9. Underground

Rationality is an oil lamp lit in a room of infinite darkness.

Agapito, Roman Slave and Teacher, 1st century BCE

The Lab

"It was a gift from the cold war," Dr. Kost advised. "We discovered it soon after the Velvet Revolution. We used a torch to open the doors, since the Soviets didn't leave any keys. We've made some updates, of course. It is now call the 'X Lab.' I think you will find it quite useful."

"I didn't expect to see a lab protected by so much steel," Roy said.

He closed the massive steel door behind them. They descended down the steep, neon-lit, cinder block passageway. Their voices and footsteps echoed.

"It was very sensitive research at the time," she said.

"It still is." They both smiled.

"As you'll see, the team has made some very significant improvements. We've already started some alpha testing with the Zenin helmets and Randall's software. Dr. Hammer was here earlier this week for our first recording session with a volunteer from the school to test the helmet. I think you'll be quite impressed with the results."

At the bottom of the passageway, Kost stopped in front of another door and placed her palm on an infrared vein scanner. The glass on the pad turned from red to yellow before a key pad pattern appeared. She entered eight numbers and the glass turned green.

"Double factor authentication. The sensor scanned the blood in my veins and the pattern. That's one factor."

"Then the PIN," Roy interjected. "You guys aren't taking any chances with unauthorized visitors."

"There's more," Dr. Kost continued. "Until this door opens we're in a mantrap."

"A mantrap?"

"Yes. The two doors cannot be open at the same time. If you had placed your hand on the sensor, both would lock and a security unit would be notified. A remote operator would observe

you by camera and determine whether or not you would be subdued with a mild, yet effective gas agent."

"And if we wore masks?"

"It would not be a smart move," she answered. "That's all I am allowed to share at this time. Tell your team to keep their faces visible at all times. Soviet legacy, I'm afraid."

After a few moments a voice echoed across speakers in the hallway. An image of a woman at a desk projected above the glass.

"Dr. Kost, welcome back." The striking blonde security guard pivoted in the hologram.

"She's now planting her palm on a similar sensor," Kost explained. "No need for a PIN at her stage. Her vein signature is enough."

After a series of clicks, the door slid open.

"Why not have the same security at the first door as well?" he asked.

They entered the outer area of the lab and walked through a small hallway. Three steel cages filled with crates of lab equipment edged the walls. One of the crates still held its shipping tags. Kost entered a pin on the keypad outside the cage holding the new shipment. She entered after another click.

Kost answered, "If the Soviets taught us anything it was the effectiveness of traps over walls." She pulled a light blue box from the crate.

"One would think after going through the doors additional security wouldn't be required," said Roy.

"The cages aren't very secure," she answered. "They allow us to segment access to shipments. More for convenience and accountability than security."

Kost opened the new box. Roy walked on past the storage cages. Red lights came on when he entered what looked like an old sensory lab updated with tightly wound, colorful bundles of cable. Five coffin-shaped sensory deprivation tanks lined up in a single row. He'd heard about them but had never seen them. The old tanks were outfitted with smart glass, a variety of high tech appliances and colored cables.

Definitely not Soviet legacy.

The tanks, modified with smart glass on top, were connected to five sets of bundled cables which led straight up from the head end to a master cable box on the ceiling. A motor at the base

end of each box appeared to power the tiles, which doubled as lids. A single thick cable ran from the master box straight into the nearest wall.

"Smart-glass tiles," Kost said, coming up beside him. "They can block outside light while allowing us to observe each subject. They also allow us to hear any sounds inside the tank. The effect is quite amazing. You'll see. Let me show you the observation room."

She led him through a door at the left corner of the wall where the master box cable entered conduit. The ceiling tiles lit the room when they entered, starting with those just above the entrance, then growing to each wall as they reached the chairs in the center of the observation room. A row of built-in computer desks lined one wall.

Covering most of the wall above them, advanced ion display monitors were mounted together into a single large screen. The row of ceiling tiles near the video wall blinked red, then yellow, then steady green.

Three rows of four movie-theater seats occupied the middle of the room. A large refrigerator stood in the far corner next to some cabinets, counter space and a set of ovens.

"Not Soviet," Roy observed.

"We secured the screens from a now-defunct virtual reality start-up that went bankrupt after the China crisis. Thirty million euros in orders dissolved after they secured inventory. Our gain. We bought these at auction in the liquidation sale."

