

Last Star 126

Star XXXIX ~ We Are Here ~ Part II

“So, where do you want to go?” - Luna asked Avi, who was studying the city map.

“I don't know. All the restaurants seem nice.” - Avi answered.

[There! There! I want a lunar ice cream!] - Eva exclaimed.

“Maybe after we have a proper lunch, Eva.” - Avi suggested.

[Pleeeseeeease.] - Eva began pleading.

Avi looked at her parents, unsure about that idea. - “Uhm... how about some ice creams?”

Charlotte and Nicolas glanced at each other meaningfully, then laughed inwardly.

“Fine, fine.” - Charlotte spoke. - “We're okay with this, but don't try to get an extra dessert in the afternoon.”

Avi could grasp what it was about. They wanted her to cut down on sweets, too.

In a flash, Luna appeared in front of the ice cream booth and pointed at the ice cream containers behind the glass. - “One blueberry nebula, please.” - She requested.

After a minute, Luna was already holding a cone of soft serve sprinkled with crushed ice. The dessert had a rich taste of forest berries and was slightly sour, like kiwi fruit, and everything was complemented with the aftertaste of frozen lemon alcohol powder. Avi had to enjoy Eva's personal choice, that is, a scoop of grey, honey-nut ice cream with star-shaped chunks of white chocolate. Charlotte and Nicolas decided to share a larger portion of 'binary star', which was a bowl with two servings – one pistachio-like, the other rose-like.

As they strolled through the town, Luna turned to Nicolas, Charlotte, and Avi. She continued to walk, backwards, and asked. - “These cosmic ice-cream inspired me. How about we visit a planetarium?”

“Planetarium?” - Charlotte repeated. - “Interesting choice, considering we get to experience the star journey directly.”

Luna smiled mysteriously. - “There are things that are difficult to virtualize without proper devices.”

Charlotte raised her eyebrow. - “I feel it's going to be another surprise.”

[Surprise! Yes! I want a surprise!] - Eva exclaimed.

“Eva already likes it.” - Avi relayed.

"Thank you, Eva." - Luna added, still smiling. - "I'll get the tickets. I'm sure you won't be displeased." - She turned again, gazing ahead. - "...and done."

"That was fast." - Nicolas commented. - "It must be convenient to be connected to every network."

"It is, a bit..." - Luna replied. - "...but it's still more enjoyable to focus on our moments together. It's what I still care most about."

"...huh, but I'm sure that you could read the entire content of their library in a second if you wanted." - Avi noticed.

"Who says I haven't already done it?" - Luna asked.

"I'm a bit jealous." - Avi uttered. - "With the time I have, I wouldn't be able to read even a fraction of their books."

"Well, it's not like I have time for this, too." - Luna began explaining. - "I usually put the compressed files in my memory. I can read them and process them under a second, but it's not as intellectually satisfying as processing them in real time, because I can't visualize the scenes with my imagination or ponder on the full meaning of each sentence."

"You like to read." - Nicolas pointed out.

"I would lie if I said that I don't." - Luna admitted. - "I don't have any better alternatives to spend my free time when you all are asleep."

Avi sighed. - "I'm still jealous, but only half-jealous."

"Why?" - Luna asked.

"Sleep is pleasant..." - Avi explained. - "...and a small nap throughout the day improves mental health."

"I could guess, you sleepyhead..." - Luna said. - "...but I prefer more productive ways of spending my time."

"You ought to learn more from her, Avi." - Charlotte added. - "It'll be useful in the future."

"Phi." - Avi knew what kind of game her mother was playing. She didn't let these words get to her. -
"We're living in prosperous times. People should aim to fulfill their dreams, not work themselves to death."

"Well, well, please do tell us, how do you 'fulfill' your dreams in your free time, Avi?" - Nicolas replied.

Avi pouted. - "I'm creating."

"What? More layers of fat?" - Charlotte mocked.

Avi felt immediately offended. - "If you're like this, then I'm not saying anything."

