

Die Berliner Luft

A Runner-RL short story

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Luka emerged from the Friedrichstraße station, the tail end of the passenger outflow. He adjusted his shoulder bag and breathed in deeply. It had been years since he was in Berlin. That *Berliner luft* still lingered on his senses; concrete, history, bakeries, freedom and - when the wheels of bureaucracy slipped - unwashed sewerage.

A man with small, sharp glasses stood by a statue of children. He was holding a sign: “Luka Snell”. Luka smiled. It had been a long time since anyone had shared his name. He opened his G-phone. “Hiya GRID, maps please.” A cyclist jangled by, confusing the phone. “I’m sorry. Did you mean: maps?”

The man stepped forward. “Luka Snell, please. A car is waiting.” The man looked down at Luka’s sandals and the travel mug dangling from his bag.

“There must be some mistake. I did not...”

The man held up a finger. “Non. There is no mistake. I have been sent to assist you to ze Institute.”

Luka was looked up from the email on his phone. The invitation had given him an address, but no mention of a car service. Somewhere in Luka’s subconscious played with the man’s flat French accent.

“IPTS?”

The man nodded and motioned to a car nearby. The sign had disappeared behind his back. Luka shrugged and got in.

The car slipped through the streets. The Frenchman, still not introduced, sat in the rear-facing seats. He looked at Luka. Or through him.

Luka smiled back. Silence. Minutes of silence. He took out his phone again. “Do you mind if...”

The Frenchman bowed his head.

Several notifications had popped up. A reminder to meet Professor Guerrero at IPTS, of course. Next his advisor had cancelled their weekly meeting with no attached reason, but this was his way. GRID Local had asked him to check in to Berlin, and offered several nootropic juice bars in the area. Luka instinctively sipped from his travel mug.

A video message from Cindy, his lab-mate. She was pulling her hair back into a bun, a traditional Chinese look if she wasn't dripping with sweat. “Hiiii Luka! You missed our bike ride! Just making sure you're feeling okay. My tablet is playing up and I can't access the cluster. Hope you don't mind, I'm using yours.” Her eyes traced lines on the screen. “Hey whatcha been running? Big job. Must be cool. Talk to you later! Hugs! Bye!”

Luka smiled and then put on his poker face when reminded of the man across from him. He adjusted the speaker nub in his ear, dialling down the volume. With his thumb he flicked through his phone and retrieved last night's results through CloudHutch. Another tingle went through his body. No time to test the results, but the telemetry looked good. Really good.

He couldn't wait to explain it to Cindy. Maybe over dinner? Though something nagged at him. The skeleton of a reminder he had forgotten the meat of.

The car slid to a stop at the base of wide marble stairs. The man touched the door open for Luka and waited for him to get out.

Above them stood a delicate building made of glass and polysteel. Elegant but powerful, like a cresting wave frozen in time. Luka's eyes followed the stairs down and saw the sign: "Europa Institute for Prospective Technological Studies". The EU logo shimmered on a loop. All this wealth and purpose was surprising given the news over the past few years.

The Frenchman stood next to him, tapped his watch and the car drove away to park itself. The man motioned towards the building. "S'il vous plaît."

At the entrance a stern, chubby guard stopped them before a metal detector. "Passports, bitte." Luka fished his out from his bag. The guard tapped the desk and Luka opened his EU passport in front of him. Luka brushed his beard down and smiled nervously. The guard ran his finger over the page and nodded. The Frenchman took out a small booklet, too unlike a passport, and opened it just before the guard's face. The guard quickly looked at the Frenchman and nodded. The non-passport snapped shut. Luka walked through the weapon detector and though he couldn't be certain, he thought the Frenchman walked around it.

The elevator ride up was silent. Luka took a corner but the Frenchman stood dead center, watching the display.

Luka's eyes whipped through the original email invite from Professor Guerrero. It seemed very casual, jovial even. He hadn't been to the IPTS before but he expected it to be like those "innovation hubs" or "nodes of excellence" universities usually had. He expected them to have designated a small wing of a department as the "institute", with nothing more than a new sign and new coffee machine. He certainly hadn't expected this expanse of glass, polysteel and money.

