

A Few Glimpses Into the Geeksters

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It all started in the Early Entrance Program at Cal State LA, which was a program that allowed especially gifted and disciplined teenagers to drop out of high school and go straight to college. Sixteen year old Vincent Gahan sat semi-attentively in the mandatory seminar for the scholarship program that he had gotten himself into on top of the Early Entrance Program, or EEP as most people called it. As usual, Dr. Bertha Washington, an intimidating middle-aged woman with a stern, no-nonsense expression and a booming voice that made many of the men sound effeminate, lectured about the importance of staying focused on academics. "...And if you need to speak with me about your program, make an appointment through the department office!" she said.

While Vincent began to rearrange his backpack so he could bolt out as soon as Dr. Washington was done, he suddenly felt a pair of eyes staring at him. He looked up and saw a tiny girl with an inquisitive, fox-like expression look at him. As soon as his dark, almond-shaped eyes met hers, also dark and almond-shaped like his, she quickly turned her face away and went back to her notes. He had seen her on a number of occasions in the biology department and in EEP, but he never got her name and all he knew was that she was working for Dr. Henri Ulrich, a plant ecology instructor with a reputation for working his students into insanity and for sleeping on the locker room benches. The fox-like girl, Vincent guessed, was probably Thai with her shoulder-length cascade of black hair and her deep brown skin, and she was extremely delicately built. She was also usually a loner, a trait unusual for the usually more social EEPsters.

Later that day, after Vincent went to his organic chemistry class, he was stopped by his instructor. Dr. Juan Razo, a short, stocky man with a Groucho Marx-style moustache, said, "Vincent, Dr. Huang asked if you would be interested in tutoring one of her students. She's an EEPster and is really smart, but she's struggling and the TA hasn't been able to help her, so she thought maybe someone with a more quantitative background might be able to help her." He spoke with a very thick Filipino accent.

"Sure," replied Vincent.

"I'll let Dr. Huang know and then she'll probably introduce you to her student," he said before letting Vincent head out. "And by the way, Vincent, I may have an opening in my lab soon for you so you won't have to put up with Dr. Schlenk anymore!"

With that, Vincent ran down the eight flights of stairs in the physical science building (he hated elevators with a passion) and then into the biological science building. Several girls, mostly in the biochemistry club or tri-Beta, look at him and smiled flirtatiously. He merely smiled back at the fashionably clad girls who were probably at least two or three years older than him. At first he was uncomfortable at being looked at so much by the girls, but he slowly grew used to it. At five foot seven with an athletic build and handsome features that spoke of both Chinese and European ancestry, Vincent was considered attractive by a significant portion of the female population. He also had stylish reflective sunglasses that darkened and lightened

under appropriate light conditions and he usually wore stylish jeans and button-up shirts that matched well with his jeans, sun-glasses and short black hair.

Then while the girls were mobbing him, he saw a blur of motion down the hallway. The tiny fox-like girl, apparently running late for a class, had walked straight into Dr. Washington, who was busily talking with Dr. Igor Keindafflatt, the senile professor emeritus whose office was next to Dr. Razo's office. "Watch your step!" boomed Dr. Washington in a voice that was deeper than most females. Dr. Keindafflatt, in the meanwhile, put a hand on his heart to make sure it was still beating while he wheezed in terror. The girl, obvious agitated and nervous to start with, darted off with a movement that spoke of almost inhuman grace.

"Poor girl," thought Vincent even as the rest of the girls and several boys started snickering amongst each other.

"That Tara, such a klutz. Did you hear what she did in Dr. Huang's lab today? The little dumb-ass brought the wrong book!" giggled one of the girls, a tall blonde with a mini-skirt and a tight, shiny shirt that revealed her ample cleavage. She then walked up closer to Vincent and began smiling flirtatiously at him.

Uncomfortable at her attention, Vincent motioned that he was running late for a meeting. With that, he walked as fast as he could into Dr. Washington's office. Dr. Keindafflatt was still there, complaining about how Dr. Ulrich's students were always so disrespectful. "Excuse me..." said Vincent politely.

Dr. Washington looked up from her desk and motioned for Dr. Keindafflatt to step out. "Vincent. Have a seat and we'll go over your course schedule once I pull up your file."

After going through his transcript yet again, Dr. Washington finally asked, "So, what are your plans for after this place?"

Without hesitation, Vincent replied, "Grad school. In computational organic chemistry."

