



Arbor Teas Summer Reading Series

Get ready to steep yourself in a story! The Arbor Teas Summer Reading Series presents an original work of fiction by a different author each year. Released one chapter per week, each serialized novel is meant to be enjoyed all summer long by tea-lovers and non tea-lovers alike. Why? Because next to iced tea, nothing goes better with summer than a good read. Enjoy!

By David Erik Nelson



Chapter 1

If you had told Bram that he would spend the rest of his life with Lizzie Bradford, he would have told you he felt like the luckiest man alive. And despite how deceptive such a sentence ultimately would turn out to be, in the end he still felt pretty damn lucky.

#

Bram and Lizzie had only been dating for a few weeks. She'd been perfectly clear that she hadn't asked him to her family reunion to meet her family. Yes, he was a nice guy, but more importantly, he was the only person she knew with a car that was reasonably certain to make it from Columbus, Ohio to Huntington, West Virginia without major mechanical misadventure.

Bram, likewise, had been perfectly clear that he understood this to be a no-strings-attached family reunion. Still, he jumped at the chance to spend three hours alone in a car with Lizzie.

Subsequently, when he pulled up to the curb in front of her gentrified brownstone at 9am—sharp—Bram was mildly vexed to meet Lizzie's brother Chet, lumpy backpack at his feet. Almost two hours into the drive, Chet had inarguably proven himself an asset.

"OK, here's the thing I don't get," Chet announced as they passed a dually pickup emblazoned with NRA and Keep Honking—I'm Reloading! stickers, "That 'gun family' sticker folks plaster on the rear window of their truck, that one that's like the stick figure family sticker, but silhouettes of guns? It's pretty clear that the dude who owns the car thinks of himself as the AR-15, and the kids are all the lil handguns, but between him and the kids—where there's usually the mom stick figure—there's an AK-47 and a Winchester .30-06. Those are both basically the same caliber. Is the dude a polygamist? Is he hinting that he's got, like, a secret Russian bride somewhere?"

3

Bram suggested that maybe the AR-15 was divorced and remarried, Lizzie replied that maybe the Winchester was another dude gun, and it was a modern blended family situation where everyone was basically cool with how stuff had sorted out.

Chet nodded sagely. "Yup: rifles marrying rifles, handguns using the shotgun bathroom, assault weapons adopting Nerf guns—"

"-Dogs and cats living together!-" Bram chimed in.

"Mass hysteria," Chet finished.

And on it went. At every conversational lull, Chet tossed in some crazy-talk glitter grenade out of left field, and off they went, rollicking into Crazy Town.

Chet may have been sort of a weirdo, but he was an affable weirdo, and he annihilated any chance of the drive being awkward: He raised the "awkward" bar so absurdly high that you strolled right under it without even wondering if social awkwardness was a thing any more.

#

Bram had met Lizzie the previous fall at an excruciatingly awkward faculty mixer. The head of Lizzie's department hadn't shown up, and as the only black woman there, she'd already been mistaken for a caterer twice when Bram asked her how she liked the iced tea. Lizzie'd been so relieved to be taken for someone drinking the tea, rather than serving it, that she'd immediately launched into a mini-tirade without first asking Bram if he was a post-doc or trailing spouse or what. He was none of these—he was, in fact, the manager of the cafe catering the mixer—but he kept that to himself, since the mini-tirade had made it pretty clear that this very tall, very sharp, very pretty woman did not hold the food-service industry in high regard. Besides, her riffs and jabs were really funny, and he didn't want the conversation to end with her embarrassed retreat.

Lizzie, Bram quickly learned, studied the longevity and resiliency of tardigrades. These, Bram gathered, were commonly called "water bears" or "moss piglets," measured about half a millimeter long when full grown, looked like chubby lil eight-legged pig-bears as imagined by whoever did the concept art for the Stay Puft Marshmallow Man, and were totally not made-up.

"Tardigrades are really, really interesting," she said with a sort of sparkling glee; he quickly realized he liked Pumped-about-Whatever-the-Hell-Tardigrades-

Might-Be Lizzie even more than he'd liked Pissed-that-She-Was-Dissed-as-Hired-Help Lizzie. "They're amazingly resilient—easily the most resilient multi-cellular organisms. Tardigrades live in environments well above boiling and almost down to absolute zero. They survive repeated freezing and thawing. They can survive without water or oxygen, exposed to x-rays thousands of times the human lethal dose—they can survive the extreme pressure at the bottom of the ocean and the vacuum of space. They can do this because they voluntarily enter cryptobiosis—a real state of reversible death. They can chill out, dead, for a century and still reanimate."

This all sounded pretty rad to Bram.

Her work was pretty involved with "tun formation" and something called "trehalose metabolism and synthesis" and maybe also "telomere length" and "telomerase-independent, chromosome maintenance system"—although Bram had sort of zoned out watching her talk, and wasn't sure if that stuff was part of her work, or some other thing she was talking about. As she spoke, she seemed to glow like a 60-watt bulb, and this glow made it clear she was incredibly lovely.

Bram was absolutely in love with her before the conversation was through. More to her credit, when she wandered into the Illegitimi Non Carborundum Café later that week and saw Bram behind the counter, she neither fled nor shrank, but instead walked up, ordered an organic hibiscus tea, then picked up where she'd left off talking about anhydrobiosis, parabiosis, "stasis," Mars Missions, human longevity, and creepy Bay Area venture-capital bros.

She capped off the conversation by pulling out her phone and asking for his number. She immediately texted him her name and a coffee cup emoji.

"Call me sometime," she said. "I've bent your ear twice in a row; I owe you a cup of coffee made by someone other than you."

#

About two hours into the ride Chet abruptly shouted "Hold up!" and dove into his bag, rummaging until he came up with a deck of cards still in its plastic wrapping. "It's one of those ice-breaker get-the-conversation-started games," he said, breaking the seal, pulling off the plastic, and dropping it onto Bram's floorboards. "Came in a box of promos at the shop."

He split the deck with Lizzie, and without a word the two fell to studiously sorting through them. "OK," Lizzie called out, "Got a good one: If," Lizzie intoned

archly, "You could travel through time, forward or backward, would you do it? If so, when would you travel to?"

Chet brayed an artificial air-horn buzzer, then called out "Technical foul!" through his cupped hands.

"Wait, why?" Bram asked, laughing. "Why are you calling a technical on a pretty tame time-travel question?"

"'cause there's all kinds of privilege built into that damned question," Chet said.

"Mmm-hmmm," Lizzie nodded matter-of-factly.

Bram laughed, "How? Would Rosa Parks have to sit at the back of the time machine? This seems like an equal opportunity question."

"Nope," Chet replied. "Traveling back in time is strictly White Male Patriarchy business; why in the world would any self-respecting black man—"

"-or woman, any color woman-" Lizzie interjected

"—or female, or queer dude, why would any of them take a single damn step back in time and risk a street-legal ass-whooping?"

Bram allowed that Chet had a point. "Well, I could argue that more than a few white male guys whose 'love dare not speak its name' had it just fine through big swaths of history—"

"Granted," Chet nodded.

"But the past is so last year, m'man; I'd take the future."

"For real?" Lizzie asked.

"Yep," Bram replied.

Chet acquiesced. "Yeah, OK. I think future-oriented time-travel is suitably devoid of white male privilege. I'll allow it. You can answer the question."

"Thank you, your honor."

There was a lull in the conversation, which Lizzie broke: "So are you going to answer the question?"

"I thought I did answer it. I'd totally travel forward in time."

"But to when?" Lizzie tapped the card. "The question asks if you'd do it and when you'd head to? Like, how far in the future?"

"Well, I don't know, exactly. Clarification: Do I have to name a specific date or number of years?"

Lizzie called for a sidebar. Brother and sister put their heads together briefly.

"OK," she said, turning back around, "If you wanted to go back in time, then

we'd allow something like 'the Italian Renaissance,' since nobody knows when that was—"

"14th Century through 16th Century," Bram said.

Lizzie scowled. "Congratulations: You narrowed down the start and end date to the nearest century. If that's as close as you can get, parallel parking must be hell for you. Anyway, point being, with most things in human history, there isn't a specific point in time—hell, even something that seems really simple and instantaneous, like the Kennedy assassination, it isn't a single point in time. Like, you know that was on November someteenth, 19-whatever—"

"Twenty-second," Bram said, "1963. At noon. You all are terrible at history. I mean, Jeez, 11/22/63; there's that Stephen King book that got made into the show with James Franco, and the date is the title. It's not obscure trivia."

Lizzie rolled her eyes. "Point being, the shots rang out at noon on 11/22/63, but when was the 'assassination'? When Oswald—"

- "-or the Umbrella Man," Chet interjected, "or-"
- "-or whoever, when he-"
- "-or she-" Bram added with a smile.
- "-pulled the trigger, when the bullet entered Kennedy-"
- "-if-" Chet rang out joyously, and Bram laughed. Lizzie did not.

"It's like I'm stuck in the back of the middle school bus with you knuckleheads. Just listen: When was the assassination? When the trigger was pulled? When the first bullet hit home? When the last one did? When JFK started bleeding? When his heart and respiration stopped? When brain function began to fail? When all brain function irreversibly ceased, including brain stem function? When metabolic activity ceased? When cellular death reached a certain threshold? When necrosis set in? It's safe to assume that brain function ceased before cardiopulmonary death—just ask Jackie O's dry cleaner—"

"Too soon!" Chet shouted from the back seat. Lizzie ignored him.

"When you start to dig in, you can't even really pinpoint the moment of his death: Cellular death occurs hours, even days, after clinical death."

"OK, OK," Bram called out, "I got it! None of us really knows anything."

"Not very precisely, no," Lizzie replied primly, "Point being: You don't have to give a specific date or number of years."

"Gotcha. Perfect. That being the case, then I'd want to go forward to my, like, 'expiration date."

Bram had expected to need to explain what he meant, but Chet and Lizzie immediately understood.

"You mean the day you die," Lizzie offered uncertainly, as though she hoped she'd misunderstood.

"Yup. Not that I'd necessarily want to be there—I mean, double be there, since I'm obviously already there, if it's my day to die—but really just to know the date. Like knowing the expiration date on a carton of milk, right? You make different decisions about what you're cooking if you've got a half-gallon with a week left on it, versus a half-gallon that went bad yesterday."

The car had gone silent, and Bram's heart sank. Chet's antics, he feared, had not in fact set the awkwardness bar as high as he'd calculated. Bram glanced at Lizzie, but her face was totally unreadable.

Chet broke the silence with a laugh. "Oh, man, Granny Gin is gonna love your white boy, sistah-my-sistah."

Lizzie folded her arms and looked out the window. "Yeah, maybe. Maybe like a dog loves a bone."

"Yikes," Bram said, "Sounds like a helluva woman. What's the deal?" He expected that the answer would be that she was real political—Third Wave Feminist of Black Power or Nation of Islam—someone with distinct, well-articulated, highly charged views of white men interested in black women, especially when those black women were also their smart, high-achieving, well-educated, well-employed granddaughters. At 25-years-old, Lizzie was the youngest full professor ever to join the Ohio State Biological Physics Research Group. Bram would not hear this from Lizzie—who'd point out that, at just 10 people, the sample size was a little suspect: She was also the tallest full professor ever to join the Ohio State Biological Physics Research Group, the blackest full professor ever to join the Ohio State Biological Physics Research Group, and the best Mario Karter ever to join the Ohio State Biological Physics Research Group—and she was terrible at Mario Kart (a fact Bram knew from personal experience).

While Lizzie might prefer Bram forget she was the youngest full professor ever to join the Ohio State Biological Physics Research Group, he'd discover at the family reunion that she was basically the only Bradford that felt this way.

"You're here with Lizzie?" aunties and uncles and cousins would say over and over again, always quizzically. "We thought you were one of Chet's comic-book friends. You know, Lizzie's the youngest full professor ever to join the Ohio State

Biological Physics Research Group. What did you say you did?"

But that was all later. Back in the car, Chet asked: "You for-real wanna know your 'Best if Used By' date?"

"Yeah. I wasn't kidding."

"cause Granny Gin can tell you."

Lizzie whipped around. "Shut up, stupid," she snapped. When she turned back to Bram, he was surprised to see her on the verge of tears.

"Don't let Granny Gin mess with you."

Bram had no idea what to make of this, let alone how to reply. He mumbled something like "Yeah, sure, totally" and the car fell silent.

And stayed that way for the remaining 52 minutes of the drive.

By David Erik Nelson



Chapter 2

AS it turned out, Lizzie Bradford—tall and lean as a Kenyan distance runner—was a freakish outlier in her family. With almost no exceptions the Bradfords appeared to come in two varieties: Short and short-n-round. Chet—barely 5'4" and built like a dorm fridge—immediately dissolved into the crowd of rolly-polly aunties and cousins milling around the loaded picnic tables and fragrant grills arrayed across the large yard between the picturesque little whitewashed church and its large cinderblock gathering hall. Meanwhile, even as her extended family enfolded her, Lizzie continued to stand out like a daffodil among clover.

And then a woman tall and lean as Lizzie, but at least twice her age, stepped out of the dark doorway of the cinderblock hall. The resemblance was absolutely unmistakable.

Lizzie stiffened at his side, and Bram had no doubt that this was Granny Gin. He stepped forward and offered his hand. "Pleased to meet you, Mrs. Bradford."

Granny Gin's hand was hard and dry. Squeeze. Single pump. Release.

"Mrs. Chester," she corrected. "Betsy's paternal grandmother is Mrs. Bradford." A little part of Bram curled up and died.

Mrs. Chester was shaking her head. "Don't you know not to assume, young man? It makes an ass out of u."

"And me," Bram finished the aphorism.

"Yes, you," Granny Gin said. She stared him down for a moment longer, then smirked and released his eyes the same way she'd released his hand: Like a fisherman tossing back a fry too small to be worth gutting. She turned her attention to Lizzie. "Glad to see you aren't stooping to conquer."

Bram looked to Lizzie hopefully.

"She just means you're tall," she said flatly. "Thank you, Granny Gin." Lizzie kissed her cheek.

Granny Gin motioned to Bram and turned back toward the hall, "C'mere, big

fella." Bram turned to check in with Lizzie, and found her already brightly chatting with a pair of identical older women in identical cats-eye glasses. One woman had her hair fixed in a stiff grey wave, the other in long grey dreadlocks. Bram felt like a jackass standing around doing nothing, so he followed Granny Gin into the dim building in the hopes of making himself useful.

Bram and Granny Gin crossed the empty banquet hall in silence, heading toward the swinging steel doors. Bram assumed these lead to the kitchen—and immediately shied away from the word assume, like a cat avoiding a burner that had once been hot.

"So," he said, uncertain how to proceed. "You're Granny Gin?"

"I'm Ovander's and Betsy's Granny Gin, yes." She hit the names sharply, which Bram took to mean that she was certainly not "Granny Gin" to him. Then he wondered if he was assuming, and his mind jerked away from the word assume. Then he felt like a jackass all over again. He took another stab at conversation.

"Chet says you can tell people when they're going to die."

"Ovander said that?" she asked without a glance, her gait slow and smooth, implacable as a glacier.

"If 'Ovander' is 'Chet'-"

"Ovander Chester Bradford, yes." She tsked, pushing open the swinging kitchen door. "'Chet.' Have you ever heard of a black man named 'Chet' that amounted to anything?"

"Chet Baker?" Bram suggested.

Granny Gin stopped midway into the kitchen, turned, and just looked at him.