Maybe he should have paid more attention to the GRID info tabs on the email.

The Frenchman walked Luka to a large oak door. He waved a hand near the handle and then pushed it open. “S’il vous plaît.”

Beyond a vast expanse of polished hardwood floors, flanked either side by delicate bookshelves and backed by vast panes of smart glass, sat an enormous table. Behind it reclined a sharp-dressed man with dark, Mediterranean hair, looking out over the river. A nub on his desk hummed two notes and said, “Two visitors for you.”

The man spun around and looked slightly surprised. “Oh! Hello! You didn’t... My apologies!” He pounced from his chair and met them halfway. “I am so sorry. Hello, I am Professor Alejandro Guerrero.”

Luka shook his hand. “Luka Snell” said the Frenchman.

“Yes, yes. I am sorry. You have met Mr Tasse-noir, no? Please, let us drop the formality. Luka, welcome to our institute, please. We are excited for you to visit.”

“Er, hello. I am pleased...” Luka shifted the bag on his shoulder and smirked. “I was pleased to get your invite.”

Instead of leading them into the room, the professor lead them out. “It is our pleasure. Please, let us go somewhere more comfortable.” He shot the Frenchman a glance. “Luka, can I get you a coffee? My assistant can get you a coffee. Please, come.”

The travel mug of Luka’s had stopped sloshing around. A coffee would be second best. He looked at the Frenchman. “I will have noo-juice? Or black coffee?” The Frenchman didn’t even meet his eyes. From out of nowhere, a young woman appeared, nodding, taking notes on a wrist tablet. She looked at the professor. He nodded and she added to the list, and disappeared.

The three men strode back through the hallways and over walkways. Luka and the professor ahead, the Frenchman behind. They passed by several offices, some austere, some hemmed in with books.

“How was your train journey? They have upgraded the rail from Essen, no?”

Luka shrugged. “It is okay. There have been better days.”

“Ah, yes. If only we had bought the hyperloop before...” The professor smiled, looking back at the Frenchman.

They stopped at a door and the professor held his hand near the door. “Please, this is more comfortable. More interesting, no?”

Inside the sealed-up room was a well-appointed maker space. Not much light came through the stippled windows, but the room was comfortably lit. It was smaller, more cramped than the previous room. In amongst the workbenches, 3D printers and server racks were a ping-pong table and a circle of brown leather couches. Luka looked at the ping-pong table and asked, “Do you play?”

The professor laughed. “Ah, no. Not since my college days. Please, be comfortable.”

Luka looked at the equipment, lingering on the rack of servers. He made a quick FLOPS calculation and whistled. The maker space back home was a few spare parts compared to this room.

The Frenchman sat in a leather chair, folding himself like metal origami. The professor pulled up a tall chair and straddled it, backwards. “It is nice, no? This whole building is quite beautiful. Much better than Seville, but it is normal to miss one’s home. The EU host many summer hacker camps. Everyone loves to come in and play with our toys. Please, have a seat, Luka.”

Luka sat down, carefully wedging his bag next to him. “Professor Guerrero, I must be frank. What is it I am doing here?”

The professor smiled broadly, saying nothing for a second. “Please, let me properly introduce myself. I am Professor Guerrero, and I am the director of the new Europa Institute for Prospective Technological Studies, this beautiful building. Our purpose is to find very exciting work in the EU, for the EU, and... help it along. Give it wings.”

Luka crinked his forehead and adjusted his glasses.

“Maybe you have visited our Brussels building before we moved?”

Luka shook his head.

“Ah, a shame. We hear much about your work, Luka. I enjoyed reading your last paper. Would you care to talk to us about your work?”

Luka paused. Paper? He had no paper. A poster presentation at ICML last year, but no paper. Barely a website, but only because his advisor yelled at him.

“I, er...” Luka searched for words. The professor’s phone buzzed, he glanced at it, and firmly dismissed something.

