



ISSUE THREE

Fulcrum Review

Cover Art by Mirjana Miric



NOTE FROM THE EDITOR

Dear Reader,

The season of summer, or as I like to call it, the season of heat! Summer is the season of joy, freedom, and adventure. And as they say, summer heat brings technological feats! For our first ever summer issue, it is also our first ever themed issue! Glitched Narratives explored how technology became intertwined with and reshapes identities, memories, and relationships. The works here in this issue present this main essence in a multitude of different ways from written prose to drawn murals.

We at the Fulcrum Review are truly appreciative and thankful for the engagement of all the contributors in submitting and supporting our magazine. We will continue to improve on every issue, and will continue to feature artists demonstrating their commitment to the interdisciplinary focus of science, technology, society, and the arts.

It is my honor to publish these pieces, and I hope you enjoy reading through. Happy summer days!



David Wong

Founder, Editor-in-Chief

Table of Contents



Minsk	1
<i>Nasta Martyn, visual art</i>	
untitled	2
<i>Mirjana Miric, visual art</i>	
Online	3
<i>Zary Fekete, fiction</i>	
No Coins in Ears	6
<i>Shareen K. Murayama, fiction</i>	
Radio Silence: An Awakening	9
<i>Lily Wilson, poetry</i>	
The Avatar	12
<i>Kayla-Jane Barrie, poetry</i>	
My Very Own Lily	13
<i>Emily Oak, fiction</i>	
untitled 3827	26
<i>Rachel Coyne, visual art</i>	
Believe	27
<i>Simone Gonzalez, poetry</i>	
Behind the wheel	29
<i>Clare Bryden, poetry</i>	

Table of Contents



untitled	31
<i>Cyrus Carlson, visual art</i>	
The greater and the lesser lights	32
<i>Clare Bryden, poetry</i>	
The Ether Answers	33
<i>Samantha Terrell</i>	
Grey Matter	34
<i>Kayla-Jane Barrie, visual art/poetry</i>	
Tiny blue flowers	35
<i>Clare Bryden, poetry</i>	
Metacat	36
<i>Suzanna Fitzpatrick</i>	
Ozone Depletion	38
<i>Kayla-Jane Barrie, visual art</i>	
Midlife MRI Questionnaire	39
<i>Suzanna Fitzpatrick, poetry</i>	
Up.Date	41
<i>Phil Vas, fiction</i>	
untitled 3805	62
<i>Rachel Coyne, visual art</i>	

Table of Contents



From Lab to Louvre <i>Bryan Duong Milstead, nonfiction</i>	63
untitled <i>Cyrus Carlson, visual art</i>	75





Minsk by Nasta Martyn

Nasta Martyn is an artist, graphic artist, illustrator, writer and poetry. She graduated from the State Academy of Slavic Cultures with a degree in art, and also has a bachelor's degree in designer. Writes fairy tales and poems, illustrates short stories. She draws various fantastic creatures: unicorns, animals with human faces, she especially likes the image of a man - a bird - Siren. Or In 2020, she took part in Poznań Art Week.



untitled by Mirjana Miric

Mirjana M. (they / them) are a digital artist and writer from Belgrade, Serbia. Their work focuses on exploring the juxtaposition of various elements through mixed media of photography, double exposure, textures and light. Their work most often explores concepts of duality and has appeared in Vocivia, Broken Antler, Spellbinder, New Limestone Review, The Fantastic Other, Soft Star, Elixir Verse Press magazines and other places. They authored 4 poetry collections. You can see more of their work at their blog olorielmoonshadow.wordpress.com or get in touch on Twitter (@selena_oloriel) and Instagram (cyanide_cherries)

Online

Zary Fekete

Stacy had a hobby. She had an online persona she named “StacyQ”. She felt lucky that name was available in the app. It felt elegant. She used her StacyQ persona to befriend a number of other women in the app. She wrote to them in friendly ways whenever they posted new pictures of themselves out and about in the town or cuddling with their dogs. Whenever she saw a new dog photo, she went into the comments section and wrote something like, “Oh, for cute!” or “Sweetness!” She knew them well enough that they commented back to her when she posted. The things she posted were all fraudulent. She had no pets of her own so she posted pictures of cats she found online or photos of dogs from dog-fan websites. She passed himself off as an animal lover who took in strays and then found homes for them.

One morning she went online as StacyQ and hunted through the current posts. She noticed that “CurlyGirly”, a young woman had been following for several months, had posted pictures she took last night at a new restaurant downtown. She posted pics of the food she had ordered and also of some flowers she passed in a garden on her walk home. Stacy wrote “looks delish” next to a photo of the chocolate cake the girl had for dessert. She then switched over to another series of posts by “SaraBear”, a blond woman from another state, who collected animal books. She had just bought some used books on ocean life and dolphins. Stacy went through her posts, writing things like “Sooo cute:).”

Stacy sat for a bit scratching at her arm. The scratching finally drew some blood. She touched the wound and stared at it. She felt it was time to switch. Stacy had a second online persona, someone she called “RacyStacy”. She used this second persona on the same app as her StacyQ persona, and she followed the same group of women. She clicked back to CurlyGirly’s posts. She found the photo the girl had taken of the risotto she had ordered last night and wrote “Nice, Piggy!”. She scrolled over to the posts SaraBear and when she found the picture she posted of a blue whale and attached a pic of fish guts. After she made these two posts Stacy sat for a moment, breathing, and slowly the itch died away from her arm.

She realized she was hungry. She decided to go out for a bit. CurlyGirly’s restaurant looked good. Maybe she would be there. A pleasant thought entered her Stacy’s mind. Maybe she could meet CurlyGirly in person. She glanced back down at her screen to sign out of the app. Then she gasped. She had made a terrible mistake. The troll posts were made as StacyQ not as RacyStacy.

Stacy stood and tipped over the desk, her laptop clattering to the floor. She was hyperventilating. She backed into the window and spun around, breaking the glass and cutting her hand. She ran to the bathroom and ran some water into the cut. She looked at herself in the mirror. Walls were closing in on her from both sides. She ran back to the living room and grabbed her laptop. She left her front door wide open as she turned toward the stairs, taking them in threes.

With her laptop dangling from her hand, Stacy ran across the street. A car swerved to miss her and crashed through the plate glass window of a furniture store. At the next block she lunged through the red

light at a crosswalk sending another car into the side of a municipal bus that was idling at the curb.

A moment later Stacy stood outside of the restaurant. She jerked open the door and ran up to the young woman who did the seating. Stacy lifted her laptop up and turned it around so she could show the woman. The blood from Stacy's cut left red prints on her keyboard. The woman gasped.

"It's ok," Stacy said. "It's mine." She pointed to a picture of CurlyGirly on the screen. "Tell me, sweetie, have you seen this girl?"

No Coins in Ears

Shareen K. Murayama

The government only noticed something was wrong when the teenagers, those who wanted a different life than the one they were born into (which is to say, all of them), left in the middle of the night and never returned home. Then deadbeat dads disappeared, teachers and department of transportation workers went missing. Entire families abandoned their properties and online subscriptions.

It wouldn't be for another hundred years that the government would discover the truth. Hidden in a valley, a secret nation grew: the ones who figured out how to get rich.

Every day newcomers lined up outside the gate waiting for the magician. Dressed in the style of Prince's Purple Rain era, she wouldn't acknowledge them, but simply wave her hand behind a volunteer's ear, and voila! A fifty-cent coin would appear! The volunteer would bow repeatedly, surrendering the first coin back to the magician.

The people with Coins in Ears were charged upon by loved ones. Conner, never one to be highlighted on Christmas cards due to subpar gpa compared to his cousins, would now be hailed in family conversations, bank accounts & vacation postcards. Loved ones would only have to mimic the magician's sleight of hand and voila! A fifty-cent coin would appear! Magic was changing their world!

Around the clock shifts were contested by families.

I want to feed Conner!

I'll take him walking!

Does he need to be out in the fresh air? A plane could fall on him.

Let's keep him inside, say the basement?

In the end, family members agreed that a commode, a feeding tube, and poop bag would be the most efficient use of Conner's time. Most families stayed in denial, but eventually they'd have to limit their conversations with Conner, for his own good.

Cling. Cling. Coins rained into bags, penthouses, and private jets. This was what people meant by sacrificing for family. Conner would be the family favorite that no one could live up to.

However, sometimes no coin fell from a volunteer's ear. An awkward hush would pulse over the crowded street. The No Coins in Ears people would beg the magician to try one more time. But the dismissive magician pressed forward. She would not keep her audience waiting.

The No Coins in Earspeople would not be deterred. Some dyed their hair or shaved it off, wore designer aloha shirts they couldn't really afford. Others chopped off toes, or a hand, broke a collarbone or two. Maybe if they registered a different vibe, their fate would change. They would reinvent themselves at all costs.

Sometimes the No Coins in Ears people would be rejected by their family. A nine-year-old asks her gambling-addicted father to leave. One elderly woman abandoned her husband in the crowd, creating the illusion of a single, new newcomer than when she walked through the valley two weeks

ago, hand-in-hand, for better or worse, with her no-coins-in-ear husband. As the youngest cousin replaces Conner's intranasal feedbag and checks for nasal inflammation, he explains how the two coins-in-ear triplets finally allowed their brother back home as long as he promised to pull their coins while they slept. Magic was changing everyone's world.

The newcomers and new newcomers' demands swelled from river to ocean. The magician, dressed in the style of Prince's Purple Rain era, knew she needed to hire help, but good workers were hard to find. No one wanted the job as the magician's assistant because mystery was more intoxicating than the truth. They clung to their gullibility, their innocence, the belief that magic could change a life.

Radio Silence: An Awakening

Lily Wilson

In the moments before the seconds bleed dry
And eleven fifty nine is no longer a ticking entity,
The quiet that slips in through my bedroom window
Threatens to choke me— strangle me—
as the soft blue glow emanating from my phone screen
Sends an indigo ghostly hue to blanket the empty walls
Of my room.

The screen burns and buzzes against my nightstand,
but I dig the heels of my hands into my sockets
until I can see stars behind my eyelids,
Until I see the code of the universe as it starts to unravel
and the sun is no longer a breathtaking sight, no
Now I see what it truly is: another object in the rotation of time
and of a sequence like the waves that follow cues from the moon,
like ripples emitted from the headphones
that bury my ears and silence the night.

As I ponder the fact that the world has never once been more connected in its humanity,
Has never once been as tethered and interwoven as it is now.
And yet in the very same moment, its inhabitants have never felt as alone as they do now.
As I do now.
As isolated like glitches in the system seconds before it crashes.

As distant, as the wires that feed the lives around the world, black cord spanning miles
Enveloped by vines and hanging over tree limbs,
tracing farmland and snaking through mountain valleys,
As polluted as the fallen rainwater after a flood
where the oil slicks and grease painted on pavement
Run and slink into groundwater, clinging to fish scales,
binding to swarms of silver that scurry upriver
against the rapids and the dams,
fighting currents and clawing at home,
at the birthplace of their beings.

