

BRAIN LINK

Your ether link awaits you.



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I'm coming up on my sixth year working for the Elencourts. It is almost like a second birthday for me here. The annual anniversary, the day I joined the Elencourt family. I always wake up earlier than the rest of the Elencourts; it's the only time in which I can embrace any type of normalcy in this life. I complete my 467th page in my daily sudoku book and alas, I hear Mr. Elencourt's descent down the stairs. Just like that, my everyday routine starts again.

"Good morning Mr. Elencourt!" He looks quite drowsy, perhaps hungry, but I greet him anyways. I never prepare breakfast for the family. Although it would not be unnatural for me to help out more, Mr. Elencourt always reminds me I am not their "servant". Out of fear of upsetting the prestigious family, I follow along with what he says. During the week, my day is the same exact routine every waking hour. At 9:00 a.m. sharp, we leave the house for our 23 minute trek to Mr. Elencourt's workplace, and then the extra five minute drive to take Mrs. Elencourt to her morning meetings. Mrs. Elencourt's "morning meeting" consists of her having brunch with her fellow socialites at the Daisy & Rose Cafe. I drive back to the Elencourt manor and arrive at 10:07am; the car parks itself in its same usual spot. I spend most of my days fixated on the road in front of me, after all, I am the Elencourts personal driver. The next part of my daily routine is the most exciting; going on my daily walk until 2:35 pm before I leave to pick up Mr. Elencourt from work and pick up Mrs. Elencourt from whoever's house she ends up at. Although I would prefer to stay in the manor and do housework, that is for the housekeeper, Anna. I never get bored of walking around the vast property of the Elencourt family. The manor is surrounded by 5567 square feet of the finest architecture. However, the manor itself is not my favorite part, it always seemed off to me. Yet, the extra 3700 square feet with trails, trees, and a pond surrounding the manor is a sight to see.

It is commonplace on a Friday night to watch the latest, popular film in the home theatre with all the fixings. However, tonight is a bit different. We are spending the night setting up and decorating for tomorrow's mixer to celebrate my anniversary with the Elencourt family. A welcoming change.

I am not someone who enjoys being the center of attention but this annual mixer is something I've come to look forward to. The Elencourts are very experienced in throwing mixers for any occasion but for mine they know to keep it simple. No huge banner, no ice sculpture, just a nice bar set up and lots and lots of horderves. Mrs. Elencourt cannot help but sneak in some decorative details wherever she can. The silver rimmed glasses, the flower arrangements that create a subtle yet beautiful aura, and the crystal decanter filled with whiskey which usually resides safely in the china cabinet. Mr.

Elencourt's side of the family and Mrs. Elencourt's sisters always join us and this year will be no different. I hear a knock at the door. "Well who could that be?!" says Mr. Elencourt jokingly. Mr. Elencourt's brother and his family arrive first; they always arrive first. The rest of the family joins shortly after and we start the night off with a champagne toast which was a bit different this year. "To Kade's sixth year with us and to new adventures ahead", toasts Mr. Elencourt. The latter part has not been a part of the very similar and expected toast from prior years. *Maybe they're going on a trip this year? Who knows!*

After one too many old fashions, Tobin, Mr. Elencourt's eldest brother, pulls me aside to catch up. "How has this past year been? Is my brother still treating you well? Are you going to attend a mixer at our place soon?" His standard array of questions. He stands slouched over, wrinkling his perfectly tailored suit, eyes glassy and his head tilted ever so slightly. Amidst the drunken splendor of how exceptional the Elencourt family is doing, Tobin's newest business deal, and frivolous details about his wife's new car, he goes silent. He adjusts his lousy posture and stands firm, yet so seemingly awkward and asks, "How are you feeling about the major new update, it's absolutely monumental isn't it?" This is when I knew, or rather assumed, Tobin Elencourt was very, very drunk. He has a smirk on his face that I can't quite read. *An update? What does that even mean?* Maybe I simply misinterpreted what he said, after all everyone is pumped with mojitos and margaritas. For the sake of me desperately wanting to move on from this awkward tension, I laugh and sarcastically say, "Oh yeah, it's so amazing." I knew Tobin would end up spewing more drunken nonsense for the rest of the night so I interrupted his train of thoughts using the classic "excuse me, I have to use the restroom" excuse. I didn't end up even going to the restroom, I simply walked down the hallway towards it then turned the corner back into the kitchen to see Amelia Elencourt. Amelia, the Elencourt's 22 year old daughter, was making herself a Manhattan at the bar. Amelia is incredibly interesting to talk to and never gets boring so I will be spending the rest of my night in her presence.