"Good. Just keep up what you're doing, and you should be on track then. In fact, you might consider Caltech if you haven't already. James Nunnelley, a Cal State LA alumnus, has a lab there and is looking for students. There's also another fellow there to, Dr. Efren Velasquez, who does similar research but with a more engineering twist to it. Either one of them would be a good mentor for you," replied Dr. Washington.

The next day, Dr. Huang approached Vincent. Dr. Camelia Huang was a sour-looking pinched elderly woman whose glare could easily kill a roach, but today she seemed to be a bit less stern-looking than usual. "Hi Dr. Huang," said Vincent, trying to cover up the knots in his stomach.

"I see Dr. Razo told you everything. Meet Tara. She need help in my class," she said with an extremely heavy Chinese accent.

Looking up shyly at Vincent was the fox-like girl who had glanced at him in the seminar. Her shoulder-length black hair was braided back and she was wearing a loose blue shirt with the Caltech logo on it and a pair of blue shorts. "Tara, this is Vincent Gahan. He is very good student in Dr. Razo's section. Hope he can help."

"Hi..." said Vincent, suddenly feeling a bit self-conscious in front of her for some reason. "I'm Vincent..."

"Tarathorn, but just call me Tara," said the small girl, taking Vincent's fine-featured hand in what must've been the most powerful handshake he ever got.

"Nice to meet you," he said, trying to keep himself from stuttering. For some reason, the hairs on the back of his neck stood up.

"Thanks for volunteering to tutor me," said Tarathorn. In Vincent's eyes, the girl seemed to have more energy in her than could operate all of the city of Los Angeles for two years, yet

she also had a calmness that he had never seen in any of his fellow EEPsters. "When would be a good time for you to help me with synthons and retro-synthesis?"

"I'm pretty much free anytime after five," replied Vincent, trying to keep his voice from trembling. He felt something stirring deep in him, something he never knew existed in him and thought it was only a rumor told to him by the other boys. "If you want, we could go study at the library..." At that suggestion, Tarathorn nodded eagerly and gathered her books, darting about even with the heaviest of books. Dr. Huang nodded and then walked off mumbling about "dangerous students".

Two days later, Vincent had lunch with his best friend, Ivan Sîrbu, who had just returned from a math conference at MIT. Ivan was about six feet tall, but his spiked brown hair with black highlights made him look significantly taller. He was extremely pale and had extremely thick-rimmed, Coke-bottle glasses with heavy lenses and he wore a set of khaki slacks that were somewhat short for him and a pastel blue polo shirt. "Ivan, so how was the trip to MIT?" asked Vincent, trying to decide if the burger he just got was indeed organic before letting hunger win out over self-preservation instincts.

"Was good, but I got a lot of catching up to do," replied Ivan, eagerly devouring his burrito. Vincent was always impressed at how Ivan could eat about three times as much as the average person and still remain so skinny. "You?" he mumbled between bites.

"Good... hey, I started tutoring this student. She's an EEPster too, her name's Tarathorn," started Vincent.

"Describe her," said Ivan, shovelling more food into his mouth.

"Tiny, about four foot ten or so, I think she's Thai or other southeastern Asian... she's an ecologist and works for that shaggy guy who always has stale coffee and sweat stains on his armpits when he lectures and sleeps in the locker rooms," said Vincent, poking at his over-cooked tater-tots.

"Oh!" exclaimed Ivan. "She killed curve in linear algebra two quarters ago and in differential equations last quarter! I didn't know she was ecologist! But she needs help in organic chemistry?"

"Just a bit, she picks up really fast and to be honest, I think she just had a really bad set of instructor. That Kim Lee can't teach a flea how to pee, and Dr. Huang... well... is just a nasty old witch in the classroom."

By now, Vincent had given up on the stale, over-cooked potatoes and was trying to force the sandwich down despite how plastic-like it seemed to him. While he struggled with the food, Ivan merely continued to eat voraciously. Suddenly, a tiny shadow appeared and Vincent felt goose-bumps forming. "Hi Vincent!" said Tarathorn, smiling at both Vincent and Ivan. Turning to Ivan, she asked, "How'd the conference go?"

"Good," said Ivan, glancing at Vincent and Tarathorn eagerly. "Hey, I also got an e-mail from Dr. Hong at Caltech, he's the control dynamics guy who talked at that one seminar and was trying to get people from this campus to take his class next quarter. Introduction to non-linear dynamics with emphasis on chemical and biological applications."

