

I awoke to the sound of construction outside. Echoing hammering. Muffled men's voices. The best way to wake up.

I rolled over, orienting my body towards my bedroom's one large, industrial window. I unscrunched one eye. The light leaked around the outer edges of the curtains. I focused my one eye on the curtain's Escherian print: an elegant flying white dove nestling its neck against an awkward-er black crow whose head is twisted away from the rest of its body. On their own, the two birds are unspectacular, but the pattern repeats: the black crow's beak fits perfectly in the empty space between a cloned white dove's wings. A checkerboard symphony of hundreds of white doves and black crows designed to tuck flawlessly adjacent to one another like puzzle pieces. The morning light seemed to shine right through the white doves. She was always the elegant white dove, and I was the awkward black crow. But we tucked into each other perfectly.

"They're not perfect for each other," she said to me once. "Look, if they were perfect for each other, the black one wouldn't need to sit so awkwardly."

"But that's how the black one needs to sit," I pushed. "That's the only way the white one can look like it's flying elegantly."

She rejected my insistence that she was the white dove. Never was there more an epitome of my idealizing her, I knew that. But I wanted so badly for her to be the one.

"We're not compatible *enough*," she said last night. "I'm sorry, but you'll find someone who is a better fit than me. Trust me."

And she left, just like that.

I tire of the repetitiveness of the hunt for the "best" life partner. I tried to simulate what my next relationship would be like. Another assertive, intellectually stimulating girl from the suburbs. Another first date. Another addiction to the butterflies she gives me when she walks into the room. The feeling of anticipation as we stand so close for the first time that I can feel her soft breath, and I fall in love with the smile wrinkles where her eyes meet her cheekbones. Another Saturday chess match in the park. The butterflies will slowly disappear. She'll send a text message ending in a hostile period, and I won't understand why. And she'll say, "we're not compatible enough," and she'll leave.

I rolled on my back. When did this all become so repetitive? She was a public interest lawyer. And before her, she was an immigration lawyer. And a divorce lawyer before her. Come to think of it, I've only been with lawyers as far back as my memory can reach back.

"It's because you like when they beat you in an argument," said my cheeky inner voice.

Wait, that can't be right. Didn't I have someone back in high school? I couldn't have been dating a lawyer back then, right?

I was troubled. I couldn't remember how long ago was high school. It's been too long. But, surely, I should be able to remember the first person I felt a connection to.

Fortunately, several decades ago, E.M. developed a solution for such fuzzy, distant memories problems. Previously, there was a capacity for memory. A capacity for computer memory storage. Human working memory used to be capped at 4 ± 1 bits of information. But then, E.M.'s company challenged the concept of a memory *capacity*, or maximum. E.M. proposed that the memory *capacity* could be made obsolete.

This became E.M.'s rather unpronounceable *Memoryendlessness* project. Not only did E.M. develop a device that could automatically encode a limitless amount of your experienced memories, but E.M. also made it possible to probe all your memories, even those memories created before the device's invention. How did E.M. defeat the memory *capacity*? E.M.'s company developed an algorithm that could essentially recursively expand the memory capacity. The memory storage can be dynamically resized and rehashed when some percentage of the storage is occupied.

Despite achieving what it promised, the device was highly controversial when it was first released. With the invention of this new device brought fears about a new kind of terrorism: memory hackers. As a necessary precaution to defend against memory hackers, Memoryendlessness takes advantage of blockchain cryptography and prime factorization. As a result, *technically*, you could probe all of your memories, but *retrieving* a memory (decryption) is far more difficult than *encoding* a memory (encryption).

Seemingly everyone owns a Memoryendlessness. It was quite the fad at one point in time. Everyone uses the encoding function; nearly no one uses the retrieving function.

I have one friend who claimed to use the retrieval function at one point in her life. She is quite the spontaneous person. She was surfing Wikipedia when she came across *flashbulb memories*, vivid memories about how individuals learned about major news events. People often felt overly confident in the accuracy of such memories despite their memories decaying over time.

D.K.

And, so I came to the conclusion that I *must* test this out! Especially now that it's much easier with our modern technology to re-simulate the truth of our past. Why not probe my own memories about the Easter Earthquake? Such a chaotic moment in time—how can you misremember something that salient?

Me

So, I'm guessing you used the retrieval function of your Memoryendlessness?

D.K.

Yes!

Me

How does it work?? I don't think I've met anyone that's tried to use the retrieval function. It's just so damn complicated to figure out.

D.K.

What you have to do is to stand in the middle between the mirrors, and then enter through one of the mirrors.

Me

How do you "enter" through the mirror?

D.K.

I can't explain it—you just can.