"Oh, I'm sorry, my little princess..." - Charlotte said sarcastically. - "...will you grace us with your big secret?"

"Hmpf. I'm drawing and animating." - Avi declared.

Luna seemed to be overjoyed hearing this. - "You've never told me anything!"

"...because I've nothing good to show yet!" - Avi added. - "However, I'm practicing and I'll get better. Surely."

Nicolas laughed. - "Knowing your commitment to learning, then we'll certainly have to wait for the results."

"You should support me, not make fun of me!" - Avi complained.

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Charlotte sighed. - "If you want support, then you should ask Luna for help way earlier. She would help you with study materials and textbooks."

"Hey! I don't have to be dependent on her!" - Avi protested. - "There are things I want and can do by myself!"

Luna's smile slightly faded.

"Luna also has her own hobbies, that I know nothing about." - Avi added. - "This way, we both find fulfillment, and neither of us takes too much of the other's time."

"Avi, I get what you're trying to say..." - Luna uttered quietly. - "...but that kind of dream is something that I would like to accompany you with. I'll find time."

Avi noticed Luna's barely visible sadness and was ashamed by her earlier statements. - "Uhm... maybe I really could use a few tips once we're back on the spaceship, and I'll get a chance to share my progress."

Luna seemed happy again. - "I won't let you down! We'll evaluate your skills and choose the best curriculum!"

“Eee... okay?” - Avi uttered hesitantly. - “Just... try not to, uhm, to not limit my artistic freedom too much.”

“...and in return, Avi will study sciences harder and help you with the spaceship's maintenance work.” - Charlotte suggested.

“Eee? What!?” - Avi's anxiety was showing.

Luna was overjoyed by that suggestion. - “It's an excellent idea! Specialists in preliminary fault diagnostics are needed everywhere!”

“Avi, a specialist.” - Nicolas repeated with a sly smile.

“Luna! I'm not made for this!” - Avi protested right away.

“You are, you are!” - Luna denied. - “It's about good memory, ability to solve some simple equations, and being insightful.”

“It sounds like a process that can be automated.” - Avi countered.

“It's already automated...” - Luna confirmed. - “...and it's precisely the automation that we'll diagnose. It sometimes requires extra corrections and a bit of guidance.”

“Come on, Avi, let yourself be persuaded. You'll be an excellent assistant.” - Nicolas encouraged.

“Fine. I'll try, but if it fails, you all are leaving me alone.” - Avi agreed only because of Luna, despite not wanting to do it at all.

[I want to help, too! Can I?] - Eva asked.

“Yes, Eva. You'll be useful once Luna asks me to memorize hundreds of different screw types.” - Avi answered.

[Yay! Screws!] - Eva exclaimed with enthusiasm.

When Avi and her companions were done with their short stroll, they found themselves at a platform in front of the planetarium, which looked like a sphere made of dark-blue panels of glass. The planetarium was suspended in the air, in the space between skyscrapers. Four sets of levitating stairs led to it, all full of people who bought tickets for the show. Luna led her friends through and joined the queue, and soon everyone was in the building.

A short corridor led to the projection room, and with each step farther, Avi and her companions could notice that the gravity was being reduced. At the end of the tunnel, every guest received a jetpack which would allow them to fly in zero gravity that was present in the main, spherical chamber. Inside the

sphere, there was absolute darkness, illuminated only by a few beams of light produced by some large lamps.

With this sense of wandering through the cosmic vacuum, the waiting for the real spectacle began. The lights faded one by one, only to illuminate the space with a million colors. A holographic image of a spiral galaxy was filling the entire room.

“What is it?” - Avi uttered quietly.

The speakers began to inform. - “The simulation shows the universe at the age of stars and was done using data on background radiation and the way light is warped by dead systems. It's estimated that this superstructure was made out of about a trillion stars. We call it a galaxy.”

“A trillion of stars...” - Charlotte whispered. - “...forming something so beautiful.”