The door opened and his assistant slid in with a tray of coffees. The professor took his, “My Elena, thank you.” The Frenchman took his coffee and cupped it between his knees. The assistant looked up over her glasses at Luka and handed him his drink, a black coffee with an unusual crema. She quickly slipped away, leaving a waft of perfume and the faint BBQ smell of the racetam nootropic crema shot. *Close enough*, thought Luka.

“My work is I am trying to find a universal optimizer for classical and quantum computers for Hinton structures. Adiabatic not topological.”

The professor sipped his coffee and smiled. “Ah, excellent. Excellent. We hear the work is going well. Very well.”

Luka’s brow furrowed. “It is okay.” No papers, no posts. His poster was just some side project. Who had they been talking to?

The professor chuckled socially and his phone buzzed again. Again, he flicked away a notification, frowning.

“Do you have plans for the work? Sharing perhaps?”

Luka shrugged. “I could put it on the ‘hub?”

At that, the two men reeled slightly. “Luka,” smiled the professor. “Where did you grow up? Have you always been in Essen?”

Luka sipped at his drink, wary of the sudden left turn. “Mostly. My parents are in Stuttgart, but I could not live there.”

“Have you been overseas? Asia?” The professor smiled. “The American states? The good ones, that is.”

Luka shook his head.

The Frenchman suddenly sat forward. “I cannot be so silent. Snell, you have a $oh-c-N \log N$ algorithm for ze computation and $oh-log-log N$ for ze memory? Zis is the truth, no?”

The professor laughed, and gestured a palm towards the door. Luka heard a faint click of a lock.

“Please, please. We are all friends here. Brothers, no?”

The Frenchman sat back. “Alejandro, we do not have time...”

The professor stood up and straightened his jacket. “Luka, these are your results? What Mr Tasse-noir so kindly said?”

Chilled blood ran through Luka’s heart. *How did they...* “I... I think so.”

The professor took a chair closer to Luka. “This, this is promising. Excellent. Most excellent for Europe. We can support you. What do you need?”

“But,” said the Frenchman. “Who have you told? Anyone?”

Luka swallowed. “My advisor?”

The Frenchman waved that sentence away like an annoying fly. “Non. Your lab? Who knows?”

Luka shrugged.

The professor took to his feet again, and wandered the room. “Luka, you do know the importance of your work, no?”

The room’s electronics hummed quietly. The professor’s phone buzzed incessantly. “¡Mierda!” he muttered, tapping angrily at it and switching it off. He breathed deeply.

“Luka, for many, many years the brightest minds of Europe have looked for the next step for humanity. We have long held our brotherhood... or at least those courageous enough to remain in it. We anticipate the next step, brotherhood with minds not like ours. Artificial minds. We must protect what is right. The EU must protect these next Minds...”

Luka frowned. “But I haven’t...”

The Frenchman grimaced. “You are an EU citizen so I take this liberty with you. Ze Hinton structure – if sufficiently large – has been proven to produce a mind equivalent.”

“Proven? What? Really? Where?”

“Mr Snell, you have no need to know. But we must move quickly. We have been aware of your work and need to make sure it does not fall into ze wrong hands.”

“How...?”

“Who have you told?”

Luka sat forward. “Did you...?”

“Who. Have. You. Told?”

“Nobody!”

The Frenchman grimaced again. He produced a tablet from his jacket. The professor paced the room, smiling at Luka. A weak attempt to soothe the situation.

The Frenchman flipped his tablet around. “Her?”

A picture of Cindy. An unflattering one. Nearly a mugshot. A page of biographical details swarmed the picture.

“Cindy?” Luka swallowed. “Maybe? I don’t know.”

Both he and the professor flinched. The Frenchman flipped the tablet back. “Cindy Leung...”

Luka blurted out, “She’s just a lab partner!”

“Cindy Leung, is an agent from the Chinese government. Cultural espionage. Deep cover. What have you told her?”

The professor tried to disarm the situation further. “Jean, please. Let us be cool and Luka can tell us about his work. He is a good guy.”

Three short raps at the door. The professor made calming gestures and opened the door. His assistant leaned in and handed him a phone. “They kept calling. On all the phones. They say it’s urgent.” The professor sighed and left the room with his assistant. The door lock clicked as he left.

