

Undetermined: A short story

by Arianna Rossi

It was the Social Accountability class that Miss Corvacci held every Monday for around sixty pupils in their 4th grade. That day, Olivia, a short-haired kid with a bashful look, was desperately trying to hide in the most tucked-away corner of the classroom. Given that she was 1.50 m tall, even though she had just turned 10, it was not an easy task.

“Kids, say good morning to Mrs. Giordano” Miss Corvacci prompted, staring stiffly at the overpopulated class.

“Good morning, Mrs. Giordano” was the kids’ choral answer.

“As you know, at the end of the next school year your parents will need to choose to which services start donating the information contained in your school profiles. As Mrs. Anna Giordano is a Personal Profile Curator, she’s visiting us today to explain how the choices that you make today will be essential not only for the rest of your life but also for the life of many, many more Europeans. And, ultimately, for the history of humanity!”

After such a solemn introduction, the class stared at the newcomer with a mixture of curiosity and respect. Anna was a disheveled woman in her early 50s wearing a curious combination of orange blazer and green trousers. She came forward, smiling openly.

In response, Miss Corvacci straightened her lips into a dry smile and continued curtly “Mrs. Anna Giordano works for Schoolify, just like me and the rest of the school personnel. She will guide you through the opportunities that are offered to you now that you are moving the first steps into your adult life. She will also advertise Schoolify’s educational services, that make all your behavioral choices at school so customized, predictive — and predictabled!” Miss Corvacci laughed, only followed half-heartedly by a few kids. The baffled look on their face revealed that they hadn’t got the joke.

Anna took the floor: “Thanks, Miss Corvacci, for this great introduction” she started while pushing her glasses back up her tiny nose. “Good morning kids! I’m very happy to be here with you today. Some of you also probably know me because I’m Olivia’s mom!” Anna glanced at Olivia with shiny eyes.

“Oh great ...” Olivia thought while the whole class turned to her, giggling. No need to try to hide at the back of the class anymore. Her ears started burning in embarrassment. Now the few kids that didn’t know, knew that it was her mother to give that special class today. She could already imagine the comments they would have made later.

Anna continued: “Now, let me start with a question: who knows why, whatever we do, for instance even right now in this room, is registered and analyzed?”

Nobody was bold enough to answer but a kid on the first row who hesitantly raised his hand. “Yes?” Anna asked.

“Because ... because there is a rule that says so.”

“Yes, there is a *law* that says so ... Thank you so much for your answer.” By observing her mother’s confidence in front of the class, Olivia could easily imagine a younger version of that woman in a auditorium full of undergrads.

“The law is the Data Altruism Act that came into force in 2033. It established that we should all donate data about us to enable the creation of better services, based on shared European values, meant to enhance the lives of us all.” Anna’s eyes were shining, and her voice was pure enthusiasm. “Your personalized learning plan wouldn’t be half as good, without the data produced by yourselves and other millions of pupils all over Europe. And your parents would not have a job that perfectly matches their aptitudes and skills if it wasn’t for the precise, customized models that are build on personal data — our own data.” She paused for effect. “Kids, never forget: what we do and how we behave, here at school, at home, in the streets, or anywhere else, defines what we are. It’s important that you curate your profile, even at your age. Especially at your age, as the data you produce and accumulate in your profile today will determine your profile tomorrow. In other words, it will determine your future and the future of others. This is why our duty as members of the society is to contribute with high-quality data. So that scientists like me can achieve incredible things, things that only ten years ago were sci-fi!”

It was hard to tell if Anna was speaking as the patriot scientist she was or as one of Schoolify’s salespeople that were always bothering the kids at the end of the classes. Probably a mix of both.

Anna continued: “I will share with you a personal story.”

Oh no, not *that* personal story, Olivia silently prayed while feeling an unpleasant sensation slowly climbing up the bottom of her stomach.

“My husband, Olivia’s dad, died eight years ago. At that time, people were not curating their profiles, so they were donating low-quality information. This means that their data were incorrect, imprecise, and incomplete. In other words, unreliable. New medicines were developed based on low-quality data and I can tell you now: some of them were doing more harm than good. Olivia’s dad died because of this. If he had lived today, with the demanding data standards we now apply, he would have not ended up like that. Thanks to good quality data, his illness has now an effective cure.”

She paused dramatically, while half of the class turned again towards Olivia. The kid could read a mix of pity and surprise on their faces, but she wanted none. It was simply disgusting that her mom could exploit her dad’s death for promotional reasons. She looked steadily on the ground, hoping nobody would notice the color that was now invading her cheeks and forehead. She was not embarrassed anymore: her face was bright red with anger.

“Today this doesn’t happen anymore, luckily!” her mother resumed in a more cheerful manner. “Since we’re obliged by law to produce high-quality data that are collected by trusted partners — like Schoolify, to be clear —, we now live in the best possible world,” Anna articulated, “where we produce new incredible data-fueled services every day. This is why you have great, I’d even say perfect, Immersive Reality Games. Just exactly what you feel like playing at that moment. And this is also why, here at school, you attend classes that are the best possible match for your own inclination. Next year, your profile will become available to thousands of companies and other entities, and who knows how many marvelous things you’ll contribute creating. Kids, I don’t know how to stress this enough: this is a very important moment of your life, as it is the first time that your data will be harvested for the benefit of the European society. But most importantly ...” she paused to make sure that all eyes were on her “who you are today defines who you will be in the future. In a couple of years, some of you will go to the Engineering school, some of you will go to the Entertainment school. Some others will become Nature Nurturers. While some others ...” She didn’t

need to finish the sentence. Everybody, even kids, knew where the Outcasts ended up.