"The horn player?" she asked. "From Oklahoma?" She looked over her glasses. "Was white." Bram grimaced involuntarily.

She stepped through the door, letting it swing shut. Bram heard the kitchen lights clack on, and took the briefest moment of silence in the cool, dim vacant banquet hall to finish dying of embarrassment. Then he shook it off—just as Taylor Swift advised—and pushed in after the Bradford-Chester matriarch. Granny Gin was already halfway across the kitchen, heading toward the open door of a storage closet or pantry.

"Ch—" he caught himself, "Lizzie's brother said that you could tell people how long they had to live." He reviewed the conversation in his head, realized he wasassuming, and then backtracked. "Actually, he implied you could."

"And?"

"And that seemed like a pretty . . . interesting claim. Most people, if they talk about their granny, it's either because she made great cookies or said something outlandishly raci—outlandish. Outlandishly outlandish." He was babbling, and he was helpless to stop himself. Granny Gin should have been an interrogator. He abruptly realized that, for all he knew, she had been an interrogator. "My own grandmother—of blessed memory—the best we could say for her was that she only sued my uncle's widow once."

Granny Gin snorted at this, and Bram's heart swelled with the tiny victory. She clicked on the light in the storage room, and pointed at the top shelf. "Coffee urns. We told them we'd need three, they put out one, because stupid people always think they know better. Please pull down two more. I'd do it myself, but..." she indicated her lower back. Bram was already eagerly nodding. He grabbed the first, nearly overbalanced it, but righted it without Granny Gin appearing to notice that she'd just almost been brained with a coffee pot. He hustled the urn over to the steel counter, then hustled back for the second.

"So," he asked as he huffed to the counter, "can you? Like Lizzie's brother said, can you tell folks when they'll die?"

"Yes." The silence spun out, and Bram let it do so. He stood next to the urns, watching her, and saw that she was waiting for him to get nervous and drop the topic. And so he waited. Finally, she said, "And you'd like to know?"

"Yeah, I sorta would."

For the first time she looked at him, really looked at him personally, not at his height and skin, a pair of arms and a strong back. She tipped her head back, so that she could stare down her nose at him, scoping him out below the lower edge of her glasses. Then she turned back to the pantry shelves and scanned them side to side, like a machine seeking a barcode.

"You eaten, drank, smoked, chewed gum, brushed your teeth, used mouthwash, or kissed anyone on the mouth," she took a moment to give him the hairy eyeball, "in the last 30 minutes?"

Bram thought for a minute—a pause she seemed to appreciate; no more assuming for this guy—then answered: "No."

She spotted a box of snack-sized Ziplock bags, plucked it down, pulled out a bag, and handed it to him.

"Spit," she said.

"Pardon?"

"We need 2mL. That's about half a teaspoon. And don't work your mouth against your cheeks and lips—don't want a whole mess of epithelial cells. And no phlegm."

"I'm sorry," Bram said, "You want me to spit in this bag?"

"What, you think I was gonna give you a cup of English Breakfast and then read the leaves?" This was precisely what he'd assumed—despite having just been warned of whom assumptions make an ass.

"You're very good at that." Bram said.

"At what? Saying what people are thinking? Maybe you're just very good at thinking very obvious things, Big Fella."

"Touché."

She grunted. "You even know what that means?"

Bram realized he did not.

"I didn't think so," she said. "Look things up. At least try to know what you're talking about. You know what telomeres are, Big Bram?"

"Sure," Bram replied, the word popping out of his mouth like a knee popping up when it's struck with the doctor's little rubber mallet. Granny Gin looked at him, eyes slitted almost imperceptibly. He could feel her on the verge of asking 'OK, then, please tell me what a telomere is,' and quickly backtracked.

"Actually, to be honest, I recognize the word, but I'm not really sure what it is. Something with cells?"

"Yes," she said, "That's good; something with cells. That narrows it down quite a bit. If that's as close as you can get—"

"Yeah, then I must have a helluva time parallel parking. You know, you and Lizzie are a lot alike."

Granny Gin chuckled. "A smart boy would keep that opinion to himself. I don't think Betsy would find it flattering."

Bram nodded. It seemed better not to speak.

"Telomeres are 'extra' material at the ends of each chromosome—which are the packages of proteins in each cell's nucleus that carry the instructions for how that cell should be structured. The telomeres are base pairs that carry no information. Some folks liken them to the end of the shoelace."

"The aglet," Bram heard the word pop out of his mouth unbidden, then blushed. "It's called an aglet."

"Yes. You must be absolute murder on a crossword puzzle. Like your aglet, the telomere isn't really part of the active business of a shoelace—you can't tie a knot in it—it just protects the shoelace from wear and tear. Are you following?"

Bram nodded mutely.

"Good. When chromosomes replicate—you study much biology, Bram."

"No," Bram said, "Mostly social sciences—sociology, political science—"

"You know, if they put 'science' in the name, that's because it isn't a science?" Bram nodded again.

"Any matter, chromosome replication is sloppy. Chromosomes in general are sloppy. It isn't a coincidence that the more folks learn about how bodies work, the less likely they are to believe in 'Intelligent Design.' There's not an intelligent thing about any of it; just hacks on top of quick-fixes, duct tape and tin-foil. Telomeres are a quick-fix to keep chromosomes from getting stuck together or losing important information during replication. Every time a cell divides, a bit of telomere gets lost—not great, but better than the chromosomes being damaged. Over time, the telomeres are repaired, but that process is also imperfect. The end of the story is this: You look at an organism's chromosomes, measure the telomeres; how much telomere is left correlates to how much time that organism has left before cell division starts to get too error-filled to carry on sustainably."

Bram nodded. "And then . . . "

"And then, death: Cancer, stroke, heart valve failure. The usual."

"And measuring the telomeres, it gives you a number, like a number of years left? An expiration date?"

"No. Telomeres are just the start; you also need to know what the individual's telomerase levels are—that's the ribonucleoprotein that repairs the telomeres—plus baseline rates of cell replication, other things" she rolled her hand implying that there were a lot of little details she wasn't going to bother to list, since she knew Bram had no idea what any of it meant. "All that together, that gives us a number."

"A date?"

"Well, a number of weeks left. You can calculate a date from that. But that is just for natural death."

"Why?"

"Because plenty of folks die for reasons other than their cells replicating poorly: Car accidents. Gun shot. Fall off a canoe. Choke on a carrot. You'll never see that coming in the telomeres."

Bram nodded again. "Got it. For that, you rely on tea leaves."

She smiled. "No. You ever heard of 'tachyons'?" She asked.

"Yes," Bram answered. Specifically, he'd heard of them on Star Trek: The Next Generation when he was eight.

"Well, it's nothing like that." Bram was relieved. "But 'Oh, like tachyons!' is what you'd probably say if I described it, and I'd say 'Yeah, sort of,' just so you wouldn't feel stupid and I wouldn't have to try and explain it again. Faster-than-light particles that 'travel backward through time' are made up. But you can take a condensed sample from a physical system, accelerate it, fire it through a drift chamber, plot trajectories, correlate that against a supertranslation—you ever hear a physicist say that 'Black holes have hair?'"

Bram shook his head; the only thing he'd ever knowingly heard a physicist say was "I'd like a small flat white, please."

Granny Gin shrugged and again waved off all the technical details that Bram need not worry his pretty little head about. Bram really did appreciate this handwave; he had no idea what any of it meant after she'd said tachyons were BS. But he thought he understood where she was headed:

"You do some particle accelerate math, or whatever, and end up with a precise number for how long a person keeps being a coherent thing?"

"That's almost completely wrong, but you get the gist of it. You get another number, one that's in minutes. Sometimes it's basically in the range of the telomere number—"

"And that's a person who dies of 'natural causes."

She nodded.

"Other times, they're far enough apart that it's pretty clear you're dealing with two separate events."

"Bullet, boat, baby carrot."

Another nod. "Technically we'll only know how long your head persists as a functional physical system, because we're just using a spit sample, but that's a pretty good indicator of how long you persist. I don't imagine you care very much about the period during which your body persists and your head is gone. So, you want to know?"

He did.

"Then spit."

He did. And then he hauled the coffee pots out to the drinks table.

For the rest of the morning and deep into the afternoon Bram enjoyed the spoils of his height—which made him especially popular when Lizzie's cousins began their annual volleyball and three-on-three basketball tournaments. He didn't think about the baggie of spit Granny Gin had taken from him until the drive home, when he realized she'd never asked him for contact info. She didn't even know his last name.

By David Erik Nelson



Chapter 3

It was maybe two months later that she called. Bram was at work. It was the afternoon lull, and he was breaking down the head on the newer of the two espresso machines in an attempt to banish disturbing inconsistencies in their espressos' crema.

He answered—despite not recognizing the number—but didn't speak, since 90 percent of the calls he didn't recognize were recorded messages trying to con him into a "free" cruise.

But this was not a robot, and the caller, against all odds, pronounced his name correctly: "Hello, Abraham Kryzewski?"

"Yes?"

"This is Dr. Ginevieve Chester, Ovander's and Betsy's Granny Gin."

This meant nothing to him for a moment, and then it all flooded in at once.

"Oh! Yes. How are you?"

"I have your numbers." She said. "Your telomere number and your correlated supertranslation number are in the same range."

"OK."

"Which tends to indicate natural death."

"OK."

"The correlated superposition number—the more precise of the two—comes to 11,442 hours."

11,442 hours seemed pretty good. He breathed a sigh of relief, only then realizing how nervous he'd been.

"I'm sorry," she continued.

"Sorry about what?"

There was a pause, heavy as a piano dangling from a fraying rope.

"You aren't very good at math, are you?"

He started to ask why, then actually started to think about the number: 11,442

hours. That was only a bit over a thousand work days. Three years. His heart jumped. "Three years," he mumbled.

The woman tsked, not so much in judgement as pity. "Good Lord," she sighed. "It's 476.75 days—16 months from when you gave the sample. That's," he heard her tapping her fingernails on a countertop as she worked the sums in her head, "that's Tuesday, October 10, around 8am." Her voice slowed as she spoke, and Bram—whose head was swimming—assumed he was swooning. But he wasn't. It was Granny Gin grinding to a halt.

"Dammit, Betsy." She whispered, astonished. "Jesus Lord, what are the odds?" Then she hung up on him.

Bram set his phone on the counter, staring into it like a dark mirror.

What was he going to do about his mother? She didn't have any siblings, her parents had been dead more than a decade, and she'd be a childless widow in just 400-ish days. He had no idea how he was going to tell her. He nonetheless picked his phone up to call her, but it rang in his hand. "Lizzie B.", the screen told him.

This was unexpected: Lizzie had stopped returning his calls weeks ago, at first getting back to him via texts full up with the sorts of vague excuses someone gives when they don't want to sign a petition—"Sounds great, but I'm really busy right now, maybe check back later"—and then even that stopped. She'd evaporated from his Facebook timeline, too; they were still "Friends," it just looked, from his perspective, like she wasn't really posting much of anything. He assumed that she'd adjusted some settings to sort of blackhole him. She was way better at that nit-picky technical stuff than he was.

There'd been no fight, no static, just a drift and fade. Rude? Maybe. But she was crazy busy; she was the youngest full professor ever to join the Ohio State Biological Physics Research Group, after all.

And now she was calling him.

Lizzie and Bram hadn't spoken in almost a month, and he didn't really get a chance to speak then, either: As soon as he hit ANSWER, she was already mid-tirade.

"This is straight-up BULLSHIT!" she shouted. "That crazy old BITCH!"

"Hey," Bram began, "Good to hear—"

"This is so SCREWED UP!" she seethed. Bram could hear the swift, echoing tattoo of her heels, and could picture her pacing the long, narrow basement hallway that stretched from her lab to the elevator door. "So screwed up and so like her!"

"Yeah," Bram tried again, sort of bewildered, not precisely sure what he was

agreeing about. "It's screwed up. Stuff is pretty screwed." Bram may not have been the sharpest knife in the drawer—especially by Bradford-Chester standards—but he wasn't the most self-obsessed knife in the drawer, either. He understood that Lizzie was not upset about his impending death. She began to say something else, then choked, her voice breaking with a sob.

"Lizzie, Lizzie, it's OK."

She cried wordlessly, her weeping choked and bitter. "I can't breathe," she sputtered.

"Yes you can," he said. Someone was at the counter. Bram waved her away. "You just said words. You are a biophysicist. You know that talking is vibrations in your throat, and there can't be vibrations without air. You are breathing."

"I can't breathe," she repeated, "I can't stay in here. There's no air in here. It's like a coffin."

The customer at the counter tried to get Bram's attention again, and he swatted her words down. "Hey, jerkw—" she began, but Bram was already cutting around the counter and slamming out the door.

"Take the stairs, Lizzie," he forced his voice to remain even and calm, like a flight attendant on a plummeting airliner, "Remain calm, walk up the stairs, and meet me at Columbus Commons. There's plenty of air at Columbus Commons."

"Yeah," she panted.

"It's cool," he said, "I'll stay on the phone." His legs scissored against his flapping green apron. "The park is super mellow and really airy."

"I'm feeling better moving."

"Yeah. Get the blood pumping." A horn blared, and Bram realized he'd stepped off the curb mid-block without looking. He leapt back, thought "Jesus! That bastard almost killed me!"

And then stopped.

That bastard had not almost killed him. He wasn't going to die until October 10, around 8am. And no bastard was going to kill him: Bram was going to die of natural causes.

"OK," Lizzie said in his ear, really just speaking to herself. "OK. It's sunny out. OK. There's a breeze."

Bram closed his eyes and stepped into the street confidently, putting one foot in front of the other just like that crazy French acrobat who did that tightrope walk between the Twin Towers back when his mom was a kid.

"OK," Lizzie panted in his ear. "OK. Waiting at the crosswalk. Waiting at the crosswalk. Waiting at the crosswalk. OK. Crossing now. OK."

Bram continued across the blacktop, heel to toe, eyes closed. Horns blared. Tires squealed. Step, step. Confident, easy, like strolling down the block.

A horn blared so close he felt it vibrate his pant leg, and then a car grill hit his thigh, connecting like a linebacker, tossing him onto the car's hood with a hollow bonk. Bram's eyes flew open, and the world spun around him as he rolled off the hood and collapsed on the hot blacktop. He popped up like a jack-in-the-box before he'd even fully processed that he'd been hit by a car and walked away unscathed.

"OK," Lizzie said in his ear.

"OK," Bram said, likewise talking to himself. "OK."

He didn't break stride as the panicked driver wallowed out of her car, shouting a mixed blubber of apologies and threats.

He was going to die of natural causes on October 10, around 8am—but that was no guarantee that he wouldn't spend the intervening 400-whatever days a vegetable in a hospital bed because he stepped into the street like an idiot.

"OK," Bram repeated. "No more experiments."

"I see you," Lizzie said. He looked up across the wide green lawn of Columbus Commons, in the general direction of her lab, and saw a tiny, distant Lizzie standing on the far corner.

"Coming," he said, breaking into a sprint diagonally across the lawn.

"OK," she said. "I'm OK."

Bram leapt a napping man in a business suit, collided with a frisbee, cut around a picnic, and then drastically downshifted so that he was at a panting stroll when he got to where Lizzie stood, her phone still to her ear.

He had no idea what to do. He instinctively wanted to hold her tight, but had second thoughts, and then the moment had passed.

He put his phone in his pocket. She lowered hers, but her tawny slacks had no pockets.

"Hey," he panted. "I came as quick as I could. It's good to see you."

"My Granny Gin called," she said. "I'm going to die on October 10."