The voice continued, and the holographic image zoomed in. - “Please, pay attention to the density of stars in the center. It indicates the existence of a spacetime singularity with gravity so strong that even light can't escape it. We call this object a supermassive black hole...”

“...there are many hypotheses related to properties of those objects. Some scientists speculated that they might be gates to other planes of existence.” - Luna added. - “I don't know how probable it is. Every hypothesis that had solutions and answers required many exotic assumptions, which had close to zero probability of being true.”

The image zoomed out until the galaxy became very small, and the voice continued. - “Outside of our super-structure, there exists an ancient wall that nobody could get past yet.” - The image zoomed in

again and focused on far nebulae, away from the arms of the galaxy. - “These regions are called outer nebulae.” - Next, the last of the stars that existed until now were marked on the map with stronger light. - “Out of a trillion stars, the lights from these fifty-two still reach us. As you can see, they are scattered evenly throughout the galaxy, except for two systems far away.”

“Anaari, and the Farthest Point.” - Luna added.

“The first trace of massive star extinction was the Wars of Kings.” - The voice added. - “It's estimated that about two percent of stars ceased to exist in the age of phylacteries.” - It highlighted a few regions of the galaxy. - “Every region approximates the area of a specific alliance's influence.” - The shapes shifted and deformed, devouring other star configurations. - “There were about five thousand different, independent factions, and only three hundred remained in the end.” - A few dozen boxes with holograms of spaceship wreckage appeared above the galaxy. - “Their graveyards exist until today, scattered across the void, and are mostly unexplored.”

The galaxy hologram disappeared, replaced by twelve models of spaceships, which Avi and her companions already knew very well. The voice described them shortly, adding some trivia and explaining the history of each. It described how they influenced the unification of the remaining three hundred factions, reducing their number to a few massive alliances, then uncovered the hologram of the galaxy again, but its lights slowly faded.

“In the age of twilight, thirty-eight percent of stars died by natural causes...” - The voice explained. - “...and in the next age, which took a few hundred times longer, that is age of slumber, almost all the other stars died, except less than about a one-hundredth percent of their initial amount. It's assumed that in those times, enclaves powered by the energy of smaller black holes and dwarf stars were built. To survive as long as they could, their people's inefficient bodies were reduced to cybernetic replacements, which lived in virtual worlds. Unfortunately, with decreasing access to energy, the only alternative for civilization to function was time dilation – that's why the age is called the age of slumber. The citizens of the last colonies were waking up in longer and longer intervals of time, unaware of the outside world and millions of years that passed during their microsecond periods of brain activity.”

“In the age of Witch, their life ended.” - The voice continued. - “The age started with the death of our super-massive black hole. It took cycles before it evaporated, but this process wasn't natural. It was accelerated by the Witch herself. Other black holes died similarly, and only about seventy thousand stars remained.”

“In the age of the last survivors, the number of those stars was reduced to fourteen hundred due to war. The lives of those stars were prolonged by manipulating the fundamental aspects, which could be easily detected by the presence of adequate anomalies. In the age of the labyrinth curse, the Necrosis became the main problem that many civilizations had to face. Only nine thousand stars survived this age, but it's estimated that ninety percent were graveyard worlds. Although Necrosis spreads regardless of the spatial distance, in the age of end, Anaari's efforts led to neutralization of infected worlds, which reduced the rate of infection, potentially prolonging the lives of the last survivors for a few more cycles. Unfortunately, they still had to face the threat of Infinity Witch.”

After these words, in the blink of an eye, almost all the remaining stars died. The other stars died slowly, yet steadily, until only fifty-two clusters remained.

“After Möbius's Destroyer was defeated, and after Witch was wounded in the battle, a silence followed, lasting all the way to the present day.” - The voice summed up, then summoned the full galaxy hologram once more and later projected it onto a nearby wall. - “To conclude the first part of the presentation, we'll show the simulation of the night sky as seen by an ancient observer. After a break, we'll present a classification of celestial objects and present the known data about the last star systems...”