The thin Frenchman stared at Luka, still waiting for an answer.

“We share a lab. She uses my computers some times. She is not a spy I don’t think.” The Frenchman waved that suggestion away. “She... she might have seen these results.”

Luka looked for his tablet and brought down the results from CloudHutch. Something gnawed on his brain. He thought it was this sudden wild ride, but that didn’t feel right.

The Frenchman took the tablet and looked them over.

The room was quiet again, except for the servers.

The door reopened and the professor walked back in. His hair seemed corded with sweat.

“What?” asked the Frenchman.

The professor sighed and paced again.

“**What?**”

“The GRID. They... they know what’s going on.” The professor straightened. “No actually, they predicted it. Suspected it algorithmically. That’s the same for them. Enough for them. They were talking tough guys.”

The Frenchman waved that away, surprising both the professor and Luka.

“They are tough, no?”

“Zey have no jurisdiction here. Or anywhere.”

The professor gestured at the Frenchman. “They are *the GRID*. They have jurisdiction *everywhere*.”

“My people will handle it. Say no more. We have to focus. Here.” The Frenchman stabbed a finger at the results.

Luka sank back in his chair. The gnawing continued to burrow through his brain.

The professor turned to him. “Luka. It is okay. Please. We will take care of you. We are the EU.”

The professor paced around the room. “You cannot protect yourself against China. Or the GRID. Or anyone else. But we can. If we move quickly. This is your best interest, no?”

The Frenchman whispered under his breath, full attention on the tablet. Luka thought he saw the man crack the slightest sense of a smile.

“Luka, the Institute can look after you. We are not so... academic. That is, we are a lot more. A scholarship, new house, a safe place to work. We are

building a cluster. Something you can work on.”

Luka’s mouth dropped. “The zettaflop cluster?”

The professor’s posture faltered. “Well, if the French and the Germans decide to contribute...” The Frenchman ignored them, whisking quickly through the results. “Maybe zettaflop next year. Prying so many chips from the Chinese...” Luka looked on, but the professor just shrugged. “We do what we can. It is hard these days. But you will have many toys.”

The Frenchman abruptly stood up and handed back the tablet. “Transfer zese to ze enclave. Delete everything else. Do not contact Cindy. We will be in touch.”

Sans formalities, the Frenchman left the room, closing the door behind him.

The professor shrugged. “He is not with the Institute. He is with the French. That’s all they say to me. Well Luka, this is exciting morning for you. Can you join us in the Institute?”

What a morning. Luka began the day chewing on a stale doughnut in the train station. Now they were talking about the EU, and uprooting his life, and Cindy being some sort of spy, and zettaflops maybe. Everything had been shattered and collapsed in a heap. And even through all that, he felt a knot in his brain. Something solidly uncomfortable amidst the entire train wreck.

The piracetam kicked in and Luka’s mind sharpened like a laser. “Yes. I shall be joining the institute.”

The professor sighed and laughed. He clapped Luka’s shoulder. “Excellent. Excellent! Please, stay here. Enjoy the equipment. I will start arrangements. Shall Elena get you another drink?”

Luka shook his head. It buzzed.

“Please, enjoy yourself. Oh and maybe shutting down your GRID account.” The professor wiped his forehead with a handkerchief and spun out of the room.

The door clicked.

Something deep within Luka clicked. Something connected. Sparked. Jumped a gap.

“Oh no,” he said.

He flicked through his notes, tracing formulae. He spun up a VM and typed furiously. With desperate slices he dissected his data. New commands, but simple ideas. Simple tests.

“Oh no.”

The VM said: `Results exceed bounds. Invalid result.`

He was wrong. It was wrong. He had nothing. When he linked in the proper test harness, the new bounds were at best a constant shaved off the usual freshman asymptotics. *At best.*

He had nothing. Worse than nothing. It wasn't a result. It was trash.

He had even worse than that. He had the world descending upon him, ready to plunder his life but all he had was trash.

Trash. And new enemies. And new allies. And a new job. And all the computation he could dream of.

He slumped back in his chair. His G-phone buzzed.

Even inside this closed room, he thought he could smell the Berlin air.