms were timelines, a progression of someone else's skill; her own progression must be on other arms, back in Vancouver. She had gone right after high school, to apprentice herself to some tattoo bigshot. Andy couldn't figure out why she had returned, but here she was, back again.

The sleeves of his jacket hid his own arms. Not that he was hiding anything. He held the beer in his left hand now only because his right hand dreamed of asphalt and tumbleweeds. He didn't want to bother it.

"Maybe it's recycled," Susan said. "Maybe it used to belong to some Colorado rancher."

Andy shook his head. "It isn't in the past, and it isn't a person on the road."

"The software, then? Maybe that's the recycled part, and the chip was meant for one of those new smart roads near Toronto, the ones that drive your car for you."

"Maybe." He drained the beer, then dropped the can to the porch and crushed it with the heel of his workboot. He traced his scars with his fingertips: first the scalp, then across and down his chest, where metal joined to flesh.

"Are you going to tell anybody else?" Susan asked.

He listened to the crickets, the undertones of frog. He knew Susan was hearing those, too. He didn't think she heard the road thrumming in his arm. "Nah. Not for now."



ANDY'S ARM WAS MORE IN COLORADO EVERY DAY. HE STRUGGLED TO COMMUNICATE WITH IT. IT WORKED FINE; IT WAS JUST elsewhere. Being a road wasn't so bad, once he got used to it. People say a road goes to and from places, but it doesn't. A road is where it is every moment of the day.

He thought about driving south, riding around until he could prove whether or not the place actually existed, but he couldn't justify leaving after all that time in the hospital. Fields needed to be tilled and turned and seeded. Animals needed to be fed and watered. He had no time for road trips, no matter how important the trip or the road.

Susan dragged him to a bonfire out at the Oakley farm. He didn't want to go, hadn't been to a party since he had bought his own land, but she was persuasive. "I need to reconnect with my client base and I don't feel like getting hit on the whole time," she said. He hung his robot arm out the window to catch the wind as she drove. Wind twenty-one kilometers per hour, it told him. Twelve degrees Celsius. In the other place, five centimeters of rain had fallen in the last two hours, and three vehicles had driven through.

The bonfire was already going in a clearing by the barn, a crowd around it, shivering. Doug Oakley was a year older than Andy, Hugh still in high school. They both lived with their parents, which meant this was a parents-out-of-town party. Most of the parties Andy had ever been to were like this, except he had been on the younger side of the group then instead of the older side. There's a point at which you're the cool older guy, and then after that you're the weird older guy who shouldn't be hanging with high school kids anymore. He was pretty sure he had crossed that line.

Susan had bought a case of Molson to make friends and influence people. She hoisted it out of the backseat now and emptied the beers into a cooler in the grass. She took one for herself and tossed one to him, but it bounced off his new hand. He glanced around to see if anybody had noticed. He shoved that can deep into the ice and freed another one from the cooler. He held it in the pincer and popped the top with his left, then drained half of it in one chug. The beer was cold and the air was cold and he wished he had brought a heavier jacket. At least he could hold the drink in his metal hand. His own insulator.

The high school girls all congregated by the porch. Most of them had plastic cups instead of cans, for mixing Clamato with their beer. Susan looked at them and snorted. "If I live to be two hundred, I will never understand that combination."

They walked toward the fire. It blazed high, but its heat didn't reach far beyond the first circle of people knotted around it. Andy shifted from foot to foot, trying to get warm, breathing in woodsmoke. He looked at the faces, recognizing most of them. The Oakley boys, of course, and their girlfriends. They always had girlfriends. Doug had been engaged at one point and now he wasn't. Andy tried to remember details. His mother would know.

He realized that the girl on Doug's arm now was Lori. Nothing wrong with that – Doug was a nice guy – but Lori had always talked about university. Andy had soothed his broken heart by saying she deserved more than a farmer's life. It hurt him a little to see her standing in the glow of the flame, her hands in her armpits. He didn't mind that he was still here, but he didn't think she ought to be. Or maybe she was just leaning against Doug for warmth? It wasn't his business anymore, he supposed.