After what seemed like an eternity, Anna finally started to gather her stuff to leave the classroom. Exactly when Olivia thought that the situation could not get any worse, her mother turned to her, tweeting a “see you later, sweetie!” that was greeted by a burst of laughter by her classmates. “Terrific” thought a beet-red Olivia pretending not to have heard.

“Hello, sweeeeetie!” The unmistakable ironic tone of her best friend’s voice resounded in Olivia’s ears, while she was crossing over the schoolyard trying not to be noticed by the other kids.

“Thanks, Nick, I really need more teasing today. You’re so good at understanding other people’s emotions. Best — friend — ever.” Olivia’s fiery glance made her friend back off: a tall, skinny boy with freckles all over his cheeks and nose.

“Hey, hey, calm down, I was just kidding. It’s just ... everybody knew that your class was having the ‘your profile is your future, beware!’ blah blah today. I didn’t want to tease you. Actually, I think that your mom rocks” finished Nick in a firm voice.

Olivia raised her honey-colored eyes on Nick’s dark ones.

“She — what!? Yes, she decided *to refuse* to sell her research to Schoolify when research centers and universities all over the nation were privatized, unlike many of her colleagues. But she ended up working for Schoolify anyway. And as a consultant, not even as a scientist! And now she visits the Schoolify school governed by Schoolify applications and devices where she sells Schoolify visions to Schoolify kids. Ah, and how to forget the Schoolify Family AIAssistant that follows all her steps at home. Do you still think she rocks? Truth is, I *pity* her.”

“You’re too harsh, come on” Nick replied. “She believes in a better world and fights for it. Like my parents — but in a different way.” A large smile suddenly lighted up Nick’s face “By the way ... have you heard what happened to the DataNursery!?”

“How come you always know more than I do?” Olivia replied. He always knew how to make peace.

“A NextGen ransomware somehow managed to penetrate the DataNursery Cybershield and encrypted every single hardware on every single device. The School’s Cyberforensic Unit is panicking, as they have never seen anything like that. Ransomware of this type hit hospitals, solar plants, space satellite stations ... not schools.”

“Wow.” Olivia didn’t know what to say.

“Someone managed to do the impossible. In broad daylight. It’ll take them days, perhaps even weeks, to recover the control over all the monitoring systems and the data they stored — *if* they will ever be able to. I wonder how much the ransom is ... They have no data to feed our profiles and no way to collect new data, nothing at all. You’ll see, tomorrow morning it’ll be chaos: we’ll be able to choose whatever class we want. Without students’ profiles, the teachers will go nuts. No more Language Translation Debugging classes for me. Whoever did this is a genius!” Nick shouted triumphantly, before rapidly shifting to a somber voice “Only downside is ... you’ll see, they’ll blame it on me.”

“What?”

“They will blame it on me. They always blame it on me. Or the others like me” he nodded in the direction of a group of 12-year-old kids standing at the other end of the schoolyard. Every time another kid passed by, they mysteriously whispered something in their direction. Most of the children picked up the pace without even turning, but some stopped to speak with them, looking around nervously.

At that moment, Olivia noticed a glint beyond the school's gate "Need to go, sorry!" and ran away.

Nick stood there, watching the back of her head. He had almost gotten used to this behavior.

"How many times do I need to repeat that you should not speak with that kid?" Frida's voice was particularly annoying today.

"Mmmmm ... 587, I'd say" Olivia replied.

"You're not funny." Not that you know what funny even *means*, the girl thought sourly. But she didn't say anything: what was the point?

"Haven't you retained anything from your mother's speech this morning?" Frida extracted a slender footboard from the lower part of her metallic body and invited Olivia to step on. "You will be what you are today. And what you are is also the company you keep. And you shouldn't keep *that* kid in your company."

"Why? Because he and his family are Outcasts?" Olivia provoked the Family-AIAssistant while she jumped on the footboard. Frida started to float gently towards home.

"Yes, just to start with." Frida continued with a firm voice, hovering silently amid other Family-AIAssistants, kids, bikers, and pedestrians. "They are lucky that these people are still allowed to go to school with normal, respectable kids like you. If your mom only knew ..."

Oh no, please don't tell me what she would say. For a single morning, Olivia had had enough of what her mom would say.

The day after, it was the first of the two meta-schooling days of that week. It was not Olivia's favorite, as she liked the real thing better, but it was not that bad either. She could still vividly remember the first years of school when they spent two whole years at home. The air was so polluted that only the Family-AIAssistants could venture out to get food. Everybody lived barricaded inside their houses. Unfortunately, human beings are social animals, so the number of depressions, panic attacks and asocial behavior syndromes skyrocketed together with the cases of violence, suicides and murders. Hence, when the first effects of the ban on carbon-fueled vehicles became visible, kids and adults were forced to go out of their houses and interact with others face-to-face, at least for a few days a week. Staying home the rest of the week, however, lowered energy consumption and was also a smart way to allocate heating, energy and food expenses on households instead of on companies. They already provided all sorts of services, devices and infrastructures for the public good, so citizens had to do their part, was the companies' public explanation.

During the days she was working from home, Anna would only take neurocalls, as the energy produced by their small solar panels was not enough for both meta-schooling and meta-working. Neurocalls only consumed the energies produced by her body. This meant, however, that she needed an extra intake of proteins, carbs and fats to not feel completely drained at the end of the day. Once, Frida had found Anna passed out on the kitchen floor. From that day on, the Family-AIAssistant had started to closely monitor her vital signs to ensure that Anna would eat enough on homeworking days. This is how those till then boring, never-ending days took on a pleasant twist: Anna would spend the previous night cooking all sorts of traditional dishes as her grandmother would have done — but revisiting them in a modern healthy style. As Olivia's nose would wake up with water-mouthing smells, she would know that their small kitchen would be plenty of mushroom lasagnas, asparagus quiche and cruelty-free chocolate muffins — oh, how delicious!

