

2022 Short Story & Essay Contest: Honorable Mention, Adult Short Story Contest

### **The Spectrum of Sight**

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After leaving the nanolab for the day, Dottie sat with Sritha on the edge of a well-eroded sandstone ledge, watching a giant dust devil tornado on the horizon while the two suns dipped in the sky. Dottie took in the scene with Earthier eyes, while Sritha watched through nanotech goggles fused to her face after decades of use.

Dottie watched the moving funnel. “What do I see? The color of sand and dirt.” Dusk was the earliest time of day on Chilothe dark enough for Earth scientists to look at the world with naked eyes. “Like the colors of bark from Earth trees, but softer and blurring. What does it look like to you?”

Sritha paused, as though trying to get a fix on the words. “I’ve seen pictures of your trees, and though this resembles those colors, mixed with our fine-grained soil, there’s a brightness leaking through the suns’ rays.”

Dottie leaned in a couple inches, hoping it might help her see what the goggles showed Sritha. It did nothing to change the light refracting through her eyes and the dullness on the horizon.

“It’s a threaded eddy moving with the wind, catching each glowing strand like the tones swimming in your hair,” Sritha continued, “except it’s the color of water poured through the stars.”

Dottie whistled through her teeth and shook her head. “It sounds like the stuff of dreams.”

Sritha shrugged her shoulders and wrapped her arms around herself against the cold falling with the setting suns. “It is a Chilothe sunset,” she said simply.

“On Earth, as a child, I wanted to see all the colors in the universe,” Dottie began. “My sister and I went to the beach weekly to escape our fighting parents,” she chuckled, “though those trips were so much more than that.”

Dottie thought about the journals she filled in those years with names for colors in the sky, both words everyone knew and new ones that only made sense to her. “The colors on the Pacific horizon were so striking. Take the color just before our sun dips below the water, or the shade when a seagull cuts through the sky on an almost cloudless evening.”

Sritha stood to leave. “I’d love to see that, though I guess they’d look different through the goggles.”

Dottie decided to stay behind. "Maybe it would be even more spectacular." She watched the horizon, still hoping she might see something of the colors Sritha described.

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Sritha made her way to the tent she shared with her partner, Bhartha. Stepping in, she felt the tent's conserved solar warmth wash over her face. She shook her head a bit over Dottie's enthusiasm for color and obsession with the goggles. Sritha just wished she could take them off, and in many ways, her scientific career had been dedicated to that mission.

Invented a century ago by the nanovators, they protected her people's eyes from the unforgiving searing double suns in dangerous proximity to their planet. It was part miracle, in children's stories at least, that the goggles made it possible for their people to see, and taking them off would risk blindness.

Like all the Chilothe people, Sritha had been given a pair of goggles as soon as she could walk, and over the last three decades, they had grown, plasticine and sinew entwining into the arches of her forehead.

Ever hot and always sandy, Sritha wiped the dust off her goggles with a sleeve and rinsed her rough face in a tub of water Bhartha saved from her wash in the morning. The two were like their planet's suns, always chasing one another and, it felt like, never getting much time together. Sritha grabbed the tub rag and scrubbed between the edges of her goggles and wind-worn skin.

"I don't understand why you'd ever want to take your goggles off. Mine are a part of me," Bhartha had said to her on their third date. "Not only that, but my mothers would disown me," she laughed.

"Yes, but imagine! Think of what the world might look like without them."

Bhartha shook her head. "I can't even imagine it, but I admire that you do." She reached for Sritha's hand, smirking. "And I'm just a boring hydrovator anyway." Their ancestors had established the study of water science, tapping into the planet's aquifers tucked underground and away from the suns. Those like Bhartha worked the aquifers when the suns went down to maintain their supply of water.

Now ready for sleep, Sritha dropped into her hammock and closed her eyes. Tomorrow, she would go to the nanolab to work alongside Dottie, the Earther who didn't seem to understand the privilege of seeing with her naked eyes. Over the last few weeks, they had been working the problem together to figure out if it might be possible for the Chilothe to take the goggles off and see the world without any cover.

The Earthers pushed for these experiments to better understand nanos. Sritha did it for different reasons. Atmospheric research showed the cloud cover had thickened over Chilothe during the last several decades, and though the suns burned hotter now, climatologists believed a new, protective layer formed a barrier from radiation. The goggles had initially been a necessity for sight, but Sritha believed their eyes could withstand the light now. It was an untested hypothesis, though. What was once a health precaution had become a societal tradition; her parents and grandparents held a goggle celebration for every child receiving a new pair, something of a coming-of-age ritual. Sritha believed that the goggles, however revered, now were nothing more than an outdated—and incredibly uncomfortable—cultural norm. If the science behind the goggles was a farce, Sritha wanted to prove it. The possibility was enticing and felt just within reach.