The morning after the mixer is when my very content and simple life changed forever, a daily routine that I thought would never change.

"He's finally awake!" says Mrs. Elencourt as Mr. Elencourt comes very slowly down the stairs, hand on his head and a grimace on his face. He joins us at the dining table and after receiving many worried stares from myself, his children, and his wife, he sighs and says "alright, alright I'm a bit hungover, big deal." We all laugh. I reassure him and say, "I think we all had a few too many last night, Tobin especially! You should have heard the nonsense he was telling me!" Mr. Elencourt glares at me, a look I've never really

seen on his face before so I stop laughing but then he curiously asks “What was my drunken brother rambling about this time?” I tell Mr. Elencourt about how Tobin mentioned some type of monumental update, one that seemed of great importance. I can see the gears grinding in his head as he replies, “an update, that’s... interesting... I mean hilarious! Yeah that's quite a joke!” His demeanor suddenly has me feeling very uneasy, I can sense there’s something more going on here. Mr. Elencourt has a demeanor that is so unnatural; it is obvious he is actively trying to maintain composure. After we all finished breakfast, Mrs. Elencourt went upstairs to finish getting ready for the day and Mr. Elencourt trudged off into his home office. It was very strange for him to be in his office on a Sunday. I can hear Mr. Elencourt dialing in someone to his office system. “Do you know why I’m calling?” says Mr. Elencourt, a stern tone in his voice.

I do not like to be nosey. It is an invasion of privacy to eavesdrop into anyone's conversations. I head to my room to finish my daily sudoku when I overhear Mr. Elencourt getting very angry. I cannot quite decipher his words but I can hear the thunder in his voice. I try to tune it out but now I am helplessly fixated on trying to make out Mr. Elencourt’s words and then I hear something. A sentence that chills me to my core even though I do not know the full context of the conversation occurring, “there’s only one solution to this now...” *Could they possibly be talking about what I had laughed at as a joke at the dining table only 17 minutes ago?* I’m starting to replay in my mind the conversation I had with Tobin the night of the mixer. *An update? An update, I’m puzzled I don’t understand? Is it a code for something? Some sneaky business transaction I am not supposed to know about?* Although I spend basically all of my time with the Elencourts, I do not know as much about business as one might think I would. But what I do know is that I would never tell if it was illegal, confidential business, never. I am too loyal to the family. That is simply not my business. *Stop. Stop. Stop.* I'm letting my thoughts take over when in reality I’m sure there is absolutely nothing to worry about. I trust the Elencourt’s, they trust me, everything is fine.

Another routine week passes by. The concept of my life with the Elencourts is so intricate yet so very simple. The Elencourts are a family that think of every aspect of life as a business deal. Although they treat me incredibly well and as part of the family, when I started here I was merely a business transaction for them. As a young kid, I was part of the lower class, or which in our world is the Micros. There’s a clear distinction amongst the social classes. You're either a Micro or have the luxury of being Macro,

¹ Refers to an upgrade in the technology that is usually reserved for the Macros.