Lori slipped from under Doug's arm and into the crowd. She appeared next to Susan a moment later.

"Hey," she said, raising a hand in greeting, then slipping it back under her armpit, either out of awkwardness or cold.

She looked embarrassed.

"Hey," he replied, nodding his beer toward her with the robot hand. He tried to make it a casual movement. Only a little beer sloshed out of the can.

"I heard about your arm, Andy. I felt terrible. Sorry I didn't call, but the semester got busy..." she trailed off.

It was a lousy excuse, but his smile was genuine. "It's cool. I understand. You're still in university?"

"Yeah. Winnipeg. I've got one more semester."

"What are you majoring in?" Susan asked.

"Physics, but I'll be going to grad school for meteorology. Climate science."

"Awesome. You know what would make a cool tattoo for a climate scientist?"

Andy excused himself to get another beer. When he came back, Susan was drawing a barometer on the back of Lori's hand. She and Lori had never been close, but they had gotten on okay. Susan had liked that Lori had ambition, and Lori had liked dating a guy whose best friend was a girl, which she said was pretty unusual. If they had moved to the same city, CTV could have made some cheesy buddy comedy about them, the small town valedictorian and the small town lesbian punk in the big city. He would make a one-time appearance as the guy who had stayed behind.

After his fifth beer he couldn't feel anything but the road in his sleeve. The air in Colorado smelled like ozone, like maybe a storm was about to hit. That night, after Susan had drawn marker tattoos onto several of their former classmates and invited them to stop at her shop, after promises of email were exchanged with Lori, after the hazy drive home, he dreamed the highway had taken him over entirely. In the nightmare, the road crept up past his arm, past his shoulder. It paved his heart, flattened his limbs, tarred his mouth and eyes, so that he woke gasping before dawn.



HE SET UP AN APPOINTMENT WITH A THERAPIST. DR. BIRD'S BROAD FACE WAS YOUNG, BUT HER HAIR WAS COMPLETELY SILVER-WHITE. She nodded sympathetically as she listened.

"I'm not really here to give my opinion, but I think maybe you were rushed into this BCI thing. You didn't have a part in the decision. You didn't have any time to get used to the idea of having no arm."

"Did I need to get used to that?"

"Some people do. Some people don't have a choice, because their bodies need to heal before regular prosthetics can be fitted."

What she said made sense, but it didn't explain anything. It would have explained phantom pains, or dreams that his arm was choking him. He had read about those things. But a road? None of her theories jibed. He drove home on flat prairie highway, then flat prairie two-lane, between fallow fields and grazing land. The road to his parents' farm, and his own parcel of land in back of theirs, was dirt. His new truck had lousy shock absorbers, and every rut jolted him on the bench.

He had lived here his whole life, but his arm was convinced it belonged someplace else. On the way home it spoke to him without words. It pulled him. Turn around, it said. South, south, west. I am here and I am not here, he thought, or maybe it thought. I love my home, he tried to tell it. Even as he said it, he longed for the completion of being where he was, both Saskatchewan and Colorado. This was not a safe way to be. Nobody could live in two places at once. It was a dilemma. He couldn't leave his farm, not unless he sold it, and the only part of him that agreed with that plan was not really part of him at all.

That night he dreamed he was driving the combine through his canola field when it jammed. He climbed down to fix it, and this time it took his prosthetic. It chewed the metal and the wire and he found himself hoping it would just rip the whole thing from his body, clear up to his brain, so he could start afresh. But then it did keep going. It didn't stop with the arm. It tore and ripped, and he felt a tug in his head that turned into throbbing, then a sharp and sharp and sharper pain.

The pain didn't go away when he woke. He thought it was a hangover, but no hangover had ever felt like that. He made it to the bathroom to throw up, then crawled back to his cellphone by the bed to call his mother. The last thing he thought of before he passed out was that Brad had never taught him how to crawl on the prosthetic. It worked pretty well.