It snapped together in his head, and Bram briefly went lightheaded. "At around 8am," he said.

She nodded. "That old bitch has known since I was 15."

This struck him as absolutely crazy. "I think we need to sit down," Bram

suggested. They found their way to a tall, square concrete planter housing a skinny, listless tree.

"This is bullshit," she said again, not even looking up. "Such bullshit. Dead at age 26. In October! Do you know how busy I'm going to be in October 2017?"

"Not very?" Bram offered experimentally, hovering somewhere between joke and brutal truth. But Lizzie didn't seem to hear.

"Our grant only goes through 2017, and we get new grad students and postdocs in the lab in August, so I'm gonna be tied up with them through September, and then hustling like crazy all fall. I can't cram that all in before October 10. Granny Gin is crazy if she thinks I've got time for this."

Bram was suddenly very worried about the timbre of these remarks. What did Lizzie expect to do? Renegotiate her expiration date with Granny Gin?

"Just tell it from the start," Bram said. "Lay it all out for me."

She was nodding. "Granny Gin was at Carnegie Melon still when we were kids, in genetics. MIT was later. But at CM, when she first started her telomere thing, it was a blood draw, not spit. And she needed a lot of samples. It's really hard to get volunteers for a blood draw if you aren't offering money—even at a Research I institution, where the average Jane Bookbag actually appreciates how important abstract research is. And Granny Gin . . . You've met Granny Gin."

"Yes," Bram said. "Yes I have." Lizzie smiled, and Bram smiled with relief. Lizzie was looking less zombified with every word.

"She's not good at politics. She's not good at getting grants. So her lab had diddly-squat for funds. But Granny Gin needed her samples. Lots and lots of samples. Every big family event—especially Reunion, but even little big events like Christmas and Easter Sunday—she showed up with a damn box of phlebotomy stuff and an ice chest. Got to be a joke with a lot of the cousins—the white collar types, CEOs and accountants—that Granny Gin was a research vampire; 'Ivory tower? More like Castle Dracula!' and so on. But you know, just behind her back. To her face, when she asked for them to roll up their shirt sleeves? No hesitation. And when you asked what it was for, she gave this purposefully BS answer—way too complicated for someone outside the field to understand. And she did it in this shitty bored tone of voice that made you feel stupid for not already knowing. And that wasn't because Granny Gin has crap 'people skills.' 'Cause the thing is, her soft skills are tight as hell; she can play people like a fiddle. She's just an asshole."

"OK," Bram said, taking Lizzie's hands and enfolding them in his. "So, like,

everyone in your family knows when they'll die? That's pretty nuts-"

"No." Lizzie said flatly. "She never told them what the blood draws were really for. In all honesty, I doubt she even looked at their numbers, not individually. She doesn't really care when Cousin Lyle and Carla's Carl are going to die; she just needed data. Later she finally got a grant and hired someone who could straighten out the HIPAA stuff. She connected with a few hospitals, and I don't know that she ever did another blood draw with her own hands. And besides, soon enough, they went to assaying DNA using spit samples."

Bram started to ask something—he didn't know what—but Lizzie went on. "But anyway, the Christmas after the family Reunion where she drew my blood, she took me aside. I thought it was gonna be 'the Birds and the Bees' talk— 'cause my Mama had just sat me down for the same talk, 7 months too late. But it wasn't." She shook her head. "Nope. Instead, my Granny Gin—who'd always taken a special shine to me, because we looked so much alike, were so much alike: Both ran track, both nailed it in science class. She took me out to get a Starbucks, and when we sat down at the table she took my hands and told me I'd be dead right around my 35th birthday." She sniffled back a sob, "She'd printed out the results from her data analysis of the quantitative PCR—scatterplots, candlestick graphs, even the stupid Southern blots showing the telomeric smears—and showed it to me. As though that helped. I was 15! But also, I was 15: I looked at that piece of paper and sipped my skim mocha and 20 years still seemed OK. Not great—I'd never have kids, I'd never get old. I'd never be Granny Liz. But I knew I could get something done in 20 years, something that meant something." She sniffled again. "And I said something to that effect, and Granny Gin—hard and grating as carborundum—started to tear up. And evidently lost her damn nerve, failing to tell me that while I might die a natural death at 35, I was never gonna live long enough to do so, on account I'd be dead as hell by misadventure at 26."

She was shaking her head. "Hardest bitch in the world, and she goes to talc the one goddamn time her hard-ass drill-sergeant BS could do some positive good."

Bram was nodding, although he didn't know why. He worked his mouth and began speaking, having no idea what would come out: "Listen," he began, "Lizzie, I know how hard this is." He paused for a second, and then thought about the two cars that had just almost smashed him, the one he'd erroneously thought had 'almost killed' him, and the one he'd erroneously assumed couldn't hurt him. He took a breath to begin to talk about that—because something in that thirty seconds seemed

like it sort of summarized the whole thing. But Lizzie cut him off.

"How?" She asked, "How can you have any idea what this is like, right now, this moment?"

Admittedly, he had no idea what it was like to work your ass off since you were 15, thinking you only had until 35, just to find out that when you were so close to hitting some big wins 10 years ahead of schedule, you were actually just about to lose the damn race on a technicality.

But he also felt like she was being a little unfair: He had also just learned he was going to die in about 400 days.

"I just mean that when your grandma called me, I wa—"

Lizzie didn't have to interrupt him; her quizzical expression stopped him cold.

All at once it dawned on Bram that Lizzie hadn't called him because they were evidently going to die together on October 10, 2017, sometime around 8am. Granny Gin hadn't told Lizzie she'd called Bram—because why bother? Granny Gin didn't give two craps about Bram; she'd called him as a courtesy, and when she saw that his expiration time and date were the same as Lizzie's, had realized she needed to come clean to her best-belovéd granddaughter.

Lizzie hadn't called him just because they shared deck chairs on the Titanic; Lizzie had called him because she'd gotten terrible news, and he was the person she wanted to talk it out with. His heart broke open, and he was full of light. Somehow, this had become the best day of his life.

Now he did take her up in his arms.

And she wept, and wept, and everyone walking past—from young cop to ancient homeless guy—studiously pretended not to see.

And then they went home, to Lizzie's nice little brownstone, which they would henceforth share until the day they died.

By David Erik Nelson



Chapter 4

Bram had been familiar with the Kübler-Ross Model—that time-worn human progression through tragedy—since Intro to Human Psychology his freshman year: Denial, Anger, Bargaining, Depression, Acceptance.

He'd understood that this was a process that moved forward on no fixed schedule, one that everyone took at their own pace. He'd always assumed that folks progressed through it just once, in an orderly fashion, arriving at Acceptance like a steadfast C student ultimately earning his diploma.

But as anyone intimately acquainted with grief knows, that's rarely the case.

Some days Lizzie was in Acceptance, and cruised forward, Lizzie being Lizzie: Running her miles, hitting the lab, mentoring her mentees, eating kale. Other days, she woke up in Denial, was Bargaining by breakfast, was at Acceptance by afternoon coffee, and then again in Denial by the time they sat down to watch Netflix that night. Some days it was just Depression, from 4am until sunset, when Bram might coax her up to the roof to watch the sun sink below the skyline. There she would wordlessly weep and smile into the world-consuming bonfire as the crows swooped and cawed, like bits of black felt caught in the furious updraft.

Bram tried different things on those Depression Days—get her up, get her running, queue up Just Dance on the Wii, stream old rom-coms and Simpsons episodes, get Chet over. He ultimately settled on something that was by no means APA-approved, but at least soothed a Depression so profound and all-consuming that Lizzie experienced it not even as an emotion, but as actual physical pain, a roaring dark ache that swallowed and flattened her to the floor like a lead x-ray blanket. He'd keep the blinds low, so that the bedroom glowed mellow as a fish tank, build her a nest of pillows and blankets from all over the apartment, bring her the big spaghetti pot filled with ice cubes and cans of cheap-ass beer, and basically leave her alone. He'd call in to work, then spend the day puttering around the house, checking on her hourly to towel the condensation off her beer bucket, fish out the empties,

and tell her anecdotes from when he was a kid in the suburbs of Detroit. He got into a lot of dumbass hijinks back then—searing off his eyebrows with hare-brained home-brew fireworks, getting stuck in windows while trying to sneak out past curfew, getting skunked while walking home drunk from a party he wasn't even supposed to go to, etc., etc., ad astra, ad nauseum. She showed no response to these anecdotes on her Dim Days, but he knew that she always loved a story that reflected his basic, cosmic ridiculousness.

For his own part, Bram was shocked at the equanimity with which he accepted his fate. In a first for him, he proved an absolute protege at Kübler-Rossing, progressing through the five stages of grief and dropping into Acceptance with the natural grace of a pro baller weaving through a junior varsity pack-line defense and sinking a layup.

Except for a single hiccup:

On their seventh day living together, Bram awoke at 6am, alone in their narrow bed, in the grips of a panic attack that was itself twisted in the barbed wire of an intense and absolute paranoia. It had suddenly dawned on him that he didn't actually know any of these people: He trusted Granny Gin because Chet and Lizzie did; he trusted Chet because Lizzie said he was her brother—even though they looked nothing alike, apart from being black. Hell, she looked almost nothing like anyone in her "family"—except for Granny Gin, who he only knew because Chet and Lizzie had brought him to her. And he only knew Lizzie because she just happened to wander into his place of employment three days after chatting him up at that faculty event—because, you know, beautiful, brilliant, upwardly mobile young women regularly give their digits to schlubby coffee-jockeys in chinos. This abruptly struck him as supremely unlikely.

Bram leapt out of bed, his heart hammering. The entire "web of trust" was self-referencing, and none of it had been in his hands at any point.

A set-up.

A bizarrely ornate, unthinkably expensive set-up, with no discernible motivation—he had no access, no influence, not even much money: he was a slightly glorified barista with a useless and pricey degree, and a savings account that barely broke three digits. But still, regardless of why anyone might bother, there was certainly a how. It could be done. It wouldn't even be that hard.

Bram found himself pacing the room, naked, trying to figure out if he actually knew anything solid and verifiable about any of the people his life

now revolved around.

He froze and slowly pivoted. Was he being watched? He didn't see any cameras or tell-tale recording lights, but God only knew how tiny those things were now. There could be a camera in the overhead light, in the TV, in Lizzie's kittenshaped clock-radio. Bram faked a yawn and stretch, pretended to scratch himself, tried to look muzzy-headed and just-awoken as he wandered the room, plucking up his clothes, finding his phone, casually scrutinizing the wall sockets and light fixtures and Lizzie's black off-brand iPhone charger, which his phone had spent the night plugged into. Was that a pinhole camera lens just above the USB socket? Was it possible that the thing had a tiny computer in it and had cloned his phone when he plugged in? He powered the phone down and, as nonchalantly as possible, walked to the kitchen and wrapped it in aluminum foil.

Bram left the apartment, closing the broad, old hardwood door firmly behind him and making sure it latched. Then he sprinted down the hall, taking the steps two at a time.

He needed to google some stuff, and he certainly couldn't use his phone—which had possibly been compromised by Lizzie's charger—or any computer he knew that They (whoever They might include now) knew he might use.

So he went to the closest public library branch, jogging the whole way, taking the crisp early-autumn air in quick, shallow breaths that he knew were making him light-headed, but which he seemed powerless to control.

Approaching the library's glass double doors, Bram remembered that you couldn't use a computer without first swiping your library card, and if he did that then They—this vast and ever-growing cabal of beautiful scientists, stern grannies, chubby comic book guys, aunties, cousins, librarians, infiltrating all levels of American society—would know where he was and what he was up to. They would know that he knew, and right now his only advantage was that only he knew that he suspected anything at all.

Bram instead loitered at the magazine racks flanking the pod of public computer terminals, paging back and forth through a three-month old copy of Modern Dirt Bike, waiting for his break. Finally a stooped, ancient lady in a pink beret stood up from the computer, pushed in her chair, and walked away without logging off.

Bram slipped into her seat, which was still unnervingly warm. Granny Gin (if that was her name!) had identified herself as "Dr. Ginevieve Chester" on the phone,

so he typed that into the web browser's search bar. The first hit was the Emeritus faculty webpage for MIT's Atomic, Biophysics, Condensed Matter, & Plasma Physics research unit, where Dr. Ginevieve Chester evidently still specialized in "Biophysics" and "Quantum Information Science"—fields that both sounded vaguely made-up to Bram. But if that was the case, at least they were made up by a team of MIT admins, academics, and marketers, and not by a tall, slim schemestress and her portly "brother."

Bram's heart—which had been galloping fit to burst since he'd bolted awake—finally slowed to a lively trot.

Although Dr. Ginevieve Chester's Emeritus faculty listing included no office, phone number, or email address—in contrast to the other two Emeriti shown there—it did include a photo. It was an old picture—the woman shown was severe and handsome in a black turtleneck and short cascade of glossy curls, her skin smooth apart from a matched set of crow's feet and frown lines—but it was quite obviously the Granny Gin he'd met, and the family resemblance to both Lizzie and Chet was clear.

Bram was finally breathing normally; at the very least, he was now confident that Granny Gin—and subsequently Chet and Lizzie—were who they claimed, or near enough.

Digging back further into Granny Gin's career proved tricky; she had apparently been a professor at Carnegie Mellon in the 1990s, like Lizzie had said, with a dual appointment in the Biological Sciences Department and Department of Statistics. Anything earlier than her tenure at Carnegie Mellon was lost in the foggy prehistory of the Internet.

But what was really interesting wasn't what came before she joined Carnegie Mellon, but what happened after she joined MIT's tenured faculty sometime in the late 1990s or early 2000s—because she left, or was asked to leave, by 2004. Bram had done his time among the Ivory Towers of Academe; no one just walked out on tenure, not after only four years, and you'd have an easier time unseating a Supreme Court justice than ousting even the most desperately incompetent tenured professor.

That Granny Gin's exit from Academe followed years of school-paper opeds, conspiracy blog posts, and occasional Conservative AM radio diatribes wasn't shocking—what was shocking was the remarkable fluidity of this brouhaha: At one point in early 2002 both right-wing militia bloggers and liberal college paper op-ed writers were calling Granny Gin a terrorist while Rush Limbaugh was defending her

as "a true patriot and vital weapon against Islamofascism." Within a year Limbaugh thought she was a traitor, aspiring liberal journalists adopted her as a cause celebre in academic freedom, and the militia guys had noticed that she was black and better paid than them. There were two threads dedicated to her on the white supremacist Stormfront message boards. One was just the sort of racist garbage and nauseating photoshops one would expect from that crowd. The other thread was a fairly eventempered political debate of the sort of "total information awareness" Granny Gin's "alleged findings" might precipitate, and if the risks outweighed the gains. Discussion of her race and its significance were explicitly banned there; members interested in such material were gently directed to the photoshop thread.

And on and on the merry-go-round spun until 2004, when Dr. Ginevieve Chester finally disappeared not just from MIT's active faculty directory, but from the public mind altogether—apart from the occasional arch suggestion that it was either very suspicious, or very convenient, that Dr. Ginevieve Chester had totally disappeared from the public mind.

Then, in 2008, without fanfare, she popped back up, both on the MIT Faculty Emeritus web page, and as an oft-quoted source for pedestrian articles in Nature, Popular Science, and the like. By then Dr. Ginevieve Chester was old news.

Bram logged out of the library computer, then walked out through the glass double doors. The day was bright, the air crisp and clear, the sky blue and untroubled. He dug out his phone, peeled off the tinfoil he'd wrapped it in, and called Granny Gin. Her number was still among his "Recent Calls Received."