That morning, still offended from the day before, Olivia slipped silently into the kitchen, smuggled a piece of blueberry veg-cake, and run back to her room where she activated her meta-chip. When she meta-signed

in, the meta-school looked quite different. The personnel had been obliged to disclose the cybersecurity accident to the public, so everybody was busy trying to calm down dozens of hysterical parents that were screaming all sorts of grownup words. How would their children ever make it in life without their profiles? What would this accident mean to them and for their chances of success? How on Earth could that happen? How could they entrust Schoolify with their children's lives if they weren't even able to protect their data?

Instead of being directed towards her usual Post-Quantum Computing class, today Olivia could choose whatever she wanted. Without the pupils' data, the system could not steer them towards their predefined educational path. Olivia walked confidently into Seedlings Care class, where her favorite teacher, Mr. Mandorli, was visibly enjoying the unexpected freedom from the rigid educational curriculum imposed by Schoolify's Board of Directors. With great excitement, he was showing to the class a virtual replica of unlabeled (thus illegal!) Rare German Red Strawberry tomato seeds. "Come to my class tomorrow, we'll make them sprout together" he lowered the voice "and I'll teach you how to guerilla plant them around the city ..."

Olivia had always had the impression that Mr. Mandorli was part of the system only because he was passionate about teaching, but that if it had been for him, he would have done anything to escape those dull pre-made lessons he had to deliver. Looking around, the kid noticed Annalaura from the Advanced Stochastic Modeling class. They winked at each other with an air of complicity, happy to be free to choose on their own that day — as they didn't know if and for how long that freedom would have lasted.



During the lunch break, Olivia meta-ventured to the back of some abandoned beehives. Why bother meta-learning to feed the bees when they had all been replaced by nanobots? That was the secret spot where she would always meet Nick when they were not in real school. Nick was already there, a tense expression on his face.

"This is probably my last day of school. I'll be suspended for sure. My family was notified. It's the end" the boy said, almost without looking at his friend.

"But Nick! You got to tell them that it wasn't you! Do they even have any proof?!"

"Why do you need proof when you have a predictive system?" Nick could not abstain from his usual sarcasm, but his tone of voice was tough and dry, almost that of a disenchanting adult. "They have already decided that it was me. They have an entire dossier of my previous deeds. Mrs. Corvacci was the first to point the finger, I'm sure. She will never forgive me for leaking the illegal swimming pool she has at home ... Well, and also probably for when I managed to turn the meta-school into a marine nature reserve." Olivia chuckled at the memory. That day the kids had swum around the coral reef playing with sea turtles and clownfishes, excited to see with their own eyes the natural marvel (well, a virtual replica of it) they had only seen in history documentaries. Mrs. Corvacci swam clumsily, trying unsuccessfully to gather the kids and reestablish some discipline until a shark fin materialized in front of her. Her face! No surprise she hadn't forgotten.

"So, of course, they'll blame it on me this time."

Nick's bleak tone made Olivia abruptly come back to Earth.

"But don't you know what they will do to you if you don't fight these accuses? Disrupting Schoolify's services is considered a major crime! You won't even be able to finish school, you are lucky if they simply put you in the Robot Education Facilities forever and forget about you. You will spend the rest of your life repeating simple microgestures over and over again, just to train some dumb robot to cut the bread. You won't have any future! No family on your own, no Giant Samdworms war matches with your friends, no ... us." Olivia's voice broke when she pronounced the last syllable.

“I know Olly, but what can I do? Do you really think it’s much better to be destined to be a Synthetic Skin Designer at the age of 12? At the end of this school year, everybody in my class will be directed towards their future, unless you have enough money to make an implant and change your biological destiny. How do you think Outcasts like me end up anyway? We go to school just because it’s our constitutional right, but nothing of what we learn will ever be useful. Not to us.”

“But but ... things can change. Please ...” Olivia was practically begging him. She was on the verge of crying but could not find anything convincing to reply to her friends’ words.

“Olivia, I’m proud of the choices of my family. We’re proud of not nurturing the system with our data, with ... *with our most intimate selves*. I admire whoever has managed to break into the DataNursery system. The Cybershield is super tough to sidestep. I have dreamed of it many times but could never find a workaround. Anything I could ever do was feed wrong information to the system. So, whoever that was — he’s very smart.” A faint smile reappeared on Nick’s slim face. “Have you seen how happy the other kids were today? Even me ... I could get into the Woodworking class! I could never set foot in there before! I had so much fun ... Well, actually, given that today’s my last day of school, I should get the most out of it. Fancy attending with me the Corse Acapella singing class now?” he asked Olivia, suddenly revived.

“Of course, whatever you want” she somehow found the breath to answer mildly, although her throat felt sealed. It was probably the last day they were spending together, after all. Frida — well, her mother — would have never allowed her to go visit him in the slums where the Outcasts were crammed. As they did not contribute to society with their data, they did not receive smart services: the streets were flooded with trash, the traffic was chaotic, the healthcare system was on the verge of collapse. Let alone invite him to her place. Her mom would have totally freaked out.

“Let’s go” Nick ran away, and Olivia followed him, feeling a heavy boulder where her heart used to beat.



The next day, Frida woke Olivia up with a cheerful “It’s time to meta-go to meta-school!”