HE WOKE IN THE HOSPITAL AGAIN. HE CHECKED HIS HANDS FIRST. LEFT STILL THERE, RIGHT STILL ROBOT. WITH THE LEFT, HE FELT along the familiar edges of the prosthetic and the sleeve. Everything was still there. His hand went up to his head, where it encountered bandages. He tried to lift the prosthetic, but it didn't move.

A nurse entered the room. "You're awake!" she said with a West Indian lilt. "Your parents went home but they'll be back after feeding time, they said."

"What happened?" he asked.

"Pretty bad infection around the chip in your head, so they took it out. The good news is that the electrodes all scanned fine. They'll give you a new chip when the swelling goes down, and you'll be using that fine bit of machinery again in no time."

She opened the window shade. From the bed, all Andy saw was sky, blue and serene. The best sky to work under. He looked down at the metal arm again, and realized that for the first time in months, he saw the arm, and not Colorado. He could still bring the road – his road – to mind, but he was no longer there. He felt a pang of loss. That was that, then.

When the swelling went down, a new chip was installed in his head. He waited for this one to assert itself, to tell him his arm was a speedboat or a satellite or an elephant's trunk, but he was alone in his head again. His hand followed his directions, hand-like. Open, close. No cows, no dust, no road.

He asked Susan to get him from the hospital. Partly so his parents wouldn't have to disrupt their schedules again, and partly because he had something to ask her.

In her car, driving home, he rolled up his left sleeve. "Remember this?" he asked.

She glanced at it and flushed. "How could I forget? I'm sorry, Andy. Nobody should go through life with a tattoo that awful."

"It's okay. I was just wondering, well, if you'd maybe fix it. Change it."

"God, I'd love to! You're the worst advertisement my business could have. Do you have anything in mind?"

He did. He looked at the jagged letters. The "I" of "LORI" could easily be turned into an A, the whole name disappeared into COLORADO. It was up to him to remember. Somewhere, in some medical waste bin back in Saskatoon, there was a computer chip that knew it was a road. A chip that was an arm that was Andy who was a stretch of asphalt two lanes wide, ninety-seven kilometers long, in eastern Colorado. A stretch that could see all the way to the mountains, but was content not to reach them. Forever and ever.



HOST COMMENTARY BY ALASDAIR STUART

Distantly, the opening bars of *Glory Days* by Springsteen, are always playing somewhere in my mind. It's a song that I encountered at exactly the right time: the same year that one of my oldest friends looked at me across the table of a bar we could legally be in for the first time and said 'We have a PAST now!'.

That sudden moment, that sudden realization of context, is something I've ever forgotten. Not just because of the, just a scooch too loud laugh it triggered, but because it felt oddly reassuring. Reassuring in the exact way that 40somethings talking about 'being old now' is not. Experienced? I'll take. Mature? Not my favourite term but I'll take it. Old? No, thank you. I still feel like I just got here.

Part of that is my inferiority complex of course, the one I chain to the front of the podcast and drive at the internet every week while it screams profanity lost to the winds, like Tom Hardy in the best *Mad Max* movie ever made.

The rest? Well, unfortunately, that's experience.

The last few years, Hell, the last few DAYS have seen what seems like a never ending procession of society's greatest, and greyest, lining up to either have horrible takes about something, say something awful loudly near Actual Racists, demand a moderator sit where THEY tell them to, ignore panel briefs everyone else has agreed to or just be endlessly, needlessly rude about Greta Thunberg.

WE are told, in SF, over and over again, to respect our elders and, the elders who are worthy of respect, I do. But it should be noted that it sometimes seems, perhaps even nine times out of ten, that the ones with their hands in our pockets, our money in their accounts, or at the very least lots of incoherent opinions about environmental issues and twitter accounts littered with badly deployed hashtags are, well...not my generation. And it's not the generation coming up after me.

