THE SPECS ARE ALL RIGHT

BY CHRISTOPH BRUECK

"They call it “Ion-Exchange-Enhanced-Diffuse-Reflectance-Spectroscopy,“ Robert said and pointed to the world map on the screen of the small meeting room.

Anton Zinsky sighed, “Okay, who cares? It’s got a fancy name, so what? Can you speak plain English, please?“ he asked and the man in his steel blue suit took off his data glasses and looked at Robert.

Robert Mulligan knew this was a hard sell, but he had come prepared. “They send waves into the water and can determine the amount of nitrate and heavy metals in it. As nitrate is an indicator of water quality, they basically can tell you pretty accurately what water is drinkable and what is not.“ Robert said and Anton nodded.

“Alright, Rob. What does that gotta do with anything?“ he asked, bored by this conversation already.

"Project Poseidon put millions of those into the ground worldwide. A UN-sponsored project in the late twenties. They transmit their data to a decentralized ledger where they get stored. It is a completely independent system running on nodes on UN computers all over the world. What I wanna say is, this is still running. We looked at it in the case of a competition analysis,“ Rob said. "Everybody has forgotten about it, but the system is still there and about 70% of those sensors are still online.“

"Don‘t they run out of battery?“ Zinsky asked.

“No, most of them use solar energy and the cells should not have lasted this long, . . . Those are small semiconducting silicon-based

crystal panels, which basically lose about 70% of their effectiveness, but produce enough to keep the simple sensors running. Even today.“

“So, this is an outdated system, right? Our drones do a much better job than a twenty-year-old technology I hope,“ Anton said. It was not that easy of course. Drones needed control units, but this was a global network, getting not the same fancy data on water quality, but therefore much more data.

"Yes and no. This network tells us what the water quality is worldwide.“ Rob showed the map with millions of small red lights. "Our network is a search engine; theirs is a global view. Anyway, that is not what I got you here for.“ Rob zoomed in on the pacific region. "This is what I am looking at.“

Anton sighed. "What is it? Man, I got a crazy workload to manage, please come to the point.“ His supervisor said and he was losing his patience. Rob decided to drop the bomb.

"This is Aitutaki. Cook Islands. There are three hundred of those spec-sensors there. Half of them seem to be working still. I looked at the data of them for any anomaly and had an AI-run through it and mine it for potential use later. It came up with this,“ he swiped in the air and the next picture showed the nitrate level on the island. "The nitrate level has been sinking for three years now,“ he said.

"Wow. Rain maybe?“ Anton shook his head and put his glasses back on to check his messages.

"They sink by 40 percent a year. The water was heavily polluted two years ago and is now actually among the cleanest water on the planet. Despite some heavy use of outdated chemicals to enhance plant growth there. A food Corp uses the island heavily for flower growth to support the honey production there.“

Anton put the glasses down again. "40%, are you sure?“

Rob nodded.

"How? That is impossible. We are happy if we do five percent in a lab.“ Anton leaned forward now.

"I don’t know. We don‘t know. Nobody has any explanation for this,“ he said and shrugged, "I would like to find out.“

"Who owns the island? Which Food Corp?“ he asked.

"Strongman Corp. They secure it only lightly by satellite surveillance. But the latest satellite network failure leaves them actually blind for twelve hours beginning tomorrow afternoon. We could use the gap to have a look,“ Rob suggested.

"A grey ops? Gotta clear this with above.“ Anton said and then nodded, "Okay, assemble a crew. I get the okay. But if that data checks out and if the AI is doing the risk assessment I am pretty sure we get an okay.“ Anton admitted and he knew as well as Rob a lowering of nitrate by forty percent in such a short amount of time was more than noteworthy. It sounded like the holy grail of water improvement.

Robert was joined by three security guards and Doctor Mara Nichols. The security guards were unnecessary probably, as the island had been deserted many years ago for the use of the corporation that had acquired it. It was a fully automated facility, run by a self-learning machine from all he could see. Doctor Nichols would probably be useful. She was also a problem. She had the potential to steal this from Rob. The young blonde woman in her dark clothes spread her long legs. She had her body adjusted to model standards. Nice to look like, but also easy to deceive. She held a Doctorate in informatics with a specialization in advanced federated learning. The

corporation had added her in the last second when they found out the island was managed by an AI that had been there for ten years.

They had flown to Singapore and from there were transferred to New Zealand by the underground hyper tube. It had taken them eight hours, so that they could board their Lockheed-Armitage TS 900 Vertical Starter, a hybrid between a chopper and a plane, having enough space for complete lab equipment. The model had been developed for the American military but had become too expensive after the crash of 2032. Private companies had found it incredibly useful, with its adjustable interior and long-range flight capability. Their company had a dozen of them. Rob had never seen one up-close though and he understood he was now on a priority mission.

They approached the island just as the window opened and the satellites went dark. They had eight hours to get in, find out what was going on, take probes, and hopefully get an answer before leaving again. On their arms, there was a wrist computer constantly showing the countdown and a second was displayed in their data glasses. They lost connection soon and their glasses connected in a mesh network, an intranet between the glasses themselves.