Olivia would have probably tried to offer a smile to positively reinforce Frida’s Irony Generation skills if she had not been that desperate. The night before she had stayed up late, reflecting on what she could do to help Nick out of the situation. She had lied in bed till the middle of the night when finally she had figured it out: she had a plan. But she needed to buy some time. And most importantly, she had to find a way to escape the Family-AIAssistant’s benevolent surveillance.

The girl barely opened an eye and tried a tiny fib, although she knew that hardly worked with Frida: “I don’t feel very well today ... perhaps I should stay in bed” With her usual pragmatism, Frida started to check the girl’s pulse, her temperature, and other vital signs. “Everything looks perfectly fine Olivia, so up you go and dress up. Unless you want me to run a blood test?” She turned to go look for a needle.

“No, no ... no need to. What if I don’t feel well, in the sense ... sad? You know, for my friend Nick. He won’t come to school anymore. And I don’t feel like going to school without him.”

Frida looked puzzled, for a moment. But, as usual, that look disappeared right away. She had found an appropriate answer in her knowledge base.

“Olivia, for as long as human beings have walked the Earth, they have carried out their normal activities, including going to school, even when they felt sad. You know how a day off without a serious reason would negatively impact your profile.” As if losing your best friend who was framed for something he didn’t do was not a serious reason. “Now get up, come on!”

Oh how much Olivia missed when it was her mum to wake her up! She would have understood. She knew what sadness is. After Olivia’s dad died, Anna had spent weeks in bed. Only when her behavioral patterns

were transmitted to the Social Security Services and they threatened to give Olivia away to a family without a history of mental health issues, Anna had forced herself to go on. For herself, but especially for Olivia. This is when Frida appeared into their lives, gracefully offered by Schoolify, Anna's employer. The Family Assistant was helping a lot, freeing her mother from everyday tasks so that she could fully focus on her consultancy job. And on being a good mother, of course. However, Frida was probably there to keep an eye on both of them and transmit anything out of the ordinary to the company, that would have then contacted the Social Security Services division.

The girl could hear her mum's voice in the other room of the small apartment that they shared. Anna had already started to take the neurocalls of the clients that had purchased the VIP support, including a Human Personal Profile Curator. on top of their basic package for profile modeling. "Mrs. Bianchi," she was saying, "I understand that you intimately love cats and yes, it's true that when we were both in our twenties the Internet was all about cats. But nowadays being a cat lover could ruin you as it is an indicator of depression ... I understand you are not depressed, but you know how it works, this doesn't count. Moreover, cats have exterminated entire bird species, you must reckon that. May I propose instead that you focus on socially acceptable creatures like snakes, they are so rare nowadays! But so important for the ecosystem's balance. According to my calculations, your Environmental Engagement Score would be boosted by 7,4 percent in 12 days. Yes, I understand you can't *caress* a viper Mrs. Bianchi, but this is not the point. The point is ..."

Olivia stood up from her bed and went to the kitchen to get a bowl of homemade almond milk, reflecting. She had to find another way of getting out of the house without going to school, unnoticed. And fast. This is when she looked out of the porthole that had replaced their apartments' windows earlier that year to optimize isolation in extreme heat conditions. She observed the mustard-colored sky. It reminded her of the sepia-toned photos of her grand- grandmother and smiled: of course! A dust storm had been announced for today. She usually would have hated it, meaning that she would have had to attend the meta-school instead of going to school. And when she would have finally been able to go out, sometimes after days, she would have found sand grains in her socks, clothes, shoes, bag, nose, even her ears, for weeks.

But today, that sandstorm was her only hope. She pretended to enter the meta-school and chose a random class: Sentani, an almost extinct language from the North coast of Papua Nuova Guinea. Pupils were not taught major languages anymore: what for? Pocket smart translators could ensure smooth communication across the globe. But for minor, endangered languages such resources did not exist, and this is why they were learning them. Even though lately, Olivia had had some doubts: she was no expert as she had never attended other language classes, but their classes did not seem to resemble the learning experience from her school days that her mother had so vividly and enthusiastically depicted. How Olivia and her schoolmates learned languages seemed more ... well, like Frida would learn: looking for patterns and comparing loads of translations. Olivia sometimes wondered if the exercises they were completing were really for their own education — or if they were rather feeding Schoolify's language models without realizing it. Well, anyway, who cares: I just need to keep my hands busy for a couple of hours, Olivia thought and entered the class.



At 10, the storm started to intensify. It was the perfect moment to act. During the storms, Frida would go outside to harvest the power of the wind to recharge her batteries and stock the rest, like all the other Family-Assistents. The robot would have only been out for a couple of hours top, so she'd better move. Olivia knew it was very dangerous to go out during a storm and she should never ever do it — at least this is what her mother had always taught her, since even before she knew how to program her first dinosaur. But she didn't have a choice: she had to save Nick. And since even if he hadn't given up on defending himself, nobody would have ever believed him, it was up to her. With a bit of chance, she would have been back before the worst of the storm passed over the city.

The kid was resourceful: she slipped out of the apartment as silent as a hoverboard, went downstairs to the garage, and found almost right away what she was looking for amidst piles of old dusty boxes: a big box with her mother's handwriting on it saying "ski". When the girl was little, she used to wear her mother's

and father's ski clothes and pretend to be an astronaut. Not that that clothing was worth anything anyway, unless you wanted to climb the Himalayas. She went through the objects in the box until she extracted a huge pair of goggles, a highly resistant jumpsuit, a pair of gloves, and a ski mask. Thankfully she had inherited the body shape from her dad: at only 10, she was almost as tall as her mother at 25. When she put the jumpsuit on, the sleeves were a bit long, but they would shield her hands from the sand hurled at 30 m/s. She covered herself as much as she could and reached for the main door, clambered with the clothes, and hoped that nobody, especially no AIAssistant, would notice this strange bassoon getting out of the building.