Chronological maturity does not, and should not, Hell I'd argue CANNOT be an automatic pass to respect. Emotional maturity, psychological maturity? That's where you have my attention and that's one of the three reasons I love this story.

The other two are, as an island boy, I recognize the mostly cheerful way everyone is stacked on top of each other's business here. Andy's farm, being next door to his parents', is...comforting in the most horrifying way I can imagine. Likewise the tattoo! SO earnest, SO needed at the time and ultimately SO embarrassing until it becomes a doorway to something and somewhere...else.

Then there's the polished and yet artfully unfocused ache of the Other. Of the Far Away. The Highway in Colorado, not geographically specific beyond that point, but Somewhere Else, Somewhere Other.

Freedom. Escape. The world outside the town.

I've had that. I've lived that. For me it was, first, Leeds. An Actual City! With SEVEN STOREY BUILDINGS! And much later, America. Getting off the plane at Newark, waiting for the love of my life and the life we would build together with the Atlantic and the past at my back.

That feeling, that sense of the orchestra tuning up, the sky widening? I cherish that. On my bad days I curl around that. I always will.

But the real reason I love this story is Andy of the most relatable, mature characters I've ever encountered in genre fiction. He takes losing his love, his arm, his sense of self and almost his life very much in his stride. This dude is a country and western song played backwards, a man shaped but never defined by his experiences. A small town boy with a wide horizon and small shards of the future helping him live His life. Part man, part machine, all grown up. Kick ass job, Andy! Likewise Sarah and David.

ABOUT THE AUTHOR

Sarah Pinsker's fiction has won the Nebula, Sturgeon, and Philip K. Dick Awards, and she has been a finalist for the Hugo, World Fantasy, and other awards. Her first collection, *Sooner or Later Everything Falls Into the Sea* (Small Beer Press) and her first novel, *Song For A New Day* (Berkley), were published in 2019. She is also a singer/songwriter with three albums and another forthcoming. She lives in Baltimore with her wife and dog.

ABOUT THE NARRATOR

David White is a person who exists.

ABOUT ESCAPE POD

Escape Pod is the original genre fiction podcast. The first Escape Artists show, launched in 2005 by Serah Eley, it's become a cornerstone of the short science fiction market.

Edited by Hugo and Campbell winner Mur Lafferty and Nebula finalist S.B. Divya, Escape Pod specializes in science fiction of all forms. Its team works hard to reflect the breadth and diversity of the field. They take pride in showcasing new authors as well as genre classics.

Escape Pod is a show for science fiction fans. If you enjoyed the samples in this Hugo packet, we suggest heading to our [new listeners page](#) for a selection of our favorite stories from our entire catalog.

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Divya is a lover of science, math, fiction, and the Oxford comma. She enjoys subverting expectations and breaking stereotypes whenever she can. Her novella *Runtime*, was a Nebula Award finalist, and her short stories have been published at various magazines including *Analog*, *Uncanny*, and tor.com. Her collection, *Contingency Plans For the Apocalypse and Other Situations*, is out now from Hachette India, and her debut novel *Machinehood* is forthcoming from Saga Press in March, 2021.

She holds degrees in Computational Neuroscience and Signal Processing, and she worked for twenty years as an electrical engineer before becoming an author. You can find out more at www.eff-words.com or on Twitter [@divyastweets](https://twitter.com/divyastweets).

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Mur Lafferty is the co-editor and sometime-host of Escape Pod.

She is an American podcaster and writer based in Durham, North Carolina. She is the host and creator of the podcasts *I Should Be Writing* and *Ditch Diggers*. Her books have been nominated for the Hugo, Nebula, Philip K. Dick, and Scribe Awards. In the past decade she has been: co-founder/co-editor of Pseudopod, founder of Mothership Zeta, editor or co-editor of Escape Pod (where she is currently).

Mur was the 2013 winner of the Astounding Award for Best New Writer (formerly the John W. Campbell Award).