She picked up on the third ring, but Bram didn't wait for her greeting:

"What were you doing between 2004 and 2008?" he demanded, feeling more than a little like a prick. Demanding wasn't really his thing, but he knew from past experience that one needed to begin a Granny Gin conversation with one's hands firmly on the steering wheel. "What happened at MIT?"

It was then that he realized that she was already talking, mechanically explaining that she was not currently available, but would call back at her earliest convenience. And then she beeped.

"Uuuuum . . ." he began, mind blank, then hung up. He immediately called back—and was caught flat footed when, on the first ring, an annoyed Granny Gin asked "What?"

"Oh! I . . . I thought I'd get voicemail?"

Even though she made no sound, he could hear her shaking her head.

"What do you need, Bram?"

By now he'd found his feet again: "I need to know what you were doing between 2004 and 2008, when you fell off the map."

"Same thing I'm doing now, more or less. But with a better budget."

"Reading folks' tea leaves?"

She snorted, and he could hear her rueful smile when she replied, "More or less."

"And what happened at MIT? In late 2001 or early 2002?"

"Nothing," she said. "What happened was at Carnegie Mellon in 1995. Do you know how many people die each day in New York City?"

Bram was pacing around the library bike racks, and had just noticed the security guard giving him the stink-eye. He eased away from the building and forced himself to stand at the curb, gazing out as though waiting for his ride.

"I'm sorry," he said into the phone. "What about New York?"

"About 144," Granny Gin continued, "There's a death in New York City every 9.1 minutes, on average, for a total around 4,032 each period."

"Period? Like a 'fiscal quarter'?"

"No. Well, actually, sort of: In our research we break the year into 13 periods of 28 days each. I'm told hotels do something similar. Months are a load of crap. 'Fiscal periods'" he could hear the sarcastic air-quotes, "are even worse. At any rate, my first big series of samples, back when my project was in its early stages—much less precise—was from Bellevue Hospital, in Manhattan. It . . . " he could feel her picking her words very carefully, "it wasn't precisely sanctioned, but this was before HIPAA, and there was no personally identifiable information attached to the samples. It was a big set from a very large phlebotomy department, and it cost me a pretty penny to get it. But it was a treasure trove. And it surfaced a very odd thing: In an average New York City period, about 4,000 people will die. The series from Bellevue showed a similar distribution—except for one particular period in 2001. In that period deaths were more than 25 percent higher than expected, closer to 6,000. And they slewed wrong."

Bram was staring out across the parking lot at the grassy easement. A squirrel out there appeared to have somehow acquired an entire Krispy Kreme donut, and was now struggling to find a way to get it up into the tree. "Pardon?"

"Around 91 percent of all deaths in the United States are natural deaths. In the case of my research, these are indicated by deaths where the telomere-calculated

death date—the time until the organism's 'biological death'—is in the same range as the correlated supertranslation number, which gives us the amount of time that the organism continues to be a coherent system."

"OK," Bram said, "I remember this from our chat at your family reunion—the first is a biology thing, the second a physics thing. If the numbers are close, you die a natural death. If the numbers aren't, it's because you get killed well before you would have otherwise died."

"Look at the big brain on Bram," he could hear the smile in her voice. "He can be taught. Broadly speaking, my Bellevue samples were 'normal': About 91 percent of them would die of natural causes. Except for this one nonconforming period. Not only were there 25 percent more deaths than expected during that period, but almost 30 percent of that period's deaths were going to be unnatural."

"I'm not following," Bram admitted. "What had you found?" The squirrel was circling the tree, hopping and stumping along like a Dickensian street beggar, unwilling to lose its grip on the prized donut for even a moment.

"Well, principally I'd found that there was a single month when a whole lot of extra people were going to die unnaturally in New York City. But more importantly, I'd found the limits of what I could sort out on the budget and teaching load Carnegie Mellon had saddled me with. I moved to MIT in 1998; state-of-the-art facilities, DARPA money. And pretty quickly we found something else interesting: Our aberrant period wasn't an aberrant period at all; it was a perfectly average period with a single extraordinarily aberrant day. On one specific day in 2001, instead of 144 New Yorkers dying, 1,227 would die. And of those, 1,017 would die of unnatural causes."

Finally, Bram's lucky squirrel flipped the donut up and over its head, and wearing it like an absolutely gaudy necklace, shot up the tree and into the safety of the red and gold festooned boughs. "9/11?" Bram asked, but it wasn't a question at all.

"And here I'd been thinking you were very bad at math, " Granny Gin replied.

"Yes. September 11, 2001. And I knew by March of 1999, 18 months beforehand."

"But didn't, like, close to 3,000 people die at the World Trade Center on 9/11?"

"Yes. But only 1,017 of them had blood samples in the Bellevue series. Anonymized blood samples; no way to identify a single one of them—as

had been the condition of the anonymous individual who supplied the anonymous individual who supplied the middleman who supplied me. By March of 1999 I knew that an abnormally large number of New Yorkers would die on a particular day in the fall of 2001, but I didn't know which New Yorkers or where or why."

"So what'd you do?"

She sighed again. "It's a long story, but what I did was make a world of trouble for myself—first by talking to my patron saint in the Department of Defense, and then by talking to anyone who would listen."

"What'd you say?"

"None of the right things. I was still in denial then, I suppose. I was a younger woman than I am now. After all, what difference would it make what I said? Those 1,027 people, it wasn't as though I thought they might die unless I did this or they did that or the federal government did some other thing. That's the whole point: I knew they would die, no matter who did what. It was all said and done: Those 1,027 human beings would no longer be functional physical systems after September 11, 2001. End of story."

"Well, then, what good is any of this?" He asked, "Why would DARPA even fund you to begin with?"

"DARPA is a 'fail-forward' organization, Bram. They are willing to put a lot of money behind things that fail fast in an interesting way—which is more or less the definition of pure research: It mostly fails, and in mostly interesting ways. This particular project just happened to succeed. Besides, it is indeed often quite useful to know who will die when, and if foul play can be reasonably eliminated. Just as a for-example, don't you suppose it allowed the Secretary of Defense to free up a lot of time and resources, knowing that Hugo Chávez would die of natural causes on March 5, 2013?"

"They knew?"

"I told them. In 2003. Using DNA from a handkerchief they paid someone to swipe in 1995, when Chávez was traipsing around his country talking revolution and military overthrow. And imagine the savings for the Secret Service. They haven't had to seriously worry about a sitting President or his family for almost two decades."

Granny Gin stopped, clearly considering something, and then went on. "I'll tell you one thing that sailed past me that day in 1999 when I called my patron saint, and came back to chill me to the bone on the morning of September 11. When I called my man in the DoD in 1999, I told him that a thousand people would die in New York

City on September 11, 2001. He made this little astonished sound—the sort of sound you make when someone tells you the price of a nice suit and it's well below what you'd resigned yourself to—and then said 'Just 2%?' But I was already on to the next thing, and he was already on to shunting me off on to some assistant sub-secretary to someone else—all the governmental theater of giving a crap. I never thought to ask what he meant by 'Just 2%'."

"I don't get it," Bram confessed, "2 percent of what?"

"Two percent of the occupants of the World Trade Center. It would be years before it came together in my head that my research—which seemed so abstract in that instance, useless information of great precision—actually gave them something that they needed very badly: Confirmation that a thing they strongly suspected was going to happen really would happen, and the reassurance that, by their standards, it wouldn't cost them very dearly. It doesn't matter now, since—" She paused then, as though she might add something, but Bram didn't notice.

"Jeez," he sighed. "Wow. OK, I have a ton—"

"Yes, you have a ton of questions, but I don't have a ton of time to talk right now. How about we sit down over a cup of tea?"

"In Boston? That's a bit of a drive for me."

"Cambridge, Bram; the Massachusetts Institute of Technology is quite famously in Cambridge—but I'll be in Southern Ohio visiting family week after next. I'm sure Betsy will want a ride down. We can have our little tête-à-tête then."

True to her word, Granny Gin was indeed in Southern Ohio nine days later, in a copper casket that glowed under the funeral-home lights like cool, mellow fire.

By David Erik Nelson



Chapter 5

Granny Gin died of a brain aneurysm three days after their call. Bram very much doubted it caught her by surprise. He had to admire the gal; in her own understated way, she was a last-laugh kind of lady, and he appreciated that.

Bram never told Lizzie about the call—not that he was actively concealing it, he told himself, but just because it hadn't come up, and once Granny Gin was dead it seemed awkward to bring it up.

Standing there beside Dr. Ginevieve Chester's coffin, hands folded at his belt buckle and shoulders squeezed by his slightly-too-narrow suit jacket, Bram discovered that he'd reached Acceptance, passing the Kübler-Ross finish line without breaking stride.

He was going to die on October 10, 2017. Not before, not after, and there was no doing anything about it.

Sure, this raised questions—What would happen if he quit his job, quit paying bills, buying groceries? Would the apartment's water just never manage to get shut off? Would a series of unlikely coincidences bring him three squares per day? What would happen if he pressed a revolver to his temple and just started pulling the trigger? Six misfires? What were the odds of that? And what if he reloaded and tried again. Six more misses? And six after that? Whole boxes, whole cases, of dud .38s?

But he didn't spend long wondering about these sorts of things. Granny Gin had been right about him: Bram was no scientist; he was hardly even a social scientist. He didn't really need to run out all the odds, or perform a series of shoddy experiments. He needed to live his life, and help Lizzie live hers.

He considered quitting his day job and really locking down on something—poetry or drums or learning to catch major air riding pools and half-pipes—but then he remembered that Malcolm Gladwell book, about how it took 10,000 hours to become a virtuoso at anything, and he only had about 11,000, one third of which he'd spend sleeping.

All in, Bram really only had about 8,000 waking hours left, and that was if he totally single-mindedly devoted himself to poetry or percussion or pools or whatever.

And he didn't want to. With the clarity of scheduled and inescapable death, he discovered that he didn't really want to be a virtuoso, or even all that virtuous. He wanted to go to work and chat with the folks who came in, cook good meals, watch decent movies, and hang with Lizzie and Chet. So he did some math, double checked it, had Lizzie go over it and, miracle of miracles, he was right: Given their expenses and limits on his two credit cards, he could cut his hours back to a bit under half-time and just slow-roll it to the bitter end.

Where he hit the snag was explaining all of this to his mom.

Bram had assumed that breaking the news of his swift-approaching demise to his mom would bog down in the details—mostly on account that he wasn't precisely sure he properly understood the "telomeric signal ratio" part, let alone whatever event-horizon quantum business it was that resulted in the "coherent physical system math number," but it never even got that far. He'd prepared a very brief "executive summary" speech—which he then practiced in front of the mirror until he could say the whole thing without rushing, pausing, or choking up.

"Mom: I have some really, really bad news. I saw this doctor—" which was technically true; Granny Gin had indeed been a "doctor" "—and she says that I've basically got about 16 months to live. They're still doing tests—" which was a straight up lie— "so I don't necessarily have answers to your questions, but there's no treatment and this diagnosis is so close to 100% accurate it isn't worth bothering to hope for anything."

Then he called, moving fast so as to keep his resolve.

"Sweetie!" Bram's mother was pathologically chipper; most of what she said sounded like it warranted at least one exclamation point!

"Hi Mom," he offered, feeling like the words were a rental tux crusted in vomit and grass stains that he was reluctantly offering back to the bridal shop.

"You don't sound good," she said, standard motherly concern in her voice. "Is everything OK?"

"I'm . . . No. No it isn't. Listen..." And then he gave his speech, perfectly. When he finished, there was silence on her end of the line. He'd been prepared for tears or hysteria, or to keep repeating "I'm sorry, Mom; I just don't know" as she peppered him with detail questions.

But he hadn't prepared for silence.

"Any . . . um . . . Mom?"

"Yes, sweetie?" She said, her voice a little distant—as though her thoughts were elsewhere—but sweet and light as a chickadee hopping among the brambles.

"Did you . . . Do you . . . Do you have any questions?"

"No. Well, yes: Are you seeing anyone?"

"Like, a specialist? No, Mom, see, this-"

"No, silly!" she chirped, "Like a girlfriend!"

"Oh, I... yeah. Lizzie. You remember Lizzie?"

"The black girl?"

"The, yeah, the scientist who is also a runner. And really tall."

"Yes," he could hear the bright smile in her voice, "She seemed like a nice girl. Lovely skin."

"I... Yes. She, um, moisturizes. She has a regimen." Lizzie had more little bottles of cremes, oils, and unguents than an olde-tyme snake-oil salesman. Even Chet had his nightly "regimen," which included Cetaphil cleanser, Crème De La Mer moisturizing cream, La Mer "eye concentrate" (whatever the hell that was), and thrice-weekly exfoliation.

"You know what, Sweetie, I have to go. I'm having dinner with a friend."

"Oh. OK. I love you, Mom."

"Love you, too!" He could hear her pulling the phone away from her face, and shouted.

"Wait! Mom, wait!"

"Yes?" Her voice was close again, but her attention still distant.

"Mom, you understand that I'm going to die, right? That I'm dying?"

"No," she said, no inflection in her voice. "No, I \dots Abraham, please \dots Please don't joke like this."

"Mom, I'm not—"

But she'd already hung up; he was just talking to a dark hunk of glass and metal pressed to his face.

He tried calling back, and went straight into voicemail. She'd powered down her phone.

Bram wasn't really clear where to go from there. He tried to get Lizzie's thoughts that night, but she kept changing the subject until finally she set down her fork, locked eyes with him and said:

"Listen, Bram: I can't help you. I have no idea. I haven't told my folks, and I'm not going to. They already think I'm going to be dead at 35, they've mourned that, and they've worked through it. You know how hard that is? It isn't like there are couples counselors with experience in coaxing folks through the pre-grief that comes with knowing when your kid is going to die. They got through it their own way, but it took more than 15 months, so it ain't like I'm pulling the rug on them now. They can just grieve the plain old way in October."

Bram nodded. He didn't agree, but he didn't have anything to say.

"You want my advice?" she asked.

"Well, yeah; that's why I asked to begin with."

"Let her do her. Your mom pretended not to hear because she didn't want to hear. Don't force it on her. Did she ask to meet me?"

It took Bram a second to follow the sudden conversational juke.

"Hunh? No, but, I mean, you guys met—"

"You told us each other's names on the porch before taking her to that tea at Kelton House Gardens."

"You had to get to that work thing—"

"We didn't even shake hands, Bram."

Bram suddenly realized he hadn't even noticed that his mom hadn't offered Lizzie her hand—or, more his mom's style, hadn't taken Lizzie by the shoulders and given her a bracing little hug, frail, birdlike hands gripping with unexpected strength.

Lizzie gave him The Look. What jumped to his mouth—but thankfully did not clear his lips—was the insistence that his mom couldn't be racist because Kelton House is an Underground Railroad museum!

"Well," he said awkwardly, "We could drive up to Michigan on Sunday afternoon, take her out for lunch and—"

Lizzie picked her fork back up. "Let her do her, Bram. We have 402 days left; I don't really want to spend any more of them being awkward than is strictly necessary. I imagine Thanksgiving in Michigan will be enough awkwardness for a lifetime."

"Well, we'll only have to do it once," he said, poking at his chicken. It came out so sulky and ridiculous that he began to snicker. And Lizzie caught the giggles from him, and they just went on with their lives—because it was true, 402 days and counting. No sense in picking fights. Just like Hugo Chávez: Why assassinate a man who'll be dead on his own soon enough?

