

NEW YORK TIMES BESTSELLING AUTHOR

**JOHN
SCALZI**

Prepare for the impossible

**WHEN THE
MOON HITS
YOUR EYE**

Expect the unthinkable



JOHN SCALZI

**WHEN THE MOON HITS YOUR
EYE**



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FOR LYNNE, MICHAEL AND CAITLIN THOMAS

PREFACE

HEY KIDS! Let's learn about the moon!

It's Earth's closest neighbor in space and the brightest thing in the night sky—but do you know these other fun facts about the moon? Let's find out about them together!

Earth and the moon are old friends!

The moon has been around for over four and a half billion years—nearly as long as Earth itself.

Question: Who is your oldest friend?

The moon's dramatic beginning

Scientists think the moon was created when another planet collided with the newly formed Earth. In the collision, stuff flew off that would later become the moon!

The moon loves to ROCK!

The surface of the moon is mostly made of rocks! There are two main kinds: basalt, found in the maria (the darker parts of the moon's surface), and anorthosite, found most other places.

Question: What is your favorite kind of rock?

How big is the moon?

The diameter of the moon is almost 2,200 miles: That's close to the distance between San Diego and Washington, DC! The moon's surface area is even larger—about as big as all of Africa!

The moon is always facing you . . .

Earth spins, but the moon doesn't! It always has the same side looking at our planet. If you were on the far side of the moon, you would not see Earth at all!

. . . But sometimes it hides its face!

The moon orbits Earth! And as it does, it has “phases,” which means sometimes you can see all of the moon (a “full” moon), and sometimes you don’t see it at all (a “new”) and sometimes it’s in between, like a crescent!

Question: What is your favorite “phase” of the moon?

Like to surf? Thank the moon!

Because of gravity, the moon pulls on Earth, and as Earth spins, that creates tides in the ocean! Without tides, our planet would be a very different place!

Maybe it should be called a MOO-n?

The moon is made of rock, but sometimes people like to imagine it made of something else. Some people like to imagine it is made of cheese—that would take a lot of cows! A famous song once compared it to pizza—which is also made of cheese!

One big leap for a kid!

Gravity on the moon is one-sixth of what it is on Earth—someone who weighs 100 pounds here would weigh just under 17 pounds there, and you could jump six times as high as you can today!

Question: How high can you jump?

Other planets, other moons

Earth is not the only planet with a moon! Mars has two, but they are very small. Jupiter and Saturn have dozens, and some of them are even larger than ours! Only Mercury and Venus have no moons at all.

Can people travel to the moon?

Some people have! An astronaut named Neil Armstrong was the first person to do it, way back in 1969. That was a long time ago! Some people are now planning to go back, and maybe one day people will live on the moon all the time!

Question: Would you like to live on the moon?

Out of my way, sun!

The moon is almost 240,000 miles away, and that makes it almost the same

size as the sun in the sky! Sometimes the moon moves in front of the sun, and hides it completely. That's called an "eclipse," but it only happens once in a while.

Project: Ask your teacher when the next eclipse is and find out where it can be seen on the planet!



DAY ONE

Wapakoneta, Ohio | The Armstrong Air and Space Museum

Virgil Augustine's cell phone rang just as he was reaching for his coat to go home. It was Bud Roldan, the facilities director for the museum. "You still in the building, Virgil?" Bud asked.

"Just barely," Virgil said. Tonight was the weekly date night for Virgil and Emily Augustine; they would pay their teenage daughter, Libby, to watch her twin brothers, which Virgil knew meant she would be in the living room texting her friends while Andy and Hunter played video games in the basement, and Emily and he would have either Mexican or Chinese food and then watch whatever was showing at the Wapa Cinema. This week it was some animated movie involving waterfowl. This is what passed for romance when you were middle-aged and living in small-town Ohio, and Virgil was not one to miss it. "What is it, Bud?"

"Well, it's . . ." Bud trailed off, and Virgil waited, eyeing the door of his office, yearning for escape. "You should probably just come see this for yourself," Bud finally said. "It's easier than trying to explain it. We're in the Moon Room. Come on up." Bud hung up.

Virgil furrowed his brow and then stepped out of his office, and wound his way through the exhibit floor of the small local museum devoted to the life and career of Neil Armstrong, Wapakoneta native and the first man on the moon, and down the long, darkened and dramatic hallway that led to the "Moon Room," featuring the exhibit room highlighting the Apollo 11 moon

landing. He glanced, as he always did, at Armstrong's backup moon suit in its display, helmet and gloves on the floor, which unfailingly gave Virgil a slight start: Here was a decapitated moon man.

Then as always Virgil got over it. He turned the tight right into the small exhibit room, where Bud and Willa King, Armstrong's curator and communications director, were standing by the room's central exhibit: a moon rock Neil Armstrong had brought back with him from his trip.

"What is it?" Virgil asked.

"Virgil, look at the rock," Bud said.

Virgil looked at the rock. It was small, irregularly shaped, looking either triangular or squarish depending which angle you looked at it, a pebbled gray with glossier darker bits that reflected the light. Virgil knew without looking that the informational plaques on the display would tell him this bit of rock was formed by a meteorite impact fusing the moon's powdered basalt surface back into something more solid, an event that happened some four billion years previously. The rock was mostly pyroxene and plagioclase, and if you found it out in the world you would probably think it was a chunk of concrete, if you thought about it at all. Virgil was so used to looking at the rock that it took several seconds to realize that the rock now looked nothing like it was supposed to look.

"That's not the rock," Virgil said, to Bud and Willa.

"We know," Bud said.

Virgil leaned in to look at the not-the-rock, his nose coming within millimeters of the Lucite encasement the rock was displayed in. The not-a-rock was precisely the same dimensions as the rock, but slightly larger. The original rock had been securely but lightly held between two plastic stoppers on a vise. This large object was also secured by the stoppers and vise, but now it was solidly wedged. It was uniformly off-white, with faint yellow overtones.

Virgil strained his eyes to look more closely. The surface of the not-a-rock had a slightly oily sheen to it.

"What the hell?" Virgil looked up to Bud and Willa.

"We know," Willa said.

"Is that . . ."

Bud held up his hand. "We're not guessing, Virgil. You're the executive director. That's *your* job."

Virgil looked back to the not-a-rock. “I have no idea. Maybe plastic? Modeling clay?”

Bud and Willa both audibly exhaled. Virgil looked back up at them. “Those are what it looked like to us,” Bud said. “We didn’t want to say it. But now that you’ve said it, that’s what we think, too.”

“Anyone want to tell me what’s going on?”

“We don’t know,” Willa said. “I led a school trip through here at two. The rock was still there then. I came through a little after five thirty and this was there.” She pointed at the white object wedged in the display. “I stared at it stupidly for a couple of minutes and then I called Bud. He called you. Here we are.”

“Huh.” Virgil stood up and stepped back from the moon rock display. The outer display was a rectangular prism of metal, ceramic and Lucite. The Lucite portion held inside of it a second triangular Lucite prism, inside which the rock was held. There was a modest shelf that went all the way around the display, in part to keep visitors from greasing up the Lucite with their finger- and nose prints.

Virgil examined the entire display, walking slowly around it. Bud and Willa stepped out of his way as he did so. “It doesn’t look tampered with,” he said, finally.

“Not in any way I could see,” Bud said. “It’s locked up tight.”

“So sometime between two and five thirty, one of our guests entered in here, dismantled the display, stole the rock, replaced it with what looks like Play-Doh, reassembled the display, and then walked out without us knowing,” Virgil said.

Bud, to his credit, looked absolutely miserable. “It can’t have happened that way. But . . .”

“Why would they bring Play-Doh?” Willa asked. “I mean, I get stealing the rock. It’s going to be worth millions.”

“About three hundred thousand a gram,” Virgil said. He knew this because of a *Washington Post* article a few years back.

“Right. So, all right, a smash-and-grab. But to replacing it with that?” Willa waved at the not-a-rock. “What’s the point?”

“And rebuilding the display once they took it apart,” Bud said. “That’s just weird.”

“Stealing a moon rock is weird,” Virgil replied. He looked up at the east

wall of the Moon Room, at the security camera there. He nodded toward it. “We looked at that yet?”

Bud motioned to the display. “We wanted you to see this first,” Bud said. “I’ve seen it,” Virgil said. “Let’s see what the cameras saw.”

The cameras saw nothing. The three of them rolled the video back to just after the 2:00 p.m. school group Willa led through the museum, and then fast forwarded from there. Between then and 4:45, random individuals came through singly, in couples and in small groups. None of them stayed in the room for any unusual length of time. None of them did anything to the moon rock except look at it.

The last guest, a middle-aged man on his own, walked through the room at 4:52, looked at the displays commemorating the various Apollo landings and considered the equipment that was used to get samples and do other scientific work. He walked around the moon rock display, reading the moon rock facts written there. When he was done, he checked his phone and walked off toward the Infinity Room, briefly interposing himself between the security camera and the display.

“Stop there,” Virgil said, to Bud. Bud stopped the video. “Back it up. Watch the rock.”

Bud backed up the video by a minute. The middle-aged man was leaning in to look at the rock. Then he turned and dug his phone out of the pocket of his hoodie. He stood there for a second looking at something on his screen, back to the display, blocking the view of the rock. When he moved toward the Infinity Room, the rock was noticeably brighter in the security feed.

“That’s our man,” Bud said.

“Maybe,” Virgil allowed, unconvinced. The man wasn’t doing anything but standing there, staring into his phone. Unless he had secretly hidden cunning spy technology into the back of his hoodie that could melt and reform Lucite in seconds, and replace a moon rock with a similarly-sized chunk of possibly modeling clay, all this dude was doing was blocking the camera.

Still, better safe than sorry. “Any way we can know anything about him?” Virgil asked.

“If he paid for his admission with a credit card we can probably track him down from that,” Bud said.

“We would need to find out when he came in, then,” Willa noted.

Bud smiled here. “Well, we can do that.” He pulled the coverage from the security cameras at the front of the museum.

The three of them spent the next several minutes watching their mysterious stranger purchase his admission at 4:28 p.m., and then wander through early parts of Armstrong’s life in a leisurely fashion. They skipped viewing the Moon Room again and watched their visitor move quickly through the second half of the museum, skipping past the video presentation of the moon landing and Armstrong’s post-landing career and NASA post-Apollo displays, because the museum was about to close. He paused only at the gift shop, to get a moon mug that had moon facts appear when you poured hot water into it.

He paid for his mug with a credit card and left the museum at 5:01, the last visitor to leave. The parking lot cameras had him pulling out a few minutes later in a MINI Cooper. His Ohio license plate was clearly visible.

“We have enough to track him down now for sure,” Bud said.

“If he was a criminal mastermind you would think he’d be a little more careful,” Virgil suggested. “Paying by credit card and driving his own car is not the mark of a master thief.”

“You don’t think this guy did it,” Willa said.

“I don’t know what I’m thinking,” Virgil admitted.

“We should call the cops,” Bud said to Virgil. “And we have to tell someone on the board of directors.”

Virgil grimaced at this. “Not yet.”

“Why not?” Bud seemed genuinely surprised.

“Can you get into the display, Bud?” Virgil asked, sidetracking his facilities manager for a moment.

“Yeah, sure,” Bud confirmed. “But do we want to?”

“That would be tampering with evidence,” Willa said.

“When we go to the police and the board of directors with this, I want to be absolutely sure what we’re dealing with. I want to know what our moon rock was replaced with. I need to get a better look first.”

Bud and Willa looked at him incredulously.

“Fine,” Virgil said. “I’ll call Herb Wopat. He’s chief of police and he’s on the board of directors. Two birds with one stone. I’ll get him over here. *Then* will you get into the display?”

“As long as Herb tells me I can, sure,” Bud said.

Herb Wopat arrived ten minutes later—small-town living had its advantages—and ten minutes after that Bud and Willa, fully deputized by Wapakoneta's police chief, started dismantling the lunar rock display. Virgil took the moment to step outside the museum and call his wife.

"Emily, we have a problem," he said.

"I guessed that when you weren't home an hour ago," Emily Augustine replied. "Anyone hurt?"

"No one's hurt. We look to have had a theft. I've got Chief Wopat here and he and Bud and Willa are getting into it, but I need to be around until we've got it cleared up."

"So it's serious."

"If we don't figure it out I think the board of directors might wonder if I should keep my job," Virgil admitted.

"That's not good," Emily said. "You would have to be my kept man until you found a new job." Emily Augustine had a family practice at the Lima Memorial Health System Wapakoneta Medical Center, and made more money than her husband. She worked more, too, which is why the two of them had instituted their date nights in the first place. They might not see each other otherwise.

"There are worse things than being your kept man," Virgil said. "But I would rather keep my job."

"Perfectly reasonable. Okay, you're off the hook for skipping date night this one time. You're going to tell me the whole story when you get home, though."

"Absolutely," Virgil promised. "I still feel bad."

"Then you'll have to make it up to me later," Emily teased. "Anyway, it's fine. I still stuck Libby with babysitting duty, and now I'm sitting on the deck, drinking wine and watching this amazing sky."

Virgil looked up and saw yellow and orange clouds interspersed with the red of the evening. "It's amazing," he confirmed. "What I can see of it. The sunset itself is blocked by a Waffle House and a McDonald's."

"You're missing out," Emily said. "And it's not just the sunset. The moon is absolutely stunning."

"You can see the moon?" The day before had been a new moon, so today the moon would have been the merest of slivers in the sky, nestled up against the sun and usually visible for only a few minutes after the sun had set. Virgil

was aware of the moon phases not just as an occupational hazard of being an executive director of an air and space museum, but because in a month there was an annular eclipse coming, the totality of which would slide up much of the Eastern Seaboard of the United States. Ohio would get a partial eclipse, which was still enough for the Armstrong Museum to prepare a number of educational programs about it for schools and nerdy adults.

“See it? You can’t miss it,” Emily said, of the crescent moon. “It’s the brightest I’ve ever seen it in this phase.” Emily and Virgil had met in college at a lunar eclipse viewing, which she had attended with her then-boyfriend, who she dropped in quick order after meeting Virgil. Her interest in casual astronomy had been a positive feature in their marriage. “You need to see it,” she told her husband.

“Waffle House and McDonald’s,” Virgil reminded his wife.

“And yet you have *legs*,” Emily said. “Go look. Love you.” She hung up on her spouse.

Virgil grinned and followed his wife’s suggestion, walking up Apollo Drive to Bellefontaine Street, the main drag of Wapakoneta, which was platted in a mostly east-to-west direction. The view of the sky there was littered with gas stations and fast food joints, but there was indeed also the sun and, slightly off to one side, a blazingly bright crescent.

Emily was right. It was the brightest sliver of a crescent Virgil had ever seen. Even with the sun still in the sky, the moon was clearly, almost relentlessly, visible.

Even framed by a Murphy USA gas station and an O’Reilly Auto Parts, it was one of the most beautiful astronomical sights Virgil Augustine had ever seen.

It shouldn’t be that bright, Virgil’s brain said to him.

Shut up, brain, Virgil said back.

Virgil’s phone rang. It was Bud. “We got it open,” he said. “You should get back here.”

“Everything okay?”

“Just get back here, Virgil.” Bud hung up.

A few minutes later Virgil was back in the Moon Room. As he cleared the hallway and passed the headless moon suit, he wrinkled his nose.

“Okay, good, you smell that, too,” Bud said. He stood with Willa and Chief Wopat, off to the side.

“What is that?”

“You tell us,” Willa said, and pointed to the display.

The display had been opened and one panel of the outer Lucite had been removed. From there, either Bud or Willa or Chief Wopat had removed the triangular prism of Lucite that surrounded the not-a-moon-rock. It stood bare, in its vise, open to the air.

“We didn’t touch it,” Herb Wopat said to Virgil. “We figured you should do the honors.”

“Was the display tampered with?” Virgil asked.

“Not until we opened it,” Bud said. “It was sealed up tight.”

Virgil got in close to the display and breathed deeply. The odor was neither the burnt charcoal that astronauts claimed the moon smelled like, nor the sweet chemical smell of children’s modeling dough. It was something far more familiar.

Before he could stop to think what he was doing, Virgil reached out to the object inside of the display, scratched it with a fingernail, and put his finger in his mouth.

“Virgil, what in the hell—” Chief Wopat began.

“It’s cheese,” Virgil said.

“What?” Bud and Willa said at exactly the same time.

“It’s cheese,” Virgil repeated.

There was silence for several moments at this.

Then, “What *kind* of cheese?” Bud asked.

Virgil ignored this, thinking about what had just happened, what he’d just tasted and what he had seen in the sky a few minutes earlier. Then he wiped his finger on his pants, pulled out his phone, and called his friend Dr. Julie Doss at the Space Center Houston’s Lunar Vault, where a large amount of NASA’s lunar samples were kept, in clean rooms where the samples lay in an inert nitrogen atmosphere.

Dr. Doss picked up after the seventh ring, just before the phone would have gone into voicemail. “Virgil,” she said, in a clipped voice.

“How are your lunar samples today?” Virgil asked, and waited.

There was a pause so long that Virgil thought he had gotten disconnected. He was about to hang up and call back when Dr. Doss spoke back up.

“All right,” she said. “What the *actual fuck* is going on?”

From r/astrophotography

Anyone get a shot of the moon tonight?

It was super bright. Is that normal?

There was no visible moon tonight, it was a new moon. You probably saw something else.

Something else that looked like the fucking moon? No, and also, today is the first day the moon is visible this lunar cycle, please read a book

I saw it in Aurora (IL) agreed, it was super bright, no, did not catch a photo, by the time I thought about it, it had already set. Anyone else?

I saw it. I thought it was Venus or Jupiter at first and then it started growing horns. Clearly it's the end times, make your preparations.

You're not serious about that, right?

About seeing it? Yes. About it being the end times? I hope not!

The end times moon is red like blood, not white like, uh . . .

Maybe God forgot to change the color on the LED setting.

Dallas here. I saw it and it was extremely bright. As in, no possible way that it could have actually been that bright. The moon is rock that has the general reflective qualities of asphalt, it only seems bright because of the amount of light the sun bounces off it. Last night sure didn't look like asphalt.

Could it have been closer in its orbit? All orbits are ellipses.

If the moon's orbit was that much of an ellipse we'd be having one hundred foot waves right now.

Do we have any actual scientists here? Is there a scientific explanation?

Actual scientist here. Didn't see the moon tonight, but it's actually pretty easy to misidentify other objects for the moon. Weather balloons and blimps are often accidentally identified as the moon or for UFOs, and they are often highly reflective. Either that or some especially reflective clouds. It happens more often than you think.

Next you're going to tell us that swamp gas reflected off Venus . . .

Please look right here at the Neurolyzer!

Respectfully, that might explain it if everyone was seeing the same thing from the same location, but people here are checking in from all over the United States. We can't all be seeing weather balloons or blimps. I don't think there are even that many blimps in the world.

Checking in from Santa Monica, CA. There were a whole bunch of us by the pier looking at the moon, and arguing about whether it was the moon at all. What the actual hell?

What was the thinking there on the beach?

No one had a clue. One of the people there was on the phone with a friend of his from JPL to ask about it. His friend told him he couldn't see it because the mountains were in the way.

Doesn't JPL have, like, *actual* instruments on the moon? Maybe check those?

San Diego here. It's the first time I've ever seen the moon that close to a sunset. I've looked before and could never see it. Tonight you couldn't miss it if you tried. I think that's what's confusing people. A UFO feels more reasonable than that being the moon.

Wasn't there that movie about the moon being a big UFO?

We don't talk about that movie in polite society.

Oxnard here. We saw it. All I have to say is, it better not be the end times, I'm getting married in three weeks. I don't want to honeymoon during the apocalypse.

That's not too much to ask.

Original Poster back again. Read all the comments. Okay, but seriously, guys. What's actually going on? Does anybody *actually* know?



Washington, DC | The White House Situation Room

White House Chief of Staff Pat Heffernan sat at the head of the conference table and looked at the four experts arrayed on either side of the table. “Let’s get to this,” he said. “It is”—he checked his watch—“six thirty in the a.m., I have a briefing with the president in exactly half an hour, and because we all know he doesn’t bother to read the daily intelligence briefing, it will fall to me to explain what the hell is going on. So explain it to me. Use small words on me so I can use smaller words on him. Somebody start.”

Nobody wanted to start.

“The news is that good,” Heffernan said, wryly, and pointed to Dr. Debra Dixon, from NASA. “You. Begin.”

“Uh, at approximately five p.m. yesterday Eastern time, NASA became aware that several Apollo-era lunar-based retroreflectors—”

“And you’ve already lost me,” Heffernan said.

Dixon cleared her throat and tried again. “We have a bunch of mirrors on the moon.” She paused to make sure this was understood. “We shoot lasers at them for science. Yesterday afternoon the mirrors stopped working.”

“Why did they stop working?”

“It wasn’t clear at the time. We had mirrors at three sites, and there are three other sets of mirrors, two from the Soviet era and one from the Indian moon landing in 2023. Those stopped working as well.”

“We asked the Russians and Indians about this?” Heffernan asked.

“No, we shot lasers at those mirrors, too.” Dixon said. “Or where we knew they were supposed to be. We didn’t need their permission to do that. They’re mirrors. They reflect for anyone.”

“Okay, so mirrors are missing on the moon. So what?”

“After we lost contact one of our stations involved in the International Laser Ranging Service—”

“The what?”

“It’s a service that allows us to track satellites and other objects in near space to millimeter accuracy,” said Alan Glover, who was in the meeting for the National Security Agency. “It also provides data on the location of the moon.”

Heffernan grunted at this. Dixon continued. “Since we couldn’t use the mirrors, one of our stations ranged the moon using an older method called EME, or a ‘moon bounce,’ in which we reflect radio waves directly off the surface of the moon. That’s when we discovered another issue.”

“What was the issue?”

“Uh.” Dixon looked around the table. “The bounce returned earlier than expected, sir.”

Heffernan looked annoyed, and was opening his mouth to remind Dixon about making things simple, when Colonel Glenn Axel of the Space Force spoke up. “It means the surface of the moon is closer to Earth than it used to be.”

This got Heffernan’s attention. “How much closer?”

“About three hundred miles,” Dixon said.

“How did the moon suddenly move three hundred miles closer to Earth?”

“It didn’t,” Dixon said.

“But—” Heffernan stopped. “It’s beginning to feel like ‘Who’s on First’ in here,” he said. He looked around the table and saw blank expressions, and realized how much older he was than all the other people at the table. “Forget it. Explain to me how the moon is three hundred miles closer and yet somehow *not* three hundred miles closer. Small words.”

“It grew.”

Heffernan blinked at this. “The moon is rock. Rocks don’t *grow*.”

Dixon paused for a moment, and Heffernan imagined her brain filled with examples of how rocks could, in fact, grow. If that was indeed what she was thinking, she said none of it. “We’re looking into it now, sir. The point is that

the moon is exactly where it should be in its orbit, and also, its surface is three hundred miles closer to us. Which means that the diameter of the moon is roughly six hundred miles wider than it was before roughly five p.m. Eastern time yesterday.”

“How is that possible?” Heffernan asked.

“It’s not,” Colonel Axel said. “There is no logical or scientific explanation for the moon instantly gaining six hundred miles in diameter. It is literally impossible.”

“It’s impossible but it happened,” Heffernan said.

“Yes,” Axel replied.

Heffernan rubbed his forehead. “So now I have to go up and tell a president—*this* president—that in an *instant*, the moon somehow accreted six hundred miles of rock.”

Almost inaudibly, Dixon squeaked.

“I heard that,” Heffernan said, and pointed once more to Dixon. “Explain that squeak.”

“Oh, I *really* don’t want to,” Dixon said, to the room. “Someone else do this one, please.”

“I’ll answer this,” said Dr. Miriam Golden, from the National Science Foundation. Eyes turned to her. “The moon’s diameter is six hundred miles wider than it was yesterday, but its mass is the same as far as we can tell. If it wasn’t we’d already be seeing evidence of it. Higher tides, for a start. If the moon is physically larger and has the same mass, then whatever it is made of is less dense than the basalt and other material that made up the moon as we knew it.”

“All right,” Heffernan said. “What is the new, mysterious substance that the moon is made out of again?”

Another nearly inaudible squeak from Dixon.

“*Stop* that,” Heffernan snapped at her. He looked back to Golden. “Do you know?”

“It’s being looked into,” Golden said. “There’s nothing we can confirm yet. But yesterday, around the same time as the moon mirrors went missing, Space Center Houston reported a problem with their store of lunar samples. We first thought it was theft, but then other places in the US that have or store moon rocks reported the exact issue at the exact same time. In all cases

the moon rocks were gone and replaced with objects made from another substance entirely.”

“What substance?” Heffernan asked.

Golden looked directly at the White House chief of staff and answered calmly and evenly. “Cheese,” she said.

Dixon squeaked again.

Heffernan burst out laughing, went on for a good long time, and then stopped when he realized no one else at the table had even cracked a smile. “This is a joke,” he said. “It *has* to be a joke.”

No one responded.

“You have to be fucking kidding me,” Heffernan said, to the room. “I have here representatives from both our science and intelligence community, and all of you are telling me the moon—the *whole fucking* moon—has been turned to goddamn *cheese*.”