Olivia knew exactly where she had to go. The idea had stroked her in the middle of the night: an ADRA, Automated Dispute Resolution AIAssistant. Of course! Her mom would always tell her: everyone has the right to object to an automated decision considerably affecting her life and to obtain redress. Since most of everyone's life was governed by automated decisions, there were many ADRA's all over the city, hosted in cabins designed with the retro style of a public phone booth. Anybody, even Outcasts, could explain their own version of the facts and receive legal assistance through Smart Conversational Agents (SCAs), without having to wait for months, or even years, and spend a fortune to be heard from a human-ruled court. Olivia closed the door carefully behind her back and ventured out into what looked like an inhabitable planet where a handful of the last living beings were running to their homes or the public shelters.

Frida was not in sight. The kid needed to act fast before the storm hit at its peak, or who knew what would have happened. Slowed down by the bulky clothes, she ran until her heart seemed to explode. Sweat was running down her forehead and on her eyes. With the goggles on her eyes and the sand surrounding her, it was not easy to understand where she was going. There was nobody around, apart from AIAssistants and all sorts of vehicles recharging up amidst the blowing wind. Now that she was out during a storm, she could well imagine a world too windy and too dry to host human beings and other living creatures. With all her layers, Olivia had the impression of swimming against the mounting tide. The gusts of wind were becoming stronger and stronger and the sand thicker and thicker. Finally, she saw an ADRA cabin and ran inside.

"Welcome to the Automated Dispute Resolution AIAssistant point of the Saione district!" a jubilant voice greeted her. "How can I help you, sis?"

Olivia looked at the camera. *Sis*, really?! I'm not your sis. She was always amazed how, no matter how many Smart Conversational Agents she had met, none of them seemed to get how to behave in a conversation with people her age. Not that adults knew, either. She decided not to argue, focusing instead on the utmost important reason of why she was there.

"Errrr ... My friend ... was accused of something he didn't do. He risks a lot. I want to explain my version of the facts."

The Conversational Agent suddenly changed its tone: "Given the severity of the allegations, the conversation will be recorded. Please provide your name, surname, age, the address of your residence, and your consent to the recording of the present conversation." Olivia noticed that the intensity of the wind outside the cabin was rising.

"Olivia Giordano, 13, via Giuseppe Conti, 567. I consent" Olivia's voice trembled imperceptibly to her own lie. She could have not consented if she had been any younger.

"Do your legal guardians know where you are and the severity of the allegations you bring in front of this vested Guardian of the Justice?"

Olivia looked right into the camera and answered with a firm voice: "sure thing."

The Conversational Agent buzzed for a moment looking for pupil dilatation, sudden heartbeat rise, or other visible signs of mendacity. Luckily Olivia had fine-tuned her lying skills with Frida over the years.

The assistant seemed satisfied. "The Guardian of Justice invites the complainant to proceed to illustrate

their case. It will then be established whether it is recommendable for the case to be revised by a competent court to determine whether the conditions for a *fumus boni iuris* arise.”

“Well” started Olivia who sincerely hoped that *fumus* was a positive thing but did not dare to ask “my school’s DataNursery was hit by a ransomware. The DataCribs are unusable and everybody is freaking out ... well, at least many.”

“What is the magnitude of the ransom?”

As the wind was blowing stronger and stronger, Olivia was struggling to hear the words of the SCA. She needed to shout to make her voice heard over the gusts and the sand that lashed the cabin, which started to vibrate.

“No ransom was asked.”

“*Rebus sic stantibus*. Such an uncommon behavior, *prima facie*.”

“I suspect ... I suspect it was not to obtain a ransom ... it was done to boycott the system! And my friend, Nick del Maggio, was accused. But he didn’t do it, I swear! The teachers needed a culprit, so they found it and were happy not to investigate any further.”

“What are the proofs that you produce to substantiate such severe allegations?”

Olivia looked embarrassed outside of the cabin. She could only see sand. The cabin was vibrating so hard that she wondered if the glass would have resisted the strength of the wind. And if she would have been able to go home.

“Well I know, because ...”

“Thou are inaudible!”

“I know because it was me!!!!” Shouted Olivia at last with all the strength she had in her body. At that moment, one of the cabin’s glasses crashed with a loud noise. Olivia was violently pushed to the ground, as the wind broke into the booth. Fighting against the strong wind gusts and whipped by dust devils, the girl tried to stand up to find shelter, but she could not. Anyway, where would she go?

As sand started to penetrate her thick ski mask, she felt some grains finding their way through her nose. How much does it take for the lungs to be completely filled up by sand? She found herself thinking. Probably not long. Her breathing was getting faster and faster and for each breath of oxygen, she knew she was also swallowing sand. The more she breathed, the closer to death she would be. Uh-oh, this doesn’t look good, she thought. She started to feel weak as she tried to control her breath. She wondered if her confession had been recorded and whether it would save Nick. When the sand had almost completely covered her 10-year-old body, she glimpsed a silhouette in the dust and hoped it was not a mirage.



When Olivia woke up, the first thing she focused on was her mother’s worried face. And Frida’s. Her mom tried to smile faintly, but her look was sad. No need to have an Emotion Recognition Unit to understand she had cried. Frida was checking her vital signs: “No trace of sand in the lungs, Mrs. Giordano. Your daughter is out of danger.”

Anna didn’t seem to wait for anything else.