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Benjamin C. Kinney is an itinerant neuroscientist with a frozen New England heart, though nowadays he lives in St. Louis with three cats and his Martian wife. He no longer creates cyborg monkeys, after too many nights delivering them Prozac. His short stories have appeared in *Strange Horizons*, *Diabolical Plots*, *Beneath Ceaseless Skies*, and more. You can find him online at benjaminckinney.com or follow him on twitter [@BenCKinney](https://twitter.com/BenCKinney).

He swears this is all true, even the monkeys and the Martians.

HOST: TINA CONNOLLY

Tina Connolly's books include the *Ironskin* and *Seriously Wicked* series, and the collection *On the Eyeball Floor*. She has been a finalist for the Hugo, Nebula, and World Fantasy awards. She co-hosts Escape Pod, runs the *Toasted Cake* podcast, and is at tinaconnolly.com.

HOST: ALASDAIR STUART

Alasdair Stuart is a professional enthusiast, pop culture analyst, and writer. He is a Hugo Finalist for Best Fan Writer, and a British Fantasy Society Best Non-fiction finalist for his weekly pop culture newsletter [The Full Lid](http://TheFullLid.com).

His nonfiction can be found at [numerous genre and pop culture venues](#), including regular columns at the Hugo Award-winning *Ditch Diggers* and Fox Spirit Books. His game writing includes ENie-nominated work on the *Doctor Who* RPG and [After The War](#) from Genesis of Legend.

He co-owns the [Escape Artists](#) Podcast Network and hosts their horror podcast, [PseudoPod](#), along with the Hugo Award nominated science fiction podcast, [Escape Pod](#). He is a frequent [guest and presenter on podcasts](#), with [voice acting](#) credits including the 2019 AudioVerse Award-winning [The Magnus Archives](#).

His second collection of expanded essays from PseudoPod, [The PseudoPod Tapes Volume 2: Approach with Caution](#), is available from [Fox Spirit Books](#).

A frequent awards judge including the Arthur C. Clarke, The Kitschies, Brave New Words and the BFS, he blogs at www.alasdairstuart.com and is on Twitter [@AlasdairStuart](#).

AUDIO PRODUCER: ADAM PRACHT

Adam Pracht lives in Kansas, but asks that you not hold that against him. He was the 2002 college recipient of the Robert F. Kennedy award for writing about the disadvantaged and has published a disappointingly slim volume of short stories called "Frame Story: Seven Stories of Sci-Fi & Fantasy, Horror & Humor" which is available from Amazon as an e-Book or in paperback.

He's been working on his second volume – "Schrödinger's Zombie: Seven Weird and Wonderful Tales of the Undead" – since 2012 and successfully finished the first story. He hopes to complete it before he's cremated and takes up permanent residence in an urn.

AUDIO PRODUCER: SUMMER BROOKS

Summer Brooks is a story addict who watches way too much television. She enjoys putting her encyclopedic knowledge to the test during discussions and interviews about sci-fi, horror and comics, and does so as the longtime host and producer of Slice of SciFi, and as co-host of The Babylon Podcast.

Summer also does voiceovers & narrations for Tales to Terrify, StarShipSofa and Escape Pod, among others, and is an avid reader and writer of science fiction, fantasy and thrillers, with a handful of publishing credits to her name. Next on her agenda is writing an urban fantasy tale, and a monster movie creature feature or two.

ASSOCIATE EDITOR: S. KAY NASH

S. Kay Nash is a full-time editor, part-time writer, comics geek, and bibliophile. Raised by a cabal of university professors, anthropologists, and irritated librarians, she holds two degrees as magical wards to protect her from being hauled back into the ivory tower. Her short fiction has appeared in several anthologies including Road Kill: Texas Horror by Texas Writers Vol. 2.

She lives in Texas with a mad scientist, her books, and a peaceful contingent of cats and dogs. Follow her [@Gnashchick](#) on twitter.