“That’s right,” Golden said. She at no time had taken her eyes off the chief of staff.

“Bullshit!” Heffernan said. “It’s not possible.”

“It’s not possible,” Axel agreed. “It’s also our best guess at the moment.”

“How the hell is *that* your ‘best guess’?”

“We *checked* it,” Dixon said, speaking up. “We tested the cheese that replaced our lunar sample. We determined its mass and density. Then we applied those figures to the moon. They match.”

“What does that mean, ‘they match’?”

“It means they match!” Dixon said. “If you had a moon made of this specific cheese, with the same mass as our previous moon, it would have the diameter it now has. Almost exactly.” She put her head in her hands and stared at the conference table.

Heffernan considered this for a minute. Then he said, “What kind of cheese?”

“It’s not *just* that it’s cheese,” Dixon burst out, raising her head again. “It’s that it’s *undifferentiated* cheese.”

“Is that . . . a type of cheese?” Heffernan asked.

“She means that it’s the same all the way through,” Axel said. “The moon and the earth have different layers to them. Rocky crust on the surface, molten or partially molten rock farther down, and then a solid core. This new moon doesn’t have layers. We can tell that from the diameter and the lunar

samples we have here on the planet. It's cheese of the same density and consistency all the way through."

"For now," Dixon muttered, darkly.

"For *now*," Heffernan repeated, question implied.

"She means that a mass of cheese sixteen hundred miles in diameter isn't likely to be stable," Golden said. "It's going to start collapsing on itself soon."

"Is that a threat?"

"We don't know yet," Golden said. "We have to model it." She looked over to Dixon, who was now resolutely staring at the conference table again. "And we still have to confirm that the moon is made of what we think it is. All the evidence we have right now checks out, but it's still just a hypothesis. We'll need to get more data."

"When will we have it?" Heffernan asked.

"We're already working on it."

"Who is working on it?"

"We're *all* working on it," Axel said. "It obviously has scientific and security issues."

Heffernan considered this and then looked at Dixon. "What does this mean for the moon landings?" NASA had been promising to go back to the moon for decades, and had finally scheduled crewed landings. Test flights, from NASA and from private parties in other places, were already scheduled; an uncrewed flight from PanGlobal Aerospace, designed to test the soundness of the lunar lander NASA had commissioned them to construct, was going to be launched from Ecuador in a week.

"It's difficult to land on cheese," Dixon said.

"If it *is* cheese," Golden said to Dixon.

Dixon nodded. "Whatever it is, we're not likely to risk landing on it until we know it's safe. It's not my decision, but I wouldn't be surprised if landings are delayed indefinitely."

Heffernan grimaced at this. The president had famously wanted to be an astronaut growing up, and fervently wanted a moon landing during his administration. He would be unhappy with any delay. He put this out of his mind for the moment, and turned to Alan Glover of the NSA. "Who knows about this?"

"About there being something going on with the moon?" Glover asked.

“Literally everyone on the planet. The moon is up in the sky, close to the sun. Cheese or not cheese, whatever the moon is made of right now is a lot brighter than moon rock was. The sun is up now. We could go outside and look at it ourselves.”

“Does any of the chatter you’ve picked up suggest anyone else knows the . . . cheese connection?” Heffernan asked.

“Nothing specific,” Glover said. “We have public and secure chatter about the moon, obviously. Scientists are talking openly about it on social media. Even without the benefit of *samples*”—Glover motioned toward Dixon—“they’ll have already figured out diameter, mass and density. That’s just math.”

“And what about samples?” Heffernan asked. “Who has moon rocks out there?”

“Lots of people,” Dixon said. “We gave moon rocks to every country in the world after we landed. A lot of them were stolen or disappeared over the years, but enough of them are still on public display.”

“And turned to cheese.”

“We haven’t heard from anyone about that, but it’s still early morning here,” Dixon said.

Heffernan looked over to Glover. “Pick anything up?”

“Not yet, but again, it’s only a matter of time,” Glover said. “If I remember correctly, the samples are small”—Dixon nodded at this—“and probably for at least a few hours the institutions that have them will assume some sort of theft happened, just like we did. We should probably let them continue to think that for as long as we can.”

“No one is claiming victory for stealing the moon,” Heffernan said.

“Not so far,” Glover said. “Someone will. Someone always claims victory.”

“And just to be clear, and I cannot believe I am *actually* asking this, there is no way any of our enemies could have done this?”

“No, sir,” Glover said, absolutely seriously. “We know pretty much everything our friends and foes are up to these days. There’s been no chatter of anything even remotely similar to this. Beyond that, there’s no one else in the world who would have the technology to disappear the moon, much less replace it with a globe of, probably, cheese.”

“Do we have that technology?”

“Ask him.” Glover pointed to Colonel Axel of the Space Force.

“No, sir,” Axel said. “And even if we had it, disappearing the moon and replacing it with an equally massive orb of probably cheese serves no discernable military purpose.”

Heffernan looked at his watch. “I have to head up,” he said. “So let me summarize. Sometime yesterday afternoon the moon was replaced by a globe of cheese with the same weight—”

“Mass,” said Dixon and Golden and Axel, all at the same time.

“—the same fucking *mass* as the moon, and we don’t know how, or why, and the only thing we can say at this point is that we didn’t do it, no one else we know did it either, and the way we know it’s cheese is that all the moon rocks we have here on Earth turned into cheese at the same time. Is that right?”

“That’s basically the gist of it, yes,” Axel said.

“And *every single one of you* will actually stand behind this complete line of horseshit.”

“It is our best guess about what’s going on at the moment, yes,” Golden said.

“I hate it with every single bone in my body and I can’t think of any other explanation,” Dixon added.

Heffernan nodded. “Last question,” he said. “When does this go away?”

“Go away?” Dixon asked.

“Yes, go away,” Heffernan said, irritably. “How long do we have to wait until this cheese moon goes away and the old one comes back?”

The people at the table looked at one another. “We have no idea how it happened, sir,” Golden said. “And we have no idea if this is a temporary or permanent change. We have to assume for now that, for all intents and purposes, this is the moon now.”

“You all agree with this?” Heffernan said. They all nodded. “Great. You can tell everyone that at the press conference later today.”

“You want us to do a press conference about this?” Dixon asked, shocked.

“It’s not your press conference, it’s the president’s,” Heffernan said, and then looked at their surprised faces. “People, the moon has turned to fucking cheese. The president can’t not have a press conference about this. He will go up, Jaime will whip some comforting words to vomit out at the nation, and

then you all will go up and answer the questions the president has no business answering.” Heffernan pointed to Glover. “Not you, you’re a spy.”

“I didn’t think you were talking about me,” Glover assured Heffernan.

“But the rest of you, we’ll do this thing at three.”

“Do you think that’s wise?” Golden said. “People could lose their minds about this.”

“They *absolutely* will lose their minds about it,” Heffernan said. “But if we do this right, they will lose their minds in the direction of our choosing.” He stood, and they stood with him. “Now. You have eight hours to get your stories straight. Get to it. I’ll have breakfast sent down.”

MOON ALTERED BY MYSTERIOUS FORCES, PRESIDENT SAYS

**NASA and other scientific organizations to look for causes but say “no danger”
for now Early reports suggest alterations may include organic-seeming material**

By Robert Evansen, NYTimes Staff Writer

In one of the most extraordinary presidential press conferences ever given, President Brett Boone confirmed that the moon, Earth’s sole natural satellite, has undergone a significant and unexplained transformation, growing some six hundred miles in diameter seemingly instantly.

“We do not yet have answers for how or why this has happened,” President Boone said, reading from a brief, prepared statement before handing over the bulk of the conference to representatives from NASA, the National Science Foundation and the Space Force. “We have the nation’s best minds working on this, and we will find answers, and when those answers are found, we will share them with the United States and the world.”

President Boone stressed that while this lunar transformation was without precedent in recorded history, “I have been assured by experts at NASA that the nation is under no threat from it. I want to stress this: There is no danger at this time, nor do we anticipate any danger from it in the near future.”

The president added that he had been in contact with other world leaders—including heads of state from China, Russia, India and the United Kingdom—and had met with the Joint Chiefs of Staff and representatives of the United States intelligence community. “At this moment, this does not appear to be the act of any government, group or individual. As this is an issue that affects us all, governments worldwide have pledged their cooperation to determine how this could have happened, and why.”

According to Dr. Debra Dixon, chief scientist for NASA, the agency became aware of the moon’s alterations yesterday at around 5:00 p.m. Eastern, shortly before the moon, entering its waxing crescent phase, became visible in the early evening sky. Dr. Dixon noted that while the change occurred when the moon was not directly visible to observers on Earth, no special significance was accorded to that. “At this point, we assume it was random.”

Dr. Dixon said that NASA was not yet prepared to offer any definitive statements as to the nature of the transformation, cautioning that “science takes time.” That said, Dr. Dixon did say that early observations of the moon suggested that its surface, previously made from rock, might

now be partially or fully comprised of “organic-seeming material.” Dr. Dixon stressed that organic compounds were not in themselves evidence of life.

When asked how the moon’s sudden transformation would affect NASA’s schedule for crewed moon missions, Dr. Dixon said that no determination had yet been made and that those decisions would be made by NASA administrator Kevin Olsen in conjunction with John Able, administrator for the Diana missions. “Make no mistake that our aim has not wavered. We will return Americans to the moon,” Dr. Dixon said. “We also have to understand how these changes will affect our brave astronauts and their missions. We need to take them safely to the moon. We also need to bring them safely back.”



Houston, Texas | Johnson Space Center

It was no surprise to LeMae Anderson that the first person to call her, before the presidential news conference had even finished, was her mother.

“Are you still going to the moon?” Beverly Anderson near shouted at her daughter, without even so much as a “hello” or asking if her adult child was watching the news conference in the first place, which, quite obviously, she was.

“Hello, Mom,” LeMae said into her phone. As she did so a quiet ping came out of the phone speaker, a notification that someone was trying to text her. She briefly took the phone away from her face to see who it was from; it was Diego Hernandez, science and NASA reporter for the *Houston Chronicle*. She swiped the notification off the screen and returned the phone to her ear. “I’m fine, thank you for asking.”

“I’m sorry, baby,” her mother said, flustered. “I’m upset. You know how I get.”

“I do.”

“It’s just that I’m watching the news conference and they’re talking about the moon, and I don’t want anything to happen to keep you from making your trip there, and now I’m worried that you won’t be able to.”

That makes two of us, LeMae thought. She’d missed the moon’s appearance in the evening sky the night before but had seen it the next morning, all too visible in the daytime sky, a pair of horns slowly drifting away from the sun. She hadn’t been to Johnson Space Center today—she had

taken a personal day to finish up a refurb on her first-floor bathroom and had spent most of her morning and early afternoon wrestling a new “smart toilet” into place—but the Diana Team astronaut message group had been on fire most of the day with the latest rumors. Rumors because the night before JSC had locked down and become an informational black hole; not even Ted Wellmann, chief of the Astronaut Office, could get anything out of the NASA administrators except the time of the press conference.

What she said to her mother, however, was not what was going on in her head. What she said to her mother was, “As far as I know, there have been no changes to the schedule or the rosters, Mom.”

Beverly Anderson audibly exhaled, the sort of dramatic exhalation that was usually reserved for having avoided a car accident. “Well, *that’s* good,” she said. “I know how much it means to you, baby. Going to the moon, I mean.”

“Mmmmm,” LeMae said. This would be her mother’s cue to start talking about how her sole child had told her how she wanted to be an astronaut at age three, which is not a thing that LeMae remembered—she remembered as a young child wanting to be a firefighter who was also a wildlife photographer—but her mother swore up and down it was the truth, and LeMae couldn’t remember it herself. Anyway she never did get to be a firefighter, although she took quite a lot of pictures when she did her stint on the International Space Station.

There was another ping on LeMae’s phone—two actually, both arriving near simultaneously, one from NPR and another from the *Washington Post*. She cleared both and returned her phone to her ear to catch the end of a question from her mother.

“Repeat the question, Mom,” she said.

“I said, what is ‘organic-seeming material’?” her mother said. “The lady from NASA who’s talking said they have those on the moon now.”

LeMae glanced up at the screen and saw Deb Dixon talking on her television. She smiled at this; Deb was a good scientist but not a great public speaker, and she wondered how Deb had gotten roped into being NASA’s spokesperson in a presidential press conference.

“It probably doesn’t mean anything,” LeMae said to her mother. “Organic compounds are everywhere in the universe, it’s fine.” Beverly Anderson had just missed graduating high school, and anything she had learned in high school chemistry had left her brain by the time LeMae was born. Beverly was

immensely proud of her scientist astronaut daughter, and also a little confused by her. There was no family history of scientists, or astronauts. LeMae's uncle Reggie was a mechanic; that was as far as technical aptitude went.

"Wouldn't it be something if there was life on the moon now," Beverly mused to her daughter.

"We're trying to make it happen," LeMae said. The Diana missions were meant to reestablish the American crewed presence on the moon, but a significant aspect of the missions included selenological surveys designed to explore the feasibility of a long-term presence—a moon base, in other words. LeMae was excited about going to the moon, but she was even more excited about the idea that one day she might be able to *stay* on the moon. It seemed more and more preferable to the alternative. Earth was becoming progressively more annoying.

"I know you are, baby," Beverly said, and then started talking about LeMae's cousin Garrett, who was getting a divorce because he'd been cheating on his spouse with an underling.

Another message ping, this one from the local CBS affiliate. As she was swiping that one away a second message came up, this one from Dennis Gable, director of communications at the Johnson Space Center. *Call me*, he had texted, *sooner than later*.

LeMae waited until her mother drew breath, then told her that she had to take a call from work. Beverly, who LeMae could tell was just getting warmed up about Garrett, who had been on Beverly's "bad egg" list for years, accepted the cutting short of her gossip session but promised to call back later with further details. LeMae made a noncommittal sound at this, told her mom she loved her, hung up on her, and called Dennis Gable.

"Tell me that you haven't talked to anyone in the press," Gable said as he picked up. As he uttered this there was another text ping, and she checked to see who it was from.

"Not yet, but the *New York Times* just texted," she said.

"Christ," Gable muttered. "Please don't."

"I won't, but it's because I don't actually know anything," LeMae said. "Which, by the way, is an actual *problem*, Dennis."

"I know, LeMae," Gable said.

"I can't say that I love learning what we know about the current status of

the moon at the same time as my mother.”

“I understand.”

“And what the hell was Deb talking about with organic compounds being found on the moon?”

Gable sighed. “LeMae. Please believe me when I say the lack of information isn’t personal. We were *all* kept in the dark, including me. I didn’t appreciate it either, but I do understand it.”

“What do you mean?”

“I mean the moon grew six hundred miles in diameter apparently in an instant, LeMay. If you can offer me a reasonable explanation for that, I’d be happy to hear it. But in the meantime I think the first priority was not having people panic.”

LeMae said nothing to this. Instead she said, “So when *do* we get to get out of the dark, Dennis?”

“Tomorrow.”

“Tomorrow!”

“Yes, tomorrow,” Gable said. “We’re getting together all the Diana mission astronauts and some of them have to fly in, and Kevin and John want to have all the crews here for what they have to say.”

Kevin and John, NASA’s administrator and the administrator for the Diana missions, respectively. “That doesn’t sound great,” LeMae said.

“I can’t tell you any more than that, because I wasn’t told any more than that,” Gable replied. “If I knew more, I would tell you. Probably not on the phone. It’s not secure.”

“I’ll be sure not to tell you about the Diana astronaut chat group.”

“Tell me it’s on an encrypted messaging app.”

LeMae said nothing.

“Damn it,” Dennis finally said. “You’re all meeting eight a.m. tomorrow. Lunar Sample Lab. John will meet you there.”

“The Lunar Sample Lab?” LeMae had been to the lab before and had even handled some of the samples (in gloves, in containment units). But it was not a building at JSC that any of the astronauts visited with any frequency.

“Don’t ask me, I’m the messenger here. It’s not like they’re letting *me* into the meeting. I assume they will tell me what’s going on after they talk to you all. So I’m just telling you what John told me.”

“Fine.”

“In the meantime, please don’t talk to the press, or post anything on social media.”

“I was going to post my toilet.”

“Excuse me?”

“My toilet,” LeMae said. “I spent all day installing a new toilet in the house. I was going to post it. Show everyone the glamorous life of an astronaut.”

“Can you post the toilet and turn off the comments? Because I one hundred percent guarantee you that none of the comments are going to be about the toilet.”

“I’ll wait to post the toilet.”

“I appreciate that. See you tomorrow, LeMae. Congratulations on your toilet.”

“Thanks,” LeMae said, and hung up just in time to look out her living room window and see a CNN news van parking at her curb.



If Hollywood were making a movie, the Lunar Sample Lab at the Johnson Space Center would look impossibly high tech, with darkened rooms lined with neon and dozens of monitors spilling data at high speeds across their surfaces. The reality of the Lunar Sample Lab is that it looked like the clean room of a slightly impoverished technology lab, one that fabricates old versions of computer chips for pedestrian uses like vacuum cleaners and generic security cameras. From the fluorescent lighting to the linoleum floors, the Lunar Sample Lab would make a movie set designer throw up their hands in despair.

LeMae Anderson looked at her fellow Diana mission astronauts. The eighteen of them were jammed into the lab’s Pristine Sample Vault, along with John Able, JSC director Tamara Whitehead, NASA administrator Kevin Olsen, and two lab staff members. The Pristine Sample Vault was where lunar samples retrieved by the Apollo missions were stored, all in separate, hermetically sealed containment units corresponding to each of the Apollo missions that landed on the moon.

All eighteen of the astronauts, each of the three administrators and both lab technicians were in clean room whites and caps, which were required for any

working space in the lab, much less the Pristine Sample Vault. The whites made them look like immense dorks to LeMae, and she did not exclude herself from that assessment.

It would be funny, if LeMae wasn't absolutely sure this meeting was going to tell them all things they didn't want to hear.

John Able, standing by a stainless steel metal table, cleared his throat. "I know you're wondering why you're all here," he said. "Not at this meeting, but physically here, in the Pristine Sample Vault of the Lunar Sample Lab. The simplest answer is just to show you. Now, what we're going to do right now is messing with regulations, but we have clearance from both Kevin and Tamara, so let's just go ahead and do it."

He pointed to Davis Baruch, standing off to the side of him. "Davis, name an Apollo mission for me, please."

"Apollo 13," Davis said.

"That's on me," Able said. "I wasn't specific enough. Name me an Apollo mission that actually landed on the moon."

"Apollo 14," Davis amended.

Able clapped his hands and nodded to the technicians, who moved to the containment unit that stored the Apollo 14 lunar samples. Once there, one of them uncovered the thick gloves attached to the containment unit and slid her hands and arms in them. That done, they both turned and looked expectantly at Able.

Able looked at LeMae. "Pick a number between one and four," he said.

"Four," she said.

Able nodded and pointed to Frannie Levine. "Another number between one and four, please."

"Three," Frannie said.

"Four across, three down," Able said to the lab technician in the gloves. She went to the matrix of storage containers, went across four, down three, and carefully pulled out the storage container. It looked to LeMae like a food warmer at a hotel buffet. The second technician noted the container number while the first gingerly opened it, revealing triple-bagged lunar samples.

"Pick any," Able told her. "But big enough to be passed around."

The technician nodded, grabbed a pair of tongs that were inside the containment unit. She grabbed a vacuum-sealed bag and called out a number: 14042,0. The second technician noted it, grabbed a camera from a table, and

took a few pictures of it as the first technician moved it around, showing off all sides of the sample.

Then the sample was carefully removed from the containment unit. The second technician handed it to Able while the first technician sealed up the storage unit and returned it to its place.

Able nodded at the technician and took the sample. "You may wonder what the hell that was about," he said. "I want you to be sure that we aren't trying to trick you, or play a prank on you. So I had you pick the containment unit and the storage bin. There wasn't any way for us to know which you would pick ahead of time. It was happenstance." He handed the bag with the sample in it to Davis Baruch. "Take a look at that and pass that around," he said. "Tell me what you see."

Davis turned the sample around in his hands. "It's not rock," he said. "I don't know what it is." He handed it off to Laurence Yee.

Laurence examined it, and on impulse, squeezed it. "It's *soft*," he said, and looked up at Able. "What the hell, John?"

"Keep passing it around," Able said. "I want each of you to see it and feel it."

When it finally came to LeMae, she turned it around in her hands and stared at it like she was expecting subtitles to hover below it to give it context. The sample was off-white, was indeed soft, and it was all LeMae could do not to bring the sample to her face so she could smell it. She handed it off to Frannie Levine and looked at Able. "Can we get it out of the bag, or is that not allowed?"

"Let it go around once," Able said.

When the sample had been held by every astronaut, Able got it back and nodded to the technician, who went to the table the camera had been on and brought Able a pair of shears. Able took them and cut the sample out of the bag, and then placed it on the metal table he was standing by. "No touching this time," he said. "But get as close to it as you can."

Because the astronauts were not animals, they did not crowd the table; they queued up instead, Davis Baruch once again taking the lead. He got up close to the sample, sniffed, and then stood straight up. "It's fucking *cheese*," he said.

There was shocked silence.

Then LeMae asked, "What *kind* of cheese?" and the answer, if any, was

drowned out in the general commotion of seventeen other astronauts calling bullshit on John Able and NASA generally.

Able eventually got them settled down. "Pick another sample," he said. "Any sample. From any of Apollo missions. Then pick another. And another. We can do this as long as you like until all of you are convinced."

"It doesn't make any sense," Laurence Yee said.

"No it sure as hell does not," Able said. "And yet this is what we have."

"You're telling us that samples we see here are the same material that's on the moon right now," LeMae said.

Able looked over to Kevin Olsen, who all this time had been silent. "We got confirmation at about six a.m. this morning," he said.

"How?"

"Spectral analysis of an eruption on the moon," he said.

"Excuse me, *what?*" Davis exclaimed. "You expect us to believe there is a goddamned cheese volcano on the moon?"

"No," LeMae said. They all looked at her. "It's a geyser. The moon is compressing. The cheese is beginning to break down. The water is being squeezed out and is erupting on the surface."

Olsen snapped his fingers and pointed at LeMae. "That's it exactly."

"And that's why none of us are going to the moon," LeMae continued.

"That's also it, exactly," Olsen confirmed.

"I'm sure you've all figured out it's not about the geysers," John Able said. "The geysers are just the symptom. The moon is already starting to collapse under its own mass. It's going to become increasingly seismically unstable for the foreseeable future, in ways we can't predict. Even if we decided to risk it, our current landers aren't built for the sort of world the moon has become. The risk right now is too high, and it's going to get higher as time goes on."

"The president isn't going to love that," Davis said. Davis was a particular favorite of President Boone.

"He definitely doesn't love it," Olsen said. "Which is why officially the Diana missions are only on hold rather than scrubbed entirely. I've promised the president that NASA would create a commission on the current status of the moon, featuring scientists, administrators and astronauts. And since you're the president's favorite, Davis, you get to be on it."

"I don't want to be on a commission," Davis complained. "I want to go to

the moon.”

“If you want to go to the moon, you’re going to have to be on the commission,” Olsen said. Then he looked at LeMae. “You too, LeMae.”

“Why me?” LeMae asked.

“Gender balance, and also because of all the astronauts, you figured it out first. The not going part, I mean.”

“I don’t think I figured it out first,” LeMae said. “I just said it first.”

“Well, the commission will need people who say things first.”

“Excuse me, Dr. Olsen,” Frannie Levine said. “Who is going to be the first to say the moon is made out of cheese?”

Everyone’s eyes swiveled to LeMae.

“Well, *I* don’t want to do that,” LeMae replied.

“I’ll be doing that,” Olsen said. “But not immediately. We’ve told the American public that the moon has organic compounds, and that’s enough for the moment.”

“Other countries can do spectral analysis, too,” Frannie said.

“And none of *them* wants to be the first to say the moon’s turned to cheese, either,” Olsen pointed out. “We have to tell the public. Eventually. But let’s take one thing at a time.”

“And when are we telling them that the Diana missions are on hold?” Davis asked.

“Well, that’s this afternoon,” Able said. “We’ll be holding the press conference here. It’s the same press conference where we’re announcing the New Moon Commission. Which means we’ll need both of you there, Davis, LeMae.”

“And the rest of us?” Lee asked.

“Training and public relations,” Able said. “Same as always.”

There was a general groan at this.

The astronauts were out of the Sample Lab shortly after, and LeMae was looking up, staring at the crescent moon, appallingly visible in the morning sky. She stared hard at it for a long time. And then she sighed.

“Damn it,” she said to herself. “I should have become a firefighter.”

LeMae’s phone rang. It was her mother. LeMae steeled herself to finally get the details about cousin Garrett’s philandering.

“Hi, Mom,” LeMae said.

“LeMae, why are the people on the news saying the moon is made of

cheese?” Beverly Anderson said. “How are you going to land on cheese, baby?”