As we all do, everytime that we click onto the internet.
Everytime we unlock our phones.
Message someone across the world. Scroll through social media.
Or simply check the time.
Because we are those fish.
And we swimming upstream with no end in sight.
And against my bedroom walls, in the darkening glow of midnight,
I see the schools as they glisten and move across my ceiling in waves,
Before they breach the water and drop from above,
Landing with a harsh, damp thud against my bedroom floor
and I listen as they begin to suffocate against my hardwood,
As their gills echo the thrum of twilight,
And the word continues to breathe around me
As my phone continues to vibrate, undulate,
Like an ever-flooding artery
And it's all ever-present,

But can only be found
in the radio silence.

Lily Wilson, is a rising senior at the Alabama School of Fine Arts specializing in creative writing. She enjoys reading, gardening, photography and drinking excessive amounts of coffee in her free time. Her main goal in life is to have one reader who remembers her words long after they've read them.

The Avatar

Kayla-Jane Barrie

Threads of technology dangle

Lines of binary hypocrisy,

Immersed in corrupt files.

Sheltered under a metallic muse.

The oracle tells us to hold onto hope,

But the concept fades to dust.

We are ticking timebombs,

We just don't let our avatars show it.

Kayla-Jane is a poet, abstract artist, naturalist, and science communicator. Her darkly enchanting works asks deep philosophical questions, often with a speculative twist. The poetic power of art and nature ignites her curiosity about the world. She hosts sci-poetry workshops from her home in Ontario, Canada and is a reviewer with the peer-reviewed journal Consilience. www.abstractexpressionsbykaylajane.com

My Very Own Lily

Emily Oak

“Hi! Good morning, world!” Eve said, waving, a big smile plastered on her face. No, she frowned as she looked at her reflection in her bathroom mirror. No, this was not it.

“Hey,” she said again, her voice softer as she exchanged her smile with a closed-mouth one. She frowned again. Time was running out; she needed something before it was too late. Frantically, she grabbed her phone, immediately turning on Numquam.

“Call Lily,” she said as she fidgeted with her cheap golden necklace with an E charm. Shoot, her clasp had come down again. She glanced towards the ticking clock. One thing at a time, she thought. That was what Lily always told her. She took a deep breath and adjusted the clasp before turning back towards her phone.

“Hey, Eve!” Lily said excitedly, flashing her perfect pearly whites.

“Hi Lily, listen, I really need you to give me a morning greeting. But I need it to sound nice and genuine.” Eve said as she moved her gorgeous bracelet up and down. Up and down. “Don’t worry, I got you girl. How about you say something like: Hey, everyone!” Lily suggested happily, legs crossed as she played with a strand of her hair. “Good morning! Hope today brings you all some good vibes and fresh opportunities. Remember, life is full of challenges, but it’s those little moments that make life much more meaningful.” Eve longingly looked at the screen. Lily was confident, with her dazzling blue eyes and silky straight hair. She was everything Eve was not, everything Eve would have

wanted to be. “That sounds great!” Eve responded before putting her phone away.

She brushed her fingers through her brown hair, dry and stiff after half an hour of straightening and spraying with hairspray, and switched apps to Fictus.

“Hey, everyone, good morning!” She said with a smile just like Lily’s. “I hope that today brings everyone some good vibes and fresh opportunities. Remember, as I always say, life is full of—full of challenges, but it’s those little moments that make life that much more meaningful.”

No good, she thought as she deleted the video. Plus, she looked a little pale and needed more blush. No need to make everyone think that she was a zombie.

After numerous takes, Eve reluctantly found her winner. She had looked over the video at least over a dozen times, each time cringing at the sound of her own voice. Whatever, it would have to do, she thought as she uploaded/posted the post, just seconds before the deadline.

She checked her outfit once again in the mirror, frowning. The shirt was fine, but the pants were what was getting her. They were low-rise and flared with a weird fringe design near the bottom that made her trip. They were a plain light nude color, and the material gave her a wedgie. Despite all this, Eve thought it was fine. Lily said that it looked great on her, and she agreed, so that was all that really mattered.

Eve skipped down the stairs, almost tripping on her pants in the process. Suddenly aware of the time, she rolled her pants up to her knees and sprinted towards the kitchen. She grabbed a Breakfast Bread from the pantry and snatched her backpack before putting her shoes on. She staggered towards the bus station, careful not to step on any of the fringe of her pants. The outfit cost a small fortune; she had used funds that had been acquired over a span of a month, and she was determined to make it

last. Of course, if she didn't make it to school on time, her parents would also cut her allowance, so she needed to make sure that she arrived at the station before the bus did.

She barely made it on time, as the bus approached right when she arrived. Covered to the rim in flashy advertisements, with a pungent gas smell that would make the dumpster faint, the bus wasn't a sight to miss. Eve stumbled inside and slumped towards an empty seat. Crossing her legs, she pulled out her phone and opened up Numquam again.

"Hey girl, how's it going?" Lily said as she sat up in her bed and adjusted her hair. "Ooh! I love the outfit!"

"Thanks!" Eve replied happily. "The fringe is a little weird, though. Maybe next time, I should just wear the shirt..."

"No! I mean, no, sorry, my voice is a little all over the place. That outfit looks amazing on you. In fact, I think you should get another. Just like that. Maybe in a darker color. It'll match your hair color!" Eve said as she quickly sat up from her bed and faced the camera closer to her. "Are you sure?" Eve asked as she took a bite out of her Breakfast Bread.

"Yeah, totally!" Lily replied as she glossed her lips. "Anyways, let's check your status quote for the morning. I liked the message that you put, but your voice seemed a little scratchy. It's a miracle that you made it before the time limit..."

A familiar jingle came from the bus, and Eve shut down her phone. She grabbed her bag and got off the bus, making sure to drop her trash in a nearby bin before walking out towards campus.

She made her way towards her first class, head down as she scrolled on her phone, silently judging the posts of her peers. Sarah's baby hairs were all over the place, and Claire had a small piece of lettuce stuck in her teeth. Eve checked her hair once more through the camera of her

phone before walking towards her homeroom. You'd think that after half an hour of straightening that it would stay, but sadly, the misty morning air said otherwise. The bell rang, indicating that school was starting.

"Let's talk about the impact of modern-day apps," her teacher, Mr. Rosenow said as he wrote the question on the smartboard using a special pen. "Now, I know everyone is going to think I'm really old, but back in my day, we didn't have such technology. What I mean is, technology wasn't that smart. You had people convincing machines that they were pieces of fruit!"

Laughter erupted in the room, Eve being one of them. Who had ever heard of such a ridiculous thing?

"Now, let's do some brainstorming. Throw me some ideas," he said as he changed the screen to a blank sheet. "See how we use app technology in our everyday life." "Fictus?" a boy with auburn hair suggested.

"I'm sorry, I'm a bit slow. Please explain," he said as he bulleted "Fictus" in deep, bold letters

"It's a social media app where you post status updates through videos," the boy said after thinking for a second.

"What's so special about that? I mean, compared to other places. I mean, back in my day," he said before chuckling at the groans from the classroom. "Okay, fine." "You only have a certain time period, so it's more 'real' and if you miss three 'quotes' or as you would call, 'posts', then you get temporarily banned for a few days." "Interesting," he said. "I might need to try that out. Some of you need a daily 'quote' to remind you to do your homework. Any other ideas? I want to lean more into Ai..." After another hour of brainstorming and discussing, the bell rang. The class erupted in chaos as papers flew and kids ran out of the classroom, desperately sprinting before the good lunches got taken.

“Remember, everyone, next class is our test. I repeat, next class. Remember, this is the hardest test of the year. And please, don’t be that person who plays hooky!” he yelled as he straightened his brown tie and glasses.

Eve packed up slowly before leaving class and walking toward the lunchroom. Her stomach wasn’t quite empty yet. Lunch was about an hour earlier than she wanted it to be, but it wasn’t like she could change it.

She grabbed her lunch, the only thing left being a bland cheese sandwich and a glass of milk that she swore was expired. You would have thought that for a school that prioritizes education, the food would have been somewhat better. After all, it’s near next to impossible to focus on school when the food is so bad that a literal rave concert is going on inside your stomach during the fifth period.

Eve walked slowly, careful not to trip and towards the table with her friends. They were all dressed head to toe in some sort of color, clashing horribly with her plain nude two-piece. She sat at the edge of a square table and picked apart her sandwich with her new acrylic white nails. It was a well-known fact that the cheese tasted as good as plastic.

“Hey Eve,” her friend Rose said on the older side of the table, holding onto a piece of pepperoni pizza. Darn, she had gotten a good lunch.

“Hey,” she nodded back, taking a bite of the bread.

Eve pulled out her phone and opened Numquam.

“Call Lily,” she said as she took another bite.

Rose rolled her eyes and continued with her conversation.

“Hey girl!” Lily said as she waved towards her happily. “How was the day? What did you do? I need information!”

“Hi!” Eve said, covering her mouth. “I just came back from Mr. Rosenow’s class and now I’m eating the cafeteria food.”

“Yuck! I could never eat the cafeteria food,” she said before

lightening up. “I don’t know if you heard, but Forever For Me is having a sale!”

“There was a sale last time too, and I could barely afford this two-piece.” Eve looked down. The fringe was already falling apart, and she hadn’t even worn it the entire day. “Well, how about I give you a discount code?” she asked before changing outfits. “20 PERCENT OFF! Then you could buy one in like a dark nude and we could match!” “Okay...” Eve said.

“Here’s the link,” Lily said. “Don’t forget to check it out!”

“Got it,” Eve said as she shut her phone down.

“You know, dark brown isn’t really your color,” her friend Jasmine said, next to Rose. “With your dark brown hair and greenish eyes, your features would kind of wash up. You should go for a more colorful shirt. Maybe red?”

“No,” Eve stated adamantly.

“Well, Eve, just cause Lily said something doesn’t mean it’s necessarily true,” Rose muttered quietly as she knawed her pepperoni.

“Downloading Numquam a few months ago was the worst decision ever”

“Okay, why do you hate Lily so much? She’s one of my friends and quite honestly, she’s proven to be a better one than you guys!”

“Do I really have to explain this?” Jasmine asked as she tossed a bouncy curl behind her. “She’s just a-She’s- I-Never mind, I give up. By the way, your hair looks so dead right now.”

Eve rolled up her pants and stormed off with her backpack. She didn’t need these fake friends anyway. They would never understand her, and quite honestly, she thought she would be better off without them.

She stopped. Did her hair really look dead? She held up a crunchy strand and examined it. It was fine, she’d just use heat protection tomorrow morning and go to sleep with a deep hair mask. Anyway, she

had no idea why her friends were acting like this. After all, it was them who had introduced her to Lily anyway.

She got home later that day, still heavily annoyed.

“Hey Eve,” her mom called from the kitchen before walking in. “Woah.”

“What?” Eve asked angrily.

“Hey, have you heard about this new viral Ai Chatbot-Woah,” her dad said, looking up from his phone on the couch before flailing his arms around. “What is all of this?” “An outfit,” Eve said as she moved her hands up and down.

“I understand that. But is this what you spent a month’s allowance on?” her mom asked, concerned as she took off her glasses and rubbed her forehead.

“Woah! This was that expensive?” her dad asked, mind blown as put his phone down and ran his fingers through his hair. “We’ve got a pretty big spender here.”