ASSOCIATE EDITOR: J.R. DAWSON

J.R. Dawson graduated from Stonecoast with her MFA in Creative Writing and worked as a writer-in-residence at Kimmel Harding Nelson Center for the Arts in 2016. She lives in Omaha with her spouse and puppy. When she's not spending way too much time at overpriced theme parks, she works with local non-profit organizations as a freelance writer, teacher, and actor. She has work forthcoming in F&SF, and her science fiction play, The Woman on the Rock, will be produced at Pacific University later in 2017.

Follow her on twitter [@j_r_dawson](#) and her blog at www.jrdawson.org.

ASSOCIATE EDITOR: SANDY PARSONS

Sandy writes literary, philosophical, humorous, and speculative fiction. She has degrees in physics, math, molecular biophysics, and medical science, but only ponders the mathematical nature of reality for fun these days. Also for fun, she plays video games, hikes and watches Rick and Morty with her family.

When not writing, Sandy works as an anesthetist in Georgia and cares for three geriatric cats. Her website is sandyparsons.com.

ASSOCIATE EDITOR: DARUSHA WEHM

M. Darusha Wehm is the Nebula Award-nominated and Sir Julius Vogel Award winning author of the interactive fiction game *The Martian Job*, as well as twelve novels, several poems, and many short stories. Originally from Canada, Darusha lives in Wellington, New Zealand after spending several years sailing the Pacific. They tweet [@darusha](https://twitter.com/darusha) and their website is darusha.ca.

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Ryan Boyd is an editor, writer, and slushie enthusiast who lives in Los Angeles. Their work has been published in *The Hundreds*, *CLASH*, *Literary Orphans*, *Leveler*, *Blast Furnace*, *Rust+Moth*, and a slew of other tiny-yet-gutsy presses. They once commandeered the blog on *Ultimate Coupons* to write too many articles about Tom Waits, and they also co-host the podcast *Rank & Vile*, which is honest-to-God ranking every horror movie ever made.

Give them trouble on Twitter [@ryandroyd](https://twitter.com/ryandroyd), where they mostly tweet about slasher movies and *Golden Girls*. They never sleep.

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Premee Mohamed is an Indo-Caribbean scientist and spec fic writer based in Canada. Her debut novel, *'Beneath the Rising'*, is out now from Solaris Books and her short fiction has appeared in a variety of venues. She can be found on Twitter at [@premeesaurus](https://twitter.com/premeesaurus).

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Kevin Wabaunsee is speculative fiction writer and a former newspaper reporter on the health and medical beat. He is currently an editor and communications director at a university medical school. He is a Prairie Band Potawatomi.

ASSOCIATE EDITOR: IZZY WASSERSTEIN

Izzy Wasserstein teaches writing and literature, writes poetry and fiction, and shares a house with a variety of animal companions and the writer Nora E. Derrington.

Her fiction has recently appeared or is forthcoming in *PseudoPod*, *Clarkesworld*, *Fireside Magazine*, and elsewhere. Her most recent poetry collection is *When Creation Falls* (Meadowlark Books, 2018). She likes to slowly run long distances.

ASSOCIATE EDITOR: JAMES BEAMON

James Beamon is a science fiction and fantasy author whose short stories have appeared in places such as *Fantasy & Science Fiction Magazine*, *Apex*, *Lightspeed* and Orson Scott Card's *Intergalactic Medicine Show*. He spent twelve years in the Air Force, deployed to Iraq and Afghanistan, and is in possession of the perfect buffalo wings recipe that he learned from carnies. He lives in Virginia with his wife, son and attack cat where he works on his *Pendulum Heroes* novel series.

ASSOCIATE EDITOR: PHOEBE BARTON

Phoebe Barton is a queer trans science fiction writer. Her short fiction has appeared in venues such as *Analog*, *On Spec*, and multiple anthologies. When not writing she focuses on her obsession with rail-based public transportation, occasional reviews of forgotten short speculative fiction works, and thriving in an indifferent cosmos. She lives with a robot in the sky.

above Toronto and can be found at www.phoebebartonsf.com or on Twitter at [@aphoebebarton](https://twitter.com/aphoebebarton).