Stillwater, Oklahoma | The Short Stack Diner

Clyde Ramsey arrived at the Short Stack Diner at his usual time of 9:45 a.m.—after having walked the dog and caught up on the news of the day, but before his daily routine of house maintenance and errands—and waved at Emma Townsend, the Short Stack’s owner, at her post at the cash register. Then he headed toward his usual table, where, again as usual, Dave Potter and Alton Nunez were already sitting, drinking what were probably their fourth cups of coffee.

“Here,” Dave said, pushing a mug at Clyde as he sat. “We had it delivered two minutes ago. You are predictable.”

“You like that I’m predictable.” Clyde took the mug, which held, yes, coffee, black, no sugar.

“Predictability is good,” Alton said. “We could use a little more predictability at the moment.”

“This is a reference to a large cheesy object in the sky, I assume.” Clyde took a drink of his coffee, which, like all the coffee he had ever had at the Short Stack, was a dark, percolated slap to the face, which is why he drank it.

“I’m not going to lie, I did not see that one coming.”

“I don’t think *anyone* saw that coming,” Dave pointed out. “Did you see the press conference yesterday, with the astronauts? They looked like they had just swallowed a bug.”

“They didn’t want to admit the moon was made of cheese,” Alton said.

“Would you, if you were an astronaut?” Clyde set down his mug. “You’ve spent decades training to go to the moon and then one day your landing site has become a block of Velveeta. Those are some of the unhappiest people in the world right about now.”

“Along with every single astronomer, physicist and geologist,” Alton noted.

“Yes,” Dave nodded. “Not a great week to be a scientist or a believer in a rational universe.”

“I never believed the universe was rational,” Clyde said. “I’ve lived in it too long for that.”

“Why, Clyde,” Dave said. “That was almost profound.”

“For profound I’ll need another cup of coffee.” He took another sip out of his mug.

“Morning, Clyde,” Kathy Watson said, coming up to the table. “The usual?” She nodded to Dave and Alton. “I’ve already fed these two miscreants.”

“I’m not a miscreant, I’m a vagrant,” Dave declared. “That’s why I spend all my time here.”

“And what’s your excuse?” Kathy asked Alton.

“I’m a follower,” he said, pointing at Dave. “I just go where he tells me to.”

“I don’t know why you bother with these two,” Kathy said to Clyde.

“Habit,” Clyde said. “And pity.”

“That sounds about right.”

“And no, not the usual today. I’d like an omelet today. Extra cheese. Wheat toast on the side.”

“And here we were praising you for your predictability,” Dave said.

“There’s a lot more cheese around than there was last week,” Clyde noted to Kathy. “I think I should get to work on that.”

Kathy grimaced. “Oh, *that*. I don’t believe a word of that nonsense.”

“Kathy’s a scientist now,” Alton said.

“I’m as much a scientist as you are a *Solid Gold* dancer,” Kathy shot back at Alton, who grinned. “But you can’t tell me the moon is now a huge block of cheddar. That’s just idiotic.”

“It might be mozzarella,” Dave said. “Or Colby Jack. NASA has been cagey about the exact type of cheese.”

“Or that it is cheese at all,” Alton reminded everyone.

“It might be cheese food product.”

“What?” Kathy narrowed her eyes at Dave.

“Cheese food product,” Dave repeated. “Like Kraft American Singles or Cheez Whiz. Technically not cheese. It’s why Cheez Whiz is spelled with a z.”

“Two zs,” Alton pointed out.

“It has two zs but only one of them relates to cheese specifically,” Dave clarified.

“I’m going to ask you again why you hang around with these two,” Kathy said to Clyde.

“I’m beginning to wonder myself,” Clyde admitted. “But if you don’t believe that the moon’s turned to cheese, what do you think is going on?”

“How the hell should I know?” Kathy said. “All I know is that when the government is trying to convince you the moon is suddenly made from something that comes out of a cow, you should question it.”

“It could be goat cheese,” Dave said.

“Dave, I will dump your coffee onto your head, I swear to god.”

Dave wiggled his mug by the handle. “I’m out of coffee.”

“Then I will get you a refill and then dump it on your head.” Kathy turned her attention back to Clyde. “Omelet, extra cheese, wheat toast.”

“Yes, please.”

“Butter, jam or both for the toast?”

“Surprise me.”

Kathy smiled at Clyde, scowled at the other two, then walked off.

“You know, she really *will* dump your coffee on your head,” Clyde said to Dave. “She’s been here for twenty years. She has tenure.”

“We’re just flirting.”

“That’s not how you flirt,” Alton said to Dave.

“That’s not how *you* flirt,” Dave said back to Alton.

Clyde was going to point out how the Short Stack Diner was not, in fact, third grade, when a young woman approached the table. “Excuse me,” she said. “I overheard you three talking about the moon, and I was wondering if I could interview you about it.”

“And you are?” Dave asked.

“Eleanor Connor, for the *New York Times*.”

“For the *New York Times*,” Clyde caught the preposition. “Not *from* the *New York Times*.”

“I’m a stringer,” Connor admitted. “They get in touch with me when they need some on-the-spot reporting in this part of Oklahoma.”

“And how often is that?”

“Not enough to pay my bills, but sometimes enough to have breakfast in a diner.”

“They decided this moon story was worth getting the opinion of Oklahoma?” Alton asked.

“My assignment editor thought it would be worth it to get the view of the heartland on this.”

“Oh my god,” Alton said. “I have heard of the ‘man in a diner’ story, but I never thought it would actually happen to *me*.”

“It usually takes a presidential election,” Dave said. “This is a rare sighting indeed.”

Connor looked at the two men and then at Clyde. “Ignore them,” he said to her. “They have both lived alone for decades. They’ve forgotten how to be humans.”

“So, may I interview you?” Connor pressed on.

“Well, I’m not sure we fit the typical heartland interview parameters.”

“How do you mean?”

“He means you shouldn’t be fooled by the flannel shirt and John Deere cap he’s wearing,” Dave said, to Connor. “Clyde’s a professor emeritus of philosophy at OSU.”

Connor’s eyes, indeed, went to Clyde’s John Deere cap.

“My grandkid got it for me,” Clyde said. “He thought it was funny.”

“And what about you?” Connor asked Dave.

“Radiologist,” he said. “Stillwater Medical Center. Also retired.”

“Unlike these two, I am a common man,” Alton declared. “I drove a bus for Community Transit for forty years. But I *am* gay, so I have that going for me.”

“Wait, you’re gay?” Dave said to Alton.

“Not only am I gay, I dated your brother,” Alton informed Dave.

“Why would you do that? He’s a terrible person.”

“It was the eighties.”

“He was even worse back then!”

“He actually knew they dated,” Clyde said, in an aside to Connor. “That’s how they met. Alton dumped Dave’s brother as a boyfriend, kept Dave as a friend.”

“Questionable choice in retrospect,” Alton said. Dave nodded.

“And is his brother really terrible?” Connor asked. Clyde made a “so-so” motion with his hand. “Huh. Well, my editor didn’t specify who I should interview, just to interview some people and write it up by noon. So if you would be willing to be interviewed, I would appreciate it.”

“We would be happy to help you pay for your breakfast,” Clyde said.

“Thank you,” Connor said, and got out her phone, tapped open the voice recording app, and asked each of them to recite their names, ages and the professions they retired from. Then she asked, “Do you think your waitress was right? That this moon thing is a hoax?”

“I know why she feels that way,” Clyde said. “We are confronted with a seemingly impossible proposition, that the moon has turned to cheese. And we live in an age where disinformation not only exists, but is actively used as a tool by pundits and political parties.”

“Listen to him, he’s sound biting again,” Alton said to Dave.

“Thank you for this,” Dave said to Connor. “If Clyde can’t pontificate, he gets mentally constipated.”

Connor gave a perfunctory smile at this but then focused her attention back on Clyde.

“So, when you live in an age like we do, and those in authority tell you something that you know should not be possible, disbelief is an entirely rational response, at least initially.”

“But *you* don’t think it’s a hoax,” Connor pressed.

“I didn’t believe it at first,” Clyde admitted. “It’s a children’s nursery rhyme made real. It’s an impossible thing. There aren’t enough cows—”

“Or goats,” Dave interjected.

“—or any other sort of mammal to make a moon of cheese. There probably haven’t ever been enough mammals to do it. And yet there it is, or at least, we’re being told that there is.”

“Then what makes you believe it?” Connor asked. “Do you just trust the Boone administration on this?”

Dave snorted, which caused Connor to look at him. “Sorry,” Dave said, and pointed at Clyde. “He’s written several books on the philosophical roots

of political dissent.”

“Of the Western European philosophical roots of political dissent,” Clyde amended. “I can’t speak with great authority about other cultures.”

“He’s a closet anarchist,” Alton said.

“An anarchist in Oklahoma,” Connor murmured.

“It’s more common than you might think,” Clyde said to her. “Historically speaking, anyway. Look up the Green Corn Rebellion sometime.”

“Strictly speaking not actually anarchist, but quasi-socialist,” Alton said, and then looked around. “What? Bus drivers can read history books, you know.”

“What I am getting is you’re not just taking the president’s word on this,” Connor said to Clyde.

“I’m not,” Clyde agreed. “But with something like this, you have to ask, who benefits? What advantage would a hoax of this magnitude provide? Right now, at least, I can’t see that there is any benefit to the Boone administration, or any other government, to create a hoax like this. If anything, it’s a detriment. It has the potential to destabilize the world.”

“Which would be the excuse for Boone and others to consolidate control,” Dave pointed out.

“There are easier ways to do that,” Clyde said, “than creating a literally unbelievable hoax. Besides this, as impossible as the moon turning to cheese is, we don’t have to rely on the government to confirm it. All you need is a telescope and an understanding of physics. And in a pinch, you could do without the telescope. Have you been looking at the moon?”

“I looked at it last night,” Connor said. “The brightest I’ve ever seen it, and it’s still a crescent.”

Clyde nodded at this. “It’s going to get brighter, too. I watched the news this morning, and it said that scientists around the world have spotted eruptions on the moon and made spectral analyses of what’s coming out of it. Multiple confirmed sighting and reports. I may or may not believe the Boone administration, or the governments of any particular nation. What I do believe are hundreds of scientists who have no reason to want to have the moon turn to cheese, who are telling me what their instruments report.”

“How do you think it happened?” Connor asked.

“Yes, Professor Dr. Ramsey, professor emeritus of philosophy, how?” Dave cracked.

“I don’t know,” Clyde said. “I don’t know if it *is* knowable.”

“There has to be an explanation,” Connor suggested.

Clyde shook his head. “No. Just because we *want* an explanation—just because we *need* an explanation—doesn’t mean the universe is obliged to provide one.”

“Solipsistic bullshit,” Alton said.

Clyde pointed at Alton. “Don’t make me go into a history of the idea of universal causation in Western thought, my friend. I will explain Mill and Hume to you *all day*.”

“Not to me, I have a haircut scheduled at noon.”

“It’s true that humans generally, and Western thought in particular, crave explanation,” Clyde said, turning his attention back to Connor. “We are pattern-seeking animals, and we want and expect things to happen for a reason. When no reason is available, we will still provide one.”

“‘It’s God’s will,’” Dave said.

“That’s one way we say it, yes.”

“Okay, but it’s one thing if the planet randomly gets hit by a meteor and the dinosaurs are wiped out,” Connor said. “It’s another when the moon is replaced by actual human *food*.”

“Is it?”

Connor stared at Clyde.

“This is what I meant by solipsistic bullshit,” Alton said.

“It’s not solipsistic bullshit,” Clyde said, and then stopped. “Not *just* solipsistic bullshit. The two have more in common than you might initially think. In both cases, from the point of view of those affected, the change is sudden and inexplicable. It happens without apparent cause or reason. There is nothing to be done *about* it. It just *is*. And we have to deal with it, or not. In this respect we are no different than the dinosaurs who looked up in the sky sixty-five million years ago and saw the meteor bearing down on them. What we might think or believe or hope is immaterial to the unfathomable reality of what it is that is above us.”

There was silence for a moment.

“Probably not what your editors were expecting from the heartland,” Dave finally said to Connor.

Kathy winged back to the table with an omelet and a side of wheat toast with honey on it. The omelet was covered with melting shreds of cheddar

cheese.

“Speaking of human food,” Alton said, as Kathy walked off.

“I hope I answered your question usefully,” Clyde said to Connor.

“I’ll have to think about that,” Connor said. She looked at Dave and Alton. “Do you two have anything to add?”

“You want us to follow that?” Dave said. “Thanks, we’ll pass.”

“When will we see that in the *Times*?” Clyde asked.

“I’ll do a few more interviews and then I’ll file,” Connor said. “It’ll be in later today or tomorrow. Anything they don’t use I might use for the *O’Colly*.” The *O’Colly* was the student newspaper of Oklahoma State University.

“You’re with the *O’Colly*, too?”

“I’m the editor in chief,” Connor said. “That’s how I got the *Times* stringer gig. It’s a perk of the position. It’s also how I know *you*, Professor Ramsey. I took your Intro to Western Philosophy survey class three years ago.”

Clyde nodded. “The last year I taught,” he confirmed.

“So you knew what you were getting into when you came over here,” Alton said, to Connor.

“From Professor Ramsey, yes,” she said. “You two were . . . extra.”

Dave grinned. “What a very polite way of putting it.”

Connor nodded and then ducked away, looking for another patron of the Short Stack to interview.

“You made her day,” Dave said to Clyde, after she had gone.

“After forty years of fielding media requests, I know how to offer up a quote,” Clyde said, tucking into his omelet.

“It’s still all bullshit,” Alton said. “That crap about us being no different than the dinosaurs. It’s a nice quote, but it doesn’t mean anything.”

“On the contrary, it’s the only thing I said that wasn’t at least partially bullshit,” Clyde said, around a mouthful of cheese and egg.

“What does *that* mean?” Dave asked.

Clyde stabbed his fork in the general direction of the sky, out the window of the Short Stack. “We have absolutely no understanding of what’s happening to the moon right now. We know it happened, we can even describe it to each other, but there is no hypothesis or theory we can offer that remotely begins to explain how it might have happened. Our ability to reason fails at the spectacle now presented to us.”

“We’re at least a little smarter than the dinosaurs,” Alton said.

“Sure, but it doesn’t matter.” Clyde speared another chunk of his omelet. “It doesn’t matter how smart we are, if we can’t explain how the moon was replaced by a globe of cheese. In this respect, we are no different than a dinosaur, or a whale, or a spider, or a paramecium. It’s an unknowable phenomenon.” He stuck the omelet in his mouth.

“That’s pessimistic,” Dave said.

“If you want to hazard an explanation of it, I’m all ears.”

Dave shrugged. “I have no idea.”

“Don’t look at me,” Alton said, when Clyde looked at him. “I’m retired from driving buses.”

“You corrected me earlier about the Green Corn Rebellion,” Clyde said.

“That’s history, not physics.”

Clyde pointed at Alton with his fork. “Which is my point exactly. What happened to the moon is likely a domain of knowledge that we don’t have the capacity for. It’s like asking a dog to comprehend calculus.”

“You know there are lots of examples of animals using calculus,” Dave pointed out.

“Using it, yes. Understanding that what they are using *is* calculus? Being able to describe it *as* calculus? No.”

“I don’t like being compared to a calculus-deficient dog,” Alton said.

“It’s not personal,” Clyde said. “It’s not just you. We’re all dogs together on this one.”

“Maybe it is God’s will after all,” Dave said, after a moment.

“I don’t want to believe in a god that tests humans by turning the moon to cheese,” Alton said.

“It’s not God’s will,” Clyde said. “If God exists, he has better things to do than turn the moon to cheese.”

“He turned a woman to salt once,” Dave observed.

“Old Testament God,” Clyde said. “Whole different era.”

“Quite a nitpick coming from someone I know is an atheist,” Dave cracked.

“Yes,” Clyde confirmed. “And the god I don’t believe in is the forgiving one, not the wrathful one. No, this is something else entirely.”

“Are you sure?” Alton said.

“Of course not,” Clyde said. “I’m a former philosophy professor. We’re

professionally not sure of anything.” He ate some more of his omelet.

“I bet if we could get to the moon we would be able to find at least some answers,” Dave said.

“You saw those astronauts at that press conference,” Clyde replied. “Both of them said the Diana missions are on hiatus, which is a polite way of saying they’re canceled.”

“And the instruments they did have on the moon disappeared when the switchover happened,” Alton said.

“Right,” Clyde said. “All the more reason to scrap moon exploration for the time being.” He pointed to his cheese-covered omelet. “I’m closer to what’s on the surface of the moon than any astronaut is going to be for years. Maybe decades.” He cut off another chunk of his omelet and put it in his mouth.



Manta, Ecuador | The Jules Verne–San Pablo de Manta Spaceport

This wasn't the worst goddamned week that Jody Bannon had ever had—that would have been the week that his wife left him for his business partner the day after his business partner had cut him out of CHEXX, the financial services company they had cofounded, because he was informed by his lawyers he was being investigated by the SEC for some questionable stock maneuvers, which were what gave his business partner pretext to go to CHEXX's board to have him removed from the company, and also his wife told him that she was pregnant by that business partner, with whom she had hooked up after she discovered that Jody had been banging CHEXX's director of technology, which she learned because the director of technology had filed a sexual harassment suit against Jody and CHEXX, who were forced to settle out of court for *quite a lot*, and also his dog ran away only to show up two days later at the house of his now-former business partner and soon-to-be-former wife, who then served him with divorce papers that demanded half of his billions, which she would get because he hadn't bothered to sign a prenup—but it was a solid number two in terms of worst weeks, and rising fast.

First, there was the moon turning to cheese, and seriously, what the hell was *that* even *about*, but then there was the phone call he had gotten from John Able at NASA that the unmanned test flight for the lunar lander that PanGlobal Aerospace had developed for the space organization—*his*

company! *his* lunar lander! *his* rocket on the launchpad!—would need to be scrapped.

“Why?” Jody has asked. He was at the Verne Spaceport as he’d taken the call, which came shortly after President Boone had had his press conference, which Jody hadn’t watched, because he was busy with actual science.

There was measurable silence on the phone before John Able said, slowly, “Jody, the moon has turned to cheese.”

“That’s not a problem for us,” Jody declared confidently.

“I have an entire division of the United States government who thinks otherwise.”

“That’s just reactive thinking.”

“It’s not just reactive thinking, Jody. I repeat: The moon has turned to cheese.”

“All the more reason to test the lander,” Jody said. “John, look. We—I—designed this lander.” This wasn’t entirely true—Jody hadn’t had much to do with the actual design, he’d mostly just sat in on some early design meetings where his suggestions, such as basing the lander on the Eagle transporter ships from *Space: 1999*, or the *Millennium Falcon*, were politely listened to before lawyers informed him that copyright issues prevented those designs—but that part wasn’t important right now. “This lander is designed to land anywhere in the solar system that has an actual surface. We tested it in simulation, John. We even landed it on Venus, for Christ’s sake.”

(And here Jody was eliding the truth again, since the simulated landing on Venus was actually a crash; the lander’s engines failed in the planet’s violent, caustic cloud systems, and the lander itself imploded in the pressure of the atmosphere, ninety times thicker than sea level on Earth. Any humans inside the lander would have been crushed to death, but not before their lungs and skin were seared by aerosolized sulfuric acid bursting into the lander interior, with the immense heat of the planet parboiling them in their space suits like hot dogs in foil, thrown into a kiln. But Jody had declared the crash counted as a landing, and no one was going to argue with him about something that didn’t matter anyway.)

Able, however, was not impressed. “It’s not about the robustness of the lander, Jody. It’s about the humans who will have to be carried in it. Even if they *could* land on the moon as it is, there are questions about what sort of

environment will meet them there. It doesn't matter if we can land if we doom our astronauts the moment they set foot on the surface."

It's just cheese, Jody thought but did not say, because the part of his brain that therapist he went to once (because his wife begged him to before she divorced him) had told him to use to model the thoughts and emotions of others was now informing him that this would not be a welcome statement at this juncture in the conversation, and Able was (not yet) someone he could just tell to do things and not have an argument about it.

So he tried a slightly different tactic. "You know we have the latest iteration of the HMS bot going up in the lander," he said to Able. "It could offer us a lot of data that we could then use to see whether it's actually safe to take humans up there."

The HMS bot was Jody's latest pride and joy, a "human modeling system" that could record in vast detail the effects of various industrial and high-stress settings on the human body. It was in effect a super-advanced crash test dummy, but with substantially more complex abilities, and with the ability for each unit to be individually modeled to resemble specific astronauts.

There was in fact an HMS bot in Jody's office right now, based on Jody himself, with his mass, musculature, a reasonable approximation of his many bodily systems, and even "skin," "hair" and a face that was largely modeled on his own. He liked to show it to people and watch how it unnerved them. He thought that shit was funny. The JodyBot (as he liked to call it) in his office was one of two. The other JodyBot was elsewhere, currently doing science.

"I appreciate how useful that could be, Jody," Able said. "Unfortunately at this point we're not prepared to move forward. We're going to have to put the launch on hold."

"For how long?"

"We're going to be having meetings all this week on this very subject," Able said. "Believe me, you're not the only one who is disappointed. I'm going to be talking to the Diana mission astronauts tomorrow. They've been training for this half their lives. It's going to break their hearts."

"I can understand that," Jody said, not particularly caring. He had met several of the Diana mission astronauts, since PanGlobal had contracted for the lunar lander, and didn't like how they made him feel, which was vaguely inferior and competitive. He hated to feel that way and knew there was no

reason for it. He could buy and sell all of them as a group probably a million times over. They let him do some “training” once, and gave him an honorary astronaut jumpsuit once with his name on it, in appreciation for the work PanGlobal did on the lander.

The fact that they considered him just “honorary” ate at him, and you could see it in the picture they took, once he put the jumpsuit on and stood with Davis Baruch and LeMae Whateverherlastnamewas. His smile was an overly polite rictus that wits on social media said made it look like he was having a colonoscopy as the picture was being taken, and this wasn’t wrong. Not that he’d ever had a colonoscopy—nothing was to go in *that* out hole if Jody could help it—but the visible discomfort of the photo was off the charts. “You are going to tell me when you know something, yes?”

“Of course, Jody. I know how important this launch is for you. You know how important this launch is for us. In a less . . . *random* world, we’d be on schedule and on our way to the moon again. But right now, this is not that world. I thought it would be better hearing it from me directly.”

“I appreciate it, John,” Jody said, wishing Able would die horribly in a fire and musing, briefly, how it might be possible to have that happen by positioning the director of the Diana missions under one of the exhaust cones of the PanGlobal UltraMega rockets that the company used to launch satellites, and also this test lunar lander, into space. “We make a good team.”

“I think so, too, Jody,” Able said. Jody could hear just a smidgen of relief in his voice, the relief that comes when you know you’re talking to a mercurial billionaire who is as likely to be an unreasonable piece of shit as not, and you never know what you’re going to get until you have the conversation. Jody resented this reputation; he was never an asshole, he was merely exacting, and genius was often abrupt. But over time he had learned to leverage this to his advantage when he had to. “I will let you know our next steps as soon as I know them,” Able concluded.

“Fine,” Jody said, and the two of them concluded with a few pleasantries before they hung up. As soon as the call disconnected Jody threw his phone as hard as he could into the polished concrete of his office floor, shattering the glass rectangle, and then stomped on it until he slipped, nearly falling and braining himself on the glass coffee table in the center of his Verne Spaceport office.

He stopped, righted himself, and took a cleansing breath that was the only

thing he really remembered from that two-week mind-body retreat he once took in Bhutan, and then called to Maria, his personal assistant here in Manta.

“Bring me another phone,” he said to her. “I dropped this one, too.”



“So how fucked am I?” Jody asked Byron Matthews, his numbers guy and general fixer, once Maria replaced his phone. She had actually replaced his phone with her phone—he’d gone through three phones since his private jet had landed in Manta a week prior, and Maria had run out of spares, so after she had swapped out the SIM cards she headed off to Manta to clean out the local phone store—and Jody had put Byron, in his office in Austin, on speakerphone.

“Without the launch? You’re pretty fucked,” Byron said. “Our contract with the government is pretty clear that future installments of the lander money are contingent on a successful launch and trial run. Once that happens, the next installment gets unlocked. Until it happens, we can’t touch it. That’s a problem because you’re about to dip below the level of liquidity you agreed to for a lot of your loans. When you dip below that, your loans can get called in by the banks. If your loans get called in, you’re fucked.”

“Are they going to be called in?”

“They might be. Our person at Deutsche Bank is currently doing a stint in Otisville for that unpleasantness with the former president, and the bank is keen to clean up its reputation.”

“We hardly had anything to do with that.”

“Legally speaking you are correct,” Byron said. “As a practical matter, they’re under pressure to fix that whole mess. We’re wrapped up in it for better or worse. And the thing is, if Deutsche calls in its loan, that’s going to give cover for the other banks to do it, too.”

“We can cover those with assets.”

“We can,” Byron agreed. “But that would involve clearance from the board. You barely survived acquiring those loans in the first place. Givens and Harbough, to name just two, warned you that you were overleveraging PanGlobal to get the loans and that even the NASA contract wasn’t going to cover your payments, and they weren’t wrong. If you go back to the board

with your hat in your hand for something they told you was going to fail, they're not just going to say they told you so."