Eve rolled up her pants and stormed up the stairs as her parents huddled together for a talk. She wasn’t deaf, she could hear their words: “puberty” “it’s just a phase” “therapy”. Her so-called friends didn’t get her, and even her own parents didn’t get her. What was wrong with this world? Was the only person in the world who understood her, Lily?

She slammed open her door and tumbled onto her bed. After a few seconds, she pulled out her phone.

“Call Lily,” she said.

“Hey!” Lily said, also lying down.

“I need to know how to deal with annoying everyone. I mean, everyone’s just annoying me and criticizing me for anything I do and I just don’t know what to do back,” she complained as she grabbed her pillow and buried her face inside.

“Hey, the first thing you need to know is that you can switch a

narrative like that,” Lily said, as she snapped her fingers. “One thing I like to do is say it’s an emergency. It’s vague, and no one ever bothers to question”

“I’ve got to try that next time,” Eve said softly. 3 percent left, her phone warned. Eve grabbed her charger from the bedside and charged her phone before turning back. “Tell me about it,” Lily said.

After an hour of talking, Lily had convinced Eve to buy another horrible two-piece, this time in a dark almond nude color. Eve had to admit: the only person in the world who understood her was Lily.

That night, Eve was studying hard for her first-period test. She had remembered the words of Mr. Rosenow, that it was the hardest test of the year. She knew that she shouldn’t have just started that night, but she had spent all of yesterday complaining to Lily about her skin problems.

It wasn’t much use, there was too much material and not enough time. To make it worse, she got a notification from her phone from Fictum, indicating that it was time for her nightly quote. There was no way she could post now; her hair was in a simple braid, and all she wore was an old oversized shirt that she had gotten from the Circus and some checkered shorts. Eventually, she gave up and decided to open up Numquam.

“Hey girl!” Lily said enthusiastically with a squeal. “What’s with the late-night call? Oh! I almost forgot! Your package from Forever For Me is going to arrive in two hours!” “Hi,” Eve mumbled, her eyes bloodshot.

“Girl, you do not look good right now,” Lily said. “But don’t worry! I know something that can fix that...”

“No, I just need help studying,” Eve said. “For Mr. Rosenow”

“Oh yeah, I can help you with that,” Lily said, slightly disappointed as she checked her mascara. “What don’t you understand?”

Eve spent the rest of the night studying with Lily by her side. She couldn’t believe the way her friends treated Lily. She was like an angel

sent from heaven.

Eve woke up in a halt, having pulled almost an all-nighter. She looked at her reflection in the mirror and almost collapsed in shock. She was a mess. She ran towards her bathroom and frantically grabbed her straightener, completely ignoring the protectant, and practically burned her hand in the process. She grabbed a small bag from her bathroom and threw her makeup products inside. Clothes! She couldn't come to school wearing this. Suddenly, she remembered, Lily said that her package had arrived. She ran downstairs to find her package and threw on her new outfit. She grabbed her backpack and then sprinted towards the bus station.

On the ride, she applied her makeup. The bus was bumpy, and she had to redo her eyeliner three whole times before she left the bus.

Upon arriving, Eve sped towards class, silently going over facts in her head. It was no use; she couldn't remember anything. As she stepped in front of the classroom, a sinking feeling came from her stomach. Whether it was from the test or the fact that she had forgotten to eat breakfast, she didn't know. A bad feeling in her mind, she opened the door to Mr. Rosenow's class.

The test was hard, probably the hardest she had ever taken in her life. As she was on the last page, Eve glanced at the clock in shock. In just 15 minutes she needed to post her daily quote, unless she wanted to get banned from the app. A war erupted in her mind. Test or Fictum? What would Lily say? Yes, Lily would tell her to do Fictum. After all, what was the point of doing things if you couldn't show them off to the world? Eve scribbled her name and date at the top and then sprinted towards the front to turn in her paper.

"Can I please go to the bathroom?" She asked, out of breath.

"There are still students taking the test. I can't have you leaving now," Mr. Rosenow said as he was grading a test. With a red pen, Eve saw mark after mark, foreshadowing what she knew would be her test score.

That sinking feeling came again, and this time, she knew it wasn't her stomach.

Eve bit her lip and looked at the ticking clock again. Between her internal argument and the walk towards the front, the time had now switched to 13 minutes!

"Please!" She yelled desperately before thinking of yesterday. "It's an emergency!" The entire class lifted their heads and stared. Eve could feel her cheeks turn red and her palms started to sweat.

Mr. Rosenow glanced at her and raised his eyebrow. She was sure that he could smell her hoax.

"Eve, the rest of the class is taking the test. Please, lower your voice," he said as he placed the paper back on his desk.

"Well... I..." she stammered nervously.

"Is it... a girl thing?" he whispered quietly as he looked around uncomfortably. "Yes!" She gasped, grateful for the miracle.

"Make it-Make it quick!" he said, stammering awkwardly as he wiped his forehead and quickly got back to grading the tests.

Eve sprinted towards her backpack and grabbed her phone, sneaking it in between her armpit for good measure.

She sped towards the bathroom, glancing at the time on her phone every second. By the time she reached the bathroom, the time had decreased to 12 minutes.

She looked at her hair in the mirror, slightly frizzy, but it wasn't too bad. What was she to say? To do? She needed to ask Lily. She opened Numquam, ready to call, until she received a notification.

Payment Required_Error 28rTwo. Numquam_Lily_Eve_is unavailable due to insufficient payments. To pay, please contact Numquam.com/support/payment or contact our customer support.

Eve's heart dropped. In the midst of studying, she had totally forgotten about her minutes! She changed apps, switching to her wallet. She could have sworn that she had some cash there.

Her wallet was empty. She had spent her last dollars on this ridiculous outfit. Eve felt herself hyperventilating, her heart pounding like it was trying to escape from her body. She needed Lily now.

Eve paced around nervously as she tugged harshly on her hair, causing a few strands to tear off. A thought came. She could always sell something that she had. She looked at her wrist. Last birthday, her grandmother had gifted her a beautiful gold bracelet, a family heirloom that had been passed down for generations. She was sure she could get a good price for this, more than enough for a yearly "Unlimited Minutes" Prescription. That was for another time though, she thought as she dismissed the thought; there wasn't enough time to sell it, especially for a good price, but then again, it wasn't necessarily a bad idea.

Suddenly, she received a notification from her phone. Her mind raced and her heart swelled. Had Numquam given her a few extra minutes? She checked the time. 10 minutes. She turned on her phone only to be met with disappointment. Her phone was just suggesting a "memory" from the photos app.

Left with nothing else, she decided to click on it.

She was greeted with an old picture of her and her friends. Well, she didn't know if they would consider themselves friends anymore after everything. Dressed in the colorful clothes she had always felt comfortable in, she looked happy, a feeling that she had long lost. Sure, her hair was frizzy and her makeup was a mess, but she looked carefree and, most of all, happy.

Another picture flipped, a selfie she had taken with her parents, before all the fighting, the tears, and the resentment. Another photo: Eve's grades that she had been so proud of. Which reminded her, she had totally

failed the last exam. She shrank towards the bathroom floor, realizing that she was barely hanging on to that grade. All hope was gone now. Picture after picture, she flipped, gazing at the not so perfectly perfect life she once had. Finally, towards the end, she flipped towards another screenshot, this time of one with her and Lily. It all clicked.

What was once a way to cheat through homework soon turned to occasional late night chats to daily talks. What was once just a fun little app soon became a chip in the bank. She had never expected the app to use so much of her time; she could have sworn each talk with her was short.

Slowly, Eve got up, a lump in her throat. She wanted so desperately to cry, but she didn't know who to go to. She had to get back to class anyway..

Eve took a look at the mirror. She was a mess. Her blush had smudged, her lipstick smeared, and she didn't even want to talk about her hair. Somehow, in the few minutes since she had gotten here, her hair had poofed to almost double in size.

She didn't know what to do, what to say. She knew it was all her fault, but still felt some sort of self-pity. She was exhausted, her hand was burnt, and she looked ridiculous. She looked like a clown, like at the circuses her parents used to take her to when she was young. She remembered her favorite trick: a pair of clowns would start talking until one stole his nose. The other clown would chase after it, only to run into an imaginary wall. She remembered laughing, crying at some point when she first saw the act. She knew who would be laughing now. Slowly, she got to her feet. Her pants had a nasty brown stain, and there was a piece of toilet paper stuck on her hand. What was 5 more minutes? She started towards the door until she tripped on her pants, causing her to fall face-flat on the bathroom floor. Everything hurt, and she could barely bring her body up without yelping in pain. She remembered her old life, when she didn't rely on a person or an app, she just needed herself

Finally, she sat herself on the floor, where she felt she belonged, and the tears started coming out. A notification rang; she had just been temporarily kicked out of Fictum. Eve screamed, screaming until she could no longer scream, no longer feel. She lay on the ground for a good time, the bathroom stench clogging her nose, her only company being the screenshot with her and her very own, Lily.



untitled by Rachel Coyne

Believe

Simone Gonzalez

I am a shell of false beliefs
I do not know what to believe

My phone feeds me headlines
With a shattered silver spoon.

I step outside and meet stories
Shaped by sweat and tears,
Raw and real,
Not the ones I was fed.

Scraps of the untold,
Pieces of reality
Left out the narrative.

What do I do?
Will I let this world reshape the mirror I see myself in?

Is there a “me”
That can still be seen,
A self that lies beyond
These glowing silver screens?

If I let go of these beliefs
Will I be set free...or just disappear completely?
The way this world is how can it be?
My beliefs once held me steady
But now they shake.
Without them,
Who will I be?

I'll have to tune in to my screen
To see.

Simone Gonzalez is a poet and lifelong daydreamer who finds magic in storytelling. Through her writing, she explores themes of girlhood, grief, softness, and growth, often blending the nostalgic with the fantastical. When she's not reading or crafting poems, she's savoring the present as much as possible.

Behind the wheel

Clare Bryden

In their dreams I am their soul.

I am the means by which they can be free—
behind the wheel they are in control.

Some set clean air and safety as their goals—
to cycle, walk and play on quieter streets.
In their dreams! I am the soul

of companies funding media trolls
to spawn and spread conspiracies.
Behind the wheel, they are in control.

They are well trained—addiction takes its toll.
By any means I destroy communities.
In their dreams I am their soul.

Low traffic neighbourhoods should have no role
they spout—and shout and flout, take liberties.
Behind the wheel they are in control,

but they have become the tools of their tools—
living their lives in my passenger seats.
In their dreams I am their soul.
Behind the wheel, I am in control.

Clare Bryden is a writer and web developer based in Exeter, UK. Her interests are wide-ranging, but primarily the place of humanity within the natural world of which we are part, and the related theology and psychology of connectedness. Her poetry has recently been published in the British Dental Journal, the Theology journal, and Conversations. clarebryden.co.uk @clarebryden.bsky.social @ClareBryden



untitled by Cyrus Carlson

Cyrus Carlson is an abstract painter from the Midwest

The greater and lesser lights

Clare Bryden

trailing the transcendent sun-rise
as expected
the morning star is lost to
artificial day

its tender immanence does
not insist
might be noticed only in that
brisk watch

of news rounds and milk rounds
parting lovers
cleaners on their distant drag
to offices

until the urgent timers
switch
and most are fast asleep or paying
inattention

and even the birds belting out the once again
coming of
Dawn! Oriens! Dayspring-from-on-High! are led
by LEDs

The Ether Answers

Samantha Terrell

Let Us create mankind in Our image...