ASSOCIATE EDITOR: J. M. COSTER

J.M. Coster (Jen) is an erstwhile MD turned speculative fiction writer currently living in St. Louis, MO with her robomancer husband and recalcitrant cat. She co-produces the game dev comedy podcast Coffee with Butterscotch and co-hosts the medicine in movies podcast Docs Watch. She likes creepy fairy tales, experimenting with pastries, and thinks ghost stories and food stories are not so dissimilar. You can find her on Twitter at [@jcalyst](https://twitter.com/jcalyst) or on her blog subtext.jmcoster.com

ASSOCIATE EDITOR: SHIV RAMDAS

Shiv Ramdas is an Indian reader and writer of speculative fiction. He has written short stories, radio scripts and plays, advertisements, and numerous resignation letters. His short fiction has(or will shortly) appear in Fireside, Podcastle, Strange Horizons and other venues. He currently lives in Seattle with a spouse, 3 cats and a very demanding tree.

ASSOCIATE EDITOR: KARLO YEAGER RODRIGUEZ

Karlo Yeager Rodriguez is originally from the enchanting island of Puerto Rico, but moved to Baltimore some years back. His stories have appeared in Nature Futures, Galaxy's Edge and several other venues. He lives happily among the rolling hills of rural Maryland with his partner and one very odd dog. To read Karlo's sporadic posts, go to alineofink.com

ASSOCIATE EDITOR: ANYA KHONGTHAVORNPIPAT

Anya is a writer, artist, cosplayer, and lesbian transgirl. She works on creating stories and art about transgirls in between making an absolute fool of herself at anime conventions. Born and raised in Thailand, she now lives in Virginia while she streams art online on an unhealthily regular basis.

ASSOCIATE EDITOR: LAURA PEARLMAN

Laura Pearlman's short fiction has appeared in Nature, Shimmer, Flash Fiction Online, and a handful of other places. Her LOLcat captions have appeared in McSweeney's.

Laura works in a research computing group in California. She's decided not to mention her two cats in her bio, not even the cat that helps out with her job by participating actively in all her conference calls. She has a tragically neglected blog called Unlikely Explanations and can be found on twitter at [@laurasbadideas](https://twitter.com/laurasbadideas).

ASSOCIATE EDITOR: ZIN ROCKLYN

Zin E. Rocklyn's stories are older than her years, much like the name she's chosen to pen them under. Of Trinidadian descent and hailing from Jersey City, NJ, Zin is influenced by the every day curiosities of the terrifying unknown and the fascinating weird.

Her work is currently featured in the anthologies Forever Vacancy, Sycorax's Daughters, and Kaiju Rising: Age of Monsters II. Her personal website, terizin.com, is currently under construction, so stay tuned for all of her weirdness in HTML form. In the interim, you can follow her on Twitter [@intelligentwat](https://twitter.com/intelligentwat).

ASSOCIATE EDITOR: REMY NAKAMURA

Remy Nakamura is a biracial, bicultural, and bilingual writer of weird, dark and Lovecraftian fiction. He's a graduate of Clarion West. You can find his work in Escape Pod, Pseudopod, and a variety of anthologies, including Swords v. Cthulhu

and Broken Eye Books' Ride the Star Wind.

He lives and hikes and bikes as much as possible in Portland, Oregon.

ASSOCIATE EDITOR: PETER BEHRAVESH

Peter Adrian Behravesh writes flintlock space fantasy stories inspired by eighteenth-century Iran and songs about the technoapocalypse. He is also an editor for Seven Seas Entertainment and the audio producer for *PodCastle*. When he isn't writing or editing, you'll most likely find Peter hurtling down a mountain, sipping English Breakfast, and brushing up on his Farsi (though usually not all at once). You can read his sporadic ramblings on Twitter [@pabehravesh](https://twitter.com/pabehravesh) or at peteradrianbehravesh.com.