"Why the fuck are they even on the board?" Jody spat.

"I mean, they *did* found the company and build the underlying technology that you're using for the rockets and the lander, and you did agree to give them permanent seats on the board in return for letting you buy into the company and install yourself as CEO."

Jody nearly threw his phone at that, but remembered Maria wasn't actually nearby with another one, and stopped himself mid windup. After a moment he returned the phone to the desk from which he had snatched it. "How long until those loans are called?"

"At your current burn rate you have about three weeks until your cash dips below your call-in line," Byron said. "I estimate it will happen the same day as that eclipse, which I don't think means anything, but which I guess some people will see as symbolic. But you'll start getting static from the board as soon as it's public that the launch is delayed. You've got a week, tops, for that."

"What are our options?"

"One, you can hope Deutsche Bank doesn't call in its loan. I'd give you a thirty percent chance of that happening."

"What's two?"

"You could off-load some personal assets in the next three weeks. Or what remains of your personal assets."

Jody grimaced at this. A year prior he'd publicly committed to a "land-free lifestyle," ostensibly as a way to publicly criticize other billionaires for their conspicuous consumption, but in reality as a way to cover his divorce settlement with his second wife, who had not run off with any business partner, but who still managed to screw him thanks to the poorly designed prenup that he had written himself against the advice of his lawyer, and of Byron. After selling the majority of his real estate, Jody publicly happily, and privately miserably, lived a "van life" in the parking lot of the PanGlobal offices for three weeks before retreating to a penthouse suite at the Austin Proper, which was paid for by PanGlobal as a deductible business expense, with the rest of the floor blocked out for business and security. "How much will I get for those assets?" Jody asked.

"Not much," Byron admitted. "Considering you'd have to sell them

quickly and at fire-sale prices, I figure it would get you about another week of burn rate before you're back at the same problem you had before."

"What about cash?"

"Come on, Jody," Byron said. "You don't have *cash*. That's bad for your taxes."

Jody rubbed his eyes. "Tell me there is a third option, Byron."

"There is," Byron said. "Keep the launch on schedule."

"I was just told by NASA to scrap the launch."

"Okay. So?"

"What do you mean, 'so'?"

"I mean, so? PanGlobal has a contract with NASA, but it's a private entity. It's also a private entity incorporated in the Caymans, so technically it's not even a US company, it just has a US-based subsidiary. And the launch is taking place in Ecuador, not the United States. You're outside the jurisdiction of the United States and you can do whatever you want."

"I don't think NASA or the US government is going to agree with that interpretation," Jody said.

"It doesn't matter what they want; it matters what PanGlobal's contract with the government specifies," Byron said. "And what it specifies is that if your lunar lander goes up and has a successful test run, you get your money unlocked to build and produce more lunar landers. Whether the US can *use* the lunar landers is their problem. *Your* problem is getting paid. If you don't get paid—and you won't without a launch—you're fucked. So: Keep to your launch schedule."

"And you think that will work."

"No."

"But—"

"Not by itself," Byron continued. "We'll also have to do option four, which is working the refs."

Jody smiled at this. He knew exactly what that meant. "Senators and representatives."

"Senators and representatives," Byron agreed. "And wouldn't you know it, they're arguing about the annual NASA budget right now. I'm going to set you up a series of phone calls in the next couple of days."

"I'm ready."

"I'm going to give you a script to keep to, Jody."

“I don’t need that,” Jody said, confidently.

“Yes you do,” Byron countered.

“No I don’t.”

“Senator Velasquez.”

“Come *on*,” Jody said. “That’s not fair.”

“You sexually importuned a United States senator, Jody.”

“It’s called flirting.”

“Leaving aside that she’s rather famously a lesbian, no, it’s really not.”

“It was just the one time.”

“It was just the one time for *that*,” Byron said. “You have other marks against you when you improvise.”

“I dispute this.”

“That’s fine. In the meantime, stick to the script I’ll have written for you.”

“Byron—”

“*Jody*. You asked me to tell you how fucked you would be,” Byron reminded him. “I told you. Then you asked me what your options are, and I’m telling you. Now, no one is more aware than me that you don’t have to listen to anything I tell you. Be that as it may, please believe that I actually have your interests at heart, and not just because you pay me to be the one person in your life who doesn’t blow smoke up your ass. I am going to send you a list of senators and representatives to call, and a script. Stick to it or don’t. Just remember that if you *don’t*, the last thing you’ll hear before firing me in a rage is me telling you that you should have stuck to the script.”

“I’ll stick to the script,” Jody growled.

“Thank you, Jody, I appreciate that.”

“And you think working the refs will work.”

“No,” Byron said.

“For fuck’s sake, Byron—”

“Not without option five,” Byron said. “Which is, contributing a shitload of money.”

For the next three days, Jody worked the refs, which were all the senators and representatives that sat on appropriations committees, science committees, NASA oversight committees, House and Senate leadership. Byron’s script emphasized the opportunity for science and exploration in an exciting moment in history, the financial cost to the United States for halting this one launch, the specter of China and Russia continuing their moon

exploration missions, and a reminder that a tough election year was coming up and everyone needed their friends at a time like this.

As calls were made, coffers were filled in real time from Jody's personal accounts (he *did* have some cash, in an infinitesimal ratio to his total worth), and from PanGlobal, to reelection committees, to national congressional and senate committees, to Super PACs that aligned with the varying congresspeople's interests, and to charities and organizations that these congresspeople supported. A certain amount of cash—less than people would expect but still more than most people would be happy to learn about—just plain disappeared to places unknown, as far as Jody knew or could testify to.

It all did its job, for on the fifth day, Jody received another phone call from John Able. "You have very persuasive friends, Jody," he said.

"They just have a passion for science and exploration," Jody replied.

"Yes, I'm sure that's it exactly," Able said, dryly. "Your launch can go on as scheduled. I understand you were working on that supposition anyway."

"It was useful for our crews to continue their simulation and training, yes."

"That's a nice coincidence for you, then. Be that as it may, your mission has changed."

Jody's expression darkened. "What do you mean?"

"I'm having the new directives sent over. They are for you to launch the lander, do a basic systems check of the lander in Earth orbit, and return the lander after the systems checks are done."

"But—"

"Jody, let's cut the shit for a moment," Able said. "I know the reason you want the launch is that you need your next payment from the US government. Fine. We also know that because of current circumstances, no one is going to the moon anytime soon. There's no point in you sending the lander all the way to the moon and back, and if you *did*, you would exponentially increase the risk of mission failure, which would defeat the purpose of your launch in the first place. I assure you that if you stick to the new mission parameters and get the lander to splashdown in one piece, you'll get your money. That's what you want. Take the win."

"When you put it that way," Jody said.

"Thank you. Your people are getting the new mission directives now. Godspeed on your launch."

"Thank you," Jody said, but Able had already hung up.

Jody sat his phone down, went over to the JodyBot sitting in the corner of his office, where it gave Maria a start every time she entered the room, and gave it a big kiss on the top of its head.

And then he did a jig. A very sloppy, arrhythmic jig, right there in his office.

He did the jig not just because, against all odds, he had dodged a bullet, and kept PanGlobal funded and in his control.

No, he did a jig because his launch was cleared, and with that clearance, the lifelong goal that Jody had been working toward was back on the schedule.

Jody knew that the new directives being sent over from NASA would be tight, controlled and limited. The absolute minimum they could be to be a “successful” mission.

He also knew that he was going to ignore those directives.

Jody’s lunar lander wasn’t destined for Earth orbit. It was destined for the moon.

And that’s where it was going to go.

Jody danced another little jig, tripped a little over his own feet, and then dropped his phone, for real this time.



New York City, New York | Columbia University

Dayton Bailey was learning that timing was everything.

Two years previous, he'd been on the wrong end of the timing boat. His latest book of popular science, *Your Sibling, the Paramecium*, had garnered paramecium-sized sales, in part because one week prior to his book release, the Pulitzer Prize-winning science journalist Ted Yung had released his book *The Ballad of Your Gut Biome*, which was rapturously reviewed in the *New York Times*, the *Washington Post* and the *Atlantic*, and hit number three on the *New York Times* hardcover nonfiction list, thus making sure that it was on the entrance-facing tables at bookstores. Also the audiobook was narrated by George Clooney, because screw you Dayton Bailey and your also-ran book, that's why.

"It *had* to be intentional," Dayton said to his agent, Aubrey Stewart, as the two of them had lunch at HỒ | LÝ, a Vietnamese restaurant two blocks from Aubrey's home office in Williamsburg. HỒ | LÝ had been mildly trendy three years before, before HỒ had a falling out with LÝ; now it was just moderately okay. Dayton was aware there was a better Vietnamese restaurant three blocks over, and that if his book had done better, they would be eating there, but it hadn't done better and here they were.

"You think Random House saw you as a threat?" Aubrey said.

"Maybe," Dayton said. "It's possible."

"Darling, you're my favorite client," Aubrey lied, "but I have to tell you that Random House did *not* look at release schedules, see your book, and

think, ‘This book from a small publisher, by an associate professor from Colorado School of Mines, is going to steal readers from Ted Yung, one of the most popular science communicators in America, let’s rush his book out a week ahead of that one. And get George Clooney for the audio, just be sure.’”

“If this is how you talk to your favorite client, then I don’t want to know how you talk to the clients you’re not so fond of.”

“I talk to you like this because I know you can take it, dear,” Aubrey assured Dayton. “And anyway we know what happened: Sandbar dropped the ball.” Sandbar Books, Dayton’s publisher, which prided itself on books with an inspiring ecological message. “Your editor there left right before you turned in the manuscript, your new editor didn’t care about a book she hadn’t brought into the company, and you got slotted into their schedule without any planning, and released with even less marketing than they usually do.”

“You told me Sandbar was a good publisher.” Dayton tried to keep the whine out of his voice here, and almost succeeded.

“I told you Sandbar was a good specialty publisher with one very savvy editor,” Aubrey replied, ignoring the whine. “And Jennifer Collins *is* very savvy, which is why Pantheon snapped her up. It was a huge move for her, if not a great one for you.”

“Ted’s book didn’t help, at least,” Dayton said.

“It does appear there is only room in the market for one popular science book about microscopic creatures at a time, yes,” Aubrey allowed.

Dayton picked at his lemongrass chicken. “What do we do now?”

“For your paramecium book? Nothing. It’s been out for three weeks, Day. Its sales goose is already cooked. It debuted in trade paperback, so there’s no way to salvage it with a second release. We’re not going to get any coverage because there are already newer science books out there, and if anyone is going to do a tiny bug book feature, they’ll go with Ted’s, sorry.”

“So I just have to live with a flop.”

“It’s not a flop. People would have to know it was released for it to be a flop.”

“Jesus, Aubrey.”

“Darling, this is a good thing!” Aubrey said. “As good as it could be under the circumstances. Love, *everyone* has a book that didn’t sell for beans. Some of my clients *only* have books that didn’t sell for beans. It’s just part of the publishing scenery. But how they *didn’t* sell is at least a little bit important.

Were you given a quarter million dollar advance and a big marketing push just to sell a thousand copies? No. You got your book punted out the door without a farewell kiss.”

“I would like a quarter of a million dollars as an advance,” Dayton said. He’d gotten \$16,000, the last installment of which was still waiting to be sent.

“Not for this you wouldn’t,” Aubrey said. “And because you didn’t, you probably didn’t lose Sandbar any money, and you might even break even when all is said and done. That’s not a flop, my dear. That’s a success.”

“If you say so.”

“I do say so. Now. Dayton. Let’s be thinking about your *next* book. What have you got for me?”

“I hadn’t gotten there yet,” Dayton admitted. “I’m still stuck on this one.”

“Get unstuck. This one is done and it’s out there and it’s time to move on. It’s a short-lived relationship that didn’t work out. Let’s work on something that will last. Something big.”

“How big?”

“Well, darling, parameciums didn’t work out for you,” Aubrey said. “Let’s try the other end of the physical spectrum, shall we?”

Two weeks later and back in Golden, Colorado, Dayton sent Aubrey a pitch for a book titled *That’s No Moon: The Science Behind Fantastic Takes on the Moon and Stars (and Other Stuff)*. Every chapter would look at the science and engineering behind things like the Death Star, the roving planet Mongo, the canal-laden Mars of Ray Bradbury’s *The Martian Chronicles*, and even a short and sweet chapter on the old fable of the moon being made of green cheese—with the notation that “green” in this case was not referring to the color, but the fact that the cheese was freshly made. That was the sample chapter he had written up for the pitch, along with the outline.

This is perfect, Aubrey wrote back. *Let me see what I can do with it. I have a plan.*

A week later Aubrey rang Dayton up on the phone. “I got you a deal, love. A good one. A really good one.”

“Who with?” Dayton had asked.

“With Pantheon, of course!” Aubrey exclaimed. “I got Jennifer Collins on the phone, reminded her about how she orphaned you at Sandbar, and spent the next half hour making her feel *tremendously* guilty about how poorly

Sandbar treated you after she had gone. By the time I was done she was practically *begging* to give you a six-figure deal.”

“Six figures? Really?”

“Very low six figures,” Aubrey amended. “Still, enough for it to make a nice splash in *Publishers Marketplace* when we announce it. Jennifer’s having the paper on the contract expedited. She’s already promised it would get *all* sorts of marketing love when it comes out. She’ll be in contact with you soon, Dayton. In the meantime, get to writing. Make it fun. Make it popular.”

“I can do that,” Dayton said, joyously.

“I know you can, darling, that’s why I got you all that money.” Aubrey hung up.

Nine months later, Dayton sent the full manuscript of *That’s No Moon* to Jennifer Collins at Pantheon, who loved it and suggested only minimal changes to the manuscript, which took just a couple of weeks for Dayton to incorporate. A month later Collins sent Dayton the mock-up of the cover, which presented a slightly-off-brand Death Star to avoid the ire of Disney, hovering over a crater-pocked moonscape of green (the color) cheese.

Two months later, the first of the blurbs came in for the book, from, of all people, Ted Yung, who called the book “A genuine delight, a true mashup of science and pop culture that should be on every bookshelf.”

A few months later the book trade magazines weighed in: starred reviews from *Booklist* and *Library Journal*, the latter calling the book “one of the most enjoyable pop science books of the last several years, and a sure bet for most library collections”; a positive notice in *Publishers Weekly*; and a pan in *Kirkus*, which decried the book’s “tired collection of rehashed information gleaned from other, better popsci books.”

“Damn, that’s a rough review,” Dayton said to Aubrey, after the *Kirkus* review came in.

“Oh, honey, that’s just *Kirkus*,” she replied. “Everyone knows they don’t hire reviewers who are capable of joy.”

Two months out from publication the Pantheon PR team gave Dayton his tour schedule, which was all online, with a smattering of guest posts on science sites and writer blogs, interviews on a set of science-related podcasts, and a single live event, a week and a half after the book release, as the guest of Columbia University’s undergraduate astronomy club, Blueshift.

“I get it,” Dayton told Aubrey, after he had gotten his itinerary. “They’re treating me like a first-time author, and they don’t think they can justify the expense of a physical tour. It’s smart to have me on a bunch of podcasts. But I’m still a little disappointed.”

“Don’t be,” Aubrey said. “It’s still going to be a strong rollout. Reviewers and booksellers are loving the book. You’re going to do fine. And they love you at Pantheon. Jennifer and I are talking about what we’re going to do for your next project. In fact, why don’t you come out to New York a couple days early and have lunch with us? We’ll go to that Vietnamese place. Not the one we went to the last time, darling. The better one.”

That’s No Moon came out and the first week of sales were solidly respectable, aided by Dayton’s appearances on various science podcasts and a last-minute interview for NPR that ran on their Saturday schedules. On the Friday of release week, Jennifer Collins said that the initial few days of sales looked to be bubbling just under what it would take to get onto the NYT nonfiction print and ebook list for most weeks this time of year, but they would have to wait until the next Wednesday to see if the *Times*’ list compiler agreed with them. Dayton suspected that Jennifer Collins was, in the kindest possible way, blowing smoke up his ass.

That Monday, something happened to the moon.

That Tuesday, there was a presidential press conference.

That Wednesday, just as Dayton boarded his morning plane to New York, the rumor of the moon having turned to cheese was mostly confirmed.

Reporters and news bookers started looking around for anyone who would have anything at all useful to say about that.

And found Dayton Bailey.

Who, when his plane landed at LaGuardia, turned airplane mode off his phone, and was greeted with an absolute barrage of text messages and emails, and said the words anyone would say in his position:

“What the actual fuck?”

The phone rang. It was Aubrey.

“Where are you?” she said, with no “darling” as preamble, which was, bluntly, shocking.

“I just landed and I’m taxiing to the gate,” he said. “What’s going on?”

“Your lucky day has just arrived, Dayton,” Aubrey said. “There are going to be news crews in baggage claim waiting for you. Give them a couple of

minutes and then let the driver I've sent for you take you away."

"What do they want from me?"

"They're going to want you to talk about the moon turning to cheese."

"They've confirmed it's cheese?"

"It's all over the news."

"What kind of cheese?"

"Darling, that's what they want to ask *you*," Aubrey said.

The baggage claim interview to three television news crews, four radio news crews and a couple of YouTubers lasted for five minutes until Dayton was pulled away by his limo driver, who looked like he was Dave Bautista's meaner brother; no one stopped him from ferrying Dayton away, and after a threatening shake of the head, no one followed them to the limo.

"What am I doing now?" Dayton asked from the limo as it headed into Manhattan.

"Do you have a suit?" Aubrey asked.

"Not really, no." Dayton had assumed the presentation at Blueshift was going to be almost painfully informal. He had a hoodie.

"Then your first stop is Robbie and Co. I and Jennifer and Alisyn will meet you there." Alisyn in this case was Alisyn Leventhal, VP of publicity for Pantheon. "We'll have your itinerary for the next three days for you."

"I have an *itinerary* now?"

"Darling, I hope you didn't have your heart set on Vietnamese," Aubrey said. "You're going to be living off of protein bars for the next couple of days."

"Is that good?"

"For you physically? No. For your book sales? Yes. I have a *Times* feature scheduled for you this afternoon. You're booked on *Good Morning America* tomorrow morning and on Colbert in the evening. In between we have foreign press and radio interviews. Friday you have *CBS News Mornings*, and more interviews and TV spots. Saturday you have NPR, again, and more interviews. Oh, and your event with Blueshift has been moved from one of the Columbia Astronomy Department lecture rooms to the Roone Arledge Auditorium. We needed the extra space."

"So it's bigger?"

"It seats about a thousand people, so yes. We'll be simulcasting for the overflow."

Dayton was dumbfounded. “And this is all because I wrote a chapter on the moon turning to cheese in my pop science book.”

“In the direct, immediate sense, yes. In a larger sense, darling, it’s because the world is chaos right now and everyone is looking for someone to make sense of it. You were in the air when those poor NASA astronauts had their press conference and they were asked about the moon turning to cheese. They did their best, but they looked like they’d been hit with a plank. If *astronauts* don’t know what’s going on with the moon, who does? And then here you are with a new book that is directly on point.”

“Except for the parts about the Death Star and Mongo.”

“No one is looking at those parts right now, love. They’re looking at the parts about the moon. They are looking at the parts that are giving them answers. You’re the *only one* who is doing that today. Not the president, not NASA. *You*. In your pop science book. Now, get to Robbie and Co., and let’s get you a suit that makes you actually look like you know what you’re talking about.”

“That’s going to cost more money than I have,” Dayton joked.

“Yesterday, maybe. Today, you have the number one book on Amazon. It took off like a shot this morning while you were in the air. So you can afford a nice suit. In fact, let’s get you two. For your moment in the spotlight, you should have options.”



Excerpts from the transcript of the presentation by Dr. Dayton Bailey, associate professor of physics, Colorado School of Mines, author of That’s No Moon [#12 New York Times bestseller, Combined Print & EBook Nonfiction], presented by the Columbia University Blueshift Undergraduate Astronomy Club:

Good evening, everyone. I wasn’t expecting to talk to so many of you tonight [audience laughs]. But it’s been a long and strange week for all of us, and I think we’re all looking for some understanding about what’s been happening. Now, let me be up front about one thing: I don’t know why what happened to the moon happened. No one does, and anyone who tells you they do is maybe trying to sell you something. I *am* trying to sell you my book [laughs], but I’m not going to promise to tell you more than I actually know.

And some of the things I will be telling you tonight *I* didn't know until very recently. I know them because I've asked a number of my colleagues over the last couple of days, so that when I spoke to you tonight I would have the latest available information. This talk is a first draft of a new lunar science. But it's what we know right now.

So the first question is: How *do* we know the moon has turned to cheese?

[Slide is presented]

Officially, we know because of these: erupting geysers on the moon. These are erupting because the new substance of the moon is starting to compress under its own mass, and as it does that, it both heats up and breaks down into its constituent parts. Now, I don't know how many of you squeeze cheese [laughs], but if you do it long enough and hard enough, you'll get liquid out of it, which will be mostly water, plus some other molecules, like fats and proteins. When these geysers erupt, we can do spectral analysis. And the spectral analysis tells us: cheese.

[New slide]

But as interesting as the moon turning to cheese is—and it *is*—are the other aspects of what this change means for us and the moon. For example, we know that the moon currently has the same mass now as it did a week ago. So some things, like tides, are not going to be immediately affected by the change in the moon's composition. But the albedo of the moon—how bright it is—has drastically changed. The moon is so bright in the sky right now that it is actually brightening up the night sky. New York City isn't the best place to notice this since you already have so much light pollution here—nothing is going to outshine Times Square [laughs]—but elsewhere in the world it is already beginning to have an effect on observable light astronomy. And that's just with a half-moon in the sky. It's estimated that when the moon is full, a week from now, the sky will look like it's at dusk, even at midnight.

[New slide]

The compression of the moon, and the eruption of liquid and gas from the interior of the moon, also mean that the moon will, for a time, have something it's never had before in its entire history: both an atmosphere and an ocean. How long both will take to appear depends on a number of factors, and there's no way at the moment to predict how long that process will take. But it will happen, and soon, relatively speaking, in geologic time.

[New slide]

Does that mean that the moon, because it has an atmosphere, will suddenly become inhabitable, and we will walk around on the surface without space suits, like we do here on Earth? I hate to be the bearer of bad news, but it seems unlikely. One, the moon is likely to be geologically active for a long time, as it continues to compress under its own mass. The eruptions and geysers we see are already impressively large, and these are just the beginning of the process. Imagine trying to live somewhere there are earthquakes—or more accurately, moonquakes—all the time. The moon is already throwing out chunks of itself with the eruptions we've seen. Not enough to worry us here on Earth, but on the moon, they would represent a serious issue as the chunks hurled out in explosions come back down on the moon's surface. Moonquakes and volcanoes. Not a great combination.

[New slide]

Beyond that, there are the new lunar oceans to contend with. The surface of the new moon is almost entirely featureless—if you stood on the surface it would appear almost entirely flat in every direction, all the way to the horizon. When the lunar oceans form, they will submerge the entire surface. You will need to be very good at swimming to live on the moon. [laughs]

[New slide]

But it's important to note that the new atmosphere and oceans will be temporary—again, on a geological time frame. The moon is massive, but it's not massive enough to keep an atmosphere. Over time, the atmosphere of the moon will leak away into space, and so will the oceans. That leakage will represent the loss of a substantial amount of the mass of the moon over time. When all is said and done, and the moon's mass has squeezed everything it can out of the material it's made from, then what will remain is a less-massive moon that's no longer cheese, but the residue of what used to be cheese. The moon will again be cold and relatively dark, more like it was before, with a changed composition and a different look in the sky.

[New slide]

But all of that is awhile away. For now, the moon is brighter and bigger—big enough that the eclipse you are scheduled to see here in New York City in three weeks will no longer be an annular eclipse, it'll be a full-blown total solar eclipse. In fact, total solar eclipses are about to become rather more common, since nearly all eclipses that were going to be annular will now be

total eclipses. It's a literal silver lining to an unusual and remarkable occurrence.

I could go on, but I know many of you will be having questions. We've set up microphones on either side of the stage, and if you have mobility issues, raise your hand and we'll get a microphone over to you. So let's start with this first question here. [points to a microphone]

Question: This is more of a comment—

Answer: Sorry, no. This is not 'comment and answer,' it's 'question and answer.' So unless you have a question, please give the mic over to the next person in line.

[Grumbles, leaves the microphone; scattered applause]

Question: Any comment on the rumor that lunar samples here on Earth also turned to cheese? And if they did, would you eat any of it?

Answer: Well, that's a heck of a question to start with! I've heard those rumors, but no one seems to be offering any solid confirmation of that yet, certainly not NASA. And as I said, spectral analysis seems to be answering the question of whether the moon is made of cheese, so any samples here on Earth at this point would just be additional confirmation. Would I eat it? I don't know. It's been out in the sun for a while, you know? [laughs]

Question: You said that the moon is erupting and that it's not likely to be a place that's safe to be on, so what do you make of the fact that there's a lunar mission scheduled to launch in a couple of days?