“Olly, what were you thinking?!” She snapped “You could have died ... if Frida had not captured your distress signal ... Luckily, we live in a country where cameras are all over the city.” Despite her weakness, Olivia was surprised at the idea that Frida, and certainly the other AIssistants, could access all those

cameras. But she was feeling too tired to ask. She needed to face her angry mom now. And decide whether to lie — or to tell the truth.

Perhaps she had lied enough.

“Mom” she coughed. She felt as if she had swallowed a thousand needles. Her mother gave her some water. “I need to talk to you. You know the ... accident that happened at school?”

“Of course” her mother interrupted suddenly spirited. “Pretty something. That ransomware can’t be removed, I tell you. The guy is smart!” Anna seemed sincerely impressed.

“The guy ... it’s me” Olivia whispered in one breath, standing up on her elbow and looking right into her mother’s eyes.

Anna seemed less impressed now. Rather baffled.

“How could it be you?”

“I’m a genius. I’m your daughter after all.”

“Don’t get smug with me” Anna’s voice started to raise. “How could you ever hack into a system that, believe me, many others have tried before!?”

“Well, if I’m the best in my class of Defense against the Cyberattacks there is a reason. I know exactly what the weaknesses of the DataNursery are.” And of many other places, she could have added. But perhaps bringing this up now would have not helped her out. On Anna’s forehead appeared a long vertical sprinkle. She was trying to understand if her daughter was inventing an incredible story.

“Ok, ok, I also had some help. There are these kids at school ... often their families are Outcasts, but some others have joined them. They sell a bit of everything, mostly fake data to boost profiles, especially to the older kids.” Anna blew the whistle.

“They deal counterfeited data? At their age?” The look on her mom’s face was horrified.

Olivia took a deep breath.

“Well ... they also sell more, let’s say, *interesting* stuff. They have dirty data that can invade, scramble, and rotten entire databases. And ... other stuff. Whatever you may need.”

“You’re telling me ...” Her mother realized all at once. She rose suddenly, looking down at the kid. “Olivia, this is illegal. What have you done, for Christ’s sake?”

Olivia didn’t know how to answer that question. She knew that what she had done was extremely serious.

“Do you know what happens for crimes this severe!? Forget about your nice apartment, the organic salad you grow in your room, basic air quality, organic cotton-based t-shirts, EVERYTHING! They are going to take you away from me. You ...” Anna changed her tone: “Do you have a clue of how many friends I’ve seen literally disappear like this? Sent at the bottom of the Public Reputation Scale. So far away that nobody wants to be associated with them ... not even me. And without social bonds, they even get more isolated and slip deeper down. They are hopeless. Rejected. Pariahs. Their kids will be pariahs. And the kids of their kids ...” Her mother was on the verge of crying “Olly, don’t you think about your future, our future?”

Olivia was firm. No matter the emotional roller coaster she felt inside, she was not going to lower her eyes.

“I *am* thinking about my future! This is exactly why I did what I did. How do you think we, me and the

other kids, can stand this pressure? Always, constantly, since I have memory, you've been telling me how important it is to make good choices now to shape my future. I don't want to live in the future and always be worried about the outcomes of what I do! Do you know that Stefania in my class had a panic attack after your nice speech the other day? And I haven't heard her friend Bruno speaking for weeks, out of fear of saying something wrong. Our words, our actions, sometimes it feels like if also our thoughts were recorded, analyzed, eviscerated just to feed some stupid mechanisms that will guide all our lives, for the rest of our life." Olivia had turned the tap on and could not stop. At least her mother was listening for once, petrified. "And another friend of mine, Tommaso, for his 10th birthday he received a 15% logico-mathematical neuro-upgrade so he could perform better than the others in the view of the start of the profile harvest. His parents thought that otherwise, he would not be able to get into Engineering school. But you know what he told me? He could have passed the tests whenever he wanted — he just preferred to play with his friends. He didn't need any upgrade. Now he's completely screwed up. He has mathematical skills as if he was 16, but he has the emotions and the body of a 10-years-old. What do you think this does to kids!? I tell you: he's not happy, he's depressed. Yes, you heard right — depressed. I haven't seen him playing with his friends since. He just sits in a corner, the whole time. Why? Because he's much smarter. The others don't like him. He's a weirdo. And the worst thing is that he knows it and he hates himself."

As she was finally taking out of her heart all that weight that crushed her, Olivia started to feel better. She was unstoppable. "And Elena, you want to know about Elena? Everything hints at the fact that she's going to like girls. I saw it when I hacked into the DataNursery. She's labeled: homosexual. I looked it up, it means lesbian. WTF mum she's 10, she still plays with unicorns, I bet she does not even know what that means. And even if ... why can't we explore the world and later decide who we are and who we want to be? Why does someone — something — need to decide it now for us? Put us in a box, put a label on the box, done. Next kid. And what's worst, is that perhaps we wouldn't even decide. Who cares if Elena is homosexual or something else, what does it change to anybody apart from Schoolify? They're going to sell her profile data without her having a say — this is how much they care."

"And ... you?" Her mom found the courage to ask.

"What, me? Well, you should know better than I do. Depends on the scale. I only looked into my main personality traits: I'm 73% open, 22% conscientious, 43% extrovert, 56% agreeable, and 85% neurotic — probably thanks to your genes, mom. And yes, depression seems likely. Same for dad's illness. We'll know for sure when next year I'll take the mandatory DNA test. But we both know I have good chances of developing both your illnesses. I have one out of three chances of being a smoker, four out of five chances of never finding true love, I'm probably straight but my pronounced openness could make me like both boys and girls, at least when I'll be between 16 and 21. I'm not that honest, as you may know, but I'm pretty humble." She paused to see what effects these words were making on her mum. "But I know what you're *really* interested in. I score extremely well in logico-mathematical skills, don't worry. If I take the test, I will certainly be accepted to the Engineering school." Her mother was visibly relieved.