there is no in between. Lower, higher, no middle. The Micros are not necessarily suffering from poverty, what they lack is knowledge. Knowledge of how the business world works, how the world operates in a far more exquisite way than one can imagine. There has never been a sense of contentment with this, what human being does not want to move up in the world? Be richer, be better, be happier, be able to provide for generations to come? I've spent the past six years of my life pretending to be a Macro just like the Elencourts are but it has only been a self-illusion. *What better way to live and feel like a Macro than by working for them?* My cleverness landed me a job with the Elencourt family; Mr. Elencourt is a strict man, but has a soft spot that can be worked only by those with painstakingly competent minds. After feeling uneasy, I catch my thoughts and remind myself that I am content with this life. I assure myself that everything is fine, I have enjoyed and continue to enjoy my service with the family. The life I have now is just the way I like it, how I got here, why I got here, and where I'm even going from here, does not matter. I simply just am. Either way, the Elencourts prefer their life to be entirely simple; even if it is far from it.

Last night, we had our usual in-home movie night. It was nice to return to a regular Friday schedule after last Friday's mixer. As I sit up right in my king sized bed with the memory foam mattress supporting me, I think about how my day will go. A beautiful Saturday, the skies are bright blue with no cloud in sight due to the breezy day we had yesterday. My body is radiating warmth. I get up to open the window and feel a rush of adrenaline as the cold air hits my face. Today will be smooth sailing for me, the atmosphere feels just right. *I will go downstairs, have breakfast with the family, treat myself to an extra cup of coffee, and go on a nice afternoon walk.* If I get lucky, the Elencourts will ask me to slice the vegetables that will be incorporated into tonight's dinner.

"Splendid afternoon isn't it?" I hear Mrs. Elencourt ask as I am passing through the garden. "Ah yes, it's quite lovely outside. I'm just returning from my walk, is there anything you need my help with Mrs. Elencourt?" I ask in return. "Actually Kade, I was wondering if you would join Mr. Elencourt and I in about an hour?" I am taken back a bit by this request but I make sure not to show it. I have become incredibly keen in hiding my facial expressions. It's not that I don't want to be honest with the Elencourts. They know the most authentic version of me, of course, but sometimes there are things that take me by surprise; things that an average Macro would not find surprising. I respond without any hesitation in my voice, "Of course, yes, of course. I will shower and get ready, is there any specific type of attire I should be wearing?" Mrs. Elencourt lets

out a laugh and responds, “Oh dear Kade, no, any attire will be just fine!” I nod and walk towards the backdoor. The second I step into the manor I let out a huge sigh of relief. My mind is racing, faster and faster. *Do they want to talk to me? Or are we having special guests?* I've learned to never question the Elencourts. Questioning them would lead to a sense that I am not fully trusting in them. It may give them reasonable doubt about me and could be grounds for termination. *What am I even thinking right now, they probably just want me to help with dinner!* Obviously. I finally get in the shower with a calm and content mind.

When I arrive in the living room, the Elencourts are standing, not sitting in their usual spots. Mr. Elencourt always sits in the reclining velvet black loveseat while Mrs. Elencourt sits right at the left corner of the sofa, closest to the heater. “Kade!” Mr. Elencourt proclaims, before I can get a chance to say anything he speaks again, “You know Kade, we really appreciate everything you do for us...”, *as if I do much*, “...and we have something to give you. I know this all seems out of nowhere but if you could just follow us into my office it will all make sense.” I say nothing. There doesn't seem to be anything for me to say. I nod and Mrs. Elencourt lightly touches Mr. Elencourt's shoulder as if she's telling him *okay let's go!* The bookshelf in Mr. Elencourts office stands so profoundly; it is made of the finest red oak wood. It is a statement piece, something that one would *want* eyes to be drawn to. It never would have occurred to me in a thousand years that it would easily slide open and have a hallway behind it. You would think in this situation I would ask many questions, be shocked, be confused, but I remained the calmest I have ever been on the outside. Whatever the Elencourts want to show me, I cannot be confused, I must be clear headed, because that is what solidifies trust. Trust between the Elencourts and myself.