Answer: I'm not involved with that in any way, so this is just speculation, but my guess is that they were already far enough into the launch schedule that it just made sense to continue. That and also there were other aspects of the launch that would still be useful for PanGlobal and NASA to get data from. But I don't know for sure. You would have to ask Jody Bannon.

Question: How does the moon turning into cheese have an effect on astrology?

Answer: Astrology? I'm afraid I don't know; I'm not an astrologer. What little I know about astrology says that it's predicated on the motions of celestial objects in the sky, and in that respect at least, the moon will be the same for a while. Also, I'm a Gemini, for whatever that's worth to you.

Question: What was it like to be on Colbert? [laughs, applause]

Answer: I'm not gonna lie, it was really cool. I had to buy a suit for it.

This suit, in fact. It's the most expensive thing I've ever bought that didn't have a bank loan attached to it. Scientists and authors don't usually get to be on late-night talk shows. Now I have an idea of what it was like to be Carl Sagan on *The Tonight Show*. Maybe I should get a turtleneck for the next time. [laughs]

Question: What would you say to the people who think this whole thing is a hoax?

Answer: I wish it were a hoax! [applause] I mean, I wouldn't have gotten to be on Colbert if it were a hoax, and this presentation would have been to twenty undergraduates in a classroom—no offense to my wonderful Blueshift hosts [laughs]—but life would be a lot less complicated and unsettled at the moment. But, look. Anyone who thinks it's a hoax just has to go out tonight and look at the moon in the sky. If you can find a way to explain how an entire celestial object has been transformed by any human means, I will be happy to listen. Any way that isn't easily knocked down by basic science, I should say. I've seen the conspiracy subreddits already. There's nothing there that convinces me.

Question: But doesn't the moon turning to cheese—into cheese!—shake your faith in science?

Answer: No, and I will tell you why, and to do that, let me talk about eclipses. Ten thousand years ago, when humans barely had agriculture or what we would consider anything more than the basics of civilization, when an eclipse would happen, the humans of that time would have no idea what was going on. Eclipses don't happen in the same place very often, and it's entirely possible that the humans looking up at the eclipse would never have seen one before. All they would know is that the sun would look like it was being eaten away, and for a bit of time, they would have no idea if the sun as they knew it would ever be coming back.

Today we know what an eclipse is, and why it happens, and we can even tell you when there's going to be more eclipses, centuries into the future. But ten thousand years ago, from the point of view of the humans looking *at* the eclipse, the impossible was happening, and there was no way to explain it.

I don't pretend I can explain the moon turning into cheese. I can't. No one right now can. But that doesn't mean that it *isn't* explainable—it just means that, on this particular matter, we are no different than those humans ten thousand years ago looking at an eclipse. You know those humans really are no different than we are, right? They had the same brains and the same ability to reason and understand. Bring one of those humans ten thousand years forward in time and once they stopped freaking out, you could explain the science of eclipses to them.

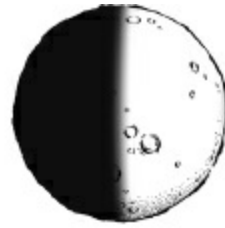
I don't know what the science is here. I may not live long enough to receive and understand the science. But I believe strongly that the science *is* there. The history of human civilization is the history of what was considered the magical and mystical slowly but surely being explained. The moon turning into cheese seems magical and mystical to me. But maybe if a human from ten thousand years in the future came back in time, they could explain it to me, and I could understand it. [applause]

Question: Okay, but it could be God testing us, right?

Answer: I mean, why would God test us with cheese? [laughs]

That's a question for a theologian, not for me. Please, seriously, ask your local clergy about that one.

DAY SEVEN



Maquoketa, Iowa | The Meadow Hill Church

The children weren't singing.

Chrissy Evans didn't fret about this at first. Whenever the children sang a song for the first time, it would take them a couple of tries to get it; Chrissy would sing the verse, which given that this was Sunday school, was usually about how God is pretty neat, and then the kids would join in with the chorus, which was also usually about how God is pretty neat, just with more of a melodic hook. By the third chorus the Sunday school kids, ages four to eight, would be singing with full throat, if not with much of a sense of key.

This morning, however, the kids were clammed right up, and Chrissy didn't get why. The song, "God Made Everything," wasn't great, but then it wasn't supposed to be great, it was supposed to be something inattentive Sunday school children could follow along to, and its lyrics were dead simple:

*God made the moon
God made the sun
God made the animals
That walk and fly and run
God made the wind
And the clouds and the rain
God made everything
God made everything!*

Chrissy hadn't made up the song; it was part of a package from PreachDex, a subscription service that James Evans, Meadow Hill's lead pastor and her brother-in-law, bought into to keep their weekly services reasonably fresh. She wasn't feeling any personal sense of failure when the song went over like a lead balloon. But after two verses she stopped and looked at her assembled charges, on the foam-padded floor of the kids' room of the Meadow Hill Church's basement, most of whom looked various shades of upset.

"What's going on?" she asked.

"I don't like that song," said Caleb Talbot, aged six, whose father, also named Caleb, Chrissy had gone to high school with here in town. The other children, no longer on the spot to answer in full, muttered their agreements.

"What's wrong with the song?"

"God didn't make the moon anymore," replied Kaylee McDonald. She was also six, and while Chrissy had not gone to school with either of her parents, Kaylee's grandmother had taught Chrissy in the fifth grade. Maquoketa was a small town.

"What do you mean?" Chrissy wanted to know.

"The devil stole the moon from God and made the new one." This bit of information was courtesy of MayLindah Cooper, age seven. MayLindah's parents were new to Maquoketa, "new" in this case meaning having moved here about five years ago, from neighboring Jones County.

Chrissy cocked her head at this. "Where did you hear that?"

"School," MayLindah said. "From the other kids."

"My dad told my mom last night," Caleb said.

"Why did God let the devil take the moon, Miss Evans?" Kaylee asked, and suddenly every face in the kids' room of the Meadow Hill Church looked directly at Chrissy's, eager for enlightenment.

Chrissy hesitated. Of all the members of the extended Evans clan, whom Chrissy had married into six years before, Chrissy was (quietly) the least fervently religious. She had grown up as a congregant of the Maquoketa Lutheran Church, down Platt Street from Meadow Hill, and had been raised in its staid mainstream protestant environs. Meadow Hill was a more colorful strain of evangelical Christianity, which most of the time was not an issue for Chrissy, but every once in a while she was reminded that some members of her brother-in-law's congregation were more fringy than others.

Chrissy helped out with Sunday school because her husband, Bobby, asked her to. Away from the church she was a pediatric nurse, so she had some experience corralling kids and keeping them calm, and also this was a way to keep Meadow Hill's costs down. James let her do things mostly as she wanted to, with two requests: one, to stick with the PreachDex materials, since he had vetted them for doctrinal compatibility, and two, not to contradict the children on the subject of anything their parents said. There had been some unpleasantness involving a previous Sunday school teacher, which James was not eager to repeat.

Given all of this, Chrissy did what any Sunday school teacher in her position would do when confronted with a heavy theological question based on a (in her opinion rather screwy) parental utterance: She punted.

"Let's do something else," she said, in the decisive tone of voice that she occasionally used as a pediatric nurse, the one that would settle down most children under the age of twelve and at least a sizable fraction of the teenagers as well. She reached over to the bookshelf, grabbed whatever picture book her fingers found, and opened it up. It was about a piglet who wanted to attend church services but whose family were, apparently, strident atheists. Chrissy started reading, not neglecting the funny voices for each of the characters. The children listened, outwardly intently, but she knew she had lost them on the moon.



"What did you say in Sunday school this morning?" James Evans asked Chrissy. The two of them, with their spouses, were having their post-services meal at the Town Crier Diner, situated near the edge of Maquoketa on Main Street. The four of them always came to the Town Crier after services, because the owner was one of James's parishioners and would reserve a corner circular booth for him every Sunday. Since Chrissy was the Sunday school teacher, their after-service meal was officially a debrief, and James could charge it to Meadow Hill rather than put it on his own card.

"I didn't say anything," Chrissy said. She was tucking into her French toast, which in her opinion was the best thing at the Town Crier.

James waved his cell phone. "I just got a text from Caleb Talbot," he said.

Why is a six-year-old texting you? Chrissy thought, before she remembered that Caleb shared his name with his father. “All right, and?”

“And he says you said something that upset his kid. About the moon. His son was agitated all the way home.”

“I didn’t say anything about the moon,” Chrissy said. “There was a song that talked about the moon, and some of the kids got upset, so I did something else.”

“That doesn’t explain why Caleb’s boy was upset,” James said.

“It might have something to do with Caleb telling him that the devil is responsible for what’s going on with the moon,” Chrissy replied. “I sang a song about God giving us the moon, and then Caleb and the other kids started going on about the devil stealing the old moon and replacing it with the new one. Then one of them asked me why God allowed it.”

“And you said.”

“I changed the subject. You told me not to question what parents said to their kids, so I didn’t.”

“What were you going to question?” said Abby Evans, James’s wife, and additionally, treasurer for Meadow Hill. Her stack of blueberry pancakes were, as usual, going mostly untouched; she always ordered the same thing, and always only took a bite or two at best. She would pack them up and give them to Buster, their Labrador, when she got home. Buster loved blueberry pancakes, and she loved Buster.

Chrissy looked at her. “I wasn’t going to question anything. Again, by request.” She looked over at James. “But I don’t think there’s doctrinal backing to suggest a moon made of cheese is somehow the work of the devil.” She cut into her French toast and readied a bite.

James was silent and looked uncomfortable.

The fork paused between Chrissy’s plate and mouth. “Oh, come on,” she said.

“Honey,” Bobby Evans said, inserting himself into the conversation for the first time.

Chrissy waved him off. “James, tell me you don’t think the devil made a moon made out of cheese.”

“It’s complicated,” James began.

“Oh, for *crying out loud*,” Chrissy exclaimed, loud enough to get a look from one of the other tables.

“Nothing’s been decided,” James continued, looking around and motioning with his hands for Chrissy to settle down. “But it’s being discussed.”

“By whom!”

“By the Midwest Evangelical Council, for one,” said Abby. The Midwest Evangelical Council was an association Meadow Hill Church belonged to. All the churches within the MEC were doctrinally and financially independent, so the council did not act as a governing body, but it was still an organization that helped to shape thought among its membership. PreachDex, the ecclesiastical service James subscribed to, was an offshoot of the MEC.

“That’s right,” James confirmed. “It’s been a primary subject of conversation—the only conversation, really—since last Monday.”

“It’s ridiculous,” Chrissy said.

“It’s *not* ridiculous,” James said, and held up his hand when Chrissy started to object. “Chrissy, the moon has turned to cheese. No one knows why or how. Is it a gift from God? Is it a warning? Is it a miracle? There’s no scientific explanation for it, that’s for sure. So it falls to us as ministers and protectors of faith to try to figure it out.”

Chrissy stared hard at James, whom she had known all her life, what with him being three years older than her and Bobby. James had spent his teenage years as a closet stoner and public meathead and had only straightened himself up in his early twenties, when he knocked up Abby and his very religious parents told him he could either get right with God and get married, or get the hell out of Maquoketa. James got married, got a degree in theology through an online seminary that didn’t bother to check whether it was James or Abby writing his papers, and then slid into an assistant pastor position at Meadow Hill, becoming lead pastor when the previous lead pastor chose not to get vaccinated for COVID.

And then had become a surprisingly very good lead pastor! Despite his meatheaded stoner past and the fact that it was Abby who probably should have had the theology degree, not James, he took the job seriously and had an extremely good sense of his congregation, and he loved his work. Meadow Hill’s congregation had grown since he’d led them, which was more than most churches in Maquoketa could say.

Chrissy let her competing versions of James battle it out in her head for a few seconds while she figured out what she wanted to say next. What came

out was, “Nothing good is going to come from declaring a moon made of cheese is the work of the *devil*, James.”

“How do you know it’s not?” Abby interjected. “You don’t! Nobody knows!”

“And you think the Midwest Evangelical Council is going to be the one to figure it out, Abby?” Chrissy shot back. “At least the pope has some official astronomers to talk to about it.”

“The pope has astronomers?” Bobby asked. Bobby owned a yard maintenance service, was good with greenery and was a solid, attentive partner, which is why Chrissy married him. But outside yards, hedges and family matters, there was much he didn’t know.

“There’s an entire Vatican Observatory,” Chrissy said. She had seen a documentary about it on the Discovery Channel a number of years back. She turned her attention back to James. “And despite you saying there’s no scientific explanation for it, it wouldn’t hurt for the MEC to check in with some actual scientists.”

“We’ve been keeping tabs on what the science community’s been saying,” James said. “But we’re also praying over it. Hoping for enlightenment.”

“And meanwhile Caleb is scaring his kid, and entire classes of first graders are getting spooked by cheese.”

“What would you have us do, Chrissy?” James asked.

“If nothing else, I’d keep the Caleb Talbots of the world from kicking the moon into the devil’s ledger. Maybe I don’t know if the devil is behind the moon turning to cheese”—she looked at Abby here—“but I know Caleb Talbot sure as hell doesn’t know, either.”

“We’re all allowed to speculate, Chrissy,” Abby said. “And doctrinally, he’s in charge of his own family.”

“Okay, but your husband is his pastor,” Chrissy replied, and brought her attention back to James. “And I would argue that *your* job is to provide him and all your other congregants with the wisdom not to preemptively declare an entire celestial object the dominion of Satan.”

James was quiet again. Abby opened her mouth to say something, but James touched her hand to quiet her. “No, Chrissy’s right,” he said. “We still have a lot of praying to do over this, but we’re not doing anyone any favors by letting people indulge in their fears. If nothing else it will make it more difficult for us when we finally do come to a conclusion.”

“What are you going to do?” Chrissy asked.

“Well, once we finish eating, I’ll text Caleb that I spoke to you about this morning and that we discussed the issue to my satisfaction. That’ll calm him down. I’ll also tell him not to get too far ahead of the rest of us about the moon. And then this evening I’ll put out a newsletter letting people know that the MEC is discussing and praying about what’s going on and that until we have some guidance for them, to keep speculation to a dull roar, and to protect their children from rumors. That should help.”

Chrissy smiled. “That makes sense,” she said.

James pointed to Chrissy. “That means you, too,” he said. “I have a feeling that you’ve already made up your mind whether the moon comes from God or from the devil. That’s fine for your own purposes. But when it comes to Meadow Hill Church, publicly, follow my lead, Chrissy.”

“I’ve never done anything but,” she said.

“I appreciate that,” James said. “But also, I’m not so sure you should be sure in your opinion. Look at us, right now. This discussion is causing strife between us. I’m not sure that strife is a gift given to us by God.”

Chrissy smiled. “As strife goes, this is a pretty mild case.”

“It’s just one part of it,” James said. “You saw other parts of it today in your Sunday school, with the children. You saw it with Caleb, convinced the moon is something terrible now. That’s just us, here, in a little town in Iowa, Chrissy. These same things are going on everywhere else on the planet, too. It adds up.”

And here Chrissy thought again about James in his stoner meathead days, back in high school, imagining the same words coming out from behind a cloud of bong smoke. So she just smiled and went back to her French toast before it got completely cold.

Even so, James’s words came back to her, around midnight, after she and Bobby had gone to bed. Bobby had been snoring by ten, as he always was; the man could sleep through a tornado, and would be dead to the world until six a.m. Chrissy, on the other hand, was still awake as Sunday crossed over to Monday. Finally she kicked the covers off herself, went down to the kitchen, and made herself some Sleepytime tea, not because she was convinced it would help her sleep, but because it would give her something to do.

As she put the kettle onto the stove, she looked out the kitchen window, into the night, and the half-moon floating there. The moon was so bright it

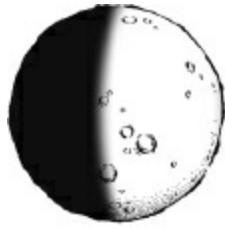
almost hurt to look at it; she had read somewhere that the reflectivity of the cheese was exponentially more than the previous rock surface, and now it was larger, too. No human had ever seen a moon this bright before, and it would just keep getting brighter until the full moon a week from now. A full, bright moon, glaring down at Earth, with a light like judgment.

That was pretty dark, Chrissy thought.

Unlike the night sky, her brain added.

She looked up at the moon again, and that stupid song from earlier in the day came back into her head, the first verse and chorus rolling around until she ended up singing part of it to herself. “*God made the moon*,” she sang, lightly.

The kettle whistled at her, making her jump. She took it off the heat, poured the water into her mug, and watched the tea steep, hoping grumpily that whoever wrote that stupid song would, in fact, turn out to be right.



DAY EIGHT

From the *Hollywood Reporter*:

The Moon Lays an Egg on Hollywood

Productions scuttled and delayed across town; “It’s a mess”

By Tony Patton

Around the world, politicians, philosophers and religious leaders are grappling with the existential questions regarding the moon turning to cheese, from Pope Hilarius II declaring it a “miracle of miracles” to President Chen of China saying the country’s scientists had determined the moon’s chemical composition was closer to bean curd than cheese. Here in Los Angeles, however, the implications have been more practical: a scramble to either shut down or salvage several productions across town that involve the moon to a greater or lesser degree.

Most prominent among these is Universal’s *Space: 2099*, the reboot of the classic *Space: 1999* television series from ITV, in which the moon was knocked from its orbit. The Albert Manx-directed film, already infamous for its producer squabbles and endless cycle of script rewrites, was shut down on Friday after three weeks of production. Sources at the studio suggest that Universal execs were “horrified” at the dailies that were coming out of the shoot, noting that leads Chris Wyman and Susie Garner “had the chemistry of room-temperature canned soup” and that on-set rewrites made the story “even less sensical” than it already had been.

The moon turning to cheese gave the studio the cover it needed to pull the plug on the production. On receiving the news, director Manx was reported to have punched a wheel of brie on the craft services table, breaking a finger.

Also put on pause: A24’s *Last Steps*, a biopic of Gene Cernan, whose presence on the Apollo 17 mission in 1972 earned him the sobriquet of “the last man on the moon,” a title he is likely to hold for longer than expected, with the current hiatus (read: cancelation) of the Diana missions to the moon. Although the Cernan story takes place when the moon was still made of rock and stone, a representative said the film, previously scheduled to begin shooting next month, was being held back “until we can take the temperature of the public” for moon-related projects.

The moon mayhem isn’t limited only to A-list reboots and prestige pics: Netflix has also put on hold its order for a second season of *Moon Patrol*, the cheeky stop-motion animated show based on the obscure ’80s video game from Williams Electronics, while the Emmy-winning PBS

puppet show *Moon Goons*, designed to teach science concepts to pre-K audiences, is undergoing a “significant” retool for its next season, which will delay the season “indefinitely,” according to PBS sources.

“Look, we get it, it’s a mess,” Seth Keeble, showrunner of *Moon Patrol*, told THR, from the show’s production offices in Burbank. “We also get that we’re not the only production that’s caught up in this mess. But I’m pretty confident that if any show is going to be able to roll with the moon turning to goddamn cheese, it’s ours. It’s not like we were already tightly bound by the laws of physics anyway.”

Indeed, even as some productions are shutting down or are delayed because of the events of the last week, producers and studios are rushing to adapt to the new circumstances, as are writers and filmmakers. “You would not believe some of the pitches we’re beginning to get. Or maybe you would,” said a development exec at a major independent production company. “This is Hollywood. Whatever’s in the news in the morning is a pitch by lunchtime. And the moon turning to cheese is probably the biggest news story of all time.”

Culver City, CA | The Office of Hannah Leventhal, VP of Development, Bramblewood Studios

APPOINTMENT SCHEDULE

8:15 a.m.: Terry Dennis, screenwriter

“I’m thinking about the moon,” Terry Dennis said, after the obligatory three minutes of welcome chitchat and the offering of spring water in a recyclable carton whose lettering was printed in soy ink. Hannah Leventhal’s assistant, Peng, had brought in a case when they got to the office; it was going to be a long day of pitching. The case had been wrapped in plastic, so the ecological benefits of the recyclable cartoons were compromised, but that was a problem for another time.

“Are you now,” said Hannah. She did not have spring water; she had a mug of black coffee. Peng had made a pot almost as soon as they had set down the case of waters. Hannah’s one remaining affectation from her NYU days was to eschew lattes and cold brews for the sort of basic black coffee she got from what diners had not yet been gentrified out of the Village. Black with about six sugars, although now the sugar was replaced with Splenda; no one’s metabolism is what it was back in college.

“Did you know that when President Boone announced that something happened to the moon, there was a nationwide spike in heart attacks?”

“I had not heard that,” Hannah confessed.

“Emergency room admissions were up seven percent,” Dennis said. “I know that doesn’t sound like much objectively,” he added quickly. “But from a statistical point of view that was incredibly significant.”

“I remember statistics from college.”

“Of course you do. So I was thinking, let’s amp this up a little bit. You’ve heard about the full moon effect, right? How police activity goes up every full moon because everyone’s acting a little bit loony?”

“I’ve heard of it. I thought it was a myth.”

“There are conflicting studies,” Dennis assured her. “Some people believe that a brighter moon makes it easier to do crime because you have more light to see by.” Hannah thought about how this would mean that high noon would be the best time of all for crime, but Dennis was on a roll. “And now, the moon is both much brighter and much larger, so the effect it would have on people, both criminally and healthwise, is going to be that much bigger.”

“So more murder, more mayhem, more myocardial infarctions.”

Dennis blinked at the alliteration, but plowed through. “Yes! We frame it all from the point of view of the police and emergency room teams on the very first full moon of this new era, in New York, Chicago or Los Angeles, wherever we can get the biggest production tax credits.”

“The forces of good, doing battle with the influence of the moon.”

“Exactly.”

“A gritty drama.”

“A comedy.”

Hannah paused at this. “A comedy, you say.”

“Yes. Like Scorsese’s *Bringing Out the Dead*.”

“I . . . think you might have a minority view about that movie being a comedy.”

“Have you seen it? It’s fucking *hilarious*.”

“So, a dark comedy.”

“A dark comedy about a bright night,” Dennis said, triumphantly, and Hannah could see that in Dennis’s mind, he had just said the film’s poster tagline.

“And do you have a title for this movie?” Hannah asked. “*Night Light*,” Dennis said, and then sat back, waiting for Hannah to acknowledge his genius.

Hannah sipped her coffee.

8:45 a.m.: Delbert Powell and Ryan Santiago, screenwriters

“Here’s a fun fact: The moon is erupting,” Delbert Powell said.

“Ker-plew.” Ryan Santiago, Powell’s writing partner, made explode-y motions with his hands.

“They say it’s because the moon’s cheese is unstable,” Powell continued. “It’s pressing down on itself, creating pressure and heat.”

“Instead of diamonds, you get these massive explosions of steam and cheese,” Santiago said.

“Steamed cheese volcanoes,” Powell said.

“The cheese dip of the gods,” Santiago concluded.

“I had heard something about the eruptions,” Hannah allowed. She was on her second cup of coffee. Dennis’s carton of water had been cleared away by Peng, who brought in two new ones for Powell and Santiago, who both cracked theirs open as soon as they sat but otherwise left them untouched.

“What if one of those cheese chunks blasted away from the moon entirely?” Powell asked. “And that, aside from cheese, it was carrying something else? Something sinister?”

“Aliens made of cheese?” Hannah ventured.

Santiago shook his head. “Bacteria.”

“Bacteria.”

“You know there has to be some on the moon now,” Powell said. “That’s how cheese gets made in the first place. Blue cheese is, like, veins of bacteria wrapped around curds.”

“I’ve never heard blue cheese described that way,” Hannah remarked.

“I’m not wrong,” Powell insisted.

“I mean, you’re a little wrong,” Santiago said. “Blue cheese is more complicated than that.”

Powell glanced at his writing partner, slightly miffed. “The point still stands. Bacteria is on the moon. And on the moon, it’s constantly being struck by cosmic radiation. No atmosphere to block them.”

“Not yet,” Santiago amended. “Eventually, though.”

Hannah saw the second glance Powell gave Santiago and suspected that after this pitch session there would be a testy debrief between them. “For the time frame of our story, there is no atmosphere, but there are cosmic rays.”

“And these cosmic rays mutate the bacteria,” Hannah prompted.

“That’s right!” Powell said, excitedly. “The bacteria mutate, making a sort of living cheese, and then a chunk of that cheese is part of an eruption on the moon. That chunk is flung into space . . . right at Earth.”

“Not right at Earth, there are some orbital dynamics involved, but, you know,” Santiago amended.

“The cheese chunk crashes into our planet—”

“Some of it. A whole lot of it would burn up in the atmosphere, but still—”

“Near a small town. One of the locals sees it come down and goes to investigate, and when he does, he’s attacked!”

“By the mutant cheese and bacteria, to be clear,” Santiago said. “Not, like, by a bear.”

“Got it,” Hannah said.

“The mutated cheese consumes that villager, and then makes its way to the town,” Powell continues.

“Where a plucky band of teenagers must save the entire town before it’s eaten and the cheese takes over the world,” Santiago added.

“Which, spoiler, they do,” Powell said.

“Or *do* they?” Santiago intoned.