"Fact is, I won't take it."

"You ... *won't*?" Her mother looked as if she could not trust her ears.

"Yes. I don't want to spend my life working for Schoolify nor any other company-*fy*. Eat data to produce data to eat more data. I want to work with plants and seeds and dirt ... I want to be" she paused briefly trying to recall that difficult word "an agronomist. My naturalistic intelligence is not that high, biologically speaking, but who cares. I can get better — or maybe not. I'm just passionate about it. I love sticking my hands into the fresh ground, puttering with young seedlings, observing green creatures emerging as a miracle. This is what we need in this dry world, not more entertainment or better Personal AIssistants, or Reputation Detection Algorithms, automated services, automated assistants, teacher automatons, even parent automatons. I want to be a Nature Nurturer if you ask me now. Of course, I will probably change my mind many more times. I just want to keep my possibilities open."

Olivia was satisfied: her voice was firm, her face blinding. She had kept her thoughts, worries, and dreams for herself for months now. It felt good to say them out loud. It felt right.

“But, but ...” her mother, always so talkative and assertive in their conversations, seemed lost “But I thought you wanted to follow your dad’s steps, my steps ... You’re undeniably talented.”

“What, to be a slave for a company that owns my house, owns the school where my kids go, owns the assistant that probably spies on my life the whole day, owns the data I produce — practically owns my world, owns myself? No, thanks. I have other plans. It’s a pity that they are not the same plans that some machine somewhere has made for me, but what can I say. I didn’t choose to come to this world either. I simply use the little power in my hands to try to change my destiny.” Frida was observing the scene silently. Olivia wondered if she was recording and sending the conversation somewhere else.

“Olivia. You can’t. You simply *can’t*. We are a community, we are a society, can you imagine what would happen if everybody was as selfish as you? There would be chaos. People would choose their career path out of gut feeling, drop out of school, be depressed due to the job they struggle with. Medicines, diagnoses, and cures would be just standard ones and half of them would not work. *Nothing* would work. Imagine if we still had human doctors, like that half-wit that sentenced your dad to death. We’re much better off as our society works nowadays and you know very well why I’m convinced of this. There are already such few jobs that humans can do better than AIs or robots. There will be less and less in the future. Investing in data analysis and automation engineering — this is the right thing to do for you.”

“Stop telling me what is best for me! I want to try out stuff and make my own mistakes, why not. I want to learn on my skin. I don’t know who I am, I’m 10, I still have the world to explore in front of me. Why should someone tell me who I am? Even worst — why should a stupid system decide about my own life?!” Olivia’s tone was raising.

“Olly, calm down. You don’t understand now, I can’t blame you for this, but you will when you’ll grow up. In this overpopulated world, we don’t have the luxury of choice. Give humans the choice — they will be selfish, ruthless, unorganized, shortsighted. We are not able to see the big picture, the greater good for humanity.”

“Do you even listen to yourself? You’ve been brainwashed, mom. I don’t even know why you allow this to happen.”

“Because *I* can also see the greater good. And anyway, I’m the adult here. I know what’s best for you. *I* make the decisions. You’ve put us in a damn mess, Olivia. You’ll need to confess. Tomorrow morning we’re going to speak with the school’s CEO. I don’t know what will happen, though” Anna’s circles under her eyes seemed deeper than usual. The girl noticed, maybe for the first time, how exhausted her mother was.

“But mom ... can’t we just, I don’t know, leave? We could go to the mountains, just me and you ... and Frida” she added quickly when the Assistant raised interrogative eyes on her “We could grow our plants in peace and harmony, leave the city, leave the sandstorms, leave all this.”

But Anna was adamant “In *my* family, we don’t run away from problems and responsibilities. What would your dad say? You would have deceived him so much ... what you’ve done is unforgivable.”

“*YOU* would have deceived him so much!” Olivia shouted, enraged. “If only he was here, he would listen to me, he would understand. But I’m stuck with you. You are no different from Frida. A robot working for Spotify, asking no questions, swallowing everything in. I’m ashamed of you.”

“Shut up! You don’t know what you’re saying” Anna snapped, her voice now invaded by fury. “I’ll leave you alone now, I need to think and decide what is best. And you need to reflect as well, young lady.”

“Fine! I don’t want to see you anymore anyway!” Olivia screamed while she fell back heavily on her bed and her mother reached for the door. Frida came closer as if she wanted to say something, but Olivia was faster “Just leave me alone, what do you want from me, stupid monster!?” The Family-Assistent stepped back rapidly and followed Anna out of the room. Olivia started to sob desperately. What a world it is, when no one, not even your own mom, seems capable of listening to what you really feel?



When Frida gently stroked Olivia’s shoulder the morning after, soft sunlight was shining from the porthole, a sign that the sandstorm had passed. The girl did not know what time it was when she had finally fallen asleep. She had turned the events of that week in her brain hundreds of times, without finding how she could escape from severe punishment, probably a ban from school and all other activities of society. And her mom! Unbelievable! Instead of defending her, she was at the side of the system. How could her mom be so blind? When she was a kid, she could still dream of becoming anybody she wanted. But then things had gone differently: her mom certainly couldn’t say she was living the dream.

“Come on Olivia, get up — your mother has already left, she managed to arrange an early meeting with the school’s CEO. We need to join them.”