I crept up to the loft. That's where I had stashed away my Memoryendlessness many years ago, along with dozens of other fleeting fads that failed to play a significant role in my life. It was still making a steady whisper of a ticking noise. It was still incrementally encoding my life story.

With soft steps, I slowly inched myself forward toward the machine. A thick layer of dust adhered to my lavender socks. My steps left foot-shaped patches on the ground in my wake. I stood in the middle directly between the left and the right mirror. I faced the right, then the left. Lights around the edges of the mirrors suddenly activated. The two mirrors created an infinitely nested image.

[Visual of bouncing between 2 mirrors]

Me

It doesn't matter if it's the left or the right one—? I heard a rumor that if you go in the wrong direction, you can create a time paradox, which could cause a chain reaction that would unravel the very fabric of the space-time continuum—?

D.K.

Nah, that's totally science fiction. Probably just propaganda to make the device seem more mythical.

Me

(giving a look of utter skepticism)

Well go on. What happened next?

D.K.

When you face one of the mirrors, your eyes should be able to trace the edges of the mirror, and the illusion makes it appear almost as though you are in a long, never-ending hallway. You're supposed to view it at just a slight angle where you can see yourself in the mirror alternating between your face and the back of your head. And in the middle of the very top, there's a plate with a long string of 0s and 1s on it.

[Visual of bouncing light on mirrors, paired with just bouncing between 2 mirrors?]

I looked at the mirror.

I looked at the mirror in the mirror.

I looked at the mirror in the mirror in the mirror.

I looked at the mirror in the mirror in the mirror in the mirror.

I looked at the mirror in the mirror in the mirror in the mirror in the mirror.

I looked at the mirror in the mirror in the mirror in the mirror in the mirror in the mirror.

I looked at the mirror in the mirror in the mirror in the mirror in the mirror in the mirror in the mirror.

I looked at the mirror in the mirror in the mirror in the mirror in the mirror in the mirror in the mirror in the mirror.

And in each of the mirrors in the mirrors in the mirrors, etc., stood me. Me and a string of 0s and 1s above my head.

100010010101

My eyes focused in on the string of 0s and 1s in the mirror. Then I focused in on the string in the mirror in the mirror.

Was it a trick of the light? The string in the mirror in the mirror looked like the right-most 1 was a 0. What about the string in the mirror in the mirror in the mirror?

100010010011

Okay, clearly these were binary numbers. And they were descending across each level of recursion. I did some quick math.

$$2^0 + 2^1 + 2^4 + 2^7 + 2^{11}$$

$$1 + 2 + 16 + 128 + 2,048 = 2,195$$

What could that mean? Could it perhaps represent the year? But that couldn't possibly be right.

D.K.

And then enter through one of the mirrors.

Me

How do you "enter" through the mirror?

D.K.

I can't explain it—you just can.

I inched closer to the mirror. I laid my right palm against it. It felt...solid. Everything else in her story checked out. But then again, she was just describing how mirrors work—that's not really proof of her truth-telling, right? Maybe she was just tinkering with me. Or maybe she had a different version.

Another inch closer. My breath left a whisper of haze on the face of the mirror.

I took a deeper breath, took a step backwards, and scrunched my eyes. If I'm going to walk into a solid wall, I ought to give my eyes an extra layer of protection, even if it's just a thin layer of eyelid skin.

"I'm just doing my normal walking," my inner voice said. Just normal steps. "No wincing!"

I felt my nose get a little squashed as I forced my face into the mirror. But just as suddenly, it was un-squashed. I felt my body get pulled in and spun around. It felt like the space above and below me was being contorted and contracted. Like I was the fin of an arrow being drawn further inward as the bowstring tightened its hug.

There was a moment of stability. I unscrunched my eyes.

Just as I opened my eyes, I felt my body, this time, get *pushed* forward. I was being pushed forward and downward, flipped around, and forward and downward again and again, bouncing in a figure eight between the two mirrors. It was dizzying. She didn't describe it like this. I could tell I was still in the machine in the loft though. The objects in the loft looked to be about the same as they were before I walked into the mirror.

"This was not how I planned to spend my post-break-up morning," said my snarky inner voice.

D.K.
You're just kind of in there for awhile...

"You idiot, why didn't you read instructions about how to get out?"

My inner voice was right. It felt like I had been in the machine for 10 minutes, and I had no point of reference to determine if I was successfully retrieving memories at all or where I was in my own timeline.

Between all the pushing and flipping, I managed to focus my eyes on eyes on the string of numbers. The tail of the string was rapidly changing.

100000000000 → 1111111111 [visual]

The numbers were decreasing.

'''

If people switch to next screen before it hits 0:

'''

HISTORY

I tried twisting my body every which way. Anything to break out of the seemingly infinite loop. No wonder why no one uses this damn thing. Flinging my arms around, I somehow managed to grasp the rims of one of the mirrors with both hands. The movement suddenly paused.