"I could use that class," said Tarathorn and Vincent at the same time, then they looked at each other. A smile formed on both of their faces and then they quickly turned away from each other.

"Hey, come join us for lunch," invited Vincent finally after a moment of silence at the table, aside from Ivan gobbling his food like a mad-man.

Nodding and still smiling, she said, "I'd love to, but I need to run back to the lab to meet up with Dr. Ulrich and Dr. de Salvo." With that, she darted over to the express self-serve

sushi bar and then with the fleetness of a cat or a fox, dashed out of the cafeteria.

Vincent's eyes were still fixated on where he last saw Tarathorn. "Hey, Vincent. You like her, don't you?" laughed Ivan.

His moment of inattention burst when Ivan began to poke at him with the clean end of his fork. "Huh? What?" he muttered distractedly.

"You like Tarathorn," teased Ivan, still poking him with the fork.

"Uhh... I just met her," mumbled Vincent, still staring absently. "But... I guess... she is cute. So, who else is taking that class at Caltech?" asked Vincent, off-handedly.

"Those two engineering students in EEP, Robert the senior electrical engineer with shaved head and parakeet tattoo on his big biceps... and Katie the mechanical engineer who swear too much and talks back to Dr. Washington," replied Ivan. "Remember those two last quarter in abstract algebra seminar?"

He nodded, remembering how Katie and Robert usually hung out together and were shunned by the other EEPsters because of their coarse language and unorthodox academic approaches. A few bites later, Vincent decided that the food was just too disgusting. That was the last time he got anything cooked by Tau Beta Pi! "Hey Ivan, let's try that song you wrote, maybe sometime this weekend!"

It was only the second lecture and Dr. Hong's lectures had already turned into equation salad in Vincent's mind. He, along with the rest of the EEPster gang, had been sent to Caltech as part of an arrangement between the two campuses to form an interdisciplinary team of modelers and field researchers. While Vincent's brain tangled up over proofs on stability analysis, his eyes wandered over to his friends. Ivan had fallen asleep in his chair and was twitching periodically, indicating his struggle to wake up. Robert and Katie were trying to focus but they seemed more intent on drawing pictures of Dr. Hong on their notebooks. Tarathorn was the only one who was still able to concentrate on the class and she even seemed to remain engaged and ask questions.

Her sharp elbow brought Vincent back to reality and his mind went back to the material at hand. "You're going to have to help me," whispered Vincent.

"Uhh... and as you can see... there is negative derivative there and so this will go left and there is positive derivative there so it will go right. This will be sink or stable fix point," lectured Dr. Hong, spitting all over the place, including on Ivan, who was completely oblivious. For the next half hour, Dr. Hong continued on and on about stability in one dimension and then he finally concluded with, "Next lecture, we will do two-dimensional studies so please review Jacobian matrices and your linear algebra, especially eigenvectors."

Judging from the Caltech students and the relatively low attendance despite the high enrollment in the class, Vincent decided that he was in deep trouble, even though he was a math and chemistry double-major. "Tarathorn, I don't know about you, but I think this is going to be a tough class," he said.

"Not as bad as organic chemistry," laughed Tarathorn. "You helped me with organic, I'll get you through this class in one piece."

"Hey, Tara, look at what Katie drew!" giggled Robert, waving Katie's notebook, while Katie was trying to grab the notebook and cursing profusely as always.

On the notebook was a stick-figure of Dr. Hong with the hooked stick he used to pull down the chalkboards that he couldn't reach during lecture. Instead of pulling down chalkboards, though, the cartoon version of him was brandishing the stick at Vincent's butt and there was a little speech bubble that read: "Here, let me see if that fixed point at your butt is nodal source, sink, or saddle point."

Vincent began to laugh, while Tarathorn looked around nervously to make sure that Dr. Hong wasn't looking. "You did pay attention in lecture, right?" whispered Tarathorn.

"We fuckin' tried," said Katie while the four of them were walking out of the lecture hall. "He's so fuckin' boring and we don't fuckin' understand any shit he says. Oh wait, where's Ivan? He didn't fuckin' die from that shit, did he?" She ran back in to check on Ivan, who was now snoring blissfully and drooling. Brusquely, she shook him until he bolted up.