They ate in silence for a while after that, then cleared the table, and turned in for the night. In the darkness of their small bed they held each other like orphaned monkeys holed up from a raging storm. They kissed, and then made love. They made love often, because while neither of them were dying, both of them would soon be dead—and in contrast to everyone else on earth, they knew it.

#

The worst times were not the ones where Lizzie was depressed—then, at least, Bram felt like he knew what to do. No, the worst times were the strings of days during which she was slowly sinking into depression, like an airplane losing altitude, the controls non-responsive, the instruments lying to her, saying everything was fine.

Once, two days into such a slow crash, Bram spent his afternoon off googling tardigrades, in the hopes of being able to ask a non-stupid question or two and get her talking. He was desperate to get her talking about her work, getting her glowing like she did. He figured he'd hit pay dirt when he learned that although tardigrades could survive for a century or more in insanely harsh conditions provided they were snuggled up tight in their self-imposed suspended animation—which always made him think of Han Solo at the end of Empire Strikes Back—they only lived for a few months when they were in fully hydrated normal walking-around mode.

That night he launched his conversational gambit over home-cooked pasta alla puttanesca and Greek salad—which was sort of a weird pan-European combo, once he thought about it, but went well together nonetheless.

"Hey, so, I was reading online about tardigrades, and how they last centuries encased in their cryptobiotic carbonite, but less than a year when they're, like, thawed out and doing their thang. Granny Gin's patented telomere tasseography could totally give you some insights about that, right?"

Lizzie was slow to respond—so slow that Bram started to wonder if she'd heard him, and then wonder how she could not have heard him; her kitchen table was hardly four feet across. He was about to try again when she frowned, shaking her head slowly.

"No." She didn't look up from her food. "It's complicated. Some aspects of tardigrade resiliency, we're getting a handle on those. Kunieda and his team, they altered human cells using tardigrade DNA in order to suppress X-ray induced damage. That's cool, but that's not aging." Bram noticed she hadn't really been

eating, just pushing her meager portion around, like an extra in a restaurant scene. "The tardigrade telomere sequence is unknown—it doesn't fit into any of the known ancestral telomeric motifs that would make sense—and they have a telomerase-independent chromosome maintenance system. Their longevity . . . it's not like ours. I . . . "

Lizzie set down her fork. Her shoulders were shaking, and Bram momentarily worried she was having a seizure before it dawned on him that she was weeping. He stood up so quickly that his chair tipped back, clattering to her hardwood floor, and then he was around the table, kneeling at her side, holding her. The tears were quiet, but came so furiously that they trickled down his neck and into his shirt. She couldn't speak, just shake and weep. And then she dragged in a single breath, and it broke through: a wail that was absolutely heartbreaking and heartbroken. It was the cry of every mother on every shore as the slaver's ship dipped below the horizon. It was every child that ever crouched over a car-struck dog. It was every parent who ever stood opposite a doctor who began her sentence with "I'm so sorry..."

But Lizzie was not grieving the daughters she would never have. Nor was she grieving the grandmother she'd lost. She was grieving for herself. Before Granny Gin's fateful—if feckless—call, she'd thought she had another ten years to crack the code, to figure out how it was that some things, like those tardigrades, dodged death over and over again. She'd thought—in defiance of not just her damned brilliant, domineering matriarch, but of nature itself—that she could beat this thing, that she could save herself. And despite all odds against it, Lizzie'd been on track to discover something amazing; she'd worked hard since she was 15, knowing she only had twenty years to get it done.

And then Granny Gin screwed her out of half of that in an attempt to be kind. Lizzie was the first person in human history to have to figure out how the hell to pre-grieve your own death not just once, but twice. There was no book on this in the Barnes & Noble Self Help section, no therapist with an evidence-based treatment option, no support group or Facebook group. Neither Dr. Oz nor Oprah would come to her rescue. Even Granny Gin was dead and gone, goddamn her.

Bram was it. And so he held her and hoped he'd figure out what to do next.

That night Lizzie went running, as she did most nights. Most folks indulged in a prolonged trot around the neighborhood and called that "running." Lizzie was no

trotter. Every night that the weather permitted she went to OSU's outdoor track. And "weather permitting" meant "not a blinding monsoon." Misty? She was there. Cold?

She was there. As long as the track was clear, she was there.

She'd absolutely sprint all out for some period he wasn't clear on—it was either a time thing or a number of steps thing—then stop on a dime, drop, and do a push-up that finished with pulling her legs up under her chest and leaping straight into the air, then dropping down and doing another just like it, until her arms failed. As soon as she could rise, she did another sprint.

Repeat.

Until some switch popped in her head, and she was done for the day.

She did not know that Bram had followed her that night, and did not know that he followed her often after that. Although he understood why he followed the first night—he would never tell anyone, could not quite consciously articulate it even to himself, but he'd been worried she'd been going to kill herself—but he didn't understand why he followed after that. There was something compelling about the effort itself, about the purity of its fury. She ran and did those pushups like she could somehow punish the earth itself for continuing to spin.

One afternoon he asked Chet about it while they were playing Rainbow Six: Siege. Chet shook his head, eyes never leaving the screen. "She's always been a runner. She competed in high school," he stopped talking for a second, focused on sniping a series of troops as they tried to flee from concealment to legit cover, "she was training to do the Boston Marathon." Another pause. Another man down. "But that's clearly not to be."

"Why?" Bram asked, eyes glued to the screen.

"You gotta qualify for those things, not just train—she's just straight up out of time."

"Then why's she still training?"

A sigh. "I can't tell you why Lizzie does what Lizzie does, Bram" he said. "I don't think Lizzie can, either. God only knows why Lizzie does what she does," then he added with a smirk, "And God's dead."

"Happens to the best of us, I guess," Bram agreed, tossing a grenade into the room they were about to breach, and inadvertently killing the hostage they were to save.

Game over.

By David Erik Nelson



Chapter 6

Why'd you want to know your expiration date?" Lizzie asked him one Saturday afternoon, apropos of nothing—but, of course, nothing was truly apropos of nothing any more. Every word, every gesture, every meal in their little brownstone was conceived and executed to the rhythm of the relentless tock of that deathwatch beetle Granny Gin had given them as a sort of engagement present.

They were sitting on their little Ikea sofa, Lizzie wrapped in a malformed throw some auntie had crocheted in unfortunate colors, Bram using his phone to listlessly scroll through Netflix on their TV. It had been a Bad Week for Lizzie—she'd dipped back into Depression, then all the way to Anger, and hadn't gotten back up past Depression since.

Bram shrugged—and then, goaded by that relentless conqueror worm's tick-tock himself—answered anyway:

"My dad died when I was eight. He . . ." Bram paused, searching for the least number of words to cover the most ground. "He had issues. I don't want to go into it, but he wasn't the best dad in the world. Not in a malicious way, just . . . he was messed up, and a lot of his energy had to go into just maintaining. It was hard for him."

Lizzie nodded. She didn't reach out and touch him, didn't look pained to hear this—in short, she didn't pity him, simply took in and acknowledged the information. Bram appreciated this more than he could possibly articulate.

"Anyway, Dad loved giving gifts. And it was great to get a gift from him—not only because it was one of the rare times that everyone was happy, but also because he was really good at giving gifts, he was really generous—given what we could afford—and really, really thoughtful. They were always just right gifts. He drove a tow truck for a living, and one night instead of him clomping in at 10pm it was a cop ringing the bell. Dad had been pulling a drunk out of a ditch, and a second drunk had roared down the on-ramp and crashed into his truck. Missed Dad by less than a foot.

The cop on our doorstep had been on the scene, arresting Drunk #1 when Drunk #2 showed up. He was just pulling that dumbass unscathed from his Toyota when he realized Dad was on the ground, dead right there. Turned out it was a stroke: His blood pressure shot up in response to the near miss, and it popped a blood vessel in his neck. Doctor said that the vessel had probably been defective from birth. Dad had just turned 29. Six months later, when Mom finally got the nerve to clean out Dad's tool room, she found it."

Bram sniffled, smiling without feeling it.

"This sweet brand-new Natas Kaupas Crazy Cat complete." Lizzie squinted with incomprehension. "A skateboard," Bram added, "The whole deal: New deck, new World Industries 'Bean Cup' wheels, Indie trucks, Swiss bearings, and this dope fluorescent green grip tape and matching old-skool Powell-Peralta urethane rib bones. It was exactly the deck I'd wanted, even though I had never told him outright that it was—mostly because all that stuff was pretty expensive, especially with what dad could bring home. He'd been saving it for my birthday—'cause part of giving gifts is timing, right?—but he'd been killed three weeks before."

Bram paused, laughed a little, and felt his smile bend further, if sadder. "I still have that deck, by the way. It's out of style—those old decks are really wide, small nose, broad tail, shallow concave; they're harder to ride. But, you know, sentimental value trumps all. Anyway, point is: If he'd known he was gonna expire, he would have done it differently, given me the deck earlier, even if it would have been weird to give me an expensive thing like that out of the blue."

Bram thought for a moment, then nodded his head and finished: "I always want to do exactly what I would do if I knew I was gonna die that night, even if it isn't the ideal time to do it. Better to do what you can when you can then to let the chance slip by. What about you? Why'd you want to know?"

"I didn't," she said, staring into the middle distance. "Granny Gin just dropped it on me. She couldn't fathom why I wouldn't want to know."

Bram let out a low whistle. "That's . . . that's harsh. What about Chet, when did he find out?"

She focused on Bram again. "Never did. Baby brother, he got to choose."

They were quiet for a long time. "I didn't know you'd grown up poor," Lizzie finally said. She was super-duper middle class, and still carrying a lot of student debt, which they were no longer bothering to maintain. Bram had finished a degree in political theory debt-free.

"Oh," he shook his head, laughing. "Dad had an insane amount of life insurance."

She stitched her brows again. "cause he loved giving gifts so much?"

Bram snorted. "Nope. His boss messed up the paperwork. Dad worked for this real mom-and-pop tow yard, and the dude who ran the place insisted on handling all the office admin himself, which he was always screwing up. Anyway, he got Dad this insane life insurance policy as a tack-on with the health insurance. It had a triple indemnity clause that paid off in a workplace-accident scenario. Mom was really good at managing money—she had to be to keep our house running with Dad earning peanuts—but it turned out she was also really good at investing, once she had money to invest. It's grim as hell to say it, but I guess that was really his last gift: We got to be middle class in America at the dawn of the totally-boned 21st Century."

She nodded twice, her mood reflective, then asked, "Do you have life insurance?"

Bram shook his head. "No. Who would I leave it to?"

"Your mom, I guess. To cover the costs of your funeral. They call it 'burial insurance.' Funerals start at ten grand and go up from there. A policy on a healthy young guy like you probably won't be more than \$10 per month."

Bram was nodding, "I guess that's a good idea. You have it?" "It's tacked on with my health insurance at the university."

"I'll take care of it after dinner." He said. It turned out to only be \$5 per month, and that was for the Premium Gold Plan—enough to easily cover an eco-friendly, completely organic Six Point Willow Coffin and a funeral with all the fixins.

The policy would have lapsed before Bram's beneficiary had any use of it, but Bram had overdraft protection on both of his credit cards. The auto-billing just kept piling up, regardless of how far in the red he sank. They sent bills, and Bram just added them to the pile on the mantle above Lizzie's non-functioning fireplace. There used to be a regular at the cafe, a contractor whose main hustle was changing locks and clearing out people's abandoned stuff after foreclosure evictions. He told Bram once that almost every place he went into there was a pile of mortgage and collection notices, unopened. Bram had always assumed that was out of dread—too scared to open them and get the bad news, too afraid of the repercussions associated with just throwing out an OFFICIAL DOCUMENT—FINAL NOTICE!

But now Bram thought differently. Maybe, like him, the folks in those

doomed mortgages had reached Acceptance and, with Disaster Time tick-tocking ever closer, just made a game of seeing how high the pile could get before sliding off onto the tiles.

Bram and Lizzie's own bill pile reached four inches before they abandoned their brownstone on Tuesday, October 10. It never tumbled, not until the entire brownstone did—but that wouldn't be for several weeks, when the building was struck by a shell fired from an Abrams tank stationed two blocks away in a last-ditch effort to contain Columbus, Ohio.

By then, Lizzie and Bram would have been dead for nearly a month.

By David Erik Nelson



Chapter 7

Once, during their initial courtship, Bram had suggested that Lizzie and Chet meet him at a bar he liked near his work, the 8 Ball. The place was more than a little rough around the edges, but they had dollar longnecks of Pabst Blue Ribbon and a couple pool tables. Lizzie had mentioned once that when she and Chet were kids they'd loved shooting pool on the old table in their "pap's" basement, but hadn't played much since.

Bram arrived at the bar a half hour early to stake out a table. As he stood leaning against the wall, waiting for an old couple in matching camo-&-blaze-orange baseball caps to wrap up their game, something struck him:

Everyone there was white.

With mounting dread he realized that everyone there had always been white, every time he'd ever come: A bored white bartender with an organic chemistry book propped up next to the register, the single white waitress with her crooked brown ponytail, the old white drunks slouched on their bar stools staring at the liquor bottles, the white kids necking in the sagging booths, the white bikers crowded around the jukebox, the white college boys playing darts.

And there stood Chet and Lizzie, the fire door easing shut behind them, clamping off the dazzle of late afternoon sunshine.

There was no record scratch, no sudden silence, no "sheriff's welcome" a la Blazing Saddles. Nothing overt at all, not even a glance. But there was no denying that the room chilled ever so slightly. Bram did his best to crank the wattage up on his smile to compensate, but it was like running a space-heater in a warehouse. His heart groaned even as he grinned like an idiot and waved them over.

"Nice place," Chet said. There was no trace of irony in his voice, but Bram couldn't miss Lizzie's smirk.

"Nice ambiance," she added. "Dim, though."

"I imagine the patrons worry about sunburn," Chet opined, choosing a pool

cue from the rack on the wall.

"SPF-50 is the white man's burden," Bram hazarded. Lizzie laughed in earnest, then kissed Bram on the cheek. Bram felt all the tension drain out of him with enormous relief. "Go on and fetch us some beers, whitey."

"Yes'm!" he chirped, hustling off to avail himself of the celebrated dollar longnecks.

When Bram returned, Chet and Lizzie were arguing about "Boltzmann brains." He quickly gathered these referred not to a specific guy's brains—either in his head or in some jars—nor even a biology thing; it was a physics thing.

"OK," Bram said, distributing the beers. "Bring me up to speed—who stole Boltzmann's brains?"

"The Second Law of Thermodynamics," Chet said, futzing with the billiard balls he'd racked up.

"Repeat offender?" Bram asked.

Chet snorted a chuckle, but did not look away from the balls he was trying to perfectly align. "The Second Law states that, in a closed system, entropy must increase."

"Right," Bram nodded, then paused recalling his run-in with Granny Gin at the reunion. "Wait, no: I hear what you're saying, but I totally don't know if I get what it means."

"In general terms," Lizzie said, sorting through the cues for the least warped, "Entropy is a measure of how disorderly a system is: Higher entropy means more chaos."

"OK," Bram said.

"The Second Law of Thermodynamics states that, in a closed system, entropy must increase."

Bram took a second to digest this, sipping his beer. "OK; why? Why does entropy increase?"

Lizzie smiled and nodded, the proud teacher of an apt pupil; Bram should have felt patronized, but he secretly swelled with pride, and then sorta felt like a putz.