The room at the end of the hallway was surprisingly small. Considering my newfound knowledge of its existence, I was expecting something large or maybe underground. It is a stark white room, very minimal decor; the feel of it reminds me of a guest room or room for outsiders to stay, not family members. In the middle of the room is a large chair that looks like it would belong in a dental office, isolated in the center of the room. I sit down in the chair and realize I wasn't even asked to, I just assumed and so I sat. I feel mostly numb, my body, but also my mind. I have so many different thoughts at once but it's almost as if I have no real thoughts about this at all. Mr. Elencourt reaches into the drawer of a table on the right wall of the strangely comfortable room. “Well let's get right to it shall we? Kade we are so excited to give you this gift to show our thanks for everything you do. It is truly an incredible piece of technology.” The way the Elencourts were looking at me made me feel so comfortable, and I found myself subconsciously nodding yes. For the first time, I am starting to think that my trust in the Elencourts

may be too much. I look at Mr. Elencourt's hand, he is holding a long applicator that has a long metal syringe at the end and a plastic tube at the top. The metal tip gleams in the white light of the room. Within the tube, I spot a dainty piece of metal with small prongs, no bigger than a flea. "Is this going to hurt?" I ask. "Of course not! You won't feel any intense pain, just a tiny pinch" replies Mr. Elencourt. He goes on babbling words that I can no longer process and then lightly nudges my head motioning me to look downward. "Are you ready?" asks Mr. Elencourt. "Yes... I mean I think so?" I say hesitantly. I put my chin all the way to my chest and begin to feel the quick slight pinch on the back of my skull. Seconds later, I feel a paper towel brush across where I assume the needle entered my head, Mr. Elencourt motions for me to lift my head back up and relax. I had been very tense prior to that. "The hardest part is done!" exclaims Mr. Elencourt with a slight chuckle. "The healing process² is just as quick and painless so you should feel just fine Kade! Nothing to worry about!"

I spent the next three hours listening to the Elencourts talk as I sat very calmly on the sofa. I was much more comfortable being back in a familiar place, not that secret corridor. What had just been inserted into my brain is a form of nanotechnology; the small metal piece is now connected to my brain.³ *So far, this update does not seem too overwhelming, or maybe I just do not understand it yet.* I realized that this was the update Tobin was talking about. Tobin assumed I already had it. Tobin thinks I'm a Macro. Although the Elencourts said they gave me the update as a gift, I know it was because of liability but I could never let my feelings come across that way. No matter how much trust was built between the Elencourts and I, they know I am and always will be a Micro. This technology is supposed to give me access to valuable knowledge shared through others who also have the update.⁴ As far as the Elencourts are concerned, I

² The normal healing process for deep brain stimulation (DBS) requires a lot of rest, and individuals must slowly return to regular activities. Slight bruising around the surgery areas, swelling around the eyes, and tenderness near the incisions is frequent but lessens over time. There is an especially high risk of falling weeks after DBS. Here, the healing process is drastically expedited due to advanced technology (Brain Institute, 2021).

³ The small piece is connected to the hippocampus, which plays a key part in the organizing of memories in its specific context—an integral component of episodic memory. The hippocampus, prefrontal cortex, and its intermediary areas are important for the retrieval of relevant memories (Eichenbaum, 2017). Furthermore, robust activity occurs in the hippocampus during the recall of both genuine and false memories (Ramirez et al., 2013). Thus, there may be some confusion as to which is which.

⁴ Semantic memory (also stored in the hippocampus) is the type of memory that encompasses all the declarative knowledge that we have about the world. Humans have a conceptual knowledge store that depends on the activation of semantic memory, which is not triggered by stimuli in the immediate environment but held within one's own mind. Conceptual functions include object recognition, social cognition, language, and the ability to construct mental simulations of past and future (Binder & Desai, 2011). If this semantic knowledge is shared, assuming the receivers have an intact hippocampus, then receivers could essentially gain knowledge.

absolutely love it! See, for the Elencourt's this device has somehow been life changing, something I am not sure I will ever understand. My life is going to continue as is, I will continue working my routine everyday, and I will work for the Elencourts until the day they let me go. At least this is how I've pictured the rest of my life to be lived out.