She walked to the center row of chairs. "Let me show you something I suspect you might find far more interesting."

Kost spoke to a microphone suspended about a meter from the ceiling in the middle of the room. "Vaclav."

An artificial voice boomed through speakers in each corner. "Entering active mode." The green ceiling lights along the border with the screens started blinking again, this time in sequence from left to right. "Vaclav activated," the voice continued.

"Vaclav. Access Randall beta files."

"Subject?" the computer asked.

"Jakub," Kost answered.

"Accessing Randall beta files. Subject Jakub."

"Have a seat." She directed Roy to a chair next to hers and the lights dimmed. A gurgling sound came from the speakers and the red-tinted image of a masked subject beneath rising

streams of bubbles appeared across the massive wall of screens. The subject appeared asleep under water, breathing through an oxygen tube. Lower right on the screen, a virtual 3D image of the subject's brain pulsed with different colors in each region.

"Vaclav, twenty minutes into REM. Advance."

"Advancing to REM plus twenty minutes," the computer answered.

The frame rate accelerated into a blur before slowing again. The subject's eyes twitched beneath their lids, although the resolution of the image softened. A small, pale blue light in reddish darkness replaced the image of the subject in the water. The dot grew larger until the entire screen turned blue.

"We're now seeing the signals gathered from the Zenin helmet, instead of the camera built into the tile," Kost explained. "The energy from the dream has reached a threshold defined by Randall's software and the sensors. A switch has been made."

A fuzzy blue and white image in the center of the wall transformed into the silhouette of a woman. Other colors soon blended in, producing a grainy, full color image.

The image representing the subject's brain showed an intense red color shining at the base. The front of the image also turned red and joined with the red emanating from the pineal region. The resolution intensified. The sound of a gentle wind and waves crashing against a beach replaced the gurgling sound of the mask in the water.

"The Zenin helmet has picked up the dream state of the subject," Kost said. "Audio has now switched over. It's a few moments slower than video. Randall says it has something to do with how the router and multiplexer have been programmed. We'll adjust it, although it seems fine to me. It's like watching a movie with bad sound editing. I'll take you through the interaction I had when Hammer and I watched. He was quite excited, as you might imagine. I reset computer memory to establish double blind test standards. We will test the original analysis for validation purposes."

"This is amazing," Roy uttered beneath his breath. "Simply amazing."

A vision of a woman in the mouth of a rocky beach cave appeared. Her sheer white dress blew in a gentle breeze. She spoke to the subject.

"Vaclav, translate."

"Unknown."

"Unknown?"

“It is not a known language.”

She smiled and glanced at Roy as she addressed the microphone.

“It is a language. Please recalculate.” she asked.

Thirty seconds later the computer spoke again. “Affirmative. It is a language.”

“Explain how you know it is a language,” Kost replied.

“Alphabet has an estimated 180 distinct sounds and sixteen probable vowels, and clicking sounds which cannot be classified. They could be vowels, consonants or points of emphasis.”

“Anything close in your database?”

“More expansive than Ubykh. Ubykh is no longer spoken. Native to Turkey near the Black Sea. More than eighty consonants spoken per Hans Vogt.”

“Anything else you can tell from the recording?” Kost asked the computer.

“Yes. I have a notable observation with a high probability of accuracy.”

“By all means, continue.”

“She is very likely a life form.”

Roy glanced at Kost, catching her eye. “Holy shit!”

The two looked at each other.

“Please repeat and clarify,” Kost continued as she stared at Roy.

“She is a life form. There is a point zero zero zero six likelihood of error. Her spoken voice is not objective, it is emotivistic.”

“Explain emotivistic.”

“The woman is speaking to influence the subject. There is fluctuating emphasis consistent with emotions. Her facial expression projects serenity, yet her tonality suggests great affection for the subject in Tank Three. Artificial life forms have not yet developed emotivistic tonality with intent to persuade. She is very familiar with the subject. Sister or mother, based on tonality. There is also sorrow and regret.”

The computer paused for a moment.

“Correction to previous calculation: Alphabet is 192 consonants and eighteen vowels, or perhaps permutations based on effects of certain consonants. Still determining whether clicking sounds are consonants or vowels. Seventy-one percent probability they are vowels.”

“Continue with any observations,” Kost added.

“The language is very old, based on complexity of vocabulary and simplicity of grammar. Indicative of nonstandard localized vocabularies—”

“How old?”

“As a spoken language it has existed for an estimated one hundred thousand years or more across a wide geographic area. It appears to be a root language.”