"This is just exactly what Chet and I were bickering about" she mugged a stink-eye at her brother. "Again. That entropy increases, that's not some theoretical thing. That comes from actual empirical observations. Boltzmann, he gave the first rational explanation of why that might be."

She paused, and Bram obligingly offered a "tell me more!" gesture.

Chet rolled his eyes.

"Statistics," Lizzie said. "Look at the pool table."

Bram did so, slugging from his beer. There wasn't much to see, just the triangle of racked balls.

"This is a closed system—just like our universe. Right now, it's like the beginning of the universe. All the matter is compact, small and smooth," she pointed to the racked balls. "They are packed in the most orderly possible way, right? As tight as can be. There's no real room for them to be anything other than orderly." She balanced the battered cue ball on top of the center of the triangle of racked balls, just behind the 8 ball.

"Now, let's say the universe starts expanding. New matter isn't created—those 16 balls are all there is—but the existing matter has more room to rattle around."

She smartly pulled up the worn triangular rack. The cue ball slouched into the gathered triangle of balls, which subsequently rolled away without rhyme or reason. "We could do that a dozen times, and each time it would look a little different, 'cause that's chaos, brother. You can imagine a scenario where we pull the rack and all the balls just roll into the nearest pocket, tidy as could be—but you can also imagine how many centuries of racking the balls, balancing the cueball on top, and pulling the rack it would take for us to get that. Order is just less common than chaos. Meanwhile, no matter how many times we put the rack back on the table, the balls are never gonna just gather themselves back into a tidy little two-story pyramid ever again."

She gave Chet a moment to ruminate, grabbing his arm to stop him from scooping up and re-racking the balls. "But," she continued, "Once Boltzmann laid it out, we had a sticky situation: Boltzmann's statistical explanation makes a lot of sense—but it isn't the universe we see."

"Because the universe we see is orderly," Bram supplied.

"Exactly!" Lizzie's eyes sparkled, and Bram again felt that rush of swelling pride, quickly followed by embarrassment for being such a fool for love.

"Statistically speaking," she continued, "creation should spend almost all its time being a random mess just sitting there." Lizzie gestured at the balls randomly distributed throughout their bounded little pool-table universe. "An orderly and active universe—like the one we see around us—isn't the norm; it's the exception. And an exceptionally rare exception."

Chet disentangled himself from Lizzie's grasp. "I'm just gonna tidy up

and get this show on the road, professor," he said. "If those white boys leaning against the bar wanted to watch black nerds jibber-jabber about cosmology, they'd download Cosmos."

Bram warily looked at the boys by the bar. They didn't particularly seem like trouble, but they did seem particularly keen on shooting pool. The place only had three tables. One of the other two was currently occupied by the kind of unsmiling guys that came in with their own collapsible pool cues in little hard-sided cases. The other was crowded with a bunch of guys in ragged leather vests proclaiming them to be members of the "Outlaws M.C."

"So then," Bram hazarded, eyes still glued to the innocuous white boys waiting for their table, "we've got a paradox. Law of averages tells us there shouldn't be an orderly universe with all this going on, and yet there is. I don't imagine that the punchline is 'God is Real!"

Chet lifted the rack and stood back from the table. "Just 'cause things get more disorderly over time doesn't mean random order is impossible—"

"I think 'random order' is an oxymoron," Bram quipped.

Identical looks of vexation surfaced on Lizzie's and Chet's faces, making them the spitting images of their Grannie Gin. Bram's heart curled up and died a little.

"No it isn't," Lizzie said matter-of-factly. "You shuffle a deck, you start laying out cards, they're in 'random order." She used air quotes around 'random order.'

"Point being," Chet said, "Boltzmann's increasing-disorder situation is averaged over the entire universe. Little 'random fluctuations' can lead to brief pockets of order in a given locale."

"So we just live in a very unlikely orderly corner of a basically increasingly chaotic universe?" Bram said. "That seems . . . convenient."

Lizzie smiled her appreciation once more—which was almost starting to annoy Bram; he wasn't a dog, for chrissakes. True, this Boltzmann thing was a bit above his pay grade, but it was hardly rocket surgery.

"Boltzmann ran into the same problem. Even given a very large universe and a very long timeline, we're talking about sustained systems that are orders upon orders of magnitude more organized than random fluctuations could supply. His explanation—which held for a long time—was a species of what we now call the 'anthropocentric principle': We see an orderly universe because only orderly universes can support evolved life capable of looking around and noticing how orderly the universe is."

Lizzie set her beer on the edge of the table and leaned in to break, sinking the 1, 7, and 13. She cursed under her breath. "I'll take the 11 through 15," she said before standing to survey the table and continue her dissertation.

"Anyway, that's where it stood for about a century, before Albrecht and Sorbo said, 'Hold up a second: If we accept that the universe seems orderly simply because orderly universes are the only ones that can support self-aware consciousnesses, why do we need a whole world of consciousnesses? Wouldn't one conscience be enough?' Do the math: it obviously takes a much smaller random fluctuation of much shorter duration to just get a single consciousness to pop into existence for a single self-aware second than it does to get what we've got." She leaned over decisively, tried to sink the 11 ball in the side pocket, and was off by a hair.

Bram circled the table, looking for his shot. "And what's that? What have we got?"

"We've got billions upon billions of self-aware consciousnesses encased in billions upon billions of bodies that are each composed of 37 trillion cells that only evolved as a consequence of being on a planet in a precisely tuned solar system that has kept spinning, largely undisturbed, for 4.6 billion years. That free-floating 'Boltzmann brain' popping into existence just long enough to say 'Yow! I am! There's an orderly universe!' seems insanely unlikely, but it is clearly ahelluvalot more likely than what we've actually got. But nonetheless we are here. If you see it Albrecht and Sorbo's way—which most folks would—then it seems like, statistically speaking, the most likely explanation is that all of this, and all of us, are just the weird fever-dream of a free-floating, disembodied mind."

Bram shot, knocking the 4 ball into the corner pocket with the cue ball hard on its heels. Chet fetched both out, setting the 4 back in front of the corner pocket and taking the cue ball with him.

"So," Bram sighed. "the upshot is that we're all a delusion inside a ghostly brain floating in space?"

Chet—who had been circling the table, scoping his shot—came to an abrupt stop and threw up his hands. "Exactly what I was saying!"

Lizzie rolled her eyes theatrically while Chet took his shot and missed. Lizzie took another shot at the 11, again missing the side pocket by a hair. "I'm sorta with Chet here: If you're saying that this," he gestured at the bar, "Is all insanely less likely than the floating brain, then it really sounds like the floating brain is it—even though that seems super unlikely. I guess I choose floating brain in space."

Bram finally took his shot, managing to sink the 2, although he was shooting for the 5. His next shot hit nothing.

"Knuckleheads!" Lizzie faux shouted in frustration. "This isn't a Chinese buffet; you don't get to pick and choose. And it isn't the Boltzmann brain hypothesis; it's the Boltzmann brain paradox: The whole point is to point out the major shortcomings to Boltzmann's statistical model. No one is suggesting that there are actual disembodied brains floating in space."

She shot, quick and hard, sinking the 12 and 15 in a single blow, then shifted around the table and dispatched the 11 and 14 in two neat clacks.

"Rack 'em again?" she asked, draining the beer. She didn't notice Chet checking again on the white boys before demuring. They left soon after.

#

As Lizzie and Bram's days dwindled, it became increasingly difficult to get ahold of Chet: He stopped swinging by their brownstone, never returned calls, and was slow and terse to reply to texts. He also seemed to have totally evaporated on Facebook, although Lizzie couldn't tell if that was because he'd tweaked his privacy settings such that whatever he was posting was invisible to her, or if he'd just stopped logging in altogether.

It wouldn't have been shocking if Chet had ditched social media; a lot of people had. Columbus as a whole had become weirdly edgy in a guarded, wordless way, like a city of rats that had been put through too many ill-conceived Skinner box experiments.

A big part of the problem was there were so many weird notions floating around. Everyone's social media feeds were flooded with claims at once absurd and absurdly persuasive. These powerful swells and surges were driven by oddly precise currents of fake news that were somehow not quelled, but bolstered, by the tireless, exasperated debunking of The Plain Dealer, Columbus Dispatch, Toledo Blade, and a single transplanted Buckeye working a fact-check beat at The New York Times.

The week before she'd seen a news report—on TV, with actual "eyewitness footage"—showing Ohio Stadium in flames. That ended up being totally fabricated. She'd texted one of her post-docs in a panic, knowing Zhang Yu had a view of the stadium from her apartment. The girl had immediately replied asking if Lizzie was "making jests," and then, at Lizzie's ALL CAPS!!! insistence sent a picture of the

stadium, fit as a fiddle.

Two days later, Lizzie had been walking down Woodruff Ave. and seen, with her own eyes, a column of 15 military Humvees: unmarked, no plates, tinted windows, painted matte grey with some sort of spray-on fiberglass coating, their long whip antennas tethered down in jaunty arcs. No explanation—not even newsworthy, judging from her Facebook feed—but certainly real. Likelihood, it seemed, was no longer a yardstick by which to judge if something might be happening.

Finally, four days before she and Bram were scheduled to die, Lizzie broke down and went to the crooked, peeling old house Chet shared with four guys he'd played Warhammer with since grade school.

Lizzie had heard that Chet's neighborhood had been cordoned off by some sort of anonymous SWAT team. She didn't believe this, despite hearing it five times in one morning from people who swore it was true. Had they seen it with their own eyes? Of course not; who would walk into such a mess? But they had seen it all over Facebook and Instagram and . . .

But even if she didn't believe in "ghost SWATs," she did believe that they were a believable excuse to break her stalemate with Chet. She took a personal day instead of going in for her final Friday, ran the Columbus gauntlet of off-schedule busses and ill-conceived transfers, and found her way to Chet's neighborhood by 11am.

There was no conspicuous armed presence there, "ghost SWAT" or otherwise. If anything, the streets were conspicuously empty. Lizzie stood on the curb for a moment after the bus let her off, slowly swiveling her head: No cars, no kids, no barking dogs.

Just as this began to creep her out an elderly man on a rhythmically squeaking 10-speed rounded the corner, rang his bell, cat-called her with remarkably lewd specificity (given his rate of travel) and disappeared up the block. A Chevy Cruze passed. A dog started yipping in one of the houses. Someone scolded it. Business as usual.

Chet did not answer when she knocked, so she just leaned on the bell, slowly counting as she thumbed through her Facebook feed. She got to 456 before the door popped open.

Chet was both annoyed and distracted, still holding an Xbox controller, a wireless headset bracketing his neck. She could hear distant gunfire, but it was clearly video-game gun fire in his headphones, not anything paramilitary happening out in the streets behind his place.

"Nope," he confirmed "No Black-Ops SWAT team. No nothing. My neighborhood is both as crappy and quiet as ever. Yours?"

Lizzie said nothing.

"No extermination squads there either? Swell. Look: I'm sorta in the middle of some stuff." He lifted the controller to tap the headset. "I really gotta—"

"Chet," she said, "Bram and I are leaving town."

He muttered "Gimme a sec, guys" into the little mic curving out from the left ear cup, then pulled the headset off his neck and set both it and the controller on top of a chair next to the door, piled high with ignored mail. He stepped out onto the porch, leaving the door ajar. "What? Over a SWAT team that wasn't there?"

"No. We decided a long time ago that we were going to split town before . . . at the . . . at the end. But now, also, yes: Because of the SWAT teams that aren't there, and the ones that are, and all the craziness. Something is building up around here."

She gestured around her, but meant more than just Chet's neighborhood.

Chet was nodding. "OK," Chet said, clearly hemming and hawing. "I see that. And I agree."

"So come with us out of town. You don't gotta go where we're going, but at least go somewhere less . . . fraught."

There was a long pause.

"Yee
eeah, you know, sis I've \dots Got things to do this week. Around town.
 Just gonna chill."

"Here."

"Yeah."

"In a city that's devolving into a rolling paranoid dumpster fire?"

"Yeah."

"cause Granny Gin told you your numbers?"

Chet said nothing. His eyes drifted away, down to the splintery porch boards to the left of Lizzie's feet.

"When?" she asked.

Chet continued to say nothing.

Then broke. "A long time from now."

Lizzie rolled her eyes. "No, jackass, not when are you going to die: When did she tell you your expiration date?" It wasn't until then that Lizzie discovered she was furious, and she didn't even know why or at whom. She was furious with the universe. She was furious, full stop, the verb more of an equal sign than a simple

state of being. She was a Fury, a chthonic deity, every breath a vengeance.

Another long silence from Chet, then: "When I asked. When we were kids. After you told me she'd told you."

"After you promised you'd never ask."

Chet was silent again, nodding. Then he looked up, finally meeting her eyes. He was angry, too: "After you made me promise to never ask. You know, you and Granny Gin are just exactly alike: You run everyone's life around—even your own—as though knowing is the same as knowing best."

"And now you're gonna ditch me in the final hour, baby bro?" She suddenly saw that he was desperately enraged.

"I know you're going through a lot right now, sister-my-sister, so I'm not gonna beat around the bush: Have you spared a single goddamn second to wonder how it's been for me to know my amazing sister—who was gonna die young, no matter what—isn't even gonna survive the whole season of iZombie?"

She clearly had not considered this.

"Or, hell, did you ever think about Bram? It's a little tough to argue that falling in with Clan Bradford has been champagne and roses for that dude."

She was speechless.

"Yeah, so, I'm not coming out to play. I got this important hostage recovery scenario and they need their star sledge. Also, you've got messed up priorities."

Lizzie clenched her jaw, shaking her head. She could not continue looking at him. He stepped back inside and closed the door. A few minutes later she started home.

Back at her brownstone she sat in their little balcony and looked out at nothing in particular until Bram came home with a roasting chicken, a bottle of very cheap wine, and a determination to master both Mark Bittman's roast chicken recipe and the proper carving of the roasted bird.

And damned if that chicken wasn't delicious, and didn't look like something out of a foodie's Instagram stream.

By David Erik Nelson



Chapter 8

On the morning of October 9—the day before their mutual Expiration Date—Lizzie and Bram lounged in bed late, then had a leisurely lovey-dovey brunch of crepes with hand-whipped cream and overpriced imported strawberries, accompanied by absurdly expensive coffee. They'd been planning to split town around noon for Hocking Hills State Park, hike the trails, finally see Ash Cave, sleep in a "luxury log cabin," and die somewhere pretty out in the woods.

But when they made it down to the street, they found not mid-day residential tranquility, but polite pandemonium. Their street was crammed with cars progressing at a crawl, and lined on each side with residents busily overburdening their Hyundais and Priuses and third-hand Volvos.

Bram sniffed the air. Smoke. But not the Norman Rockwell autumnal smells of wood-smoke and burning leaves. These fires smelled of plastic and metal and the weird chemicals meant to retard the spread of flames through people's homes.

There was a conspicuous lack of sirens. And the conspicuous lack of panic that comes with big crowds who've buttoned up their terror for fear of triggering a riot. It looked like moving day in a college town, except everyone was trying to keep an extra-low profile, giving the whole thing an eerie, no-eye-contact silence.

"I wonder," Lizzie said behind him, "If Granny Gin failed to tell us something about the larger import of October 10, 2017."

Bram strongly suspected this was the case. "Did she have many sample series from Columbus, Ohio?" he asked.

He turned to look at her and saw something on her face, a question trying to formulate itself just below the surface, something about how it was that Bram seemed to have this inside-baseball view of Granny Gin's work, including the lingo. But she never asked, because someone yelled at them from out in the street, as jovial as one of Santa's elves.