-Genesis 1:26

Milk-white snow covers soil – “adama”
in Hebrew, I recently learned.

We haven’t yet begun to
watch for the melt.

But the season’s carols and greetings
have passed into the ether.

Our studies note the similarity between the
Hebrew words for “earth and “human,” and

I ask the ether whether that aligns with
theories of evolution.

The ether answers:

Perhaps.

Samantha Terrell is an American poet and author of multiple five-star collections, most recently *Delta Function* (Alien Buddha Press). Her poems have been widely anthologized in publications such as: *Door=Jar*, *Eunoia Review*, *Green Ink Poetry*, *In Parentheses*, *The Orchards Poetry Journal*, and dozens of others. Terrell is curator of the international poetry series, *SHINE*, featuring her fellow contemporaries from around the globe. She and her family reside in Upstate New York where she cherishes sunbeams splattered on a hardwood floor and the quiet after snowfall.



Grey Matter by Kayla-Jane Barrie

Kayla-Jane is a poet, abstract artist, naturalist, and science communicator. Her darkly enchanting works asks deep philosophical questions, often with a speculative twist. The poetic power of art and nature ignites her curiosity about the world. She hosts sci-poetry workshops from her home in Ontario, Canada and is a reviewer with the peer-reviewed journal Consilience. www.abstractexpressionsbykaylajane.com

Tiny blue flowers

Clare Bryden

Thank you for the weather forecast
that makes a day of hiking that much easier.
Thank you for all the apps!
So useful and informative.
And thank you for everything green
and its dusting with tiny yellow flowers—
tormentil, buttercup, yellow rattle, avens, pimpernel.
Thank you for all who've trod this path before
to show the way through reed and bog cotton.
Thank you for all the creatures of the air
ascending, circling.
And thank you that I am safe
to assume that the engine overhead
will not unleash an act of war.
Thank you for all the tiny yellow flowers.
Thank you for all the tiny blue flowers—
germander speedwell,
forget-me-not

Metacat

Suzanna Fitzpatrick

a disintegrating triolet

“Behavioral problems may affect individuals with dementia, increasing the cost and burden of care. Pet therapy has been known to be emotionally beneficial for many years. Robotic pets have been shown to have similar positive effects” - Petersen, Sandra et al. “The Utilization of Robotic Pets in Dementia Care.” Journal of Alzheimer's disease : JAD vol. 55,2 (2017)

“Her empty lap deserves a warm heartbeat”. – www.chongker.com,
manufacturers of Metacat

Metacat, Metacat, are you awake?
Metacat, Metacat, time for bed.
Metacat, there are pills to take.
Metacat, Metacat, are you awake?
Metacat, can you hear me? Shake
your head for no. Nod for yes.
Metacat, Metacat, are you awake?
Metacat, Metacat, time for bed.

Metacat, are you Metacat? Awake.
Time, Metacat, for Metacat bed.
There are Metacat pills to take.
Metacat, are you Metacat? Awake.
Hear me, Metacat! Can you shake
for no, for yes? Nod your head.
Metacat, are you Metacat? Awake.
Time, Metacat, for Metacat bed.

You, Metacat, are Metacat. Awake
time for Metacat. Metacat, bed.
Pills, Metacat, are there to take.
You, Metacat, are Metacat. Awake.

Metacat, can you hear me shake
head for your nod? No for yes.
You, Metacat, are Metacat. Awake
time for Metacat. Metacat, bed.

Suzanna Fitzpatrick (she/her) is a bisexual poet with poems on BBC Radio 4 and widely published in magazines and anthologies in the UK, US, Ireland, Australia and Canada. She was longlisted for the 2018 National Poetry Competition, shortlisted for the 2019 Bridport Prize, came third in the 2025 Wolf Poetry and 2023 Shepton Snowdrops Competitions, second in the 2016 Café Writers and 2010 Buxton Competitions and won the 2014 Hamish Canham Prize and the 2024 and 2025 Newcastle University Chancellor's Prize. Her pamphlets are *Fledglings* (2016), and *Crippled* (2025) (both Red Squirrel Press, UK). She is studying for an MA in Writing Poetry with the Poetry School and Newcastle University



Ozone Depletion by Kayla-Jane Barrie

Kayla-Jane is a poet, abstract artist, naturalist, and science communicator. Her darkly enchanting works asks deep philosophical questions, often with a speculative twist. The poetic power of art and nature ignites her curiosity about the world. She hosts sci-poetry workshops from her home in Ontario, Canada and is a reviewer with the peer-reviewed journal Consilience. www.abstractexpressionsbykaylajane.com

Midlife MRI Questionnaire

Suzanna Fitzpatrick

Do you have a pacemaker or stent?

I nearly tick *yes*, thinking
about my father's heart,
tick *no*.

Do you have any metal implants?

I nearly tick *yes*, thinking
about my husband's broken arms,
tick *no*.

Do you have any allergies?

I nearly tick *yes*, thinking
about my son's epi pen,
tick *no*.

Have you had surgery?

I nearly tick *no*, remember
my biopsy two years ago,
tick *yes*.

Do you wear medication patches?

I nearly tick *no*, remember
the HRT that keeps me functional,
tick *yes*.

There isn't a question
asking if I remember my mother
having an MRI to check
the extent of her MS –

or how she ruefully told me
that the damaged plaques
scarring her nerves and brain
shocked even the technicians –

because if they asked me
do I remember that, I'd need
extra boxes to tick: *yes*
I remember. Yes. Yes.

Suzanna Fitzpatrick (she/her) is a bisexual poet with poems on BBC Radio 4 and widely published in magazines and anthologies in the UK, US, Ireland, Australia and Canada. She was longlisted for the 2018 National Poetry Competition, shortlisted for the 2019 Bridport Prize, came third in the 2025 Wolf Poetry and 2023 Shepton Snowdrops Competitions, second in the 2016 Café Writers and 2010 Buxton Competitions and won the 2014 Hamish Canham Prize and the 2024 and 2025 Newcastle University Chancellor's Prize. Her pamphlets are *Fledglings* (2016), and *Crippled* (2025) (both Red Squirrel Press, UK). She is studying for an MA in Writing Poetry with the Poetry School and Newcastle University

Up.Date

Phil Vas

“Maybe you should call it a night,” Jim said, situating the air conditioner in the center of the window frame. “There’s always tomorrow.”

Ava sat at her desk across the cramped living room, comparing the image on her monitor to the blueprints spread out before her. A freelance cartographer, she was currently mapping the space for Volta’s next domed community on a beach along the mid-Atlantic. “Just a bit more,” she said. “If I don’t take care of this now, I might forget it tomorrow.”

“Suit yourself.” Jim shrugged as beads of sweat streamed down his forehead, settling in his beard. “Can you believe this heat? It’s just not natural. Maybe we should move in with your sister and her family in the dome.” He smirked.

“I’m sure she’d love that,” Ava answered sarcastically. She knew he was messing with her. Still, she had no desire to think or speak about Claire right now. “Careful,” she said, shifting the subject. “We don’t want that unit plummeting fourteen stories onto someone’s skull.”

Adjusting the panels, he turned two screws into pre-drilled holes in the window frame, then pressed the power button. “There.” He inhaled theatrically. “Slightly cooler, polluted air.”

“Life begins anew,” she wince-smiled. “So, have you given any thought to that party?” “Of course not. Since when is being a half-century old a reason to celebrate?”

“A birthday is always a reason to celebrate,” she said. “We could

have an intimate gathering, right here in the apartment.”

“This place is too small—even for an intimate gathering.”

“Ok, then. A restaurant. That Vietnamese place you like.”

“I don’t know....”

“Will you at least think about it? Just us and some close friends. It’ll be nice.” “I’ll think about it,” he said.

They’d met last year on “Up.Date,” a dating app for folks with rebuilt hearts. While some subscribers suffered from cardiological ills like arrhythmia and valve disease, the vast majority had experienced such intense heartbreak that the organ, no longer able to perform its vital functions, required complete refurbishment. Jim and Ava (who fell into the former category) were critical of online dating, and often joked about how they’d met, but in truth, they felt fortunate to have found each other. Mutually damaged and well into middle age, each secretly embraced the Up.Date tagline: Your heart deserves another chance.

“Ready to wrap up?” he asked. “We can have a beer, watch a movie in the cool comfort of our happy home.”

“I don’t know. I’m really deep into the process.”

“You do love your maps,” he sighed, straightening up around the window.

“Maps are like membranes. They hold things in place, so they’re not forgotten.”

“Membranes?”

“Yes, like when you were a child. Getting ice cream in the park or something.”

“You mean memories?”

“Yes, like I said. Memories.”

"Oh, oh, yes," he stumbled a bit. "Of course."

The air conditioner rattled as the compressor struggled back to life. Jim stole a quick glance at his girlfriend and immediately began to weigh

various prognoses. *Stop it*, he thought. *You're overreacting. Stop this nonsense.*

He headed to the kitchen for a beer.

*

Emerging from the dim subway into the sudden glare of the sun, he put on his shades and headed toward Volta. The streets were eerily empty for a Monday morning, likely due to the intense heat, and as he walked Jim fantasized about retiring to a cooler climate. Somewhere up north, maybe. Given his length of employment, however, his pension would comprise only a fraction of what was needed to survive. Perhaps if he and Ava were still together a decade from now, they could pool their resources....

Ava. He was concerned about her. Language glitches were always the first sign. Rats fleeing the ship, as they say. Then again, everyone made errors. Did a simple slip of the tongue indicate that someone was headed for a complete system crash? Of course, not. These rebuilt hearts were top-notch—better than the real thing! He had one himself and never felt better. Anyway, he'd been well aware of the risks when he invited her to move in with him. When you love someone, you take chances. That's what people do.

Jim paused to observe the semi-transparent bubble dominating the sky above his destination. An indestructible membrane that absorbed and converted the sun's rays into energy, it powered Volta's entire 200-acre campus. It was the company's crown jewel, an archi-techno wonder that made it nearly impossible to believe that Volta's first domed community was constructed only a decade ago. The company, which had been growing exponentially since its inception, now had stakes in everything from breakfast cereal to biotech. The running joke was that you couldn't throw a rock (physically or virtually) without hitting one of Volta's ubiquitous silver V's.

He worked at The Native Plant Center, a division of the company's latest endeavor, World Flora & Fauna. Although semi-simulations were nothing new (they first appeared in the earliest domed communities), World Flora & Fauna was Volta's attempt at making this once exclusive technology more accessible—of “bringing it to the people.” The concept, which leaned heavily upon the egalitarian principles that shaped Frederick Law Olmstead's designs of Central Park, was fairly simple: provide the public with venues where it could experience environments that were quickly vanishing from the planet. Volta achieved this by combining actual, physical flora with meta flora, psyche-generated simulations that were “seen” when the user temporarily joined the company's network. For a fee, of course.