“Please explain root language,” Kost said.

“Predates Sumer. Influences also traceable in Sanskrit and MesoAmerican languages. Sounds for mother, father, life, death, sun, stars. May I speculate?”

“Please do.”

“The woman has known the subject for at least eight thousand years.”

Roy looked back at Kost.

“Subject was sick and left to elements by tribal custom. Died a violent death by a now extinct predator. She has been troubled and helps him during his dream states. She has been his mother several times across the ages, including in the last century.”

“Take us to plus thirty minutes.”

“Advancing to thirty minutes plus,” the computer answered.

“Now watch this,” Kost whispers to Roy.

The video blurred again before a new image formed of a stone entry gate etched with the image of a dragon, leading to a long rope bridge crossing a wide chasm. From the foliage and the limited clothing the subject appeared to be somewhere in Central Asia. The subject crossed with his fellow warriors when the bridge released from the other side and they fell to their deaths.

The brain image on the lower right of the screen changed and showed color shifts from the pineal and frontal regions and back to the base of the brain. The gurgling sound returned with the red-tinted image of the subject in mask. The subject awakened wide-eyed with elevated blood pressure.

“I saw this for the first time with Hammer and Randall when we tested the gear for the upcoming trials. I wanted you to see what I saw. This is the third session with the computer. We erased the computer analysis storage each time. Not that it would have mattered. At this point we have no idea and are relying upon silicon speculation. We are looking for an expert on dead languages.”

“Jakub. That’s his name?”

“Yes.”

“Any recordings with others?”

“He was our first. As I said, he volunteered for the alpha trial. Works in the pathology lab.”

“Any enhancements? Was he tripping?” Roy asked.

“No. The DMT just arrived, by the way. The blue box in the cage. We did give him some L-Theanine and melatonin to get him to REM faster.”

“You’re kidding me. The DMT was in the cage we passed on the way in?”

“Yes. It just came in today.”

“No special security procedure?”

“This place not secure enough for you?” she smiled.

“Point well taken.”

“So what do you think, Dr. Swenson?”

“I’m certain this is more powerful than our video of killer whales. Did you interview the subject after the dreams?”

“Yes,” Kost answered. “Our subject had no recollection of any of it. He called it an intense nap.”

“Did you show him the video?”

“Absolutely not.”

“Risk of trauma?”

“Yes. And well outside approved protocol.”

Roy stared at the screen. “I would like to try it.”

“You want to get in the tank?”

He nodded.

“I’m not sure that is wise.”

“Then I could watch the video afterwards,” he answered. “It would give us an extra dimension of data. A subject reacting to his dreams in real time.”

“I won’t take the risk.”

“I’m willing to. The Vienna Accords relate to volunteer test subjects. Not to highly trained researchers.”

“The potential for problems is too high,” she said.

“What problems, beyond my own mental health?”

“The Accords could be interpreted to cover any volunteer test. You would be a volunteer. Charles University would be liable.”

“I am willing to sign a memo of responsibility. What other risk is there?”

“You’re the head of the project. If something happens to destabilize your personality then the project is over, cancelled. All of the investments in the lab would be written off and the entire research oversight committee fired.”

“I’m not worried about subconscious trauma destabilization, if that’s what they call it,” Roy said.

“It’s a risk I am not willing to take.”

“Let’s take another look at the video. The entire video.”

“Fine by me,” Kost replied. “Most of it is pretty humdrum, except for an explicit sex scene.”

“You’re kidding me,” Roy chuckled and lowered his head as if to look at the ceiling.

“Obviously a male subject. Very raunchy. I’m not ready to watch it again. I stopped at a particular moment. I didn’t need to see more.”

“Maybe I don’t need to put the helmet on after all,” he grinned.

“Is that all it took? I should have said something sooner. Vaclav. Run the entire file. Jakub. Omit the section with… the wolf.”

“Starting file. Wolf scene excluded.”

The two watched the video leading up to the sex scene. The subject lay quietly looking skyward for most of the first thirty minutes. The brain monitor showed normal, relaxed thought patterns. On occasion the subject closed his eyes for a few moments. The resolution of the image of him with the snorkel in the tinted water weakened when he approached sleep. For about twenty minutes they watched Jakub fall back asleep in the warm water.

“Are you sure I cannot talk you into watching the whole video?” Roy asked.

“Dr. Swenson.”

“In the interest of science, of course.”