"Hey-hey!" They turned and saw Chet slide out from between the bumpers

of two closely parallel-parked cars while their owners scurried around, loading and lashing and not making conversation, then dance through a gap in the crawling one-way street traffic, earning himself only a single annoyed horn-toot. He wore a backpack stuffed to the gills with all sorts of odds and ends strapped to the outside: a steel travel mug, an umbrella, a rolled up sleeping pad, a bunch of bananas, a hammer and saw, a katana, a police-surplus megaphone. He was carrying a sagging pillowcase, all uncomfortable angles and odd jutting. Bram couldn't be certain, but he was fairly sure it was loaded with Magic: The Gathering deck boxes.

"Chet, are you nuts?" Lizzie asked, "You're wandering the streets with a goddamn ornamental katana strapped to your back?"

"One, this ain't ornamental; this is a legit katana, sis. Two, pro-tip, today of all days, if you're gonna hike across Columbus, I strongly suggest you have a legit katana strapped to your back. Joe and Jane Q. Public don't say a damn thing to a brother with a katana on his back in Columbus today; it's like I'm the Invisible Man." He paused, "H.G. Wells, not Ralph Ellison." He paused again. "Actually, sorta both, right? Anyway," he said over-casually, "I thought I might catch a ride out of town with y'all." Chet theatrically scanned the street. "Columbus totally sucks, you know?"

Bram expected Lizzie to say something, but for reasons he couldn't fathom she was without words. Finally he hazarded, "You know the date, Chet?"

"Yup."

"You really think it's a good idea to be in a car with us with the clock ticking like this?"

"Sure. It's your date, not mine."

"When's yours?"

"My natural death date? 2109, in the summertime."

Their jaws dropped.

"You're gonna live to be 102?" Bram asked.

"112," Lizzie and Chet said simultaneously, "But, no," Chet went on. "Not quite. According to Granny G, I won't be going out via natural causes. My correlated supertranslation number puts my actual death date in December of 2100."

"You're gonna be a hundred-something-year-old man and choke on a peanut?" Bram asked.

Chet nodded. "Messed up, but that's the law."

Bram nodded. "Some guys get all the luck."

Somewhere far off there was a series of six steady bangs. Bram wasn't a gun

guy, but he knew enough to know that it was probably too much to hope that it was some kid messing around with off-season cherry bombs.

"Maybe," Chet said, "maybe not. Gotta lotta questions about what tomorrow might bring, m'man."

Bram was about to respond, but was cut off by his phone blatting and buzzing in his pocket. He dug it out as the blat-n-buzz rippled up and down the block. He glanced at his screen, his movements eerily mirrored all around him.

EMERGENCY ALERT: Chemical event in your area. Please shelter indoors and await instructions.

He looked up to see everyone out in the street pause, then redouble their efforts, hurriedly lashing boxes to roof racks, hissing at kids to leave the cat and get in the damn car now!

"This is going to be the traffic jam to end all traffic jams," Lizzie opined.

"I'm not a big fan of sitting in traffic," Bram said. "And the AC in my Outback is FUBAR."

"I'm not a big fan of whatever happens to whoever isn't 'sheltered indoors' come nightfall," Chet added. "Imma wager that my katana-based invisibility doesn't work on cops."

They went back upstairs, where Chet and Bram cooked up a gourmet chickenpork ramen feast—something Chet had learned from a dude he'd split a hotel room with at GenCon. Incidentally, this was the same dude who'd sold him the katana.

While Bram and Chet cooked, Lizzie poked at her phone, periodically reporting about the purported "chemical event" and the prevailing Facebook and Twitter theories about whether it had happened or not.

"If it was fake—if there's no chemical event—why bother?" Lizzie mused, annoyed. "It clearly didn't succeed in keeping folks in; if anything, it made more of them hurry up to get stuck in that gridlock."

Bram shimmied and tossed the wok-full of veggies and meat. "Misdirection," he called over his shoulder. "Like in a magic trick. You know about the magic chopstick?"

"Nope," Chet called out from the sink, where he was pouring the noodles into a colander.

"What?" Lizzie asked.

Bram set the wok back on the flame, cut the heat to simmer and poured in his broth. "Look," he said, plucking a chopstick out of the cup of carry-out extras on the

kitchen counter, then turning to face them.

"This," he said, "Is a magic chopstick. It makes stuff disappear, but it's of limited utility. Either of you have a coin or something?" Lizzie was wearing running leggings; she didn't even have pockets. But Chet came up with a quarter and an Alf pog.

"Alf is back?" Bram asked.

"In pog form," Chet answered.

Bram smiled. "Simpsons . . . ?"

"Episode 132; 'Bart Sells His Soul,' m'man."

"Classic." Bram held out his hand, and accepted the pog and coin. "A pog and a quarter," he explained, slowly closing his fingers into a fist around them. "Perfectly normal, not gimmicked. Now watch closely."

He gently tapped the fist with his magic chopstick.

"One." He said. "Now keep watching; keep me honest."

He tapped again, harder.

"Two. Don't let me be tricky. Watch carefully."

He wound up, and then, quick as a whipcrack, whapped his fist a third time.

"THREE!" he called, springing his fingers open: The pog and quarter were still there. But the chopstick he'd been using as a magic wand was gone. He waggled the fingers of his empty hand for emphasis.

"Tada," he said. "The magic chopstick, ladies and gentleman. Limited utility, on account all it can make disappear is itself."

Chet snorted his appreciation and gave a slow clap, but Lizzie was legitimately bamboozled. "How in the . . . ?"

Bram whistled at her, then turned slightly and pointed at the side of his head. The magic chopstick was tucked behind his ear. He'd ditched it back there while winding up for his third tap, all the while encouraging them to closely watch his closed fist in order to 'keep him honest.'

"Misdirection. It's strategic distraction." Bram returned to the stove, raising the heat under the wok. Chet started divvying up the noodles into large bowls. "But it isn't just any old distraction; good misdirection uses your smarts against you." Bram accepted a bowl of noodles from Chet. "It wasn't enough to just have you two looking away from my chopstick for a second. You're both really smart and really attentive. You'd catch me in a heartbeat. What I needed was to persuade you to focus those smarts and that formidable attention in the wrong place." Bram ladled broth and

veggies and meat over the noodles and handed it to Lizzie.

"So the chemical event," she said, accepting the bowl.

"It's meant to distract us. From what?"

Bram shrugged. "No clue."

"Wouldn't it be easier to get up to no good if everyone actually returned to their homes, instead of gumming up the roadways?"

"No, because misdirection makes us our own worst enemies. The point was to gum up the streets with everyone who thinks they know what's 'really going on."

Chet nodded. "Neutralize everyone who isn't given to 'Cooperating with authorities," Chet bracketed the phrase in air quotes. "Stuck in a big ole traffic jam. While all the sheeple," Chet added ominously, handing Bram another bowl, "go back to their straw houses and sit around not making trouble, poking at their phones, getting fat on fake news misdirection. And waiting for the wolf to come blow their house down." Chet added archly.

Bram laughed, ladling up more soup. "I don't know about that last bit—and you are mixing and matching your metaphors pretty freely—but the point is to split folks up into silos and keep them misdirected: Folks who listen to authorities stay in with their phones. The folks who don't listen to authorities get stuck on their block running their cars out of gas."

"So we're sheeple, then?" Lizzie asked, gesturing to their bowls of soup, the fact that they were inside, and her phone.

Bram swapped Chet the steaming bowl of soup for the last bowl of noodles and served himself. "Yeah, but we're sheeple with vision. We'll hang back and move when the time is right."

They went out onto the balcony with their bowls of soup and watched the police first come through in their regular uniforms, casually fanning out among the idling cars, tapping on windows, politely asking people to gather their necessities and perishables and exit the vehicles, even helping carry bags back up apartment steps. A few argued through sealed windows, but in general Bram observed, once someone acquiesced to rolling down the window an inch, it was basically just a matter of time. These were patient, persuasive cops.

More than a few motorists—mostly single, mostly men, mostly white—refused to even acknowledge the tapping. The cops eventually shrugged, drew an X on the windshield with that white soap those sneaker guys use to clean their kicks, and carried on to the next car. About an hour later, around the time Bram was

rummaging through the cupboards and mixing up "Tornadoes" (i.e., a finger from each liquor bottle he found, plus açai-blueberry juice and tiny umbrellas), the cops returned. This time, it was just a single trio in full, matte-black battle-rattle, helmets, black masks, riot armor, the works. They started at the head of the block. Bram heard Lizzie's fork clatter into her bowl, splashing savory broth. One cop posted up at the front of the first occupied car, a knee pressed to the fender, tactical rifle aimed dead into the windshield. Another stepped crisply to the driver's side and tapped on the window with the barrel of his tactical rifle (or her? Who could tell at that distance and in the tactical garb?). He or she waited 30 seconds, and then smashed the window to confetti with the butt of her gun as her remaining partner did likewise on the other side. Lizzie jumped to her feet, set her glass down on the balcony's stone ledge, and went inside. Bram heard the living room TV come on, channels flick, the TV turn off.

The passenger-side cop ducked into the car—Chet, slurping noodles all the while, confidently announced that this was to unbuckle the seatbelt. The driver's side cop then pulled the driver out through his window and unceremoniously dumped him onto the concrete. If the driver ran, they let him run. If he popped up to argue they tackled him, zip-tied his wrists and ankles, and left him bellowing on the asphalt. Anyone who left their vehicle in the meantime was allowed to run off.

Then on to the next occupied vehicle.

Rinse, repeat.

After just five such displays, all of the cars were abandoned and only two sovereign motorists were left hog-tied in the street. The trio of dark knights continued to the next block, muttering into the walkie-talkie handsets clipped to their shoulders. Soon thereafter a variety of private wreckers—no doubt on city contracts—and a single black-&-white showed up. The cops dragged away the two resistors and left. The tow trucks started towing.

"Added bonus," Chet said, tipping his final bowl of noodles back so he could sip the broth. "All those folks who don't cooperate with authorities: They're stranded in Columbus now. Not to sound ominous or anything."

Bram stood and went in to find Lizzie still sitting in the living room, in the dark, staring into the dark screen.

"So that's all there is?" she said. "Last day on earth?"

"Nothing good on TV?"

"Nothing TV on TV; broadband is out." She held up her phone, "Cell network

is out, too."

"That seems bad."

"It's bad," Chet said, slurping up the last of his broth. "Cell network, towers and whatever, aren't on the regular power grid, plus they have their own back-up generators. The only time the entire network went down in this region, it was during that giant two-day blackout that stretched from Maine through Michigan, back when we were kids. And they put safeguards in place so that sort of outage couldn't recur. Cell network and broadband are out because someone turned them off," Chet said, "there's either stuff going on in the wide-wide world they don't want us to know about, or stuff going on around here they don't want the wide-wide world to know about."

"Or both," Lizzie said flatly. "I'm going to bed."

Bram set an alarm early—wouldn't want to oversleep and wake up dead—and they turned in.

#

Bram woke to an absolutely pristine street—not just cleared of the abandoned cars blocking the roadway, but also all of the cars usually parked along both sides, and then street-swept and hosed down for good measure. Lizzie's brownstone included a single parking space in the trash-strewn alley behind their building, and Bram was glad he'd parked in it the day before.

He made coffee, then roused Chet and Lizzie when the clear autumn sky started to pinken.

"C'mon," he said to Lizzie, gently rubbing her nose, "Today is the first day of the rest of your life"—which is what he'd been saying to her for as long as they lived together. Only as it left his mouth did he realize how awful and cruel it might sound that day.

Thankfully, she smiled like a cat waking from a nap. "Yup," she said, "Smells like coffee."

"'cause it is. Let's go while the getting is good. Chet's already breaking a few eggs."

"Can't make omelettes otherwise," she mumbled, sitting up and accepting the coffee cup. Bram stood at their bedroom window, surveying the clear streets in their ugly part of town. "Ya know, I doubt we can make it to the wilds of Hocking State Park, but we can at least make it out of Columbus; find someplace broad and grassy

to, you know."

He turned to see Lizzie nodding. Chet was already calling them to breakfast.

They were fed and outside a few minutes before 7am. The street was still empty, but the foyers and front doors of all the other brownstones were crowded with tenants, like Black Friday shoppers waiting for the Best Buy doors to open. Bram thought again of the word Chet had used the night before: sheeple. But they didn't remind Bram of sheep. They reminded Bram of the dogs left behind at the Humane Society. Inevitably, his mind followed the analogy to its logical conclusion, and how things ended for all the unwanted dogs and cats that "didn't find their new families."

He turned his mind away from this. Everyone cowering in their entryways, they'd be fine, he told himself. Everything was going to be fine.

They cut between the brownstones to the back alley. Bram got the Subaru warmed up while Chet and Lizzie piled in, Lizzie curling up in the back seat, again wrapped in her auntie's ugly afghan.

Once they got out of their immediate neighborhood they started seeing other cars, but no cops, and no congestion. The other drivers all seemed content to keep chugging along in an orderly fashion, keeping out of each others' way and scrupulously avoiding eye contact. In short order, Bram found himself on the verge of crossing the Scioto River on the Main Street Bridge.

He'd driven over it hundreds, if not thousands, of times, but today he was finally struck by how graceful it was, the concrete deck a frozen ribbon held aloft by the single, shallow steel arc angled overhead, supporting an orderly steel webwork—the ribcage of some great leviathan—dividing the broad pedestrian promenade from the roadway.

Traffic thickened as they crossed onto the bridge itself.

"Hunh," Chet said. "I kinda thought this would be a bit more Escape from New York, right? Stealth gliders, armored cabs, Kurt Russell. This's been surprisingly smooth sailing, yo. What are the odds we'd slip out without a cock-up?"

"Boltzmann's brain," Bram offered, eyes on the road so that they didn't have to be on the clock. "We live in a fundamentally unlikely universe. Sometimes things just go your way." He was slowly accepting they weren't going to make it out of the city before his and Lizzie's Zero Hour. There was a really nice park just on the other side of the river, curled at the base of the bridge on the river's far shore, with rolling lawns and wide running paths. It was pretty. It was mellow. It would be the place he and Lizzie sat down on a riverside bench, leaned back in the sunshine, and quietly

died. Not perfect, not what they'd planned, but still nice-

"Hey!," Chet called out as he rummaged idly through the glovebox, "You've still got that card game?" He held up the family-friendly ice-breaker get-the-conversation-started card game that he'd left in the glovebox almost two years earlier, when Bram had driven Chet and Lizzie to their family reunion.

Chet riffled the cards, cut the deck, and read at random: "OK: If you could have any superpower—"

And then it happened. Or, more accurately, Bram realized that what had already been happening was happening. His eyes had been following something far up in the sky—something he took to be a lumpy, high flying party balloon, tossed by quixotic slipstreams. It was pale, and either shiny or luminous. All at once he realized that it wasn't a small thing at a moderate distance, but something truly huge amazingly high in the sky and descending rapidly.

And it wasn't alone.

By David Erik Nelson



Chapter 9

Whatever it was Bram was seeing up in the sky, there were tons of them, as numerous and weightless and aimless and harmless as dandelion fluff.

He leaned forward, chest to the steering wheel and craned to squint up in the sky.

Bram smiled. They were maybe Mylar hippopotamus balloons? Maybe it was an art project? "What—?"

Chet leaned forward to see what Bram saw. "Dag, those are moving fast!"