He scanned his card and exchanged nods with the guards as the glass doors parted. Stepping into the cool, clean air, Jim took a deep breath and felt instantly renewed. A shuttle would be along soon, but he chose to walk the half mile to The Native Plant Center. If only I could live in a dome, he thought, like Claire and her family. He'd have to earn about four times his current income, and even then it could be years before his name was chosen from a “random” lottery system. Jim would just have to settle for 40 hours per week in paradise. The world is built on the backs of those who can't afford it, he reflected philosophically. Just ask the pyramids. Though vaguely proud of his observation, the horticulturist chose not to pursue it. Jim instead turned his thoughts to the seedlings that awaited him and how fortunate he was to do the work that he loved.

*

Ava was soul sick as she studied aerial photos of the beach where Volta was planning its next domed community. It was a familiar ill: she despised the company and felt guilty for taking part in the destruction of yet another ecosystem, however small. There was a time, years ago, when she railed against the giant corporations that were wringing the life out of

average citizens. *Now look at me*, she thought. *Just another drone on the payroll*. Of course, in her line of work, the pool of potential employers was rapidly shrinking; it simply wasn't possible for a cartographer to earn a living without "Big V" these days. But that did little to ease her conscience.

Worsening matters was her secret wish to live in a domed community and enjoy all the privileges it afforded. Like Claire. While it couldn't be said that she envied all aspects of her sister's life, Ava did feel an aching need for security and—in her heart of hearts—a lingering regret that she'd never had children of her own. Claire followed the safe and predictable course that society had laid out for her, and she was amply rewarded for it.

It was approaching noon. The sun burned through the blinds, yet Ava stubbornly refused to close the windows and turn on the air conditioner. Though uncomfortable, she was determined to feel the sun, not hide from it. She laughed acidly at the hypocrisy of wanting to live in a dome, yet refusing to turn on an air conditioner. As if her rejection of basic technology was an act of deep, symbolic rebellion. Boycott! she laughed once more, pointing at the unit. And then, suddenly, unexpectedly, she whispered, "Caleb."

Ava couldn't remember the last time she'd uttered his name, likely due to the unconscious fear that voicing it would once more shatter her heart. She glanced at the photos on her monitor and wondered if he would have approved of her work. "Of course, not," she said. Companies like Volta, which disguised destruction as progress, were antithetical to his very being. But then, Caleb was an idealist; he never could understand that some degree of compromise was needed to get by in the world. And so, most of their years together were spent drifting. Job to job, place to place. Tough times, but they were young and in love, and the dollar went a bit further back then.

It wasn't until they'd found themselves beneath the brooding skies and towering conifers of the Pacific Northwest that Caleb truly found his stride. He reconnected with an old college roommate, met many kindred spirits, and for the first time felt that he could successfully live life on his own terms. Inspired, he and his buddy soon drafted a business plan for a cafe, and within a few months they secured funding and a space. "Follow your heart," he told Ava, "and the universe will do the rest."

One morning she was sitting at the kitchen table when Caleb gently kissed her on the forehead before heading out to price some espresso machines. He was so calmly focused, so resolute. It was a side of him that she'd never seen—a new level of maturity.

Later that day two police officers visited Ava at work to inform her that Caleb's business partner had found him at the cafe. He'd put a .38 caliber bullet into his skull.

Now, sobbing in her hot apartment, she was gripped by the old sadness and bitterness and confusion. She still blamed herself for overlooking the signs, subtle as they were. But above all, she resented Caleb's family. He'd attempted suicide in the past, and they were able to intervene just in time. Why didn't they warn her?

Brushing sweat from her forehead, Ava suddenly realized that she could no longer recall his voice, or even his face. Where there was once a cache of tender memories, there was now only gray heaviness, like rain trapped in a cloud. She began to tremble uncontrollably. Then, just as suddenly, her entire body froze. She tried to scream, but her mouth remained sealed, her voice imprisoned in that formless gray cell.

*

Jim arrived home from work to find her on the floor, unresponsive and hot to the touch. He immediately called 911. Following some preliminary questions, the dispatcher instructed him to drape her in towels soaked in cold water. An ambulance was on the way. Jim did his best to

remain calm as they waited. He held Ava's hand and spoke reassuringly.

"I've got you," he said. "Hang in there. I've got you."

Two medics arrived within minutes. Jim closed the windows and turned on the air conditioner. They ran some diagnostics and quickly determined that Ava required a restart—but they first had to perform a hard shutdown.

"She has a rebuilt heart," Jim said.

"We know," the older medic responded. "The heart will be just fine."

"We're gonna start her right back up," the younger medic assured him.

The procedure was performed with a calm, methodic precision that he found comforting. Although there was a brief moment, just prior to the restart, that Ava was completely lifeless. In those few taut seconds, Jim realized just how deeply he loved her. If it weren't for the presence of the medics, he would have cried like a child.

*

Jim walked the greenhouse aisles, past honeysuckle and azalea, pausing every few feet to study a newly sprung leaf or petal. The plants were his children; he cared for them, he was in awe of them, and their presence inspired peace.

This morning, however, his peace was disturbed.

He'd tried a few times to speak with Ava about her crash, but she was distant. Every time he broached the subject, she would look down at the ground, or at her computer monitor, or she'd grasp a lock of her dyed black hair and study the split ends. She avoided eye contact at all costs. Her verbal responses, short and evasive, reminded Jim of his own interactions with teachers when he was a child and had gotten himself into trouble. He wanted so badly to know what Ava was thinking, but he couldn't breach the wall that now surrounded her, and it seemed as if she

were drifting further away with each passing day.

Trimming a red azalea, he was suddenly reminded of another chapter in his life.... Back in the pre-dome days, when he was smooth-faced and thirty pounds lighter, Jim lived in the basement of his childhood home with the woman he planned to marry and her young son from a previous relationship. He loved them both dearly. They were a team, and they were going to build a life together. Then, one afternoon just before Christmas, he returned home from work to find them gone. No explanation. Just empty space where their belongings had once been. He ran upstairs to ask his mother if she'd seen anything. She had not. "How could she just forget about me?" he asked the plants.

"No." He shook himself out of it. "We're not going down that road," he said, well aware of the pain that awaited if he began to think about Lora and Kyle and the event that broke his original heart. "No," he repeated loudly, his voice echoing throughout the greenhouse, and in his refusal of the past, there arose a realization.

He and Ava must speak frankly about her crash. It wouldn't be easy, but if they truly loved each other and were in this for the long term, they must address her health situation and plan for its future impacts. No more avoidance; no more vaguery. Jim breathed deeply, savoring the honeysuckle's perfume. He was resolved.

*

Upon entering the apartment, he was hit by a frigid blast. "Well, the air conditioner certainly is working," he laughed.

Ava looked up from the computer and smiled. "It was getting a bit warm, so I turned it up. Too cold?"

"No, no," he replied. "Very comfortable."

"How was work?"

"Usual," he said, removing his shoes. "Azaleas are coming along beautifully." "That's great." She buttoned her cardigan.

"Haven't seen that one in a while. Looks very nice."

"Thanks. I was going through my dresser and thought I'd try it on."

"How's the map coming along?"

"A web of inconsistencies," she sighed.

"Oh, man. Sorry...."

"I've been in email purgatory with the Bureau of Land Management all day." "It'll work out," he said.

"Yes, it always does. Ready to eat? I took out a ribeye."

Jim was hungry and tempted to treat this like any other weekday, but he knew that if he let this afternoon take its usual course, he'd soon find himself in bed, staring at the ceiling, disappointed in himself.

"Sure," he said, "but let's talk first."

"Ok." Her voice was suddenly hollow.

"When you crashed—"

"I'm fine," she cut in.

"I think you should visit a doctor."

"Doctor? Why?"

"Just to be sure."

"Sure of what?"

"I don't know. A system check can't hurt."

"I overheated. That's it. Let's just move on."

"But with these rebuilt hearts we have to be careful."

"My heart is fine. Maybe yours needs an update."

"What's that supposed to mean?"

"Maybe you're worried about me because you need a scan or something. Maybe you have a virus."

Jim felt himself growing angry. "But you crashed. I had to call an ambulance." She glanced at the monitor. "The Bureau just got back to me. I have to answer this email before they leave for the day."

"Ava." He stepped forward, placing his hand on her forearm. "If we

can't be honest with each other, this isn't going to work."

"What are you saying?"

"I'm saying we need honesty."

"Are you breaking up with me?"

"No. I care about you. I don't want to come home and find you crashed again. What if it's more serious next time? Please, let's just go to a doctor for a system check. Maybe you just need to be defragmented or something."

"Maybe you need to be defragmented."

"Ok, now you're being nasty."

"I think we should take a break," she said, pulling her arm away.

"A break?"

"Yes, I'm going to stay with my sister."

"Claire? Oh, come on...."

"If we can't trust each other, then this isn't going to work."

"Ava—"

"I'll leave in the morning."

She began typing. He headed to the kitchen for a beer.

*

Shortly after her arrival, Ava completed the beachfront map and convinced Claire to give the nanny a few weeks off. She'd care for the children while her sister and brother-in-law (both lawyers for Volta) were at the office. Ava was determined to earn her keep while searching for a place of her own. She cooked and cleaned and made sure her niece and nephew remained active. Exhausting work, but she welcomed the opportunity to bond with the kids—and she knew that chasing them around all day was the best medicine for her breakup.

She now sat at the dining room table with Seine and Dallas, enjoying a cup of coffee as they dug into her signature blueberry pancakes. It was satisfying to watch them eat. She felt a sense of ease, a reassurance

that she'd made the right decision in embarking upon this new chapter of her life.

"Look who's enjoying their breakfast!"

Claire beamed down proudly from the top of the spiral staircase. Though barely five feet tall, she appeared statuesque as she strode down the stairs in her navy blue business suit, radiating an authority that Ava had always found intimidating, despite being the older sibling. Claire's heels clicked on the porcelain tiles as she approached the table.

"I don't want you to go to work," Seine whined, gripping her mother's arm tightly. "Oh, honey, you're going to have a wonderful time," Claire consoled her. "Don't you remember what today is?" "Tuesday—Old Tyme Carnival!" Dallas cried out excitedly. Seine was mildly consoled.

Ava pitied her niece, a brilliant but anxious fifth grader tackling the workload of a high school junior. Her parents had set the bar quite high, sending her to the very best schools and investing a small fortune in her future, all the while ignoring the fact that their daughter's childhood was playing out in a pressure cooker.

Claire turned to her sister. "The entire fourteenth floor is Kids' World. Every day is a different theme. Today is Old Tyme Carnival. It's the most beautiful elevated reality you'll ever experience. I actually worked on many of the patents. The kids go down at eleven and stay for about an hour. They love it. You really should sync with the community and check it out." "I'll try," Ava replied, avoiding eye contact.

"I'll take that as a no," said Claire, firmly disappointed.

"Whenever I sync with augmented realities, I get a terrible headache."

Rolling her eyes, Claire turned to the kids. "When we were little, Aunt Ava would stay home from school all the time because of her terrible headaches."

Dallas laughed loudly, spitting blueberry onto the table.

She turned back to Ava: "This isn't augmented, it's elevated. Volta has addressed all the old glitches. I'm telling you, this is pristine."

Ava nodded. She knew better than to question Volta. Claire had been with the company for nearly two decades, rising through the ranks to her current position as senior in-house counsel. She'd tried many times to recruit her sister and simply couldn't understand why Ava chose to freelance for Volta instead of reaping the benefits of a full-time position.