Me
What does it look like to see your past memories?

D.K.
Ah, but I would be spoiling it for you.

I let go of the mirror's rim. I was floating in the space between the mirrors. I looked at myself in the mirror. Perhaps I had one fewer wrinkle on my brow. I grasped the edges of the mirror again, this time to pull myself down to the ground.

Might as well look around a bit. I crept down from the loft and walked out the front door.

As I walked out the door, I was suddenly an omnipresent being, overlooking my former self:

FAMILY

I was walking through the park with a girl who had meant a lot to me. The grass was studded with burnt orange and gold leaves. We were exchanging dreams about the types of family we wanted to raise. She spoke passionately about wanting to support her future children, her future spouse. I turned my head to her. Soft eyes, lightly flushed cheeks, a shy smile. She turned her head too. We made eye contact. She smiled too.

HAMMOCK

I was lying down in a hammock in a park with a girl who had meant a lot to me. We faced each other, our legs intertwined. The rays of sunlight shined through the trees. She told me about all the things she wanted to do before she settles down. She wanted to hike, she wanted to travel, she wanted to see into the future to see who would be the love of her life.

DOCK

I was sitting on the dock in the park with my childhood friend. Our feet were dipped in the deep sky blue lake. She was explaining to me what it meant to experience unrequited love. I plopped my back down on the dock. She plopped herself down too. I rejected the notion that unrequited love characterized my crush. I stood up and threw myself off the side of the dock. She followed suit.

Quite suddenly, my present self was yanked back into a less ethereal state. I stood before the front door again.

I returned upstairs to the Memoryendlessness.

“Are you sure you want to return home?” on dialog box: OK, Cancel

TO GOD

I re-entered the Memoryendlessness, entering through the left mirror again. This time I waited until the string of numbers descended to 0.

GOD

The string hit 0. I was floating in a warped gelatinous space beyond the mirror. It was as though I was in the backside of the mirror, looking through the reflective side of the mirror. I tried to bounce my body back through the mirror. I gave a quick jump, which surprisingly worked. I launched myself back through the frontside of the mirror. Now I was flipping back and upward in the opposite figure eight direction.

I experience two flips but instead of continuing to flip, I was launched through the opposite mirror. I was thrown ungracefully onto the floor. Wherever I was, there was no buoyancy allowed here.

[typing soundclip]

After rubbing what would surely turn into a bruise on my hip and butt, I stood myself up off the ground. All I could see around me was white.

I heard rhythmic clicking sounds in the distance. Was that typing?

Maybe E.M. is the type of person to include an Easter Egg in the Memoryendlessness.

I walked forward, following the sound of typing.

The typing sounded crisper and crisper as I kept walking. Soon enough, I spotted someone standing at an elevated desk with a triple monitor set up. I could only see the back of their head. This must be an Easter Egg. This was the Architect in The Matrix or the Director in The Truman Show. I was going to meet this being and they would tell me that I was living in a simulation. And life is deterministic. And there is no point in caring about anything when your future has already been determined for you by some omniscient being. I could see it then.

I slowed my walking as I got closer. I was trying to figure out an optimal solution of how to interrupt their fastidious focus to interrogate them about where the hell I was.

“Ask them for directions,” my inner voice said sarcastically. “Or do that thing where you first ask for a large request like ‘can I borrow your computer to take over the universe?’, and then when they turn you down, you say ‘oh well, can I ask you where the hell I am?’ The first request has to be extra huge, if you want to cuss at God.”

A deep feminine luxurious voice, like chocolate, spoke confidently.

???: I can feel that you are coming closer.

Me: Oh sorry, didn’t mean to sneak up on you.

???: You have no need to apologize. I do not mean to ignore you. I must make this one change first. I will then be available to address any concerns that you might have. [further hastening typing]

[Now I was standing behind them, studying the back of their head. I don’t even know what questions I ought to ask. ...Why does God have a shaved head?]

???: Ah yes, perfect. [conclusive keyboard click, then turns around] How may I help you?

[As they turned around, I noticed their high cheekbones and sharp chin.]

Me: Er, if you don't mind me asking: who are you? Where is this?

???: I am the Matchmaker. I am most analogous to a programmer or a designer, in your world. You are in the Base Case.

Me: [Looking dumbstruck]

Matchmaker: Your face shows your confusion. I will explain better.

Matchmaker: I am tasked with solving optimization problems. All of life is composed of finite resources. Previously, I worked on finding optimal solutions to sustainability, peace, lifelong happiness.

Me: [curiously] Did you find the solutions?