“I’ll upload it into the cloud archives for you. You can watch it by yourself.”

“Fair enough. Is it that bad?”

She ignored the video of Jakub sleeping in the water under the gentle pulse of air bubbles to emphasize her disdain. “Yes. But perhaps for you it may be business as usual.”

“I think I’ve been insulted.”

“Watch the video and tell me. I found it quite vile. I do not want to see it ever again, including anything which occurs afterwards.”

“What language did they speak?”

“I’m no longer interested in discussing Jakub’s sex fantasies,” said Kost with disdain.

“A new frontier in cinema has been crossed—”

“Enough, Dr. Swenson.”

The image changed to a pale blue dot floating in a mild purple light.

“He has now re-entered REM sleep. Thank goodness.”

“Your revulsion with the dream has me quite curious,” Roy prodded Kost.

She picked up her smart phone and checked for messages.

What could she have seen that would have disturbed her so?

An image emerged of a tattooed woman with massive breasts, kneeling on all fours in a straw hut lined with animal skins. The screen went blank, then reverted to the blue dot.

“Was that it?”

“Dr. Swenson. No. That’s just the beginning.”

“What I saw looked quite tame,” he said.

“I’m done talking about it.” She fidgeted with her phone.

A new image materialized on the screen. Jakub walked down a gemstone-laden beach on a rocky island in the middle of a calm sea. A stream of clear water flowed from a metallic-looking rock across the sand into a purple ocean. Next to the stream sat a large, intricately etched ceramic urn. When he crossed the stream the image went back to the dot.

Within seconds he approached the woman in the cave and the woman spoke to the subject a second time.

“The dream is repeated?” he asked.

“We think so.”

“What is that mark on her arm?”

“What mark?” she asked.

“On her left arm. Just above the elbow.”

“Oh, I see it. Maybe we can get a closer look. Vaclav. Can you magnify the current image by three hundred percent and focus on the woman’s left arm?”

“Magnifying.”

“It looks like some kind of circle. Filled with a pattern,” Kost observed. “Yes. Like uniform flowers. Vaclav. Do you recognize the symbol?”

“Isolating symbol. Searching database. Performing pattern match.... Affirmative.”

“What is it? What does it mean?”

“It is the Flower of Life,” the computer answered.

“Flower of Life? What is its context? Can you tie it to a location?”

“It is a very old symbol. Tied to many religions. Pre-Sumer.”

“Anything else?”

“Earliest evidence traces to Egypt. Fifteen to twenty thousand years BCE, based on the archaeological discoveries of Dr. Jeremy Fitz at the Temple of Osiris in Abydos. Patterns burned into rock with precision. Unexpected and disputed due to contemporary assumptions about advanced technology in pre-Sumer civilizations. Based on her language, she could also be tied to the ancient city of Dmanisi or Göbekli Tepe.”

“Where is Dmanisi? Also in Egypt?” Kost asked.

“No. In Georgia near the Turkish border, not far from Göbekli Tepe.”

“What is your hypothesis?”

“Based on recent discoveries and the complex alphabet she uses, it is reasonable speculation. No existing theories or facts would dispute it.”

“Anything else?”

“She may also be tied to Doggerland, the underwater city near England. Destroyed by a flood about ten thousand BCE. Estimated population before the flood approached one hundred thousand residents.”

“Hypothesis?” she asked.

“Flower of Life symbol commonplace in region during pagan era survived through modern times and has been broadly adopted. Doggerland was a trading city situated between seas formed by melting glaciers and the Atlantic Ocean.”

“But no record of such a language in this region.”

“Correct.”

“Vaclav, please return the video to play mode.”

The two scientists watched the rest of the dream sequence, which included a traumatic childhood experience and the subject arriving late to work in the lab. Roy turned to Kost. “When do the official trials begin?”

“Based on what we’ve observed, Randall thinks next week or the following could work. He’s tuning the software to increase display definition and synchronize audio. We may not need any chemical enhancement. I’m pretty impressed with what we’ve seen thus far.”

“I would prefer to avoid any drugs, except as a last result.”

Kost held her hand straight up for a few seconds and the room lights came back on. They both stood.

“Thank you very much, Dr. Kost. Amazing early results. Quite promising.”

“Thank you. Who would have thought that a helmet made of Zenin could access our dreams?”

“And this is only a first generation helmet and software.”

“Very promising, Dr. Swenson. Very promising, indeed.”

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