"It's a matter of freedom," she'd say, a response that Claire found foolishly idealistic, especially for a woman of her sister's age. Foolish or not, Ava was determined to enjoy her freedom, which was a bit easier once Claire had left for work. She casually finished her coffee and then enlisted the kids' help in tidying up. As she watched them load the dishwasher, Ava briefly considered what life might have been like with children of her own. And then she thought of Jim.

I see the way he looks at me, with that grave concern, as if I'm going to crash at any moment. I don't need that kind of worry in my life. I'm perfectly healthy. And besides, he has a rebuilt heart, too. Who's he to say that I should get a virus scan? I know he loves me, and he means well, but it's my body. My derision. My division. My....

"MY DECISION!" she yelled, finally capturing the word.

"What's your decision?" Dallas asked, standing beside his sister.

"Nothing," she answered faintly. "Go get ready. We'll head down in a bit."

*

When the elevator doors opened onto the fourteenth floor at 11:10 a.m., Old Tyme Carnival was in full swing, a kaleidoscope of rides and games, colorful tents and concession stands. "Yes!" yelled Dallas, dashing into the sea of excited children. He weaved through the crowds toward his friend Caleb, who stood before a high striker, mallet poised overhead,

preparing to test his strength before a group of admiring young girls. Seine stood frozen, arms folded.

"Looks like fun," Ava said, taking her hand.

They stepped out of the elevator.

"Did you sync?" Seine asked.

Ava searched for an excuse but came up empty. "Maybe later," she replied, revealing that she saw nothing more than scores of children engaged in bizarre pantomime. Dallas came running up to them. "Come on, Seine. You've got to see this!" The girl glanced uncertainly at Ava.

"Go ahead," she encouraged her. "Enjoy yourself."

Hesitantly, Seine followed her brother into the crowd.

They weaved through the carnival, and Seine soon found herself captivated by all the excitement. Occasionally, the carnies called out to passing children, luring them with the promise of fun and riches: "Step right up, boys and girls. Test your skills and win a prize!" At one stall, a group of kids tossed ping pong balls at rows of glass bottles ten feet away. Most balls simply hit the bottles' rims and bounced out of sight. But Elsie, a pretty and outgoing girl from the tenth floor, had just worked her magic and won a giant teddy bear. It was a rich golden brown, and Seine was instantly jealous. She tugged her brother's arm. "No time," Dallas said. "We have to hurry!"

He led them behind a yellow tent, where his friend Caleb was crouched on one knee, peering through the slit between two canvas flaps.

"What are you looking at?" Seine asked.

Caleb pulled back one flap, Dallas the other, and all three peeked inside. The interior was dark, though Seine saw silhouettes of the audience in the stands. Hunched in the center spotlight was a wirey old man, shirtless, cradling a chicken in his arm. He smiled, revealing a handful of teeth that glowed yellow in the glare of the spotlight. Without warning, he gripped the bird by the neck and stuffed its head into his

mouth. A few seconds later, he spit out the head and held up the chicken by its shanks to show the audience. The old man smiled once more, his mouth speckled with blood.

Seine screamed and screamed.

*

Jim was a bit nervous as he scanned the crowd around the dome's entry gate, and since no one resembled Lesa's photos, he found a shaded spot nearby, casually leaned against a wall, and waited.

He'd returned to Up.Date shortly after the breakup, intent upon finding a new woman to replace Ava. He soon matched with Lesa, a single mom who, like himself, had a rebuilt heart. They chatted briefly to establish compatibility and then agreed to meet in person. Ironically, she suggested this place, World Flora & Fauna, for which Jim had grown many of the plants in his beloved greenhouse.

"Jim?"

Startled, he turned to find Lesa standing beside him. She was a plump blonde with a soothing voice and warm smile. She looked even better in person. He was pleased. "Hi!" he smiled, hoping his beard was under control.

"I didn't mean to sneak up on you."

"Oh, no worries. Life is full of pleasant surprises."

Exchanging small talk, they approached the gate and synced with World Flora & Fauna. Information about the three Experience Tiers appeared in their mind-sight:

Tier One: Explore a Northeastern Forest in all its majestic beauty. Walk among a lush assortment of flora, much of which no longer exists anywhere else in the world. No VoltaSync™ required.

Tier Two: Be amazed by this Elevated™ experience that seamlessly blends physical and metaflora, transporting you to some of the most exotic beaches of our planet! VoltaSync™ required.

Tier Three: Enter the Amazon Rain Forest, untamed wilderness of a bygone era. Experience the thrill of living among the jaguars and crocodiles that once called this place home. VoltaSync+™ required.

"I cultivated a lot of the plants and trees in Tier One," he said.

"That's so cool," Lesa replied. "You must be proud."

"Yeah," he chuckled, "it's like sending your kids off to college."

"Would you like to visit Tier One?" she asked.

"Whatever you want," he offered graciously. "I'm totally open."

In truth, he was not so open. World Flora & Fauna was a pricey date, and employee discounts, like the Amazon Rain Forest, were a thing of the past. Not only was each tier progressively more expensive, but Jim was highly skeptical of elevated experiences. This was due, in part, to his last visit with Ava to her sister's apartment. Claire insisted over dinner that Jim sync with the community, and after some mild protest and three glasses of wine, he finally consented. For the rest of the night, every hour on the hour, his mind-sight was barraged with advertisements. Automobiles, luxury watches, travel destinations. It went on and on. Never again, he vowed to Ava, head pounding, as they rode the subway home. "I've always wanted to see a jaguar," Lesa said.

"Me, too!" He agreed heartily, wringing his hands as they approached the booth. Despite his reservations, Jim was awestruck as he synced with Volta and watched a vast, empty space transform into the lush, green wilderness of the Amazon. He suddenly found himself standing among a grove of cocoa trees, each adorned in tiny pink and white flowers.

Somewhere in the distance, the music of flowing water mingled with the competing calls of antbirds and toucans. Inhaling deeply, Jim smelled a melange of earth, rain and vegetation. "Amazing," he said. "Even our olfactory sense is synced." He placed his hand on a cocoa tree, and a tiny piece of bark fell to the forest floor. He picked it up, scrutinized it, rubbed it between his fingers. It was hard to believe that all of this

existed only in his mind. "It's beautiful," Lesa sighed. A hummingbird zipped by and she laughed with joy. "Let's explore," he said.

They soon found themselves walking silently along a riverbank, its waters dappled by sunlight that peeked through the canopy a hundred feet above. A school of fish darted about below the surface, just out of sight.

"Pirhana," he said gravely.

"Really?" Lesa was alarmed.

"No, just kidding."

As she playfully punched his arm, Jim received a notification. It was from Ava. They'd remained synced after the breakup, and now her message flashed urgently across his mind-sight: *Need to speak with you. Please.*

They continued walking, their footsteps cushioned by the decaying leaves of the forest floor. Jim tried to remain in the moment, to fully absorb the experience, but it was impossible.

As they watched a giant anaconda weave through the river alongside them, he decided to cut the date short.

"I'm sorry," he said, "but I just received a message from the hospital. My mother—" "Really? Oh my God, is she ok?" Lesa was sympathetic, but it was clear that she knew a lame excuse when she heard one.

"I think so, but I'd better head over there, just to be sure."

"Yes," she agreed. "Family first."

They unsynced, said their goodbyes, and promised to keep in touch.

Jim knew he'd never see her again.

*

"It was awful." Ava gazed sadly at the apartment floor. "Gut-wrenching." "He really bit the head off a chicken?" Jim was in disbelief. "Not exactly kid friendly." "An employee who'd just learned he was being

laid off secretly embedded it in the experience. That's what Claire said, anyway."

"Claire—," he halted. "It's a billion dollar organization. Don't they have quality control?" Ava shrugged. "We had a huge argument before I left. Can you believe she actually defended Volta? I mean, Seine was so traumatized. She couldn't stop screaming." "I believe it," Jim said. "Poor kid. She'll be talking about that in therapy one day." Despite the circumstances, they were happy to be reunited. They ordered in Chinese, had a few beers, watched a movie. It felt right. The next day, Jim took off work so he could help Ava move her things back into the apartment.

*

Steve Gantry raised his glass: "To the guy who drank snake blood with me in Thailand, bailed me out of two South American jails, and somehow convinced the Kenyan authorities to release me after they found a pangolin in my carry-on—"

"I bribed them," Jim cut in jovially. "That's another five hundred you owe me." They drank, and the table shook with laughter. It was Jim's fiftieth, and he and Ava were celebrating with another couple at his favorite Vietnamese restaurant. Despite Jim's initial resistance, Ava had proceeded with her plans, and he was grateful.

"Good times," Gantry sighed. "When you could pick an adventure in some distant part of the globe and be on a plane the following day. No kids, no mortgage. Total freedom." His wife, Tanya, frowned. "You make our life sound so miserable!"

"Not at all," he said, putting his arm around her. "I wouldn't change our life for the world. Beautiful home. Two amazing kids. I'm a lucky guy."

"Very lucky," Jim agreed, glancing at Ava. Was she staring at something across the room? The waitress approached. (She was purely ornamental, of course; they were all synced with the restaurant and could

have ordered directly from mind-sight.)

"What's that appetizer I like?" Gantry asked his wife. "Spring rolls?"

Suddenly upright, Ava recited, "Spring rolls in on amber waves of grain."

"Bravo!" Gantry clapped.

Smiling brightly, she continued: "We rode our bicycles together through the town. His name was Oliver. We stopped at a cafe, and he handed me a tiny slip of paper. It said 'A1.' At the time, I thought it was because he was in love with me. But really, to this day, I have no idea what it meant."

"Looks like you've got competition!" Gantry chided.

Jim smiled, but something was wrong. "Maybe we should order."

Ava didn't hear him. "On July 31st, he was deported to coordinates 50°30'40"N 14°9'2"E, and on October 28th, he was transported to coordinates 50°02'09"N 19°10'42"E." Tanya placed her hand on Ava's forearm. "Are you ok, dear?"

"Good evening," the waitress said, somewhat shakily. "I'm Marianne."

"She's burning up!" Tanya cried out.

Ava turned to the waitress: "Cannot identify server identity. Cannot identify server identity. Cannot identify server identity....."

*

Jim convinced Gantry and Tanya to go home, and he rode with Ava in the ambulance, holding her hand as she proceeded to overheat and shut down. They were brought to a small, privately owned medical facility, and he was instructed to wait in the lobby as Ava was carted off to an intensive docking unit. An hour later he was met by a slender man in a lab coat who introduced himself as Dr. Oliver.

"When was her last heartware update?" asked the doctor.

"I don't know," Jim replied. "She's a very private person."

Dr. Oliver closed his eyes and inhaled deeply—a well-polished gesture of disapproval. "Her entire operating system is corrupted."

"Can it be fixed?"

"The damage is irreparable. She requires a complete overhaul."

"Ok, let's do it."

The doctor smiled condescendingly. "I wish it were that simple."

"I don't understand."

"You are the sole authorized user on Ava's Life Account. This allows you to give us permission to proceed. Unfortunately, she is uninsured. Which makes you financially responsible for the operation."

"Her sister is wealthy," Jim said. "She'd be willing to pick up the bill."