"Touch down in thirty seconds," the pilot said and Rob stood up and looked out of the window. The island was beautiful: a cliché pacific paradise. White beaches, palms, and then jungle and mountains to make the whole picture perfect.

"We should keep our protective suits on at all times," Nichols said. "The bees on the island are unmodified Apis mellifera," she said and Rob looked at her in slight confusion as to what she was referring to.

"Honey bees," she explained and Rob nodded as if he had known that.

"What is the point in not modifying them?" he wondered, also he was not an expert on bees and neither was she he assumed.

"The flowers are the ones modified. Genetically enhanced. Ever had Mason Sweet Honey on your bread? The one that tastes a bit like strawberry jam?“ She asked. Rob shook his head and could hardly believe he was having this conversation while hunting for a scientific sensation.

"Well, this is where Mason‘s is made nowadays,“ Nichols said and began checking her facemask and gloves. With its breathing mechanism and made entirely of black plastic, these masks looked a little like the bad guy from a 20th-century space opera. Rob put his on and his data glasses connected to them. He saw that Nichols did the same.

"So, are the bees dangerous? Not that we’ll get into a firefight with them,“ Rob joked to the security guys. Nichols looked at him and even through the mask he could see she lacked humor.

"No. They sting. Like bees do.“ She put on her gloves, "We must be careful not to attack a hive or they will get angry. But their stings should not be able to get through our protective gear.

"Understood. You hear her guys? Don‘t shoot the hive,“ he said and the soldiers laughed at him at least while getting their own helmets on. They all carried smart-chipped automatic weapons connected to their helmets and body armor. It was gonna be hell for them. The island was hot with a high humidity their memo said. Those combat suits would be even worse than his.

"Okay, so we get off and two of you secure the craft. Meyers,“ Rob pointed at the one wearing a name badge saying Meyers. "You come with us, as we venture to point 1, as marked on the map.“ He called up the map in his display and opened the feed to all others. "There we have a water source coming right out of a small hill and feeding a small brook. We take our first probes there.“ Rob had put the plan together and he could read from the body language of Nichols she did not like following his lead.

"Affirmative, Sir," Meyers said. A warning informed them that they were now approaching the island.

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They executed the plan to the letter. They needed no more than ten minutes before they were on their way. The climb to the brook was more exhausting than expected he had to admit. It did not look so steep on the maps. Nichols held up admirably, Meyers anyway. He had to up his oxygen level a bit though as his saturation in his blood got dangerously low pretty early on. The vegetation was also a bigger problem than expected. Untouched by humans for a decade, the grass was high, and only when they got out of it walking got actually easier. They passed a giant field of purple flowers when Meyers suddenly held up his hand and made a fist.

"That means stop." Rob said to Nichols and went to one knee.

"I know," she said and did the same. Then they saw a small drone fly on the outer field. It had two rotors keeping it up and almost alien design, with strange asymmetrical angles. A machine built by machines, he realized. Humans did not design like this.

"We need to wait for it to pass, detection must be avoided," Meyers said and knelt down himself.

"Only a harvester," Nichols replied to that and sighed. She was trying to scratch herself, but it was impossible through the mask.

"It might have security protocols. These things can upload recognition software within seconds and transmit intruders," Meyers said.

"Sure," Nichols answered with an unnerved sigh.

"It is already getting away," Rob said and felt like in an espionage feed. One of those shows where you could spy on big bats and save the world. Well, if he found out how the water is cleaned, he might save the world or at least millions of lives. The majority of mankind was by now drinking polluted water, without ever realizing it. The effect on public health was clearly visible though.

"What is this?" Nichols asked, and took up some soil from the ground.

"What?" Rob asked, he could not see anything.

"Ants, I think," Nichols said and studied the soil. Rob magnified the soil through his visor and saw these small things crawl around on it.

"So what?" He asked.

"They are too small," Nicholas said.

"Too small for what?" He was wondering if the woman was intentionally distracting them.

"Pheidole megacephala, the big-headed ant, native to sub-Saharan Africa, is the most widely distributed and dominant ant species in the Pacific islands. They are much bigger," Nichols said.

"How do you know all this?" he asked her.

"I took an edu-v on flora and fauna of the Cook Islands before coming on board." She said.

An edu-v, educational virus. A virus producing RNA that attached itself to the memory of the user. For a few hours, you got additional knowledge. Strictly speaking, these things were illegal.

"Okay, so we are not here for ants," Rob said.

"Not so sure, look at them. They seem to be silver. I think they are artificial." Nichols mused over this ant as if it was a big discovery.

"Nanobots?" Rob now got closer and he saw the silver glimmer in the sun now too. "Why would they put nanobots out here?" Rob wondered.

"Can they be a threat?" Meyers asked and Nichols quickly wiped them off her hands. "Unlikely. Maybe they are here to enhance the ecosystem in some way."