Powell looked over at Santiago. “Ryan, I already told you they do.”

“I know you said they do,” Santiago said. “And *I* said we need to leave room for sequels.”

“We’re still workshopping the ending,” Powell said to Hannah.

“It’s *The Blob*,” Hannah said.

“The what now?” Powell asked.

“*The Blob*,” Hannah repeated. “Film from the fifties. Starred Steve McQueen.” This got a blank look from Powell and Santiago. “And there was a remake in the eighties. Directed by Frank Darabont. Both considered classics of the horror genre.”

Powell smiled at this. “Well, that’s the thing. Our story isn’t a horror story.”

“It’s a comedy,” Santiago said.

“A comedy,” Hannah echoed.

“Yes,” Santiago said. “It’s like *The Last of Us* meets *Superbad*.”

“And we have a great title for it,” Powell said.

“*Fantastic* title,” Santiago added.

“Which is?” Hannah asked.

Powell and Santiago looked at each other, delighted. Then Powell turned to Hannah. “*Fondon’t*,” he said.

“Well,” Hannah said. “It is *exactly* the title this story deserves.”

Powell beamed. “Right?!?”

10:00 a.m.: Damian Bardfield-Saling, director

“Consider the cheese moon as a metaphor,” Bardfield-Saling said to Hannah.

Hannah smiled from behind her third black coffee with Splenda of the day. “I was assured it was not a metaphor,” she said. “And that the moon really *is* currently made of cheese.”

“I have been assured of the same thing,” Bardfield-Saling replied. “And yet it is this other thing, too.”

Damian Bardfield-Saling was handsome, in the way certain British nobility were handsome, an athletic but not overly muscled look that suggested his sports were rowing or dressage, either of which he would have done at whatever Oxbridge college he attended after his days at Eton.

This was not too far off from the actual truth; he went to University of St. Andrews rather than Cambridge or Oxford, and Harrow rather than Eton, and had been a fencer, only narrowly missing being on the UK Olympic team as a younger man. And he could, perhaps, be considered nobility, being as he was the third son of a man who had a reasonable claim to being the Earl of Essex, but who’d settled for being a mere real estate billionaire instead.

Hannah had always considered Damian Bardfield-Saling a bit of an overbearing stiff, but her boss, Kyle Coleman, liked him, and the director was coming off a reasonably successful award season, so here he was, in her office. “If it is a metaphor, then what is it a metaphor of?” she asked.

“I believe it is of the persistence of the miraculous in our lives,” Bardfield-Saling said. “The moon turning to cheese is a miracle, is it not?”

“The pope seems to think so,” Hannah said.

Bardfield-Saling cocked his head. “And you do not?”

“I confess to hoping there might be a more reasonable answer at some point.”

“You may be waiting for that answer for a long time,” Bardfield-Saling suggested.

“You’re probably right about that,” Hannah said, and then motioned with her coffee mug for him to continue.

“Imagine two people,” Bardfield said. “One who has lost love in their life, taken by the hand of death. Another who thought he had real love, but found it was something less than what he had expected and hoped for. The two of them, bereft of love, and of the miracles of life. And then the unexpected happens.”

“The moon turns to cheese?” Hannah ventured.

“Well, I was thinking about the finding of love with each other, with the moon, in its waxing phases, representing the growing miracle of their affection. Not that the road to the love will be that smooth, mind you.”

“I would imagine at one point she might slap him and tell him to snap out of it,” Hannah said.

“I hadn’t thought about that,” Bardfield-Saling admitted. “But it would make for a memorable scene. Are you okay, Hannah?”

“Sorry?” Hannah said.

“You looked vexed there for a moment.”

“I was remembering film school,” she said. “And John Patrick Shanley.”

“The fellow who wrote the script for *Congo*?”

“No,” Hannah said, indignant. “I mean, yes, that *was* him, but I was thinking of a different script of his, and also, if you don’t mind me asking, of all the things he’s ever done, why do you think of him for *that*?”

“I’m aware he’s written some other things.”

“A few!”

Bardfield-Saling shrugged. “Some years ago I pitched *Congo* as a miniseries to a number of the streamers. I got a nibble at Paramount Plus, but in the end it fell out over rights. Inasmuch as I was making the pitch, it behooved me to watch the previous iteration. It was all right. I thought it could be improved.”

“You weren’t wrong.”

“No I wasn’t. The innovation we went with was to make it a comedy.”

Hannah, despite herself, giggled into her coffee.

“See,” Bardfield-Saling said, motioning at her. “You get where I was going with it.”

“Possibly,” Hannah said. “And what about your metaphorical moon project here, Damian? Is it also a comedy?”

“No, of course not,” Bardfield-Saling replied. “That would be the entirely wrong scaffolding for such a story.”

“I’m happy to hear you say that,” Hannah admitted.

“It would be a musical,” Bardfield-Saling said.

Noon: Chris Wyman, actor

“I want to find Tony Patton and stab him with a fork,” Chris Wyman said. He and Hannah were at the Universal Studios commissary. Despite *Space: 2099* having been unceremoniously dumped by the studio, Wyman’s first-look deal was there, as were the offices of Yippie-Kai-Yay, his production company. Wyman was picking desultorily at his ancient grain bowl, while Hannah had a small cup of tomato bisque. “Did you read that fucking story in the *Hollywood Reporter*?”

“I haven’t seen it,” Hannah replied, although of course she had, as had all the rest of the town at this point.

“It’s bullshit,” Wyman said. “Especially the part about me and Susie having no chemistry. We *have* chemistry. Believe me.”

Hannah, who was well aware that Wyman and Garner had been, in her assistant Peng’s words, “banging like stoats” in their *Space: 2099* trailers, nodded sympathetically. “Sometimes the trades just print the rumors,” she said.

“Yeah, well,” Wyman stared into his bulgur wheat and then looked up. “Fuck ’em, right? I’m still a star and they’re still . . . not.”

“That’s right,” Hannah, who was not a star and thought that stardom would be exhausting and irritating, agreed. “Now, Chris, you said that you had a project you wanted to talk to us about, notwithstanding your first-look agreement with Universal.”

“I’m not trying to go behind their back,” Wyman said. “This is an idea I pitched to them and they said yes, if I got another studio to cofinance. One of those things where they would get domestic distribution and the other studio would get international, or some such. You know?”

“I do know. What’s the project?”

“So, you know about the Willie Wonka movies?”

“I do. Warner has the rights to those.”

“I don’t want to do those, exactly. I want to do something *like* that. But not with chocolate. With cheese.”

“You want to be the Willie Wonka of . . . cheese.”

“Yes! It’s great, right? And here’s the kicker: Guess where my workshop will be?”

“I don’t know where it was before, but I have an idea of where it is now,” Hannah said.

“I mean, I do actually want you to guess,” Wyman said, the slightest tinge of hurt in his voice.

“I’m guessing the moon.”

“Yes! The west pole of the moon, specifically.” Wyman caught her look. “My writer tells me the moon is globally locked, so there could be a west pole.”

Hannah looked blankly at him until she realized he had meant *gravitationally locked*, and then smiled quickly to hide her confusion. “Got it,” she said. “So . . . this will be a musical?”

“A musical-comedy, sure.”

“Forgive me, Chris,” Hannah said. “But I didn’t know you were a singer.”

“That’s because you’ve never come to one of my karaoke parties.”

“That’s true enough,” Hannah admitted.

“Would you like to hear me sing?” Wyatt asked.

“You have a demo tape?”

Wyatt made a dismissive sound at that and then fished his cell phone out of his pocket. He swiped through a few screens, and then set the phone down on the table. Plinky synth sounds and drumbeats began to emanate out of it.

“This is one of the songs we’ve put together for it,” Wyman said. “It’s called ‘The Cheesemonger’s Blues.’ I wrote the lyrics myself. It’s a rap.” He closed his eyes, rocked his body to the beat, and then launched into a rhythm-adjacent recitation of several dozen varieties of cheese.

2:00 p.m.: Dan Sandler, screenwriter

“Who is my two o’clock?” Hannah asked Peng as she entered her office.

Peng looked at their monitor. “You have a Dan Sandler. He’s a staff writer on an Amazon show.”

“Can I reschedule him? I’m feeling a little overwhelmed at the moment.”

“Your 2:30 had to drop because of a cat emergency, so I can just shift him to that.” Peng looked at their boss. “You okay?”

“I’ve had the line ‘I will greatly dare for tasty Gruyère’ on repeat in my brain for the entire ride back from Universal City.”

Peng considered this for a moment. “Why?” they asked.

“It’s complicated.”

“The scan’s off on that,” Peng said.

“Oh, I *know*,” Hannah assured her assistant. She retreated to her office, where she blasted Charli XCX for twenty-five minutes straight.

2:30 p.m.: Dan Sandler, screenwriter (for real this time)

Sandler’s pitch: Adult animated workplace comedy about a company mining cheese on the moon. It’s *The Office* meets *Futurama*. Title: *No Whey*.

3:15 p.m.: Georgia Haynes, development exec, GeePee Productions

Haynes, representing her boss, a famous-on-social-media comedian who goes by the name of Gabby Pentin, pitched a sitcom about astronauts made unemployed by the moon turning to cheese, and the only jobs they could find—ironically—were working together in a Wisconsin cheese shop. Pentin would star as astronaut Buddy “Astro” Kurd. Title: *Kurd’s Whey*.

4:00 p.m.: Calvin Fowler, screenwriter

Fowler’s pitch was for an ironic live-action show, made to resemble the seventies children’s programming pioneered by Sid and Marty Kroft, about a band of musicians having zany adventures on a moon made of cheese. Title: *The Wild and Wonderful Whey Outs!!!*

4:45 p.m.: Hecktor Strickland, producer

Strickland’s pitch: Moon men made of cheese accidentally crash their cheese ship in the heartland of the US, where they try to avoid detection from the US military and make it back to the moon, all the while becoming famous YouTube food vloggers. It’s *Third Rock from the Sun* meets *Binging with Babish*. Title: *The Whey Home*.

5:30 p.m.: Iris Brewer, producer

“Excuse me, Ms. Leventhal?” Brewer asked Hannah, after she had sat down and reached for her carton of water. Peng had brought Brewer into Hannah’s office and deposited her into a chair. Hannah was staring into her coffee mug.

“What?” Hannah looked up and appeared to see Brewer for the first time. “I’m so sorry,” she said. “It’s been a very long day.”

“You sort of do have a thousand-yard stare to you,” Brewer said.

“I have seen things,” Hannah agreed.

“Should I . . . reschedule? I can reschedule.”

“No! That is . . .” Hannah drifted off. Iris Brewer waited. “Look, uh . . .”

“Iris. Iris Brewer.”

“Iris. The thing you’re about to pitch me.”

“What about it?”

“Is it about the moon?”

“The moon?”

“Yes,” Hannah said. “Is it about the moon, is it a comedy of any sort, and does it—and I *cannot* stress enough the importance of this part of the question—have the word ‘whey’ in it, the one referring to the dairy by-product, in any form?”

Brewer paused and then made to get up. “I think I’ll reschedule.”

“No!” Hannah made “sit down” motions with her hands. “Just . . . *tell* me.”

“All right,” Brewer said. “It’s not about the moon. It’s a true-life coming-of-age story set in the Deep South in the 1990s. The mother in the story is dying, so it’s emphatically *not* a comedy. It’s based on a memoir, and while there *is* a key scene at a family reunion that involves who brings a particular type of cake, as far as I can recollect, there is no mention of cheese at all, and definitely not whey. The closest we get to it is buttercream frosting.”

“You swear it.”

“I would need to double-check the family reunion scene about the cheese, but otherwise, yes.”

“Iris, I am going to option your story.”

Iris opened her mouth, reconsidered, and then reconsidered it again. “Ms. Leventhal, I appreciate the offer—you don’t know how *much* I appreciate the offer, really—but you don’t even know the title of the project.”

“Is it a moon or cheese-based pun?”

“It is not.”

“Then it is perfect and I want to option it.”

“Ms. Leventhal, are you all right?”

“I am,” Hannah said. “What is the title?”

“The title of the novel is *All the Things I Wish I Had Told You.*”

“That’s lovely,” Hannah said. She reached for her mug and what was left of her eighth cup of coffee of the day. “Who is the author?”

“A really wonderful writer,” Brewer said. “Her name is Vanessa Colby.”

Hannah choked momentarily on her coffee, then swallowed.



From the *Chicago Tribune*:

Everyone Wants to Know: How Can I Eat the Moon Cheese?

Spoiler: You can't and it probably wouldn't taste good anyway.

By Nadine Barnes

The moon turning to cheese last week spawned many deep questions about its cause and the nature of the universe, but come on, that's for nerds. We're here to answer the *real* question: What does moon cheese taste like, and how can we get some? I somehow convinced my editor to let me ask real experts these questions. Here are the answers which, like cheese, we all crave.

First, and for the sake of accuracy: Neither NASA nor the United States government has confirmed that the moon is currently made of cheese, despite the many, many independent confirmations by scientists around the world (except for China). "NASA has confirmed that the moon currently features many organic compounds that can be found and exist here on Earth," said NASA spokesperson Dolores Schulz. "And yes, some of those organic compounds can be found in various foods, including cheese. But, among other things, given the wide range of foods that are considered cheese, to call the material that's currently on the moon 'cheese' would not reach the level of scientific rigor we think the American public, and the world, deserve."

NASA's cagey position on moon cheese is, surprisingly, backed by some top chefs. "Not to get existential about it, but what is cheese?" said Able Young, chef at the Michelin-starred Michigan Ave Pantry, which put itself on the world's flavor map with its innovative Polish-Vietnamese fusion menu. "It requires milk, which is made by mammals, which experience tells me exists only here on Earth. As far as I know, there were no cows jumping over the moon recently. Whatever the moon is right now, we don't know its provenance. It may look like cheese in scientific instruments, but that's just looking at its constituent parts, not what it is when it's put together."

If it's not cheese, then what might it be? "I don't know," Young said. "Get me some and I will tell you."

Which is the crux of the problem. The moon is 240,000 miles away on average, which is a long way to go to get something you could probably buy at Jewel-Osco. NASA's Schulz

confirmed that the long-awaited Diana moon missions are on hold, so no astronauts will be bringing any back anytime soon. NASA did give clearance for PanGlobal Aerospace to go ahead with their test launch of their prototype lunar lander tomorrow at 10 a.m. Central, but that test flight will only take the lander to low Earth orbit, after which it will splash down off of Guyana, having done no cheese shopping at all.

And even if the lander did go all the way to the moon, PanGlobal Aerospace spokesperson Leona Shelton said, it would come home empty-handed. “For this flight, the lander was always meant to be uncrewed,” she said. “The lander will include one of our Human Modeling System bots, which helps us understand the stresses a human body will undergo during a trip to the moon. But the HMS bot wouldn’t be able to leave the module and take samples.”

If it could, said astronomer and author Bill Fait, there’s no guarantee that what it would find would still be cheese. “The cheese on the moon is breaking down as the moon’s mass compresses it,” he said. “It’s also being bombarded by energy from the sun, which raises the surface temperature of the moon to over two hundred degrees. Depending on where it lands—which is a bad idea right now anyway with its increased seismic activity—what it might find would, at best, be a sort of cheese residue, or the carbonized burnt material you get from leaving cheese in the oven too long. Which probably wouldn’t taste all that great.”

And what about the rumors, circulating since last week, that the lunar samples taken from the Apollo missions had turned to cheese as well? Could one or more of those samples be offered—for science!—for culinary experimentation?

Not likely, it appears, if we are to believe Dennis Gable, director of communications at the Johnson Space Center, where the large majority of Earth’s lunar samples are held. For national security reasons, he said, “Our lunar samples are not currently available for inspection.”

But if they had turned to cheese, would he want to eat one? “I like a good aged cheddar as much as anyone,” Gable said. “But the moon is over four billion years old. That might be too aged even for me.”

Chicago, Illinois | The Gold Coast Penthouses

“I would like you to procure me some moon cheese,” Luke Rose told Eric Lopez.

Oh, fuck you, Lopez thought at Rose. But what came out of his mouth was, “There are logistical challenges to providing for that request.”

Rose chuckled at this, from the couch on which he lounged in his robe. The couch, bespoke, cost more than what Lopez was paid in a year, and Lopez was paid well. The robe, also bespoke, and rumored to be made partially or entirely from spider silk, cost a multiple of the couch.

Lopez knew that the couch was a reskinned Morabo from Ikea; the furniture maker who’d provided it to Rose was well known among Lopez’s peers to cut corners and let his reputation gull the rich out of their money. And the robe, while exquisite, had not a stitch of spider silk in it; it was not

worth a twentieth of what Rose had paid for it before Lopez was hired by the Rose Family Trust to rein in its impulsive scion.

Lopez had been presented to Rose in flattering terms as an “expert procurement facilitator,” but Lopez had no illusions as to what his real job was. He was a babysitter for Rose and for the money Rose would unthinkingly drain from the family trust if there was no one there to manage him.

“‘Logistical challenges,’ he says!” Rose looked around the room as if to catch the eyes of flattering members of his entourage, to cue them to chuckle with him. There was no entourage; one of Lopez’s first acts had been to trim them away, an act achieved in most cases simply by telling them that the money spigot was being turned off. They wandered off shortly thereafter; Rose’s personality was not one that most people would willingly choose to hang with. Rose’s closest companions at this point were his staff, who were paid to put up with him, and Lopez, who was paid to keep Rose out of bankruptcy.

“Yes, logistical challenges,” Lopez said. “The first one being, the cheese is on the moon.”

“I’ll have you know Jody Bannon is a very good friend of mine,” Rose proclaimed. Lopez knew this wasn’t true and that Bannon, no prize himself, publicly tolerated Rose because the Rose Family Trust was a significant shareholder in PanGlobal Aerospace. “I could have him pop up to the moon for me. He’s having a launch in a few days, in fact.”

“Into low Earth orbit, as I understand it,” Lopez said.

“Yes, and I suspect Jody’s not very happy about that.”

“The moon turning to cheese does seem to have put a crimp in a lot of things,” Lopez said, blandly. “And most people would agree that it does make getting moon cheese more difficult.”

Rose snapped his fingers and pointed at Lopez. “See, that’s where I’m different than most people. Because I know something that most people don’t. I know there’s moon cheese here on Earth. I know it because I know someone who already has feelers out to buy some.”

“And who is that?”

“Thurman Mahoney,” Rose said, crumpling the name in his mouth as he said it.

Lopez said nothing to this. Thurman Mahoney was another old-money

wastrel—the Mahoneys had been in shipping at the same time as Cornelius Vanderbilt and had mostly cruised along through the miracle of compound interest ever since—and he spent almost as much money as Rose had before the trust had stepped in to intervene.

Unlike Rose, however, Mahoney was known to realize actual value from his acquisitions. He spent prolifically but not foolishly, and his network of semi-shady associates who could get things no one else could was very solid. If (and this was a big *if*) Mahoney was indeed pursuing moon cheese, some in fact might be able to be had.

“I want the moon cheese,” Rose said. “And I want it before Thurman Mahoney.”

“And what will you do with the moon cheese when you have it?” Lopez asked.

“Eat it, of course!” Rose said. “Imagine, Eric, being the first human in the history of the world to eat moon cheese! No one else before you! Ever! That’s worth *any* price.”

Lopez inwardly groaned at “worth any price,” which was Luke Rose enabling himself to spend, indeed, nearly any price for a foolish acquisition, which was the tendency that had gotten him in trouble with the family trust in the first place. After some unpleasantness involving a meeting with the trust’s board, most of whom were Rose’s cousins, whom he loathed and who loathed him in equal measure, an arrangement was made: Rose could purchase things above and beyond his (objectively ridiculously generous) monthly allowance only if Lopez was the one who approved the procurement.

In return, Lopez was required to make a good faith effort to engage the seller, if Rose had already lined them up, or locate the objects in question, if he had not, and purchase the objects if their value was in line with their asking price, in Lopez’s experience and judgment. If they were not, Lopez could decline the procurement. Lopez declined a lot of procurements. Rose was, in the parlance of con artists, an extremely easy mark.

It was this experience and judgment that Lopez was employing now, running an accountancy in his head of what the experience of being the first human, ever, to eat moon cheese would be worth from a responsible fiscal point of view. Lopez went through his mental database of the most epicurean eating experiences in history, the cost of those experiences, and how they

would compare to the experience of being the first human to consume moon cheese. After a few moments, a dollar figure coalesced in his head, a number rather higher than he liked, but lower than he'd feared.

"All right, Luke," he said. "I will look into it."

From his ridiculously overpriced couch, Luke Rose clapped like a happy boy.



"That's a big ask," Hannah Bostwick told Lopez. They were having dinner at Michigan Ave Pantry; Lopez knew the chef and was careful not to abuse the table privilege that friendship provided. Bostwick was a work associate of Lopez's. She specialized in locating objects that didn't want to be found. She was expensive, but she was reliable and she was discreet, which too many in the procurement business were not. As a bonus, she and Lopez had worked together long enough that they could be frank with each other. "And when I mean 'big ask,' I mean 'just about impossible.'"

"Because the moon cheese is on the moon," Lopez said.

"That's the first thing that comes to mind, yes. Not the only thing. But the first thing."

"We have reason to believe there's moon cheese here on Earth."

Bostwick nodded. "Which is why we're having this conversation, yes. The Apollo moon samples, right? Supposedly turned to cheese when the moon did."

"That's what I've heard as well."

"Okay, so, let me tell you why that's a nonstarter," Bostwick said. "The first thing is nearly every moon sample larger than a Cheez-It cracker is in one of two places: Johnson Space Center in Houston, and a backup government warehouse in New Mexico. Since the moon turned to cheese those are both locked down tighter than Fort Knox. Which to my mind confirms the speculation that they've turned to cheese, but doesn't solve your immediate problem."

"You . . . already know more about this than I expected you to," Lopez said.

Bostwick reached for her wineglass. "Well, Eric, you're not the first person to request my services on this matter."

“Thurman Mahoney?” Lopez asked.

“Thurman Mahoney,” Bostwick confirmed, and then took a sip of her wine. “Who I turned down, by the way.”

“Why? You know he’s good for the money.”

“It’s not about the money. It’s about the fact he’s a pig.”

“With no disrespect for my client, he’s not any better than Mahoney.”

“No he’s not,” Bostwick agreed. “But *you* are. Mahoney hired all his minions, so they reflect his shitty character. You were forced onto your guy, so you don’t share his awfulness.”

“If you agree to work with me, the things you track down for me will still go to a shitty person.”

“Yes, well, this is the nature of our particular business, isn’t it?” Bostwick said. “The working class doesn’t have much call for our services. And my point is, you pay me just as well and you don’t treat me like crap as I’m getting you things you want.” She tipped the wineglass, still in her hand, at Lopez. “So here’s to you not being a real piece of shit, Eric.” She took another sip.

Lopez returned to the subject at hand. “There are other ways to procure moon cheese than trying to raid NASA,” he said.

Bostwick nodded. “I know where you’re going with this,” she said. “You’re going to tell me about the various bits of lunar samples that are in museums across the US and the world, right?”

“For starters, yes.”

“And here’s why that won’t work. One, because by the order of the US government, all of those samples have been removed from display and, if they’re not in either Texas or New Mexico, are on their way back to NASA, under heavy guard.”

“You know this how?”

“I had an extremely off-the-record chat with the executive director of the Neil Armstrong Museum in Ohio. He told me that even as Boone was having his press conference last week, some airmen from Wright-Patterson Air Force Base came up with a truck for their chunk of the moon. He was told not to talk about it.”

“And yet he talked to you.”

“He was pissed about it, and I have a sympathetic manner. Plus I made a nice donation to the museum.”

“How thoughtful of you.”

“How thoughtful of *you*, you mean,” Bostwick said. “Since I’ll bill you for it if I take the gig.”

“Did he confirm his sample had turned to cheese?”

“Verbally, no. In every other possible way, yes. But my point is, his museum’s cheese is not available. And no offense to the Neil Armstrong Museum, but if you were going to steal a moon sample, that would be the place to do it. A bunch of amateurs could smash and grab from there. Even if the other museums in the US still had their samples, they would be harder nuts to crack, especially on a deadline. I do assume there’s a deadline.”

“My client wants to be eating his moon cheese before Thurman Mahoney.”

Bostwick snorted. “Of course he does. He doesn’t care about the object; he just cares about getting it first.”

“As you said, this is the gig.”

“I did say that.” Bostwick took another sip of wine. “But that time frame probably rules out the Soviet lunar samples, which I expect was your next line of inquiry. It’s not easy to invade Russia these days for any reason, much less to smuggle out lunar samples. Also, like the US, Russia considers moon samples government property. Owning them without special dispensation is illegal.”

Lopez cocked his head at this. “*You’re* worried about illegality.”

“I resent the entirely correct implication that I have in the past played fast and loose with the law,” Bostwick said. “I’m not *worried* about it. I do recognize it offers another layer of risk and complication, which again will likely not comport with your deadline.”

Lopez nodded. “Which is why I wasn’t going to suggest looking at the Soviet samples, because there’s hardly any of it anyway.”

“Then what do you suggest?”

“Lunar meteorites,” Lopez said.