Olivia stood up and dressed up quickly. She didn’t want to lengthen that painful situation any longer. Better to know her destiny, and quickly. Neither she nor Frida said a word on the way to school. They hovered quickly through the last remaining sand still lagging at the sides of the streets. The Public Hygiene Squad had probably started to work already during the night. Olivia wondered where they’d put all that sand every time there was a storm in the city. Funny enough, she had never reflected on that. But she had more serious things to worry about now. Her future, just to start with.

When they arrived at school, some kids were playing in the yard. Why enter on time, when nobody can note down that you have the tendency to come in late?

They hovered till the CEO’s office. The door opened promptly. They were waiting for them. Olivia’s mother was sitting with earnestness in front of Mr. Luciri, who was looking at them, showing no emotion, just an eyebrow raised. “Olivia, Frida.” He greeted them curtly. “Mrs. Giordano was just illustrating the circumstances.”

“If I could just ...” Olivia started, not sure what she was going to say.

“Shush, Olivia, that’s impolite. Now you listen” her mother warned with a voice that did not allow any reply.

“Well, well ...” the man started “I’ve never heard anything like this before. We will recover the system, I have no doubt — but it will cost us a considerable sum. And the Board of Directors is not pleased, to use a euphemism.” Although she didn’t know the word, Olivia got the feeling that the Board was probably pretty pissed. An accident like this makes you look sloppy and vulnerable. No term a Board of Directors would like to be associated with.

“Frida, Mrs. Giordano explained that it was not your fault. You just misinterpreted her words when she was arguing with the kid in her native dialect. Is that correct?”

“Correct, sir. I am training my Minority Language Interpretation unit, but I still have a small dataset. Mrs. Giordano only uses her mother tongue when she’s very angry. It comes out naturally to her when the emotions swamp her language abilities and her heart rate spikes. I estimated, erroneously as it turns out, that Mrs. Giordano was so worried about the kid’s future that I should intervene. The most suitable action seemed to erase potential compromising data. I had no knowledge that the DataNursery’s self-defense system would have tried to trap an intruder. I reacted as I found appropriate to the risk I was exposed to. However, in view of the facts, I evidently overreacted when I tried to defend myself.”

What the ... was happening? Olivia was listening to this exchange, astonished. She was certainly missing a crucial piece.

“Your model does not have a powerful MLI unit. Your skills with minority languages are very rudimentary. You should not take decisions this important without requiring a human intervention” Mr. Lucri replied dryly.

“I am aware of this, sir. I overstepped my competencies. It’s just, I need to take important decisions all the time — for the kid, for the family, for their well-being. But I am not able to recognize with 100% accuracy if one decision is more important than another and thus requires human intervention. Not in the same way as a human would do, at least. I’m ... limited. I regret my misjudgment. I will accept the consequences of my actions.”

“Frida, what are you ...?” Frida’s meaningful gaze made Olivia’s voice die in her throat.

“Well, we will need to send you to the parent company for a complete check-up. Honestly, considering the mess you sparked, I’m not sure you will come back. I’ve never heard of an AI misinterpreting a minority language, so I don’t know how bad it is. It will certainly depend on the size of the economic damage that you provoked.” Mrs. Lucri paused, thoughtful. “On the other hand, it can be argued that only Main Western Language Processors are installed on your model. When your type was created there were almost no models for other languages, let alone useless dead languages. No offense, Mrs. Giordano.” Anna visibly bit her lips but didn’t open her mouth. “So it could be argued that it is the responsibility of who made that design decision in the end. Well, it’s none of my business — and honestly, I don’t care. Mrs. Giordano, I have important business to attend to now. For a start, to get the school up and running again.” Everybody stood up. Olivia felt as if her whole body was frozen.

“If only more employees were as faithful as you are.” The man leaned over the table to shake Anna’s hand. He was already visibly thinking about something else. Probably the raise he would get for having found the real culprit of the incident. Nobody was satisfied with blaming that kid, without any proof, even if he was an Outcast. Children can’t bypass the cyberdefenses of the data nurse, what a crazy idea.

Anna reached out for Olivia’s hand and they left the office together. Olivia turned to look at Frida, who nodded her head gently. Don’t worry about me, that meant.

In the corridor, Anna whispered “I’m sorry, there was no other way. Frida and I stayed up the whole night to examine every single solution. And this one has no flaws. We are sure, she won’t be incriminated. We’ve studied it under all different angles and explored the probabilities of every possible speculative outcome.”

“But it’s not right. You should have told me!” Olivia protested fiercely with her little fists clenched.

“I’m sorry but I couldn’t tell you. I knew you would have not liked the idea of Frida taking the blame. I could not risk you jeopardizing the plan. But don’t worry, they will just check that everything works in her, perhaps boost up some of her units and she’ll come back ... I don’t know, with a Tuscan accent and finally some sense of humor!” Anna joked.

Olivia could not help but chuckle. She felt safe in her mom’s hand, while they were reaching for the exit. She felt understood. Finally.

When they came out of the door, there were even more kids than before hanging around in the schoolyard, talking in groups, playing football, laughing, giggling. Olivia had never seen all those kids together doing things they didn’t usually dare to do.


A couple of kids looked at Olivia. She could have sworn that they winked. But it was just one instant and then it was gone. She followed her mother outside the gates with the comforting certainty that, although maybe she would end up being a data scientist like many others, something had changed today. Not only

for her.

“Mum, today you taught me something that I’ve been wondering for a while.”

Anna looked at her with curiosity. “What is it, Olly?”

“AIs can lie for someone they love.”

“That’s true, sweetie. Even mothers can.” 

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