And he was right; they were moving fast. Fast, but somehow gentle. They were pale and pearlescent pink, in the way of grubs, but ungainly and weirdly adorable, like marshmallow monsters. And mobile. They wallowed and bumbled in the air, clumsily paddling with their eight stubby legs, looking around uncertainly with their squinty, pig-snouted heads.

Lizzie leaned forward and hit the button to open the sunroof, which groaned and whined and grudgingly retracted, giving her a clear view of the sky.

"Tardigrades," she said.

For a moment, all that popped into Bram's head was the Latin tardigradus; "slowly stepping"—which seemed like a remarkably useless thing to know just then.

"Oh yeah," Chet said. "They do look like water bears—or moss piglets, or whatever. But giant. And from space."

"I had no clue they could get big," Bram said.

"They can't," she replied. "Big animals, like whales, don't have bigger cells than little animals; they just have more of them. Tardigrades are eutelic: every adult has the same number of cells, and they grow by cell enlargement, not cell division. Tardigrades are already as big as they can get."

"How big is that?" Bram asked.

"About half a millimeter."

The first one Bram had spotted—the vanguard—had now drifted down to the

vicinity of the top of the Main Street Bridge's single supporting arch. It was at least the size of a semi trailer.

"So what are those?" Bram asked.

"I have no idea," Lizzie said. "But they are amazing."

The first tardigrade brushed up against the top of the iron arch. One of its rear legs, which were comically clawed, took hold of the arched iron i-beam bearing the bridge's weight. The giant tardigrade leaned along with the light breeze, like a Thanksgiving Parade float pulling against its guy wires, before drifting lazily back and settling above the arch, catching hold of it with another pair of legs.

Traffic around them slowed further. The folks crammed in the other cars were craning to watch the goofy giant moss piglets drift out of the upper atmosphere. In the other cars, slack jaws were blossoming into wide smiles of wonder.

Bram glanced to Lizzie. She was not gawping or smiling; her mouth was closed tight, bent with a few degrees of frown. Worry lines creased her forehead between her brows.

Bram looked back to the tardigrade on the arch. The wind gusted a touch, and the moss piglet firmed up its grip. The iron crinkled and crimped like tinfoil. Bram felt the vibration of the bridge deck moments before he actually noticed that it had begun to buckle up along one edge. A second tardigrade landed, clinging to the bridge, crumpling the iron with its claws. The iron leaned downwind with the added weight and the unexpected sideways force. The damn things caught wind like sails.

Minor fender benders crunched to the left and behind them. Bram wrinkled his nose: He smelled burnt cinnamon toast.

"Dammit; are we overheating?"

Chet sniffed the air and shrugged. Lizzie said nothing.

There were no warning lights on the dash, but Bram was barely idling along in the crawling traffic. He put the car in park, killed the engine, clicked on his blinkers, popped the hood—noting that no steam or smoke escaped—and got out.

The engine looked fine.

Bram stood back, rested his wrists on the hood, and looked back at the city. All over the skyline giant tardigrades were drifting down, clinging to the sides of Columbus' modest high-rises and gingerly setting down on parking structures before embarking on their trundling explorations. Occasionally a noiseless glitter of glass puffed up as a landing crushed the corner of a Mies Van der Rohe glass tower.

This, then, was the something they weren't supposed to know about—or

weren't supposed to tweet or pin or facebook or instagram for the world to see. Frankly, of all the apocalypses Hollywood and cable TV and video games had spent the last decade preparing him for, this seemed really, really mild.

Bram turned and looked at the riverside park that was their immediate destination. Despite the fact that it was 8am and the End of Civilization, there were still a few joggers there and a single little white man in a dark grey suit.

One of the down-drifting tardigrades managed to steer clear of all of the buildings and the bridges, bumble away from the river's waters, and settle down on the lawn with infinite care, like a blimp bearing a gondola filled with sleeping babies and sweating dynamite. As Bram watched, the joggers—who he imagined were wearing headphones—kept obliviously jogging. The businessman, who was just a few dozen feet from the inquisitive space monster, reared back reflexively. He stopped himself, stealing his nerve. The enormous moss piglet snuffled toward him, and the man stood amazed, staring at the big goofy beast. He took a step forward, raising one hand palm-out. The thing worked its way closer, snuffling back and forth, like a pig finding truffles. They finally reached each other on the grassy patch between the jogging path and river's edge. The man set his palm to the huge snout. The tardigrade lifted up to meet it, like a horse encouraging a child to rub his nose and scratch his cheeks.

And then it ate him.

The snout telescoped out, reaching with tentacles as stubby and adorable as toddler fingers, and slurped the man up, briefcase and all. No struggle, no scream Bram could hear, not an ounce of drama. It was as casual and final as a kid slurping the dregs out of his Dairy Queen cup before dropping it in the dirt next to a trash bin, not even breaking stride.

Bram squeaked, his stomach knotting.

A jogger was approaching the tardigrade's territory, distracted by her wrist. Maybe checking something on a FitBit? Bram had no clue, and it hardly mattered, because four strides later she was within 20 feet of the thing that had come from the sky. It snapped sideways with whipcrack fluidity, slurped her up, and then flopped back into the grass and resumed its slow, snuffling exploration—all the while working inevitably toward the city.

Bram finally found his voice, a beat too late. "LOOK OUT!!!" he screamed to the dead woman—who, he realized awfully, maybe wasn't dead; maybe her fate was to be slowly digested over the course of centuries in the tardigrade's gut, like Boba

Fett in the Sarlacc pit. This made an awful sort of sense; after all, wouldn't Granny Gin have mentioned it if she knew tons of people were going to die on October 10, around 8am?

Maybe today was their whole species' expiration date—but just like the Kennedy Assassination, the actual Zero Hour was a pretty open question:

Was it when the first businessman got gobbled up, or when the last cowering human died of dehydration, hiding in a WalMart while huge water bears bumbled around outside snarfling up Burger King wrappers and yew bushes and roadkill and crippled owls and everything else that was remotely edible.

And maybe it didn't matter; Bram was himself going to be dead in minutes.

Either way, he doubted the jogger—even if she yet lived—could hear him from inside the big, flabby mega-moss piglet. And yet he was still screaming.

And so he stopped, turned, and slammed the hood of the car.

"They're eating people," he shouted, half expecting Chet to make a Soylent Green joke, and then realizing that such a quip made no sense—Soylent Green was made of people, it didn't eat people. "They're eating people, and they smell like burnt breakfast!"

Chet and Lizzie got out of the car. Chet sniffed at the air. "Like bacon?" he asked.

"Like toast," Bram corrected.

"I don't smell anything, Bram," Chet replied. Lizzie said nothing. The siblings were just in time to see a second oblivious jogger get snarfled up, and a third jogger skitter to a halt, heave himself backward onto the path, spin back up to his feet, and bolt off like a cat on fire.

Bram looked up and down the bridge. He and Lizzie and Chet were the only people who had seen these rather startling developments. Everyone else was distracted by the closest water bear as it trundled adorably down the cables connecting the arch to the bridge's concrete deck.

A wave of quarter-sized black dots—each perfectly round and perfectly black—swam across Bram's vision. The smell of a burning Cinnabon franchise surged to fill his head, and in a heartbeat was replaced with the smell of an orange grove, and then the two together.

A single crystal-clear thought formed in his head:

Oh, a stroke. I'm having a stroke. Everyone else is getting eaten by giant bumbling pigbugs from space, and I'm having a fatal stroke. What are the odds?

He checked the time on his watch, just wondering how far past 8am it really was, before remembering that he hadn't worn a wristwatch since he was 10-years-old.

The sidereal water bear continued trundling down the bridge's suspension cables. All of the cars on the bridge were empty now, all of the people milling around in wonder. Bram saw a little blonde girl in a red rain slicker tucked in among these gawkers, and then a pair of identical boys, their dark hair in identical bowl cuts, their dark brows simultaneously transforming from consternation to open-mouthed amazement. With mounting horror, Bram saw that there were a lot of kids sewn in among the milling crowd, down at knee level, clinging to hems and pantlegs.

Bram yelled at them to clear out! that these things were hungry little caterpillars!!! but his lips felt superglued, and all that came out was a muffled "Smrp!"

Chet turned to him. "Bram?" he asked, "You OK?"

Prying his lips apart was like peeling off a layer of skin, but painless. "Smurf!" Bram shouted with a stutter, his lips snapping shut on the heels of the word. He tried again. "Smark!" and pointed.

The kids were naturally clumping together, squirming to the front of the crowd for an unobstructed view. This growing congregation of yummy munchie people grubs was not lost on the hungry, hungry tardigrade.

Chet looked from Bram, to the crowd, to the kids. When he turned back toward Bram he was ashy.

Lizzie dropped to her knees, then pulled the laces tight on her florescent green-and-blue New Balance running shoes. She tied them using the tidy, symmetrical, secure "Seaman's Shoelace Knot" she'd found online three months earlier and dutifully practiced for five nights running. Now she could do it without looking, and so her eyes never left the water bear, never stopped gauging its rate of travel, the distance between that seeking snout and the children at the front of the crowd. She leaned in through the open car window, and then stood back, holding Chet's katana and umbrella in one hand, his big ole surplus megaphone in the other.

She tossed Chet the megaphone, then shoved the sheathed katana into Bram's hand. Chet's telescoping umbrella she kept, looping the lanyard over her wrist.

"You ready?" she asked.

"I'm already dead," Bram said through a mouth that felt numb and flabby. His head ached terribly, and although his vision had cleared, the universe stank of

orange-grove brushfire toast.

"Not quite," she told him. She stood on her toes and kissed his cheek. "You are still alive and you are a good man, Bram. Please clear the bridge. I love you."

She stepped back, and in that moment Bram saw the transformation that had overtaken her: Somewhere in the seconds between her watching, aghast, as the jogger was devoured and her popping back up from tying her running shoes, the fog that had consumed her for months had burned off entirely.

She was elated, as brilliant as the day he had met her and she had told him all about her tiny tardigrades. Lizzie looked to her brother. "I'm sorry," she said, "I could have been a better sister."

He nodded. "You did your best. I'll tell my kids and grandkids and greatgrandkids about this next part, and leave out the crap parts."

"Thank you," she said, and then broke up the settling somberness by leaning forward and slapping Bram on the ass. "Go on, knuckleheads! Save some lives!"

"Hey," Bram slurred, relieved to hear himself talking more or less normally, "Howsabout I just die trying?"

But she missed his final quip. Lizzie was already turning, undoing the securing strap on the telescoping travel umbrella, and dropping into a sprinter's four-point stance. She leaned forward, bringing her spine into alignment, settling her gaze on the giant tardigrade now just a dozen feet above the crowd. She slowly lifted up on her fingers and toes, swung her right hand back, umbrella held by its handle.

Then she was off, so focused and with such a perfect burst of energy that Bram could have sworn he heard a starter pistol's crack.

Bram thought about Lizzie's daily runs, those punishing, insatiable sprints in all conditions with no discernible goal—not training for anything specific, but determined to live the intensity of a full life in less than half the years.

She sprinted down the lane divider, then jumped up onto the rear deck of an ancient and saggy-bottomed Caprice Classic. From there she hopped onto the Caprice's roof, then leapt atop a Ford Escalade. That last jump wasn't nearly so graceful, but her fresh New Balances kept their footing. More importantly, the thing from space took notice of her.

"Daaaaag!" Chet breathed.

"Yeah," Bram agreed.

Bram decisively unsheathed the katana.

"CLEAR THE BRAM!" Bram yelled at the crowd.

"BRIDGE!" Chet corrected, bringing the megaphone to his mouth. "EVERYONE CLEAR THE DAMN BRIDGE!"

Bram launched himself toward the crowd, belting out a deranged, ululating war cry as he went. Chet continued barking instructions into the megaphone.

Some of the crowd—not all, but certainly many—turned at the noise, and saw the two lunatics—Oh my God! The white guy has a sword! They scattered, unconsciously moving as a single body, like a school of fish dodging sharks. And, as will all prey forever, the first thing that fleeing school did was swallow up and disperse its young, so that they would not be such easy targets for harm.

Lizzie, high on the Escalade's roof, triggered the umbrella, which unfolded to reveal a great red and yellow and black Eye of Sauron, slitted and predatory as a serpent's.

The water bear was momentarily affronted by this, halting its descent. It jerked back to reassess just how dangerous this new pond might be.

Time. Bram and Lizzie had no time left, but the crowd had time now, time to move clear of these things that could make a quick snatch, but couldn't get anywhere fast.

Bram waved his katana and charged again, terrifying the crowd into flight. They scattered away, beyond the reach of the thing even if it flopped onto the bridge at that moment.

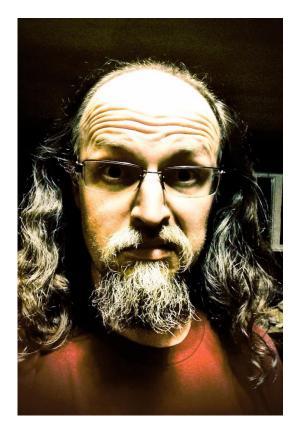
There was a sound in Bram's head, incredibly loud, like a helicopter blade chopping into rough, sludgy waters. He collapsed mid-stride, unwinding as he did, knowing he would be dead before he hit the ground, and thankful that his final glimpse of life would be of Lizzie:

She crouched once more, swinging her arms back. The enormous tardigrade was wholly focused on her, ignoring the fleeing mass of crunchy-munchy people. It reared back to strike at this new monstrous predator, with its invisible body and single enormous eye.

Lizzie leapt, every muscle in her long arms and legs straining like a dancer, unearthly and fearless, driving the single terrible predatory Eye of Sauron into the round, tentacled maw of the thing from space.

It was not a winning fight, but dear God or whatever comes next, he loved her for having the grit to die trying.

END



MEET THE AUTHOR: DAVID ERIK NELSON

David Erik Nelson is an award-winning science-fiction author and essayist who, in his own words, has become increasingly aware that he may be "that unsavory character" in other people's anecdotes. His fiction regularly pops up in *Asimov's*, the *Magazine of Fantasy & Science Fiction*, and elsewhere. In addition to telling stories about time travel and non-Euclidean houses, he'll also teach you to build your own synthesizers, cardboard boomerangs, and cigar-box electric ukuleles.

One of his inspirations for *Expiration Date* came from an episode of the podcast *Flash Forward*, also titled "Expiration Date." *Flash Forward* describes itself as "a podcast about the future." Each month *Flash Forward* takes on a possible future scenario — everything

from the existence of artificial wombs, to what would happen if space pirates dragged a second moon to Earth. Dave describes "The scenario in the 'Expiration Date' episode is something very similar to the scenario Bram and Lizzie are in: What would it be like to know the date you'd die on—but no further details, just the date." He continues "The host of *Flash Forward*, Rose Eveleth, started that episode with sort of an apologia, stating that she fully recognized that the scenario was totally impossible, scientifically, but that it was such an interesting concept that she'd just go ahead anyway. And that really bugged me, because in a few minutes I could come up with a scientific scenario where it was far from inconceivable. Of course, the very existence of such research is a problem all its own, which is where Granny Gin came from. The story grew from her."

When it comes to tea Dave "digs the black teas with fruity flavors." He's also a milk and honey guy. The one tea he really can't live without is the Organic Ginger Chili Tisane. In his words "A big mug of that with cider vinegar, lemon juice, and honey is what makes the cold season bearable."

Find his stories, DIY books, and more online at davideriknelson.com.

Presented by the Arbor Teas Summer Reading Series



Find your next novel at http://www.arborteas.com/SummerReads/