Matchmaker: No...God often changes their mind about what to solve at a given time. It is difficult to accomplish anything when you are forced to task switch frequently.

Me: Oh.

Matchmaker: [seeing my disappointed face] But in the more recent years, I believe I am having more success. See, happiness matters very much to God, so I have been focused on making beings happier for some time now. Independent of my designs, humans have found a way to lengthen the human life span and reproduce exponentially. This has caused higher consumption of all other finite resources, which is worse off for the universe as a whole. And so, the optimal solution seems to be to iteratively halve the human population in each successive generation until we decide that humans can repopulate again. I see the look of concern on your face.

Matchmaker: I will clarify. I do not mean I shall reduce the population through nefarious means, such as weapons of mass destruction or virulent pandemics. Rather, we want to maximize all individual happiness as well. As you'll see, I came up with a solution in which everyone can be happy. Once the human population reached 2^{34} , I temporarily paused all human sexual reproduction and tremendously slowed aging. It's been about 160 human years now of minimal population change. In this time, I have been seeking the optimal solution to human romantic coupling—well, there are many who prefer to have multiple partnerships, and I have taken their happiness into account as well. See, partnering up every human with at least one other human (depending on their preferences for number of partners and sexual and romantic orientation) is computationally exceedingly difficult, let alone trying to find each individual's optimal partner(s). To give you an idea of the scope, if every individual were monogamous and bisexual or pansexual, the number of arrangements of couples would be

$$\frac{(2^{34})!}{(2^{33})! 2^{2^{33}}}$$

Me: This must be an intractable problem!

Matchmaker: Oh, I agree. Yet I have made great strides in the last 160 years. See, I have resorted to using simulated annealing. Although holistically the initial couplings were incredibly poor, we are nearing globally maximal solutions for all individuals and the matchmaking system as a whole.

Me: No wonder why it feels like I am experiencing the same relationships over and over again. They nearly are the same experiences with slightly closer to maximal happiness.

Matchmaker: That is correct!

Me: Wait, if my last several iterations of relationships have been with lawyers, am I destined to end up with a lawyer.

Matchmaker: If the search algorithm is working correctly, indeed.

Me: Interesting.

Me: I am not sure what to do with this information. Can I go back to life now that I know all of this? Or do I know too much, and God will not want me back on Earth?

Matchmaker: You can go back to your normal life.

Me: Will I be able to find happiness knowing that my life's happiness is determined...by you...and an algorithm?

Matchmaker: There is stochasticity, but yes, there is one predetermined solution, and I will find that one solution. I do not know if you will feel happy about your life. That is for you to decide. But I can guarantee that you will have a partner who makes you happier than anyone else...Because that is my job.

Me: Okay, last question: if I want to reject that my life will necessarily be cyclical and predetermined, what can I do?

Matchmaker: I want you to find happiness, and if this story of happiness that I pose to you is not satisfying, [stands aside] I will let you improve the algorithm. [nods for me to come to the computer]

[I stood still, seriously considering this option]

Matchmaker: Just know that if you royally fuck it up, I *will* have to go back and fix it.

[That didn't help in making it a more appealing option]

Buttons:

Accept the current state

Reject the current state

CYCLE

I re-entered the Memoryendlessness. This time I took the right mirror. I assumed that this was how to return home. I closed my eyes until the flipping stopped.

I snuck down the loft stairs and crawled back into bed. Completely enwrapped in my blankets, I pulled out my phone, and created a new Evernote.

I wrote down as much as I could remember. How I didn't realize that day was going to be a special day, when I saw her for the first time, laughing beside my friend. How my outlook about that day would change when we later laughed about my silly joke. How we sat under our umbrellas playing chess in the park, tightly wrapped in our parkas and throw blankets, as the freezing rain gradually transformed into snow. And we stowed our umbrellas away and continued to play the game as snowflakes blanketed the board.

Months later, D.K. recommended that I sneak into her friend date with a co-worker at her law firm. She and D.K. were going to a museum. As always, D.K. only fed me teasers and never details, but I was instructed to "run into" them at the Escher exhibit and make one of my "classic charming jokes."

I made a joke about the way the crow's neck was tucked into the dove's wingspan. It wasn't a very good joke. But she didn't seem to notice my disappointment at my own joke. She laughed. I was happy.

ABYSS

I stepped up to the computer, pulled up my sleeves, and started typing away.

Me

Well, if you're going to not tell me anything else, can you at least tell me: were you right? About the accuracy of your earthquake memory?

D.K.

Nah, I was totally off.

Me

That's disappointing.

D.K.

But in a really abstract way, it's better! It's reassuring! That you can continue to surprise yourself about what you thought you knew. Life can be so dynamic!

```
w = window.open('tree.pdf');  
w.print();
```