"Yeah, we tried... but we get sleepy," said Robert sheepishly as he tried to hide his drawings, which Katie snatched up and showed it to Vincent and Tarathorn. It was a cartoon drawing of Dr. Hong with one hand in his pocket and his pants looked slightly crooked, while the other hand was holding that hooked stick for pulling down the blackboard. The stick was pointed at the students, who were bent over on their hands and knees. The caption read: "Dr. Hong gets his daily organic moment from lecture."

Tarathorn muttered, "You sick puppies."

Vincent merely nodded in agreement with Tarathorn before following her towards the western end of the Caltech campus. Robert and Katie continued to giggle as they returned their notebooks to each other and scribbled more drawings of Dr. Hong and the nonlinear dynamics class.

"Trace is negative, determinant is negative..." said Vincent as he thumbed through the well-worn textbook. "Oh god, I'm so glad that Caltech gave us some dorm rooms to stay in for the quarter, well, at least me and Ivan with the Caltech exchange program and all."

"Saddle point," replied Tarathorn without even pausing from writing. "Negative determinant is automatically a saddle point." Vincent continued to scratch his head as he looked at the curve in the book to classify fixed points based on linearizing it about the point.

Three hours and half a problem later, Vincent moaned "I give up!" and looked around the room. Tarathorn had already fallen asleep on the floor at Vincent's feet and her tiny body was curled up. Ivan, too, was asleep on his stomach and using his nonlinear dynamics textbook as a pillow and his jacket as a blanket. Glancing quickly over Tarathorn's homework, he saw that she had already finished her homework and had been reading ahead about index theory. The temptation to copy her homework entered his mind, but he mumbled, "No, there's the Honor Code to abide by. Plus it's too confusing to even think of copying."

While Vincent struggled to at least finish working on the Jacobian matrix, Tarathorn began to shiver and curl up into an even tighter ball. Carefully, Vincent stood up, went to his bunk bed, grabbed his blanket, and gently put it on Tarathorn. She didn't completely stop shivering, but she didn't look like she was going to freeze. Without a second thought, he also grabbed Ivan's blanket and put it over her, hoping it would keep her warm. "Silly little girl, wearing only a T-shirt and shorts in the dead of winter," he thought. He tried to work on the problem that had been taunting him for so long, but his eyes kept going over to the little girl curled up next to him. Unconsciously, he ran his fingers through her dark hair and she began to whisper incoherently. While he stroked her hair, something deep inside of him began to stir and he pushed the homework assignment aside to give him some space to lie down next to her.

Just as he got under the blanket with her, a voice in his head began to whisper ideas of kissing her. "I can't," thought the sixteen year old boy at the suggestions that deep part of his mind offered. "She's gotten to be a really good friend... but... I guess... I... we... like... each other..." his mind began to ramble. "I... guess... it was... a good... thing... her parents are out... of town... so she... could come and... study..."

While he contemplated the situation, Ivan began to mumble incoherently in what Vincent assumed to be Romanian. "Unde ești, iubirea mea?" he murmured as he snuggled up to his

advanced non-Euclidean geometry textbook. "Mea dragostea, te voi iubi pana-n ultima zi."

Vincent ignored his roommate's quiet mutterings. He made yet one more pass at the homework assignment, trying to make heads or tails of the symbols that swam in the paper and the book. "I don't know if I can pass this class," he thought. "And I'd much rather be snuggling up to Tarathorn, she's so nice and warm and cute," added that part of his mind that was bothering him so much tonight. "No, but I can't. It's not right," he countered himself. "I can't touch her, we're too young for any of that."

While he stared at the Jacobian matrix of a simple Lotka-Volterra equation and tried to plug in non-trivial fixed point into it, a cold wind began to blow although he and Ivan had already closed all of the windows. Shivering a bit at the cold, Vincent tried to burrow deeper into the blankets. Tarathorn was still asleep, although she began to curl up into an even smaller ball in the cold. She too, shivered in the cold and Vincent found himself putting his arm around her and pulling her close to him to keep her warm. "Vincent?" whispered Tarathorn, still asleep. Then her whispers trailed off into what he assumed was Thai with an occasional mention of his name.

More tired than he realized, Vincent quickly fell asleep next to Tarathorn, who tossed and turned in her sleep and constantly mumbled things. In the morning, he woke up to the sound of Ivan screaming in terror. Bolting up, he noticed that Tarathorn was gone. "Vincent! There's a big fox in here!" shrieked Ivan, his voice going up a few octaves above even his falsetto singing.