Bostwick considered this for a moment. “*Interesting*,” she finally said.

“Interesting,” Lopez agreed. “And the easiest way to get moon material. The moon gets smacked by something, the rock flies out, makes its way through the atmosphere and lands on Earth’s surface. That’s been going on for billions of years, so there’s tons of it, and it’s legal to own and sell. You could literally buy them off eBay before last week.”

“But not now?” Bostwick asked.

Lopez shook his head. "Every auction taken down last week. Not just eBay, and not just in the United States."

"Conspiracy!" Bostwick said, conspiratorially.

"Thurman Mahoney's people didn't suggest moon meteorites to you when you were talking to them?" Lopez asked.

"Nope. It didn't occur to them, and even if it had, I think they would have told me to focus on the stuff from NASA. Mahoney's big on *provenance*."

"Which makes no sense in this case."

"No, because if it's moon cheese then it doesn't matter whether it's in a NASA locker or some eBay dealer's fridge." Bostwick paused for a moment, as their food, ordered prior to this particular conversation, arrived. They both had ordered the seafood pierogi. Once the waiter departed, she continued.

"There's another problem, though. Have you ever had moon cheese?"

"I haven't," Lopez confessed.

"Neither have I," Bostwick said. "Neither has anyone else, probably, ever in the history of the world. How are we going to be able to tell if what we acquire is actual moon cheese, and not, I don't know, Parmesan or Havarti or whatever?"

"They've done spectral analysis of the stuff," Lopez pointed out.

"Do you have a gas chromatography apparatus on your person?" Bostwick asked. "Because I don't. Finding one to borrow will be a challenge under your time pressure."

"True," Lopez said. "Let me worry about that problem, Hannah. You just find someone who wants to sell us some cheese."

"I'm happy to let you worry about that part," Bostwick said. "I do wonder what you have up your sleeve."

Lopez smiled. "Well, as it happens, you gave me an idea."



"Remember, you put me under time constraints," Bostwick said to Lopez. The two of them were in a conference room at McGovney, Burton, Newsted and Trujillo, the accountancy firm for the Rose Family Trust and other such high-toned clientele. They were waiting for their moon cheese connection.

"What does that mean?" Lopez asked.

“It means that I had to play faster and looser than I usually do,” Bostwick answered. “The provenance of the meteorite is solid. The sample they showed me at least looks like what it used to look like. As far as I can tell, it checks out. But ‘as far as I can tell’ here doesn’t go as far as it usually does. And the people who have it . . .”

“Sketchy?”

“Not *un*sketchy.”

“How sketchy?”

“Let me put it this way,” Bostwick said. “Are you packing?”

“‘Packing?’ As in, a gun? No. Are you?”

Bostwick shrugged. Before she could answer in further detail the door to the conference room opened, and an associate of MBNT led two men into the conference room. They were both wearing sunglasses and more cologne than absolutely necessary.

Bostwick and Lopez stood. “Eric Lopez, Lamar McCarthy,” Bostwick said, introducing Lopez to the shorter of the two men. They shook hands. Bostwick then motioned to the other, larger man, who did not move to shake hands. “And this is . . . Gutter.”

“Is that the first or last name?” Lopez asked.

“It’s not a name,” Gutter said. “It’s a verb.”

“Oh.” Lopez motioned McCarthy and Gutter to the conference table.

“Well, please sit.”

“I’ll stand,” Gutter said.

Lopez sat, across from McCarthy. Bostwick, also still standing, positioned herself at the head of the table. “Let me see the sample, Mr. McCarthy.”

McCarthy motioned with his hand without taking his sunglassed eyes off Lopez. Gutter reached into his jacket pocket and produced a Ziploc baggie with a small white nugget in it. He laid it on the table between them.

“High-tech delivery system,” Lopez said.

“It’s all we need for this,” McCarthy said. He pointed at the nugget. “That there is a piece of a meteorite called Touat 008. They found that meteorite in Algeria a couple of years ago. Sliced it up, put it for sale. I bought me a chunk.”

“Big astronomy fan?”

“Naw, I bought it for my nephew. Kid’s smart as fuck. Birthday’s in a couple of weeks. He likes telescopes and computers and shit. Bought him a

chemistry set when he was twelve. Just about burned down his apartment building playing with it.”

“You’re a good uncle.”

“I’m a shit uncle,” McCarthy said. “But I give good presents.”

Lopez motioned to the chunk. “And yet you’re willing to let this chunk of the moon go.”

“Yeah, well, your associate here”—McCarthy tilted his head at Bostwick—“suggested that with what you would pay me for it, I can get him something nicer. Like a Ferrari.”

“Maybe not a Ferrari,” Lopez said, glancing at Bostwick, who gave a nearly imperceptible shrug. “But maybe a nice Mercedes C-Class.”

“I don’t know about that,” McCarthy said. “He’s had his eye on an SL Roadster, though.”

Gutter shifted his weight.

“We’ll find a price that’s fair for everyone,” Lopez said, and motioned at, but did not reach for, the moon cheese. “That is, after I’ve vetted this for authenticity.”

“You’re not taking my word for it?” McCarthy said.

“I don’t think you’re here to waste anyone’s time,” Lopez replied. “But I owe a duty to my client to make sure the product is authentic. We’re talking about a considerable amount of money.”

McCarthy stared, unblinkingly, or at least that was what his sunglasses conveyed him as doing, for several seconds. “How do you propose we verify this to your satisfaction?” he said to Lopez. “No one here’s ever eaten this shit before.”

“You didn’t try it?”

“Hell, no,” McCarthy said. “When I woke up to see it changed like this, it had already been out overnight. It was sweating. I ain’t eating no ratty, swamp-ass cheese.”

“But you’re happy to sell it,” Lopez observed.

“Your dude wants it, and I want to give it to him. Anyway I put it in the fridge after that.”

Lopez looked at Gutter. “And you? Did you try any?”

“No, man,” Gutter said. “Cheese gives me the wild squirties.”

“Fair enough,” Lopez said.

“Back to the point,” McCarthy said. “How are you going to verify this

cheese?”

“Hold that thought.” He picked up his phone and sent a text he had loaded into the field. A minute later, the same MBNT associate who had led in McCarthy and Gutter led in another man. The new man looked around a little uncertainly. “Hello,” he finally said.

“Who is this?” McCarthy asked, staring up at the new man.

“Mr. McCarthy, Gutter, this is Virgil Augustine,” Lopez said. “He’s the executive director of the Armstrong Air and Space Museum in Wapakoneta, Ohio.”

“Wapa-what?” McCarthy said.

“Wapakoneta,” Virgil Augustine said. “It’s Shawnee. It means ‘the place of white bones.’”

“That’s fascinating, man,” McCarthy said, sarcastically, then turned to Lopez. “How is this chump going to verify anything?”

“Well, as it happens, Mr. Augustine here has his own sample of the moon,” Lopez said. “Or had, until the US government took it away. But before it did, you got a good long sniff of it, didn’t you, Mr. Augustine?”

“I did,” Augustine confirmed.

Lopez pointed at the chunk of cheese. “So now, if you don’t mind, I’d like him to take a sniff of your sample.”

“This is bullshit,” McCarthy said. “Even if he is who you say he is, which I doubt, and even if he had his own piece, which I doubt, *highly*, there’s no saying the cheese from one part of the moon is the same as from any other place. It’s like fuckin’ wine, man. It’s got that thing, you know, about the dirt and shit.”

“Terroir,” Gutter said.

They all looked at Gutter for a moment.

“Yeah, that,” McCarthy finished.

Lopez shook his head. “Everything we know about the cheese on the moon says that it was consistent across the whole mass, or was, until it started collapsing. So *that*”—he pointed at the cheese on the table—“would be the same as what Mr. Augustine smelled. And if you want to verify Mr. Augustine’s identity, all you have to do is go to the Armstrong Museum website. His picture is there.”

“It’s not a very good picture,” Augustine said.

“Even so,” Lopez continued, “this is the deal. Mr. Augustine sniffs the

cheese. If he says it checks out, then your nephew gets his Mercedes. If he doesn't, we're done here. Take it or leave it, Mr. McCarthy."

McCarthy glanced over at Gutter. "Don't look at me," Gutter said. "This is your shit. I'm just here to scare people."

"You're doing a great job of that," Bostwick said, from the head of the table.

Gutter bowed his head slightly. "Thank you."

"Mr. McCarthy?" Lopez said.

McCarthy waved his hand, dismissively. "Man, whatever," he said.

"Mr. Augustine," Lopez said, and motioned him toward the Ziploc. Virgil Augustine went to the table, reached for the Ziploc bag, opened it up, brought it to his face, and took a good long sniff. His nose wrinkled, and his brow furrowed. He sniffed again and repeated the expression.

"Well?"

"That's not it," Augustine said, closing up the Ziploc and setting it back down on the table. "That smells like Parmesan."

"It's not Parmesan," McCarthy said.

"What is it?" Augustine asked.

"It's Pecorino Romano."

"I don't know the difference," Augustine admitted.

"Pecorino is made from sheep's milk," Gutter said.

"You don't even *like* cheese," McCarthy said to him.

"I watch YouTube cooking videos to relax," Gutter said.

"You are *fascinating*," Bostwick said to Gutter.

"Did you ever actually have the moon cheese?" Lopez asked McCarthy.

McCarthy sat there for a few seconds, sullen behind his sunglasses, before answering. "Yeah, I did."

"Do you still have it?"

"No."

"What happened to it?"

McCarthy fell back into silence.

"His dog ate it," Gutter said.

Lopez tried very hard not to laugh. "The dog, you say."

"It was only out of the fridge for six fucking seconds," McCarthy said.

"Ginger was on it like it was steak."

"Ginger the dog," Lopez said.

“She’s a Pomeranian,” Gutter said.

“Dude, stop telling them shit!” McCarthy said.

“Which is why he couldn’t take it from her,” Gutter continued. “She grabbed it and ran under the couch, and by the time he moved it, she’d eaten the whole thing.”

“Damn dog,” McCarthy said.

“Then she threw it up,” Gutter finished.

“Thank you for not bringing us the vomit,” Lopez said, after they all absorbed that last bit of information.

“Man, don’t think I didn’t *think* about it,” McCarthy said.

It was at this juncture that a man burst into the room, followed by the MBNT associate, clearly exasperated at this man who had presumably barged past him. “Stop this sale!” said the first man.

“And you are?” Lopez asked.

“I’m James Ulrich, and I represent Thurman Mahoney,” he said. He turned his attention to McCarthy. “And whatever these people were just about to pay you for that cheese, I will pay you double.”

Virgil Augustine opened his mouth to say something, then caught Lopez shaking his head at him. Augustine closed his mouth.

“You can’t do that,” Lopez said, to Ulrich.

“*Triple*,” Ulrich said to McCarthy.

McCarthy squeaked behind his sunglasses.

“You sure you want to do that?” Lopez said, to Ulrich. “We just offered him enough to buy a Ferrari.”

Ulrich looked at McCarthy. “Which Ferrari?”

McCarthy squeaked again, inarticulate.

“The Purosangue,” Gutter said.

Ulrich snorted dismissively. “We can do better than that,” he said. He looked back at McCarthy. “What would you say to a Spider? What would you say to *three*?”

McCarthy looked like he was about to pass out.

“That was fun,” Bostwick said, sometime later, once Ulrich had bundled off McCarthy, and Gutter, and the Pecorino Romano, leaving her, Lopez and Augustine. “Of course, now we don’t have the cheese, and Thurman Mahoney will have what he thinks is the cheese. You know he’ll lord that over your guy. As soon as he can.”

“Mahoney is in the Caymans,” Lopez said. “It’ll take them hours to get there even if they leave right now.”

“That’s not a lot of time,” Bostwick said. “And I hate to say it, but I didn’t have a plan B.”

“I can think of one,” Lopez said, and looked at Augustine.

Who became aware of being looked at. “What?” he said.



Luke Rose stared at the grilled cheese on the table in front of him and made a slight gurgling noise. It was midnight at the Michigan Ave Pantry and all the straggling customers had been escorted out. Now it was only Rose, and Lopez, and chef Able Young, who had personally placed the sandwich before the salivating billionaire.

“How did you do it?” Rose asked Lopez, when he finally dragged his eye off the plate.

“That I’m not going to tell you,” Lopez said. “Because it would get some people in more trouble than they can afford to be in.”

“Come on, Eric. You can tell me,” Rose wheedled.

“I will tell you this much,” Lopez said. “In a couple of months, far enough away from tonight not to arouse any suspicion, the Rose Family Foundation will make a sizable donation to the Armstrong Air and Space Museum.”

Realization dawned on Rose’s face. “Right. Got it,” he said. He turned to his cheese sandwich.

“*Sizable*, Luke,” Lopez said. “I made promises. You better keep them.”

“Yes, yes, fine,” Rose said, irritably. “Now let me eat this before it gets cold. Oh, wait.” Rose fished into his pockets and pulled out his phone.

“What’s that for?” Lopez asked.

“I’m going to record this, obviously,” Rose said. “And send it to Thurman. Poor fucker.” He waved Lopez away, wanting to gloat in solitude. Lopez and Young retreated to the kitchen, where Bostwick and Augustine were waiting for them.

“So he bought it?” Bostwick asked.

“Of course he did,” Lopez said. He turned to Augustine. “Thank you for telling Able here the moon cheese flavor profile, so he could make the right mix of cheeses.”

“You’re welcome,” Augustine said, “but I don’t understand why you needed to do that. Your friend out there would never know.”

“He might not know *now*,” Lopez said. “But who’s to say that in the future he won’t get some actual moon cheese. If and when that happens, I want him not to notice the difference. Details matter. So thank you again.”

“Thank you for the eventual donation,” Augustine said. “We can sure use it.”

Lopez nodded and turned to Bostwick. “And thank you, Hannah,” he said.

Bostwick smiled wryly. “For what?” she said. “I actually failed at my job, you know.”

“True,” Lopez said. “But you caused Thurman Mahoney to spend a whole lot of money, and in a highly entertaining fashion. You earned your fee. Bill me.”

“Oh, I will,” Bostwick promised.

“And as for you, Able . . .” Lopez turned to the chef, and opened up his wallet to take out a Rose Family Foundation corporate card. “I owe you a favor, and you owe me silence. So charge me whatever silence costs these days. And don’t forget the tip.” Able grinned and took the card.

And then, duties discharged, Eric Lopez returned to the door of the kitchen and opened it to watch a duped billionaire enjoy a grilled cheese sandwich more than anyone else ever had in the history of the world. Rose chomped on the sandwich, choked because he was snarfing it down too fast, horked up a wad of cheese and bread onto the plate, and shoved it back into his mouth because there was no way he was wasting his moon cheese victory.

“Billionaires,” Lopez said, to himself.



Houston, Texas | The Diana Missions Control Center

John Able understood there was a problem with the lunar lander mission when the simulated trans-lunar injection turned out not to be a simulation.

The lander module, which Jody Bannon had named the *Major Tom*, launched without incident from Manta, Ecuador, on one of PanGlobal's too-cutely named UltraMega rockets. Cutely named or not, they were the state-of-the-art when it came to heavy lifting rocketry, reliable and capable. Able and his team in Houston watched via remote feed as the control crew in Ecuador handled the launch and *Major Tom's* low-orbit insertion. All the data and telemetry from the Manta Mission Control was fed simultaneously to Able's team.

As *Major Tom* was uncrewed, Manta had full operational control. As NASA was funding the development of the lander, Able could and would abort the mission if something went screwy. Up until the moment of the now-not-simulated trans-lunar injection, however, everything with the mission was going like clockwork. Jody Bannon might have been something of a grasping prick, and perhaps NASA had ceded too much of its control over its missions to private industry, but Able had to admit that Bannon's people made good hardware.

Of course, there was a reason for that: Most of Bannon's people had been poached from NASA by PanGlobal dangling far heftier salaries. The public-to-private pipeline was alive and well in the aerospace industry.

The nonsimulated trans-lunar injection was not clockwork. “What the hell is this?” Able muttered, as the data from *Major Tom* showed that the craft was beginning to deviate from its expected low Earth orbit. The simulated TLI was meant to make sure the systems involved would function as expected, without the actual burn. If there was a burn happening, that would be a serious issue involving the lander. Rockets should not burn when they are not supposed to. As rules at NASA went, that was pretty high up there.

He picked up his headset and got on the line to Ricky Miller, who was running the show at Manta. “Manta, this is Houston, how did that burn happen?” he asked, without preamble; Miller had worked with him in Houston for years.

“Uh . . .” Miller replied, which was not like him at all; Able would have counted on him to calmly recount the rapture. That particular Miller reappeared two seconds later. “Houston, we have a problem. The simulation was overridden.”

“Overridden by what?” Able said.

“By *Major Tom*.”

“Say again, Manta?”

“Houston, the simulation was overridden by the lunar module.”

Able grunted. PanGlobal’s lunar landers were not the landers of the Apollo missions, in which the computers ran off read-only memory that was literally handwoven into copper wire. The computers in the PanGlobal were capable of handling an entire mission without human intervention, trained as they were on millions of simulated moon missions with every possible variable (as of the previous week, anyway). In case of an emergency, where the astronauts were incapacitated or dead, Manta or Houston could instruct the lander’s computers to set themselves to autopilot and plot the most expedient course back to Earth.

What the lander’s computers were *not* supposed to do, however, was to override mission parameters provided to them by mission control. This was a major issue and called into question PanGlobal’s entire lander program. If they couldn’t find and replicate the bug in the lander’s bespoke operating system, designed specifically for taking humans to the moon and back, they would have to tear it out and quite possibly start from scratch, setting back the lunar program months or even years. It was a major fuckup.

Or would be if the moon wasn’t cheese, Able thought. He was reminded

again that this entire launch was a farce, something rammed through by a billionaire with pet members of Congress who, unfortunately, had control over the purse strings of the Diana missions and NASA generally. But farce or not, Ables wanted things to go smoothly and by the numbers. None of this was now by the numbers.

Able had seen enough. It was time to scrub.

Something new came over Able's headset. It was unexpected enough that it took him a few seconds to comprehend what it was.

It was music.

"What the fuck?" Able said to no one in particular. Then, "Manta, what is going on there?"

"Houston, that's not us," Miller replied.

"Say again?"

"It's not us," Miller repeated. "That's from *Major Tom*."

As Miller said that, David Bowie's baritone intoned into Able's head, singing the opening words to "Space Oddity."

Able listened, dumbfounded, as the song counted down to ignition. Then, as the guitars of the song imitated a launch, another voice came on the headset.

"Manta, Houston, this is *Major Tom*," the voice said. "Commander Jody Bannon here. We are go for the moon."



"Explain to me how the *fuck* this happened," Kevin Olsen said, over the conference room video connection. He was at NASA headquarters in Washington, DC. Also on the call was Ricky Miller, using his personal laptop in Manta, and Alan Glover, of the NSA. It was roughly a half hour after Jody Bannon had announced his presence on *Major Tom*.

"Ricky," Able said.

"For the launch of the *Major Tom*, a Human Modeling System bot was put in the lander. It was an HMS bot based on Jody's physical dimensions," Miller said. "Somewhere along the way, he switched himself with the bot. Again, he had the same dimensions and mass, and was wearing a suit that obscured his, uh, humanness."

“You didn’t notice that your famously attention-seeking billionaire boss was nowhere around for the most consequential launch of his company’s career,” Olsen said.

“A few days ago Jody’s assistant told us that he had COVID and would be isolating on his yacht,” Miller said. “He’s watched launches from his yacht before. It was plausible.”

Olsen didn’t look convinced. “You didn’t notice the HMS bot malfunctioning?”

“Sir?” Miller said.

“The HMS bots shoot out all sorts of data streams,” Olsen said. “That’s the whole point of the bots. To give us data so we can make our landers safer. You didn’t notice your bot being quiet as the fucking grave?”

“It wasn’t quiet,” Miller said. “We were receiving data from what we thought was the bot. Jody must have rigged a transmitter and simulated the data we’d get from the bot.”

“And the cameras in the lander? The ones that were showing the interior?”

Miller looked uncomfortable. “Our best guess is Jody programmed the camera to make a loop of the interior once *Major Tom* got into Earth orbit. Once the camera started looping he would have been free to move around.”

“And before then, he just didn’t move. For *hours*.”

“He was motivated, sir,” Miller said.

“Miller, you expect me to believe that you, who were running mission control, knew nothing about this.”

Miller looked helpless and miserable.

“Kevin,” Able interjected, “this isn’t a case of a spy getting into the launcher. Jody Bannon was at the very top of the organizational chart here. He had operational authority over every single aspect of this mission. This wasn’t a crime of opportunity. He’d clearly been planning this for years. He probably designed the entire mission around getting himself into *Major Tom*, right down to basing the HMS bots on himself. He would have kept the number of people who knew he was planning this to the absolute minimum. And that wouldn’t include Ricky here.”

“You’ll vouch for him?” Olsen asked.

“I will,” Able said.

“What about you, Glover?” Olsen addressed the NSA operative.

“We’ve got nothing in his communications, either with Bannon or in

general, that suggests that he was in on it,” Glover said.

“You tapped me?” Miller asked.

“You’re running a moon mission on foreign soil,” Glover said, to Miller.

“You’re somehow surprised we keep tabs on you?”

“You kept tabs on him but not on Bannon?” Olsen said to Glover.

“Mr. Miller here doesn’t have clearance to hear me say anything about that,” Glover replied.

“I’m happy to hang up,” Miller said. “Believe me.”

“Not yet,” Olsen said. “Glover, I’m guessing what you’re not saying is that nothing you have on Bannon says anything about this stunt, because if you had it, you would have told us by now.”

“That is entirely your speculation,” Glover said, nodding.

“Got it. Miller.”

“Yes, sir?”

“Can Bannon actually pilot that thing?”

“I know he’s taken hours in the lander simulator,” Miller said, carefully.

“That’s not actually a yes,” Olsen pointed out.

“Sir, *Major Tom* is designed to pilot itself if it has to.”

“But only if the human in it allows it to.”

“That’s correct, sir.”

“Which means if he wants to attempt a landing we can’t stop him.”

“Also correct.”

“John?”

“Ricky’s right,” Able said. “The trans-lunar injection burn is done. He’s on his way to the moon, and we can’t stop him.”

“When he comes back he’s not going to be happy,” Olsen growled. “His welcoming committee will be the federal marshals and a bunch of canceled contracts. *If* he comes back. The moon is fucking cheese, after all.”

“I don’t think he’s going to care about the canceled contracts,” Able said. “Or the federal marshals, come to think of it.”

“What do you mean?”

“I think that going to the moon was always his endgame. He had the PanGlobal landers overdesigned so that even a stowaway—or a billionaire with no real training—could pilot it to the surface of the moon and back. He planned this for years. When this mission was going to be scrubbed, he moved heaven and Earth to get it back on schedule. If he pulls this off, he’s

going to be the first human on the moon in decades. And if he makes it back, arresting him and canceling his contracts will be NASA kicking itself square in the balls.”

“So you think we need to help this son of a bitch,” Olsen said.

Able nodded. “We don’t have a choice. He’s already on his way. We can’t abandon him, even if we want to. We need him to make it to the moon.”

“Where he will land on cheese.”

“We have time to work that problem,” Able said.

“Glover, do you think we can pull this off?”

“The launch feed was public,” Glover said. “Everyone in the world knows Bannon is on that craft.”

“Did they hear us talk about it?” Miller wanted to know.

“Fortunately, your discussions were on a private channel,” Glover said, and Miller looked relieved. “Bannon’s Bowie sing-along and announcement that he was going for the moon, on the other hand, were out in the open.”

“So as far as anyone knows, this was planned,” Olsen said.

Glover made a seesaw motion with his hand. “We’re already seeing speculation that NASA was taken by surprise on this. If you want my advice, what I think you should say is that Bannon doing the low Earth trip was always planned, as a way for him to show his lander was safe for humans. And then, once he was up there, given how this might be the last chance for humans to visit the moon for decades at least, there was the collective decision to take the risk and have him shoot for the moon.”

“Did you do public relations before you joined the NSA?” Able asked Glover.

“No, I just don’t see the benefit of the United States admitting it got taken for a ride by a billionaire who has more entitlement than he has brains.”

“So we make this little weasel a hero,” Olsen grumbled.

“Unless you have a better plan,” Glover said.

“I don’t, and I hate that I don’t.” Olsen looked toward where Able was on his screen. “You get to be the one to tell the Diana mission astronauts about this.”

“I know,” Able said. He wasn’t looking forward to that.

“Before you do it, get with our PR people. We have zero time to spin this. You’re going to have to be on CNN before dinner about it.”

“I know,” Able repeated. He wasn’t looking forward to that either.

“What do you want me to do?” Miller asked.

“I want you to get him to the goddamned moon, is what I want,” Olsen said. “You’re chained to the hip with Able. Anything you know, he knows. If I have any more surprises out of you or Bannon, I swear to God I will have you shot into the sun. You know how much Delta-v that takes. So don’t make me do it.”

“Understood.”

“Glover, you and I are going to switch over to a meeting with Heffernan in the White House,” Olsen said. “And then you can tell him everything about Bannon you didn’t want to say in front of Miller. And then he gets to tell the president.”