The technology behind the update is quite fascinating, I suddenly gain more access to knowledge. Knowledge that is not rightfully mine because I did not earn it with my own efforts. Knowledge that has not been learned by me. Nevertheless, it is new knowledge that excites me. The way in which I can receive this knowledge is through a shared neural cloud⁵ that the Elencourts refer to as the "Brain Link". Even now as I am thinking about all this, I still have that same overwhelmed feeling that I had on the day I received the implant. I am beyond grateful but cannot help but feel the weight of the situation. My knowledge can only be shared with others if I choose to allow them to have access to it. It is difficult to know when I will actually need this implant, when someone will need *my* knowledge which only consists of high school memories like the pythagorean theorem. It is my understanding that the Elencourts and the other Macros who use this implant are using it to their advantage, to up their worth and status in this world. Being able to share and give crucial information about a business could be very beneficial knowledge for someone like Mr. Elencourt to have. *However, why me?* I am not trying to continue going "up" in this world, I am content in this life I have made with the Elencourts... Suddenly, I feel a small vibration at the base of my head, in the area of where the technology was inserted. As explained earlier by the Elencourts, I realize I have an incoming request to share information from an unknown user appearing as a notification banner in my view. *Is one of the Elencourts trying to send me some type of information?* Since this is my first time actually utilizing the implant I figure there's only one way to learn about it, so I accept the incoming request. I allow the knowledge to be transferred to me⁶ and suddenly I see bright white flashes in my mind. They look like white walls entrapping me. I shut my eyes tight but they are still there. *The information shared with me is visual white flashes?* I didn't even know visual memories

⁵ Based on the human brain/cloud interface (B/CI) concept--a stable, secure system that allows the brain to interface the internet cloud. The technology that is implemented in the characters of this story are referred to as "neuralnanorobotics," which allows for connection between neural activity and external data storage. These neuralnanorobots position themselves at the axons of neurons and allow for processing of data and data transfer to a supercomputer. It is assumed that these supercomputers are an established part of daily life, in which humans have completely merged with technology, and humans are integrated in a system that allows for direct memory transfer. In other words, brain-to-brain interfacing is possible (Martins et al., 2019).

⁶ The implant allows for the user to first screen the transferred memory and determine what kind of memory it is: type, valence, size, etc. Once it is determined, the user can accept or decline the request simply by thinking of it. If accepted, the implant interacts with the neuralnanorobotics to store the data within the corresponding brain regions.

could be shared.⁷ I am sweating and panicking but I manage to send a response to the unknown user, a request for more information about the white walls I am seeing.

My first use of the implant was far from what I imagined it to be. I spent the next week constantly requesting more information from the unknown user. All the memories I have shared are all visual. Somehow amongst all this new information I am trying to piece together, everything has been completely normal as far as my work with the Elencourts. Not a single thing has changed, my work routine has remained stable. We are able to go about our regular days as if no implant even existed. My personal routine has changed though. I stay up late into the night fascinated by shared memories of the unknown sender.⁸ I have come to the conclusion that the visual flashes I have been seeing are indicative of a white room somewhere. In a sense, the room feels so familiar⁹, as if I've been there and that I am being called to return to the same room. Although these visual memories of the white room have been shared with me by someone else, they feel as if they are my own. As of last week, I did not even understand that it was a room but now I have the overwhelming feeling that it is my purpose to get to the room. Somehow, someday, I must get to the white room.