The black-furred fox started barking and started scratching at the door. Instinctively, Vincent opened the door and it darted out. "Ivan, was it me, or did that fox remind me of Tarathorn?" he asked, stunned.

"Is it gone?" squeaked Ivan, looking down from his bunk bed. "It couldn't be Tarathorn, her stuff is gone."

"Yeah. That was weird. Hey, how far did you get on the homework? I'm tanked in this class unless I can quickly learn the material."

"Not far. I'm halfway through but it's not due for another 3 days. But I thought Tarathorn was helping you," said Ivan, forgetting his terror at the sight of a black fox in the room.

"She's extending my pain... in more ways than one," admitted Vincent. "At least I stand a chance to pass as long as she's helping me out. I just hope I can learn as quickly as she did with o-chem." Then looking at his friend, he added, "Hey, Ivan, that shriek from you sounded pretty interesting. Mind if we try recording it? I think it'll add an interesting effect to our Erasure covers."

"Only if we don't do video," replied Ivan, grinning. "And after we finish homework."

"It wasn't such a bad class, was it," laughed Tarathorn as she turned in her final project for non-linear dynamics. She had chosen to do the Lotka-Volterra problem and developed a predator-prey model that the rodent population dynamics team at Cal State LA wanted to use. "The bifurcation part of the project was a bit annoying, but that was because I tried to use actual *Dipodomys* data instead of just treating the little guys as black boxes. But it was interesting to see how the two *Dipodomys* species interacted when there was light and heavy predation and how the bifurcation point shifted."

"I just hope I pass," groaned Vincent. "I did the pendulum project. I had chaos no matter what I did. Well, it was either that or a stable system. For some reason, my eigenvalue indicated infinite growth in most cases."

Ivan staggered in at the last minute before Dr. Hong collected the last of the final projects. He turned in a messy pile of papers filled with graphs and equations. "I also did pendulum problem. I didn't get any chaos anywhere. I had saddle point everywhere. Something wasn't

right because I had no movement for most forcings.”

Katie and Robert also ran in with stapled papers that they handed to Dr. Hong, who merely grinned at them and waved his hooked stick around. “That was shitty,” cursed Katie. “Fuckin’ mussel and starfish population fuckin’ collapsed at high predation and exploded at no predation.”

“Uhh, that was expected. At least you picked a good project. I tried the neural project because I took a dare from one of the Techers,” groaned Robert. “It made no fuckin’ sense to me but I got a lot of chaos. Should’ve worked with Katie on mussels and starfish. At least those make sense. Population doesn’t go up so fast if they get eaten.”

“I fuckin’ swear, no more fuckin’ assshots from UC Berkeley. That piece of shit Dr. Hong couldn’t fuckin’ teach a monkey to shit on the ground,” said Katie once the friends were well out of earshot of Dr. Hong, who merely continued to babble to himself about eigenvectors and bifurcations.

“Hey, I just realized. I should’ve assumed a constant rate of predation to make the model simpler, although the dynamic predation rate is a lot closer to reality. It could easily be turned into a stochastic model and survival models do tend to be more stochastic than deterministic, at least from what I saw in the literature. And maybe if I was hard-core, I could run an AIC on it too...” started Tarathorn. “But I think I’m sticking with global biogeochemistry. I like big pictures.”

Grunting, Robert rolled up a few pieces of paper and playfully swatted at Tarathorn. “Tara, you’re sick. And you were failing o-chem? How the hell?”

Vincent then grabbed Tarathorn from behind and said, “Did I tell you that your brain was wired funny? O-chem makes more sense than Dr. Hong’s ramblings!” All Tarathorn could manage was a little squeak when he lifted her high up into the air.

“Well, class is done. Let’s go eat,” suggested Ivan, rubbing his stomach. “We need to celebrate surviving class.”

“Food sounds like a good idea. I had the weirdest of hallucinations this morning. I saw this really scary archer woman while I was finishing up the project,” said Vincent.

“You’re not takin’ any good shit, are ya?” asked Katie, smirking at Vincent.

“He just hallucinates when he’s hungry,” laughed Ivan. “And speaking of hallucinations, I saw gold-scaled dragon last night after eight Red Bull.”

“That settles it,” said Robert, flexing his muscular arm to emphasize his parakeet tattoo. “We are eating before my muscles atrophy and before Ivan and Vincent start hallucinating weirder shit.”