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The week before she left Earth on their mission to Chilothe, Dottie took her mentor, Dr. Cornwall, to dinner. She took over leadership of his lab when he retired as head of the foremost extraterrestrial sociology research group on the planet.

Sharing a stone-fired pizza and jug of beer, Dr. Cornwall debriefed Dottie on his last trip to Chilothe. “As you know, the people are not physically different from us,” he said, sipping from the ceramic mug. “But their nanotechnology goes so far beyond anything we know on Earth.”

The Chilothe’s nanotech was truly remarkable. They used it to construct shelters, craft clothing, draw water from deep underground and even modify organic food to grow in a climate with fierce UV rays.

After ordering tiramisu and a coffee, Dottie couldn’t wait any longer. “Tell me again about Sritha’s research.”

Dr. Cornwall’s crow’s feet arched a bit. He seemed to enjoy the urgency behind the question. “Sritha shares your energy for science, Dottie. Her group is on the edge of a major discovery: the ability to safely remove a set of goggles from an adult face.”

Dottie’s heart fluttered at the thought. Previous mission interviews with the Chilothe revealed that their goggles both made their lives bearable and gave them a deep dimension of sight far beyond a human spectrum. Up until now, no one from Earth had ever worn a working set of goggles. Dottie, who wanted to see beyond the limits of her own two corneas, believed that could change on this next trip to the planet.

“You have to be careful about this, Dottie,” Dr. Cornwall interrupted her reverie. “Those goggles were not made for us. We don’t know what will happen if you put them on.”

He had been there when Sritha and her team first deconstructed a pair of intact goggles to see how they work. It had taken some time to reach that point because the Chilothe considered the

goggles to be a part of their body, almost sacred. Tradition dictated that the Chilotheans be buried or burned with them on their face. Eventually, a few generous donors bequeathed their bodies to the lab, making it possible to dissect and, hopefully, better understand the science behind a fully grown set of adult goggles.

Dr. Cornwall recounted assisting in the investigation of a 96-cycle woman who had been wearing her goggles since the age of 2. "Though they had grown into her cheek muscles and were partially fused to her cranium, at some point in the aging process, the nanos had gone dormant," he explained, taking a sip of his coffee. "The goggles were affixed to her face, no longer growing, just like any other appendage.

"Once removed, the woman's eyes appeared undamaged from the sun and sand," continued Dr. Cornwall. "But when I held the woman's goggles up to my face, they gave me a mottled sense of vision."

Dottie jumped in: "I know you think that means that the goggles won't work for humans. But I just can't believe it's as simple as that."

Dr. Cornwall gave her a stern look. "Beware your arrogance. This is lesson No. 1 when running an off-world lab, Dottie. Don't forget the Gi."

The Gi were Dr. Cornwall's legacy. It was a first-contact situation with a species that had lived underground for a generation. They fled from the surface of their planet after a pandemic knocked their population to a tenth of what it once had been. From there, they embarked on an isolationist culture, one where only the nuclear family saw, touched and ever made true contact with one another. Dr. Cornwall's team had the good sense, of course. *We didn't know what we didn't know*, Dr. Cornwall became famous for saying. The Gi didn't take well to the Earthers and responded violently.

"The Chilothe people are different," Dottie said, grabbing the check when the waitress brought it to the table. "I think we've learned enough to avoid making the same mistakes."

"I hope so," said Dr. Cornwall.

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For Sritha, that first dissection of an adult's goggles was a remarkable breakthrough. Here was a set of eyes that, in theory, could have seen the world without the goggles at all, had they been removed from her face before she passed. It was close confirmation that the goggles were no longer medically necessary for her people.

Those early trials did not reveal, however, the makeup of an adult pair of goggles. It was still unclear whether the goggles were still necessary to protect the Chilothe's sight. Each dissection

further confirmed that the nanos combined with the body's DNA to harden into its unique, final form on the face. There was still undiscovered chemistry at work.

Sritha felt encouraged by some of Dottie's alternate theories. "We know the nano growth stops at some point in middle age," she said over lunch early on. "If we can pinpoint when perhaps we can halt the fusion process and better understand the nanos at each stage of growth. Do we know that, once removed, a pair of goggles can't be put back on the face?"

"The theory is that, once the goggles come off, they're off for good." Sritha leaned in a bit. "It hasn't been tested though."

Dottie bit her lip. "Sounds like a hypothesis worth trying."

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They spent the next several weeks drawing nano samples from the goggles of Chilothe at various ages. Early results confirmed that, though the nanos diminished over the years, whenever the researchers drew a sample, more nanos flooded from the goggles to the face, creating an extra layer like a safety net to maintain fusion.

One morning at breakfast with Bhartha, Sritha explained, "Since we already have the technology to contain nanos, the goggles can go into safe storage as soon as they're off, preserving what's left of the original nanogrowth to re-fuse with the skin at a later time."