Although I am aware that the Macros use this implant to go up in the business world, I have no use for that aspect of it. However, I am starting to learn that there is much more to it than just business. After receiving the memory of the white walls, I started to request memories from random users in the brain link. I started to try and gain fun memories from anyone who would accept my request. One of the best memories shared with me via the brain link was about a beautiful trip to Costa Rica; the memory was so detailed that I almost feel as if I was actually there. It is a wonderful thing to be able to sit in your room, but mentally, feel as if you are on the beach in Costa Rica. I started to

⁷ Visual long-term memories can be quickly retrieved, even when perceptual information is actively maintained in working memory (Schurgin, 2018). Under certain circumstances, people can disengage from working memory and rapidly access visual long-term memories. Though it is natural for humans to access their own long-term memories, it is a shock to be able to visualize other human's explicit, episodic memories. Additional long-term memory learning is suppressed through a memory mechanism, so that there is increased false-positive detection (Friedman, Johnson, and Williams, 2018).

⁸ These shared memories are declarative memories that are actively chosen to be sent via brain-to-brain interfacing. The implants detect memories and knowledge that are sent, similarly to phone messaging.

⁹ False memories are a phenomena that occur through the process of interference. Memories are prone to error, in which the individual incorrectly recalls past events or even recalls memories of events that never happened. This is due to an "existence proof" in which suggestions are made to what had happened. Over time, these suggestions can become integrated with other schematic information and recollected (Loftus & Pickrell, 1995). If memories themselves are implanted into a human who didn't experience them, the human may feel as if he or she had experienced them.

realize that the emotional aspect of this implant is truly the revolutionary part of this all. I imagine someone, somewhere, with this implant, has been able to relive memories of their loved ones who have passed. Even though these past days I have been able to experience some random fun memories, I have also still been receiving memories from the unknown sender. It seems to have taken over my thoughts. There is a certain feeling that arises when trying to figure out the unknown. There is a constant desire to piece together aspects of our lives. The thought of not knowing, is certainly a very uncomfortable feeling for most human beings. But for me, it is an extremely uncomfortable feeling. While having this simple life routine with the Elencourt's, I have rarely had feelings of not knowing what's next. However, now there is this unknown in my life that I can't help but obsess over.

Where am I? I heard the answer I was hoping for. *I thought I had just thought that, but had I said it out loud?* There's a woman crouching in the corner and she is speaking to me but her mouth is not moving. I have this eerie feeling that I am connected to this woman. "We are connected, I was once like you, unknowingly accepting information through the brain link, but I got too hungry for more. I have consumed so much outside information from other people that I have almost completely lost a sense of who I am." I'm starting to feel uneasy, I have already started to lose parts of my own self awareness since my obsession with getting to the white room began.¹⁰ The woman keeps speaking to me, "I took so much knowledge from others, I am now unable to distinguish between the memories that were originally my own and the memories that I have gained. Now I am trapped here in this white room. In the physical world I do my job everyday unconsciously, but mentally I am stuck here. I have almost no control of what I do in the physical world anymore because I have strayed away from my self identity."

"This all started with the drive for more. I wanted more and more and more so I hacked my own implant. Once I was able to hack the hardware of my neural implant, I started hacking my way through the brain link system, and I ended up here. And now that you're here, I now know that you are the only one who accepted my request... or maybe

¹⁰ Both genuine and false memories activate hippocampal regions. However, previous behavioral and functional MRI techniques have not been able to delineate which subregions are responsible for false memory generation. A study by Ramirez et al. (2013) investigated memory formation at the memory-engram level, in which the cell region that is naturally activated during formation of a contextual memory is artificially activated during an event of high valence (such as a foot shock). The high-valence event and the artificial activation create a false memory. Thus, naturally occurring events of high stimuli may invoke the formation of a false memory. In this case, a prolonged obsession may be associated with contextual engrams, and the false memories that ensue may be confused with genuine memories.

you're the only one who ever received it. Either way, you are my savior.” *Her savior? How could I possibly have come to this point knowing practically nothing about this brain link? Was I the one, stupid person to accept the unknown request?* I realize that somehow after knowing nothing about the brain link, I suddenly know too much. *And how does she know she's a hacker and that's how she ended up here if none of her memories are actually hers?* All these questions make me realize that this implant can ultimately lead to this mental trap. “It doesn't matter if I'm a hacker or not, all I know is that you need to get me out of here.”

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