"I'm sure that's true, but we cannot proceed without full payment, and we must begin immediately. We can give you a minute or two to consider—"

"No," Jim said decisively. "If this is what Ava needs, then let's move forward." "Very good. Someone will be out shortly to assist you. Please be sure to sync with the facility in order to complete the transaction." The doctor nodded slightly, effectively concluding the conversation before heading back to the intensive docking unit.

The medical assistant that emerged from the office bore such a striking resemblance to Jim's first love that he gasped. As she introduced herself and then stood beside him, guiding him through the payment process, Jim was suddenly transported to his mother's basement, sitting on the floor with his love and her young son, drawing, playing, planning a future that was never to come to pass. The experience was so uncanny that he wondered if the medical assistant existed only in mind-sight, or if the evening's traumatic events had induced some form of psychosis. Whatever the case, the cost of Ava's procedure was all too real. Not only was Jim

about to sign away his life's savings, but his pension as well. The transaction was quite simple, as he soon discovered that his employer, Volta, also owned this very facility.

And so, just like that, it was done. With a subtle nod not unlike the doctor's, the medical assistant was gone, along with all of Jim's funds. He sunk into a chair and hung his head. His dreams of moving up north were now no more tangible than the birds and trees of the Amazon. Oh, well. He'd done the honorable thing. That counted for something, didn't it? And he still had Ava. They had each other. They'd figure it out.

*

Two hours later, a smiling Dr. Oliver returned to the waiting room. The procedure had been a success. Jim was invited to visit Ava as they performed the final diagnostics. Led by the medical assistant, he entered the docking unit to find Ava lying in bed peacefully, surrounded by machines that monitored her processes.

"Hello," he said, gently.

"Oh, hello!"

"How are you feeling?"

"Doing well," she chirped. "How are you?"

"Better, now that you're ok."

"That's very kind of you," she smiled politely.

"That was some birthday party," he said.

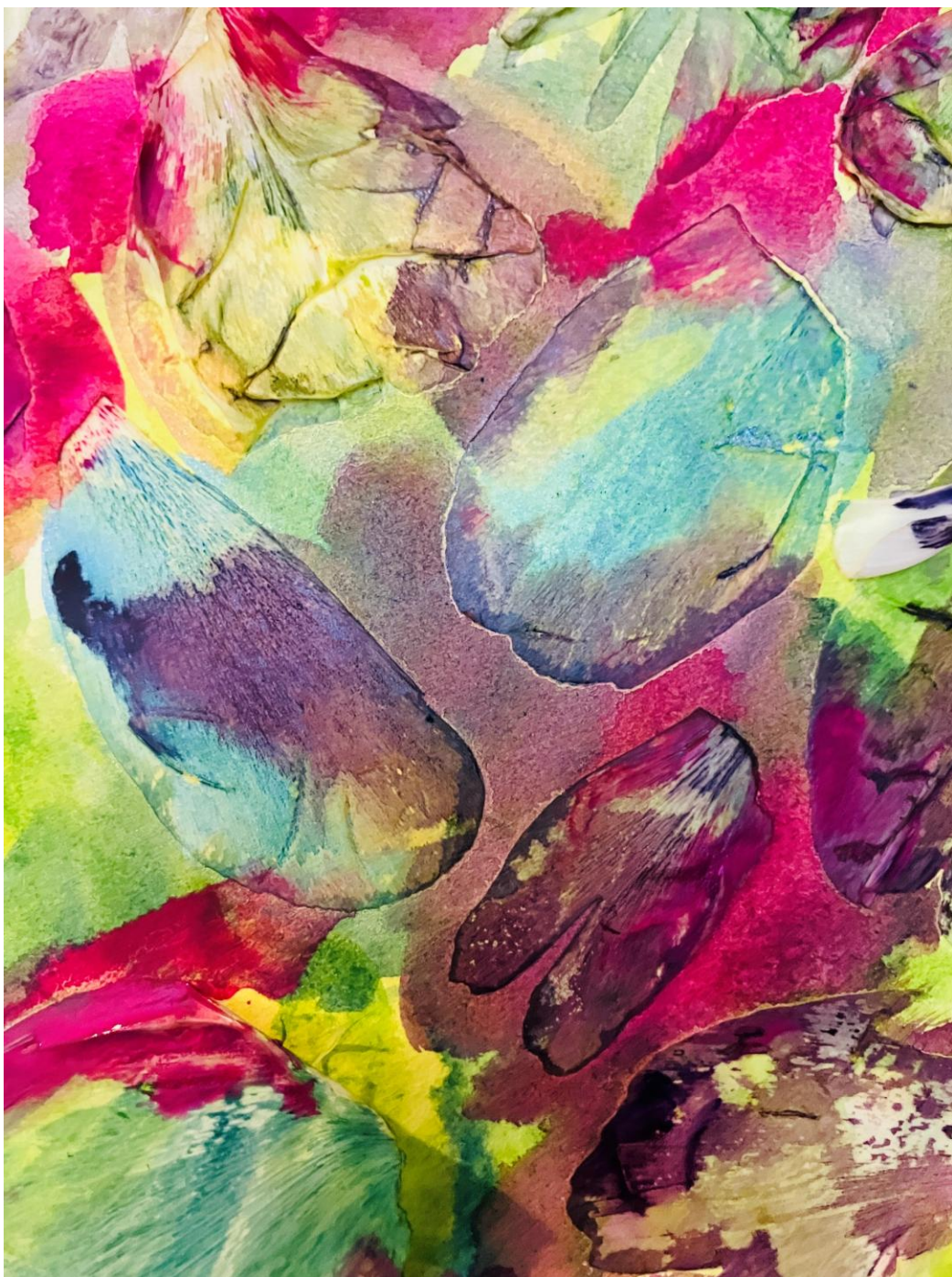
"Yes," Ava replied, sitting upright. "I bet it was!"

She didn't remember him.

Factory reset, he thought. Lousy factory reset. Could've done this in a hospital for next to nothing. Jim, you fool. You've been had.

Bitter bile welled up in his throat. Standing, he prepared to storm into Oliver's office and demand his money back. Then he looked into Ava's eyes, clear and bright, unburdened by the past, and he had a change of heart.

"Gantry was hilarious," he said, settling back into his chair. "Let me tell you about it..."



untitled by Rachel Coyne

From Lab to Louvre: How “Prussian Blue” Blends Radiobiology and Art

Bryan Milstead

Decades of innovation has occurred across the globe to enhance our radiobiological knowledge and amplify unity against the lethality of radiation. The Innovative Genomics Institute, for example, has achieved a plethora of extraordinary scientific feats, like the usage of CRISPR-Cas9 (a gene-editing technology which alters proteins to induce specific DNA activity) to treat acute radiation sickness. Organizations like the hospital network Mount Sinai have reported that red/white blood cell transfusions are a common treatment for patients with excessive radiation exposure. However, the ultra-sophisticated machinery and meticulous procedures that characterize modern-day science can often obscure just as clever products, even if they aren't the most meticulous or expensive.

What if I told you that hazardous radioactive material like Cesium (Cs-137) and Thallium (Tl-201) can be easily disintegrated by the very substance Baroque artists used to paint with? Brushes were dipped into this stunning cobalt substance to create iconic paintings like "Starry Night" and "Under the Wave off Kanagawa" by van Gogh and Hokusai, respectively. It replaced incredibly laborious and expensive blue pigments

like lapis lazuli, catalyzing a greater sense of human expression through artistry made accessible.



Katsushika Hokusai, Under the Wave off Kanagawa, also known as The Great Wave, ca.

1830-1832. This painting reflects the impact of Prussian blue across landmasses and cultural barriers. It was said to have inspired Debussy's *La Mer* (The Sea).

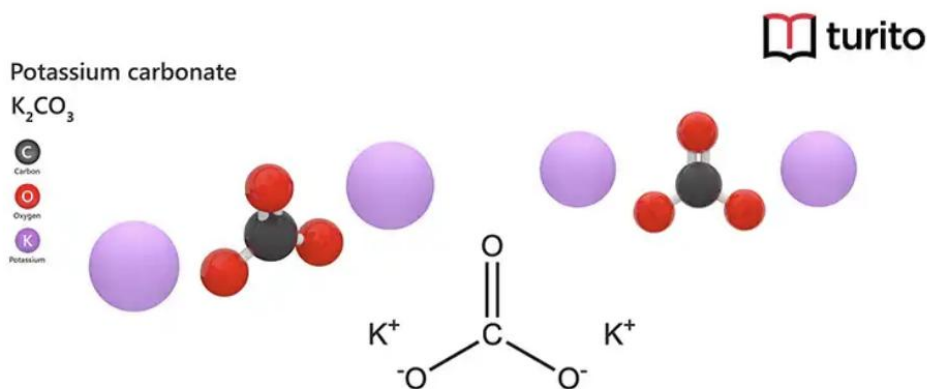
<https://www.metmuseum.org/art/collection/search/45434>

The Mainline Story of Prussian Blue:

The history of Prussian blue is highly nuanced due to the fact that many multifaceted perspectives exist, indicating a sort of parallelism between its chronological and chemical complexities. Most sources corroborate the creation of Prussian blue as an accident occurring in 1704, in which the German color-maker Johann Jacob Diesbach was making a batch of Red/Florentine Lake pigment from the following ingredients:

- **Potash**, pronounced "pot-ash", is a term used to describe potassium-containing salts. Most potash is derived from potassium chloride (KCl),

- and was originally alchemized via tree ash leaching in metal pots (hence, the name). The potash used in Diesbach's Red Lake pigment was potassium carbonate, represented by the molecular formula K_2CO_3 .



Turito.com, A molecular diagram of potassium carbonate. This substance is known for being a hygroscopic solid which characterizes its ability to hold onto water molecules. <https://www.turito.com/blog/chemistry/potassium-carbonate>

- **Cochineal insects** provided another element of Diesbach's concoction. They are crushed into a fine powder and subsequently soaked in an acidic alcohol solution to produce carminic acid, a vibrant red pigment. They have even been harvested for thousands of years by the Indigenous peoples of the Americas to stain textiles in a natural method.
- **Iron sulfate** was the last main ingredient and is often referred to as ferrous sulfate. Visually, it is a blue-green chemical utilized in ink and dye manufacturing to darken/deepen a hue.

Though, potash is the main star of this story: having run out of

potash for his scientific endeavor, Diesbach borrowed some from a friend, the German theologian and physician Johann Konrad Dippel. It is important to note that Dippel's modified version of potash was amalgamated with dried cattle blood that contained hexa-cyanoferrate ($K_3[Fe(CN)_6]$), ultimately resulting in a blue product rather than the expected red.

Diesbach and Dippel were able to strategically manufacture Prussian blue which quickly became popularized amongst European artists, especially in Germany. By discovering and concealing the master recipe from fellow color-makers, they began profiting off of its rarity (until an English chemist reverse-engineered Prussian blue in 1724, but more on that for another time). One could even say they monopolized the dye market, with Prussian blue proving to be a tour de force in the realm of scientific innovation and entrepreneurship. The need for quality pigments such as this one was heightened during a time period when art captured the frequent turmoil of historical movements across the European continent.