Bhartha drummed her fingers on the table. "It's just too risky. Maybe you'll be able to put the goggles back on, but maybe not. And then what?"

Sritha shook her head and took a sip of the coffee the Earthers had gifted them. "Maybe our eyes work without the goggles. And if not, we know that new nanos can knit together to heal broken skin. Why wouldn't it do the same to refit the goggles to the face?"

Bhartha finished the Chilothe tea from her cup. "If it doesn't, you'll live the rest of your cycles without sight at all. That seems like a terrible trade-off."

"These Earthers can see with their naked eyes at night. Our biology is so similar. Perhaps we can, too."

"Wouldn't you miss seeing my face in the glow of a noontime burn?" Bhartha smirked.

But Sritha wasn't really listening. "I think it's worth the risk. I know it is."

Bhartha pushed back her seat and rubbed her eyes, ready for sleep after the night shift at the hydroplant. "We'll talk about it more tomorrow," she said, going to the hammock and drawing the curtain behind her.

But Sritha was done thinking and talking about it. She had made her decision.

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It was particularly dry and sweltering under the two suns the day Sritha had her goggles removed. She lay on the lab table, eyes closed and covered with fabric pads. The wounds itched—a lot—but it was necessary to bandage the bloodied parts of her temples, forehead and cheekbones where the goggles had been removed. Extra layers folded over her eyes, keeping out the artificial light from the lab.

Dottie sat at a lab table, cross-checking data from the procedure, while Bharta perched next to her, holding her hand, face raw from worry.

“The suns set soon, Sritha,” said Bharta, wiping her face with a cool damp cloth. Sritha had timed the procedure toward the end of the day, so she could try looking on Chilothe for the first time with her own naked eyes at dusk, the safest time.

“Are the goggles safely stored in a nanobox?” Sritha asked the room.

“Yes,” Dottie said. “And the nanos are still firing.”

Sritha pulled up and swung her legs over the edge of the table. “Let’s go.”

Bharta guided her as they walked together to the sandy ledge. Even though Sritha knew these steps well, she shuffled tenderly, disoriented by her blindness. Once on the ledge, Bharta began to unravel the fabric from her eyes.

“I’m ready,” Sritha said, letting her lids flutter open and facing the horizon.

“What does it look like?” asked Bharta.

Sritha felt her body relax. “It’s all the same,” she smiled. “It looks exactly as it did with the goggles on.” Her hypothesis had been true: The Chilothe didn’t need the goggles to see anymore.

Bharta laughed and gingerly pulled Sritha’s face to kiss her lips.

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Dottie turned away from Sritha to check that the goggles’ nanos were still firing. She was certain that the next logical step in their experiments would be to see if the goggles had an effect on human eyes. Dottie was close to Sritha in age and willing to try them on her own face. And, she argued to herself, learning how the goggles would influence human sight was critical

to understanding whether the nanos could interface with Earth biology. The technology could have endless applications in the health field. And it could let Dottie see more, unworldly colors, fulfilling part of her dream to see all the colors in the universe.

Dottie took the nanobox to the other end of the ridge, a few yards from Sritha and Bharta. Cracking it open, a cold blast of air hit her face, nagging as to whether this was something she truly wanted to do. But she thought about those evenings looking out at the Pacific with her sister, scratching away at her notebooks and dreaming of colors never seen, and brought the goggles up to her face.

The nanos woke immediately, seeking the skin for fusion and suctioning on her brow and cheeks. They snaked across her forehead and cheekbones, knitting threads in intricate patterns around her eye sockets. It made Dottie's head spin. She caught her breath and tried for a moment to pull them off again. The goggles burrowed deeper, almost as if they were seeking a home on her body.

Dottie looked out at the sunset and at first she saw the murkiness that Dr. Cornwall had described. Then everything changed: Light refracted across the silted plain, waves of air, dirt and other molecules looped across her field of sight. The second sun dropped its fist, weaving watery threads through the tide of sky, dragging and pulling at it with ineffable dimming.

The nanos still buzzed in her skin, hardening slightly like new tracks of soft tissue scaling just below her dermis. It was so much stimulation that her body wavered and then passed out.

She woke to find herself on the lab table, with Sritha holding her hand.

"Are you awake?" Sritha asked. "It's hard to tell through the goggles."

"It was like nothing I'd ever seen before. So many new colors. What happened?"

"You lost consciousness when the suns went down. I'm sorry, Dottie."

"How? Before it went to black, I saw so much, Sritha. It was a dream."

"Our doctors think the nanos overcorrected to adjust to your unusual biology—and took your eyesight."

Dottie felt like the tears should be flowing, but instead, her dark eyes stayed bone dry while the nanos, though softer now, clawed their way up her scalp. Shutting her eyes did nothing to stop the crawling across her skin, as the goggles quietly took root on her face.