"But how do they reproduce?" Rob asked now. Usually, you set out a few hundred nanobots who then reproduced by absorbing resources and started replicating. That meant that eroding old metal structures were around that they could feed on to recreate themselves until the swarm reached the programmed saturation. Then they only replaced the ones they lost. A stable swarm nano engines.

A bee hummed past his helmet and he put the noise level of the helmet down, as it was too loud. He turned his head and saw a swarm of bees over the field of flowers. The bee floated around him and then sat down on his glove. He raised it and looked at it. Distracting as it was, the truth was he had never seen a bee alive and in nature. There was not much nature where he lived except some artificially created parks. The bee stretched its feeler twice and then flew away.

"Meyers, is the drone still there?" He asked looking after the bee and Meyers stood up to look.

"Negative, we can move." He said.

Nichols opened the case she was wearing and took a probe of the ants, before putting it back.

"My oxygen level is pretty low," she said. "I put extra oxy up, but it is still dropping." She said.

Rob checked his own and he was down to 86%. Nothing to worry, but it would make him breathe a lot more. "Same with me," he said. "Guess the filters are not made for the humid air."

Nichols shook her head. "Pollen," she said. "There is too much pollen in the air, I guess. It glues our filters." She looked around. "We should get away from those flowers. They produce thirty times the pollen natural flowers would."

Rob nodded and stood up, taking lead now. He suddenly felt vulnerable. Artificial ants and high pollen concentrations were not a threat, but also unforeseen obstacles that made clear how rushed their preparation had been.

"I think the AI got design privileges," Nichols said as they made it over the final chain of hills and came close to the water source. She was breathing heavily now in her mask.

"What do you mean?" Rob asked. This was her area of expertise.

"It is installed to control the ecosystem. We assumed it controls the harvesters and communication network, but I think it is far more advanced. It creates machines on the nano level to adjust the ecosystem itself," Nichols mused.

"Like ants?" Rob asked. The oxygen level was still dropping. He was now at 75 percent. He wondered how far away from the flowers they had to get.

"That might be the larger example. Nanites can be as small as bacteria. Those are more limited in their capacities then." She sighed again. Or was Robert mistaking the sound and it was actually heavy breathing?

"You are joking," Rob said.

"Medical nanobots are made of wire, particles, and carbon," she explained. "Also, I wonder where it gets the raw materials from. Maybe the mountains hold those resources," Nichols said.

"Water," Rob said as he suddenly realized what she was saying. "Carbon and metal are both found in water." He looked at Nichols.

"Can those nanobots do us harm?" Mayers asked.

Nichols stopped walking. "Sure," she said. "They can be used to either repair or damage organic tissue."

Rob stopped too and looked at her, "How would we know there are nanobots?"

"We would not. A nano swarm is invisible. We would find some in the water though when we take a probe," she said. Then she coughed. They stood there for a second.

"We got filters, right? We are protected." Meyers said. Nichols shook her head.

"No, they are too small, they would get through." She answered.

Rob sighed, "So that is what is going on here. The water is not cleaned at all, it is harvested for the creation of swarms of these nanites." He shook his head, "What would be the purpose?"

Nichols shrugged. "Could be anything," she said and sat down. "Give me a moment. My oxy level is too low," she said and Rob checked his own. It was under seventy percent now.

"Security," he gasped.

He felt weak and sat down next to her. "Okay, so what can we do against being infected by nanobots?“ he asked.

Nichols did not answer.

"Nichols!“ He pushed against her and she woke up. "What can we do about the nano-bots?“

"Nothing,“ she said. "I get it now, they are in the air and get aerobe when the water becomes gas. We have been breathing them in constantly probably.“

"So what did they do?“ Rob asked.

"Hard to say. Dissolve our lung tissue? Bind oxygen in our blood?“ She was making a sobbing sound, "What did you get us into?“

Rob realized the mistake they had made. The Strong Corporation had found a way to clean water, but only in areas where no humans lived, because the process was deadly to humans. That was why they had no personal here. He bet they once had. Then these nano-bots appeared and they left the island alone, confident nobody snubbing around would ever make it far.

"Meyer to ship, Emergency pick-up. We have a medical emergency.“ Meyer now said and tapped against his helmet.

"We cannot take the nanites back, they might infect the world outside the island,“ Nichols said. "We need to be . . .“ she coughed and then collapsed.

Rob watched her and closed his eyes. She had clearly lost consciousness. He turned to Meyers who looked at him.

"They are not responding,“ Meyers said.

"Probably been breathing the same air,“ Rob replied. He opened the sealing of his helmet and pulled it off his head. Wiping away his sweat he saw it was actually orange as if it was mixing with blood. The smell of it was pretty strange, too.

Rob looked around. No birds. He realized that only now. No animals except bees. He assumed bees had no lungs like humans. Breathing was so bad. Slowly, he allowed his body to sink into the grass. His vision became blurry.

He closed his eyes and had the strong feeling it would be too much of an effort to ever open them up again.

At least he had seen a bee.

THE END

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