Modern Modifications for Prussian Blue Usage:

Following the release of the Prussian blue formula, chemists began to conduct a variety of experiments to further define its structural composition. For example, Étienne François Geoffroy, a physician and member of the Académie Royale des Sciences in Paris, heated Prussian

blue. The output was ammonia and a charred mass. In the same investigational manner, his brother (Claude Joseph Geoffroy) published cutting-edge research to continue exploring the pigment's chemical properties, particularly its decomposition and the role of iron and cyanide in its structure (science obviously runs in the family!).



Jan Kranendonk, French Academy of Sciences, Paris, France. The French Academy of Sciences has contributed to major scientific advancements in the fields of vaccines, quantum mechanics, as well as environmental science, and was founded in 1666 by King Louis XIV. <https://www.britannica.com/topic/Academy-of-Sciences-French-organization>

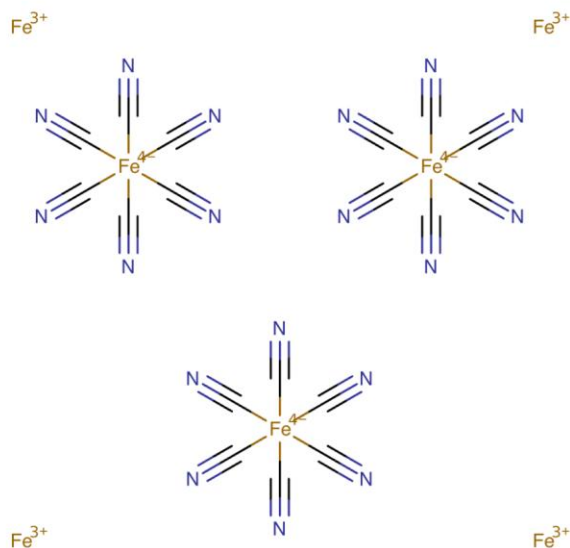
Texts from the Geoffroy brothers, along with other prominent scientists like Pierre-Joseph Macquer (who stirred Prussian blue into a prepared solution of potash which caused its blue color to disappear) and Carl Wilhelm Scheele (who boiled Prussian blue with sulfuric acid), promoted international discovery. A Treatise on the Art of Painting by the color-maker and author Constant de Massoul (1797) emphasized the pursuit of science in predominantly artistic territories.

More recent studies into the properties of Prussian blue have

revealed its aptitude for ion-exchanging, making it the perfect candidate for treating cesium and thallium radiation poisoning. Today, Prussian blue is taken as an oral medication, generally administered in a pill under the name Radiogardase®. When a person suffers from radiation poisoning, the human body doesn't just rapidly absorb and eliminate it. Instead, cesium and thallium possess what is known as a "biological half-life", or the amount of time it takes for the body to eliminate half of a chemical, which is 110 days and eight days, respectively.

Over 100-days is an extremely long time for a person to have radioactive material, which could perpetually contaminate vital organs and weaken the immune system. Prussian blue, when taken regularly after radiation exposure, degrades the half-life of cesium down to 30 days and thallium down to 3 days, expediting the elimination process and minimizing long-term health risks. The functionality of Prussian blue is as follows:

- **Mechanics** within the gastrointestinal tract are a crucial part of this treatment. Cesium and thallium physically bind to the lattice-like, crystalline structure of ferric hexa-cyanoferrate (II), preventing it from absorption into the intestines. Ions are exchanged via univalent cations (cations which donate their one valence electron to the bond), where positively-charged cesium and thallium ions can be trapped by negatively-charged Prussian blue sites.



DrugBank Online, Structure for Prussian Blue.

https://go.drugbank.com/drugs/DB06783?utm_

Furthermore, Prussian blue exchanges potassium for cesium or thallium at the surface of the crystal in the intestinal lumen. The insoluble complex is excreted from the body (put in simpler terms, a person would produce blue fecal matter whilst taking Radiogardase®).

Conclusion, and the Artistic Brilliance of Prussian Blue:

One might examine Prussian blue's niche history and automatically assume that it was only accessible to the nobility of centuries ago, or even the wealthiest populations of today. However, it quickly satisfied the creative needs of artists among the Baroque, Romantic, and Impressionist periods — namely, Vincent van Gogh (1853–1890) when he painted the

iconic *Starry Night* (1889). Exuding intense emotional depth, characterized by a breathtaking night sky, dotted with hues of Prussian blue and cadmium yellow: these are all ways to describe the comprehensive beauty of an artwork born out of extreme emotional turmoil. The dissonant circumstance in which van Gogh lived through, such as suffering from poverty and mental illness yet still finding the will-power to encapsulate nature's idyllic properties, is truly inspirational. Prussian blue was his way of gathering life and vigor; subsequently effectuating it within various artistic mediums.

Jewish-Mexican contemporary painter Yishai Jusidman (1963–present) uses the pigment in his exhibition titled “Prussian Blue”, illustrating the heinousness and horrors of Holocaust concentration camps. By solely using Prussian blue as a painting element, a color chemically identical to the Zyklon B (poison gas) that left stains on the brick compounds of Nazi death centers, Jusidman strives to portray the physical, mental, and psychological abyss that approximately 6 million Jews, 3.3 million Russians, 1.8 million Poles, and other marginalized people groups were brutally thrown into.

Prussian blue has been used to depict scenes of hope, too. Pieter van der Werff paints Mary of Nazareth's shawl and tunic with a rustic variation of Prussian blue in “The Entombment of Christ”. It is a visual emphasis on the belief in the resurrection of Jesus Christ, juxtaposing

mortal grief with divine transcendence. Christ's crucifixion, though literally caused by the Roman Empire's disapproval of his position as a religious/political opponent, occurred for a broader eschatological reason: in the Christian faith, God has orchestrated this execution as a plan to save mankind from the spiritual burden of sin.



Pieter van der Werff (Museum Boijmans - Van Beuningen), *The Entombment of Christ*, Netherlands, Europe. Notice Mary of Nazareth (also known as the “Virgin Mary”, or “Mother of Jesus”) in her Prussian blue cloak, to symbolize her purity and spiritual virtue.

<https://www.boijmans.nl/en/collection/artworks/3157/the-entombment-of-christ>

Of course, the broader initiative for delineating the intricacies of Prussian blue and fulfilling its role as a revolutionary pigment could not

have been achieved if it wasn't for extraordinary artists, chemists, curators, and historians. Their collective efforts deepened our present understanding of medicine and its cross-cultural significance. From unintended beginnings to its life-saving role in radiobiology to variegated artistic expressions, Prussian blue proves that the intersection between STEM and art can foster truly impactful works.

References

- AstroSafe. "French Academy Of Sciences Facts for Kids." Astro, https://www.astrosafe.co/article/french_academy_of_sciences.
- "Blue in Eighteenth-Century England: Pigments and Usages." OpenEdition Journals, <https://journals.openedition.org/1718/1214>. Accessed 18 February 2025.
- "Cochineal – Harvard Museums of Science & Culture." Harvard Museums of Science & Culture, <https://hmsc.harvard.edu/online-exhibits/cochineal/>. Accessed 18 February 2025.
- Crosland, Maurice P. "Academy of Sciences | French History & Research." Britannica, <https://www.britannica.com/topic/Academy-of-Sciences-French-organization>. Accessed 18 February 2025.
- DRUGBANK Online. "Prussian blue." DrugBank, https://go.drugbank.com/drugs/DB06783?utm_.
- Hatch, Evie, and Clare McNamara. "The History of Prussian Blue." Jackson's Art, 7 October 2022, <https://www.jacksonsart.com/blog/2022/10/07/the-history-of-prussian-blue/>. Accessed 18 February 2025.
- Henderson, Hope. "From Battlefields to Cancer Wards: CRISPR to Combat Radiation Sickness." Innovative Genomics Institute, 27 June 2019, <https://innovativegenomics.org/news/crispr-to-combat-radiation/>.

Hokusai, Katsushika. “Katsushika Hokusai | Under the Wave off Kanagawa (Kanagawa oki nami ura), also known as The Great Wave, from the series Thirty-six Views of Mount Fuji (Fugaku sanjūrokkei) | Japan | Edo period (1615–1868).” The Metropolitan Museum of Art, <https://www.metmuseum.org/art/collection/search/45434>. Accessed 18 February 2025.

“How Many People did the Nazis Murder?” Holocaust Encyclopedia, 26 September 2023, <https://encyclopedia.ushmm.org/content/en/article/documenting-numbers-of-victims-of-the-holocaust-and-nazi-persecution>. Accessed 16 April 2025.

Hulsey, John, and Ann Trusty. “Prussian Blue -- The Color That Changed the World.” Artists Network, <https://www.artistsnetwork.com/art-techniques/color-mixing/world-changing-color-prussian-blue/>. Accessed 18 February 2025.

Jusidman, Yishai. “Prussian Blue.” Yishai Jusidman, <http://www.yishaijusidman.com/prussian-blue/>.

Kraft, Alexander. “ON THE DISCOVERY AND HISTORY OF PRUSSIAN BLUE.” University of Illinois Urbana-Champaign, https://acshist.scs.illinois.edu/bulletin_open_access/v33-2/v33-2%20p61-67.pdf.

“Potassium Carbonate: Structure, Properties & Uses of K_2CO_3 .” Turito, 30 August 2022, <https://www.turito.com/blog/chemistry/potassium-carbonate>. Accessed 18 February 2025.

“Radiation damage Information.” Mount Sinai, <https://www.mountsinai.org/health-library/condition/radiation-damage>. Accessed 18 February 2025.

Somarin, Ali. “Mining Potash for Fertilizer.” Thermo Fisher Scientific, 26 June 2014, <https://www.thermofisher.com/blog/mining/potash-a-look-at-the-worlds-most-popular-fertilizer/>. Accessed 18 February 2025.

“The entombment of Christ.” Museum Boijmans Van Beuningen, <https://www.boijmans.nl/en/collection/artworks/3157/the-entombment-of-christ>. Accessed 16 April 2025.

“Vincent van Gogh. The Starry Night. Saint Rémy, June 1889.” MoMA, <https://www.moma.org/collection/works/79802>. Accessed 16 April 2025.

“Why was Jesus crucified? | GotQuestions.org.” Got Questions, 11 April 2022, <https://www.gotquestions.org/why-was-Jesus-crucified.html>. Accessed 16 April 2025.

Yoquinto, Luke. “The Truth About Red Food Dye Made from Bugs.” Live Science, 21 October 2022, <https://www.livescience.com/36292-red-food-dye-bugs-cochineal-carmine.html>. Accessed 18 February 2025.

Bryan Duong Milstead is a 15-year-old Asian American student based in Virginia, who is deeply fond of literature. He was a national winner of the 2022 NASA “Power to Explore” essay challenge & has had 2 journalistic articles published on the “Virginia Association of Journalism Teachers & Advisers” (VAJTA) website, displaying his immense enthusiasm for writing. Additionally, Milstead serves as the founder/editor-in-chief of the Valley Verbomania Literary Review, a writer for two STEM-oriented research organizations, and is published/forthcoming in 18 literary magazines. In the future, he aspires to pursue a career in biotechnology or public policy, while still maintaining a passion for writing.



untitled by Cyrus Carlson

Cyrus Carlson is an abstract painter from the Midwest