“Can’t wait,” Glover said, dryly.

“Gentlemen, this asshole got the jump on us,” Olsen said. “If we make it to midnight without looking like fools, I will count it as a win. But this is absolutely the last time this can happen. No more surprises. Get him to the moon, gentlemen. And then get him back. So we can give him a ticker tape parade in public, and I can punch him in the face once we’re alone.”

Olsen switched off, then Glover and Miller. Able was alone in a conference room. He exhaled slowly for a minute, then looked up toward the sky, toward where, metaphorically at least, Bannon and *Major Tom* were.

“There’s going to be a line to punch you in the face when you get back,” Able said to Bannon, or at least to the idea of him. “I’m not going to be in the line. I’m going to be the one holding you while they punch you.”

Then he went to find his executive assistant, to schedule meetings with NASA PR and a bunch of soon-to-be-extremely-pissed astronauts.

From the r/IamA subreddit

From r/IamA

Hi! I'm Jody Bannon, engineer, geek, PanGlobal CEO, and astronaut on the way to the moon. Ask me anything!

But be warned I'm on a very low-speed connection and moving away from Earth at a high rate of speed. There may be latency!

Q: How did you manage to jump the line to the moon over real astronauts?

A: There's a business expression: "Eat your own dog food." It means that you have to believe in your product more than anyone else does, because if you don't then no one else will. I needed to prove to NASA and their astronauts that the lunar lander I designed for them is safe and will take them securely to the moon and back. What better way to prove it than to get into it myself? This is my dog food. I am taking the first bite!

Q: Are you actually going to land on the moon? Rumor is, it's made of cheese.

A: What's life without risk? I and my teams at PanGlobal and NASA are evaluating every aspect of this journey and taking nothing for granted. We will assess the situation the closer we get to the moon. If it's not safe, then the information we'll learn from a close flyby will still be valuable to everyone on Earth. We'll see!

Q: The estate of David Bowie says they didn't give you permission to broadcast "Space Oddity." Are you worried you're going to get sued by Ziggy Stardust himself?

A: My lawyers tell me that NASA has an ASCAP/BMI license, so it's probably covered under that. If not, I can probably afford the fine.

Q: Are you going to eat any of the moon cheese?

A: Maybe! *Major Tom* has space for lunar samples, so if I land I will try to collect some for scientific examination. But I might get hungry and have a snack!

Q: PanGlobal stock went waaaaaay up today. You're now about 60 billion dollars richer than you were this morning. How does that make you feel?

A: I'm currently in a spaceship in cislunar space, heading toward a celestial object that has somehow been changed from its former form into something else entirely alien. Right now, I am further away from home, and from all of the rest of humanity, than any other person has been in decades. Compared to all of that, the petty squabbles and desires of the world, including the accumulation of wealth, seem utterly insignificant.

On the other hand, being \$60 billion richer in one day is also pretty cool!

Q: Have you seen any aliens?

A: I can neither confirm nor deny aliens are out here. I have been told to say this by my friend Zorgulg.

Q: Why did you decide to make the PanGlobal lunar landers a single unit? That's very different from the Apollo missions, where there was a lander and a command module, and from other proposed NASA designs.

A: The long answer would take me more time than it would take to get to the moon and back, so let me go with the short answer: efficiency. This isn't the 1960s, where the Apollo astronauts were essentially flying in tin cans. We have a lot more design options available to us. A single-ship design has drawbacks as well as advantages, of course, but that's why PanGlobal has the best engineers: to maximize the advantages and minimize

the disadvantages. Finally, the single-ship design ultimately offers the most flexibility for future moon exploration. For example, it works really well with the proposed space station that we plan to put in orbit around the moon, which is something we can do regardless of what the moon is made of.

Q: What changes did you have to make for your trip, considering that the moon is now larger, and brighter, and made of cheese?

A: Surprisingly little! For whatever reason the moon is almost exactly the same mass as it was before, and that was the big thing. We didn't have to do any huge recalculation for the fuel required to get *Major Tom* there and back. The moon being bigger has made us tweak a bit around the edges, and the fact the moon is now volcanically active (although with steam instead of lava) is another factor we have to consider.

Q: Are you not at all concerned about the optics of the first man going back to the moon in decades—and likely the only person to go back for decades and possibly even longer—being an immensely privileged billionaire?

A: No, should I be? I can't help it if hard work, smarts, and, yes, a little luck worked out for me. I'm not going to apologize for it. I don't think what I've done is unachievable for others. I know I'm rich, but I don't think of myself as any different than anyone else. It could be any of us here in this spacecraft. It just happens to be me this time. I hope I won't be the last, but if I am I will try to represent humanity with honor, humility and dignity.

Q: What would you say to the other billionaires who have space companies?

A: Just this: Hey, Elon and Jeff? Ha ha hah lol suck it, dudes.



Madison, Wisconsin | The Fromagery

“So, what was it that interested you in working at the Fromagery?” Phyllis Hubbard asked Annette Li. Phyllis was the co-owner of the Fromagery with her husband, Jack. The sign above the store entrance declared that it had been a family business since 1953, which was a long time for anyone to be professionally involved with cheese on a daily basis. Annette was at the shop a half hour before opening for her interview; she stood on one side of the sales counter while Phyllis was on the other.

“Well, I do like cheese,” Annette said. This wasn’t strictly true, since like many people whose genetics ran partially or wholly through Asia, Annette had a lactose intolerance, and too much dairy product would make her intestines cramp. She ate cheese infrequently as a result, outside the occasional slice of pizza. But Annette figured she didn’t need to eat cheese to sell it.

“So, a passion for cheese,” Phyllis said. “And not because you’re a student who needs a job to pay for rent and tuition.”

“I mean, that, too,” Annette confessed. Annette’s mom had informed her that Dad, who left her and her mom when Annette was a toddler, was late yet again on his agreed-upon contribution to the University of Wisconsin, and Mom, who was already stretched thin with everything else, couldn’t make up the gap.

“It’s okay if you just need a job,” Phyllis said, and motioned around the place. “That’s how I came here in the first place.”

“I thought you were the owner,” Annette said.

“I am, with my husband. His family owned it, I got a job because I was a student”—she motioned to Annette—“and that’s how I met Jack. When his dad retired, Jack took over the shop, and by that time we were married and here we are. It’s not like I had a burning passion for cheese, either. In fact—” Phyllis reached below the counter and pulled out a small bottle of Lactaid. “These come in handy on a daily basis.”

“Oh, wow,” Annette said. “You have no idea how much I appreciate you sharing this fact about yourself.”

Phyllis nodded. “I get it. In my case it’s either take one or fart my way through the day, and I can’t blame all of that on the Stinking Bishop.” She tapped the display counter, where, in fact, a bit of Stinking Bishop lay, with a small sign testifying that it was imported from Dymock, Gloucestershire. Then she shook the Lactaid bottle. “We sell this, by the way. You may be surprised at how many of our customers need it. We also keep it on hand for staff. And if you take the job you’ll learn which cheeses are actually low in lactose. Which is a considerable number.”

“I’m learning things already,” Annette said. “Does this mean I have the job?”

Phyllis pointed up. “You know what happened to the moon.”

Annette nodded. “I do.” It was hard to miss when an entire celestial object was replaced, in open violation of physics, and of science generally. Annette, a history major, was not directly engaged in the turmoil the event caused within the science community of the University of Wisconsin and elsewhere, but this was the sort of thing that transcended disciplinary boundaries, and even a very stressed undergraduate’s need to eat, sleep, and stay focused on her own course load.

“Since the moon event our sales have tripled,” Phyllis said.

“That’s great.”

“It is great,” Phyllis said. “And also, it’s extremely tiring. We barely have enough staff as it is. If you weren’t a career criminal I was probably going to hire you.”

“I’m not a career criminal,” Annette promised.

“Can you work a Stripe terminal? Are you willing to stock cheeses and keep the store neat?”

“I did merch for a friend’s band that used a Stripe terminal, so, yes, and

yes to the other stuff.”

“Will you read up on the cheeses we sell? I have note cards. It’s the exact same information we put on the cards in the display cases, but people don’t read.”

“I can do that.”

“How many hours can you work?”

“How many do you have?”

Phyllis was taken aback at that. “I have a *lot*, but you must have classes.”

“Two on Tuesdays and Thursdays this semester, one Monday, Wednesday and Friday. All in the morning. Actually I’m in between classes. You can have me the rest of the time.”

“You’ll still need to study.”

“Ma’am—”

“Phyllis.”

“Phyllis, I’m going to be honest with you. If I don’t work a whole lot of hours this semester, it’s not going to matter if I study or not.”

“Ah, okay. Well, things will be busy in the short run, but this cheese rush can’t last forever. When things get slow you can study here. We’re okay with that.”

“Thank you.”

“I was a student when I started working here, too,” Phyllis said. “I remember how it is.”

“When do you want me to start?”

“When’s your next class done?”

“Twelve thirty.”

“If you want to start today, come back at two. We’ll get you set up.”

Annette smiled. “That would be great. Thank you so much.”

“No, thank you,” Phyllis said, also smiling. “We really need the extra help right now.” Her smile shrank a bit. “There is one thing.”

“What is it?”

“There’s another cheese shop here on the Capitol Square.”

“Yes,” Annette said. “DemocraCheese. What a strange name for a cheese shop.”

“It’s because it’s in the building formerly occupied by the offices of the Democratic Party of Wisconsin.”

“Okay.”

“There’s some . . . tension between our shops.”

“Like, how? A turf war or something?”

“A little bit, yes.”

“Over . . . cheese?”

“It’s a little more complicated than that. And a lot stupider. But also, yes, over cheese.”

“Okay, well, then, as a matter of disclosure, you should know I also applied there. They had an opening, too.”

“That’s perfectly all right,” Phyllis said. “Obviously. You needed a job. Have you had that interview yet?”

“I . . . uh, I was going to interview with them this afternoon. I didn’t think I would get a job this quickly. I’ll call and let them know I got a job elsewhere.”

“That’s probably a good idea. I’m sure they will be fine. I can’t imagine they got only one job applicant.”

“How many did you get?”

“Two. He called just before you arrived. He found a job elsewhere, he said.”

“I can’t complain about that,” Annette said, smiling again.

“Neither can I. Now.” Phyllis picked up her bottle of Lactaid and offered it to Annette. “Want one?”



Phyllis was not wrong about the Fromagery being incredibly busy; when Annette arrived at two it was tightly packed with customers. Phyllis hailed Annette and had her take over processing sales while she and her husband, Jack, to whom Annette was briefly introduced, took orders and prepped them for sale. It was a better part of an hour before the shop cleared and Annette was able to take a breath.

“Is it always like this?” she asked.

“Recently, a lot more often than it used to be,” Phyllis said.

“We have three types of customers,” Jack said. “We have the regulars, we have the tourists and we have the weirdos. Those were the tourists.”

“There are cheese tourists?” Despite being a lifelong Wisconsinite, Annette was having a hard time wrapping her head around this concept.

“More than you might expect,” Jack replied. “And recently, more weirdos than you imagine, too.”

“This is what happens when the moon turns to cheese,” Phyllis added.

The door binged and a young man entered. He smiled briefly at the three of them and then started looking around the store.

“Annette, we need to bring in some more cheese from the back,” Phyllis said. “You mind watching the front of the store for a few minutes?”

“No problem,” Annette said. “I’ll holler if this guy gives me any problems.”

The young man looked up at this and then smiled again. Phyllis and Jack disappeared into the back.

“I promise not to be any trouble,” the young man said. “I’m just interested in cheese.”

“What about cheese interests you?” Annette asked.

“All parts of it, really,” the young man replied. “The visual. The tactile. The gustatorial. The astronomical.”

Annette looked at him oddly.

“A little too much?” the young man asked.

“I was just told there were three types of cheese shop customers,” Annette said. “The regulars, the tourists, and the weirdos.”

“Well, this is my first time in the shop,” the young man said. “So I’m not a regular.”

Annette looked him up and down. “You don’t look like a tourist to me.”

“I’m not sure I like where that leaves me in this taxonomy,” said the young man.

“I didn’t make up the rules,” Annette told him.

“No, you’re blameless,” the young man agreed.

“You should buy some cheese. That’ll get you started on becoming a regular.”

“I like this idea,” the young man said. “What do you suggest?”

“Honestly, I have no idea,” Annette said. “This is literally my first shift.”

“You must know something.”

Annette shook her head. “I could read the cards for you if you like.”

“Not only am I a weirdo, but I’m now illiterate,” the young man said. “Ouch.”

“I could have one of the owners come back to help you.”

“Well, now, I think that’s bringing in a ringer,” the young man replied.
“No. Please. Pick a cheese for me.”

Annette waved toward the shop. “I just told you know I don’t know anything about most of these.”

“That’s what makes it exciting. It’s fromage roulette.”

“And if I pick something you hate?”

“Then when I come back, cementing my status as a regular, I will tell you, ‘pick anything else but that last one.’ Deal?”

Annette smiled, put on a plastic glove, reached into the display cabinet and pulled out a small wedge of cheese. “Here you are,” she said.

“Wonderful,” said the young man. “What is it?”

“I don’t know,” Annette said. “I didn’t read the card.”

Once the nice young man who was possibly a weirdo and not yet a regular had purchased his cheese and was sent on his way, Phyllis and Jack reappeared to restock their cheeses, and Jack regarded Annette.

“You know,” Jack began.

“Don’t you even think it, Jack,” Phyllis said.

“Think what?” Annette asked.

“He’s about to ask you to spy on DemocraCheese,” Phyllis said.

“It’s not spying,” Jack said. “It’s just some light reconnaissance.”

“It’s sad, is what it is,” Phyllis said.

“Ted doesn’t know she works for us yet, is all I’m saying,” Jack said. “She could get in, look around, and get out, and no one would be the wiser.”

“Who’s Ted?” Annette asked.

“He’s the owner of DemocraCheese,” Phyllis said. “He’s also Jack’s brother.”

Annette looked at Jack. “You have . . . a cheese store feud with your brother?”

“I told you it was complicated,” Phyllis said to Annette. She looked back to her husband. “And stupid.”

“He’s the one who made it stupid,” Jack said.

“Oh my god, you’re impossible,” Phyllis said.

“I’m not wrong!”

“You are wrong in every conceivable way, Jack.”

“Why do you need me to go to his cheese shop?” Annette asked.

“Because he’s been banned from it,” Phyllis said.

“Why?”

“Yeah, Jack, *why* are you banned from your brother’s cheese shop?” Phyllis asked.

“It’s a long story,” Jack told Annette, and she could hear the evasiveness in his voice. “Anyway, forget it. It’s not important.”

“I mean, now I kind of want to go see the other cheese shop,” Annette said. Jack, despite himself, brightened. “Really?”

“I’m not going to *spy*,” Annette said. “But I have to admit now I’m curious.”

“If you go on your own recognizance, for your own reasons, I certainly won’t tell you no,” Jack said.

Annette looked over at Phyllis, who rolled her eyes. “You’re enabling him,” she said. “But as long as you’re there you can get me a pound of their Yorkshire Wensleydale.”

“When should I go?” Annette asked.

“Now is good,” Jack said.

“Does it count as being on the clock?” Annette asked Phyllis.

“This one time, yes,” Phyllis said.

Five minutes later, Annette had crossed the Capitol Square and stood in front of DemocraCheese. It looked almost exactly the same as the Fromagery, with only the name change, and a different typeface on the sign over the door.

She walked in, doorbell ringing as she did. The person behind the display counter looked up at her as she came through. He was wearing an apron with a “Hi, My Name Is” sticker on it. The name on the sticker was “Felix.”

It was the young man who had purchased her mystery cheese.

They stared at each other for several seconds.

“Well, this is both delightful and awkward,” the young man named Felix said.



Felix was outside the Fromagery when Annette’s first shift ended.

“I feel I should explain,” he said to her.

“There’s nothing to explain,” she said back. “You came into my cheese shop to spy, which I learned when I came into your cheese shop to

reconnoiter.”

“I just feel we got off on the wrong foot,” Felix said.

“I don’t know,” Annette replied. “We both got cheese out of it.”

“My boss made me give him the cheese,” Felix confessed.

“But I spent so much time choosing it for you!” Annette exclaimed.

“I already feel bad!” Felix said. “I don’t want to shame spiral in front of you. Let me make amends.”

“What do you suggest?”

Felix pointed down the road, past the Best Western hotel. “Tacos,” he said.

Five minutes later the two of them were seated at Canteen. Annabelle ordered the fried cauliflower tacos, Felix the carnitas tacos.

“All right, spill,” Annette said. “Do you often sneak into the Fromagery to spy on its selections?”

Felix held up a hand in a swearing motion. “This is my first time, if only because it’s my first day on the job.”

Annette’s eyes narrowed. “You were the other guy who applied for my job,” she said.

“I admit I did apply to both cheese shops.”

“I got my job because you didn’t interview and I was the only other applicant.”

“You’re welcome,” Felix said. “You can pay for tacos next time.”

“Are you aware of the cheese-related drama that apparently engulfs these two shops?”

“I was not before I was employed. Now I know more than I wanted.”

Annette leaned in. “Tell me everything. All I got was hints.”

“You know the two shop owners are brothers?”

“I’d heard.”

“Very close in age. Barely a year apart. I believe your boss is the older one. Well, apparently they were both in love with the same woman, and it tore them apart when she picked one over the other.”

“Who was the woman?”

“The wife of your boss.”

“Phyllis!” Annette was mildly scandalized. Phyllis was lovely, but would not have been a person she would have suspected of breaking fraternal bonds.

“Yes, that’s the one,” Felix said. “My boss accused your boss of being underhanded in stealing away Phyllis—”

“That’s not actually how it works.”

“—which I am aware, I am only reporting the drama as conveyed to me. My boss refused to go to the wedding and then made every family holiday drama-filled for the next twenty years, even after he got married, by all accounts very happily.”

“Then why keep up the feud?”

Felix shrugged. “I guess when you’ve invested that much time into something, inertia takes over. Their father tried to get them to reconcile, but they wouldn’t, so he ended up funding my boss’s cheese store on the other side of the square from the family’s original cheese shop. Apparently he said that way the family wouldn’t actually lose any business.”

“Unreal.”

“So now there are two cheese shops, and they split cheese vendors, so if one works with one shop, they can’t work with the other. Which is why, I suppose, you bought that particular Wensleydale from me today.”

“It’s amazing the two shops don’t just drive each other out of business.”

“Well, this is Wisconsin,” Felix said. “Also, it’s sort of the Starbucks business model, isn’t it? Put two Starbucks close to each other so if one is busy, the other takes up the slack and the company doesn’t lose business.”

“What does your boss’s wife think of all of this?”

Felix grinned. “She thinks it’s the stupidest thing she’s ever heard. She and Phyllis get along famously. She said she and Phyllis refuse to let their husbands’ ridiculousness get in the way of their own friendship.”

“I agree with them,” Annette said.

“So do I,” Felix concurred. “I still think it’s weirdly sweet. Two brothers, bitter enemies over a thing that doesn’t even matter anymore, even as their wives are fast friends. Running cheese shops across the square from each other. It’s almost Shakespearean.”

“Did Shakespeare write about cheese?”

“If he didn’t, he should have.”

Annette giggled. “The Tragedy of Romano and Jarlsberg,” she said.

“Two cheese shops, both alike in dignity,” Felix intoned. “In fair Madison, where we lay our scene.”

“Stop that,” Annette said.

“Stop what?”

“Stop being so clever so fast.”

“You started it.”

“No, *you* started it,” Annette said. “You came to my shop first.”

“I’m finding it difficult to regret that,” Felix said.

Their tacos arrived before Annette could get any more flustered.

“How did you become embroiled in cheese drama?” Felix asked Annette later, as they strolled around the Capitol Square talking. The moon was up and the sky was awash in a light that was not quite like dusk.

“I just needed a job,” Annette said. “It’s the usual thing about education being expensive and me wanting money. It’s not very interesting, I’m afraid. What about you?”

“Oh, well,” Felix said. “I also needed a job, but not because education is expensive. It’s because I had an existential crisis about my education, and have just dropped out.”

“Why are you having an existential crisis?” Annette asked.

Felix smiled, and pointed at the moon. “I was working toward my doctorate in astronomy,” he began.

“Oh,” Annette said.

“‘Oh’?”

“It’s nothing.”

“You can’t utter mild surprise and then just tell me it’s nothing,” Felix said.

“I thought that you were, like, an undergraduate, and maybe in the theater department.”

“Because of the Shakespeare ad lib at dinner?”

“No,” Annette said. “Well, yes, that, and then all the rest of it.” She flapped her hands.

“What’s the rest of it?”

“The flirting!” Annette said, slightly exasperated. “You’ve been flirting with me since you came into the store.”

“Maybe I was just being friendly,” Felix said.

“Were you just being friendly?” Annette asked, suddenly gripped by anxiety that she’d misread social cues, again.

“No,” Felix said. “I was flirting.”

Annette gave him a light shove. “See? This is not what astronomers do.”

“Astronomers *can* flirt, you know.”

“I’ve been flirted at by astronomers before,” Annette said. “I am

skeptical.”

Felix laughed. “All right, fine. I was a precocious physics kid and skipped a couple of grades early on. When I got to high school the only kids who would tolerate my presence were the theater kids. So I was a physics nerd and a theater nerd. As a senior I discovered a comet, *and* I played Tybalt in our school production of *Romeo and Juliet*. Which is why I was so quick with that line at dinner. If you had referenced *Hamlet*, I would have been entirely lost.”

“‘To cheese or not to cheese, that is the question.’”

Felix groaned. “Please never say that again.”

“We should get back to your existential crisis, then.”

“Oh, right, that.” Felix stopped, and looked up at the moon again. “I’ve loved astronomy my whole life. Really, since the first time I looked up at the night sky and saw the moon and stars, and learned about all the planets in our solar system. I was hooked. Whole worlds, and stars, and galaxies and more. All of it discoverable, and knowable, if one just learned enough and if others discovered enough. It could all be understood. I could understand it.”

Felix shrugged, and pointed again. “And then *this* happened. And everything I thought was knowable and discoverable about the universe went out the window.”

“The moon isn’t interesting to you anymore?” Annette asked.

“No, it’s *fascinating*,” Felix said. “Did you know the moon is erupting right now? Huge geysers of steam, blasting out of the surface of the moon. They’re blasting chunks of the moon into orbit. Some of them might eventually fall to Earth. They’ll likely burn up—cheese probably isn’t going to survive meeting the atmosphere—but the fact that the moon’s surface is in that much turmoil at all is mind-boggling. It’s been at least fifty million years since there’s been that sort of activity. Possibly even a billion years.”

“But,” Annette prompted.

“But, it’s happening because every other thing we know about the physical universe is being violated. Celestial objects don’t just *change* like this. Even supernovas take years to happen. And even those we understand through physics. We know how we get gold from a supernova. How do we get cheese from a rock?”

“Maybe someone will discover it,” Annette said.

Felix gave a rueful smirk at that. “Yes, well, that’s certainly the line

astronomers are offering up right now. That we can find a reason for this. And maybe we can. Maybe *they* can. But right now, I'm feeling unmoored."

"So you're giving up astronomy?"

"I'm . . . taking a hiatus from it," Felix said. "When you spend your whole life thinking one way, and the universe takes a hard right from that way of thinking, I think it's all right to step away for a little while to get your bearings again. So I told my department I'm taking a break. Of course, that means now I don't have my stipend anymore."

"So you're working in a cheese shop."

"I thought it would be worth it to know my existential enemy," Felix said.

"I'm sorry," Annette said.

"What are you sorry for?"

"I'm sorry you're having an existential crisis," Annette said. "I need money, but that's pretty basic. You're questioning the very nature of the universe."

"Aren't you?" Felix asked.

"Not really?" Annette said. "I mean, yes. Moon turning to cheese is a real thing and it shouldn't be, and I guess if I spent any time thinking about it, it might freak me out, too. But at the moment, I'm trying to pay bills and thinking about two brothers owning cheese shops hating each other's guts for pointless reasons. Maybe it's wrong for me to focus on those things instead of the moon, but that's where my brain goes. That's who I am right now."

"You're not wrong to focus on those things," Felix said. "It sounds like a better plan than what I have going right now."

Annette thought about this for a second. She looked at Felix.

"May I—"

"Yes," Felix said. "Whatever it is. Yes."

Annette went to Felix, and kissed him, under the moon.

"There," she said to him, after she was done. "Now you have something else to think about."



DAY TWELVE

Las Vegas | The Illuminus Hotel

Vera Garcia knew better than to answer a phone call from Danica Albright, especially while she was still out with her clients Bryan and Dana Bridges, who were looking at cozy townhomes they could downsize to so they could sell their house in Palm Springs and spend the profit rather than leave it to their adult children. But Bryan and Dana were in the living room, arguing between themselves about whether they really wanted a town-house in Vegas or an actual house in Henderson, and Vera was in the kitchen already knowing these two weren't actually going to make an offer on anything they'd seen all day. So she took the call.

"I should just tell you no, whatever it is," she said as she put the phone to her ear.

"And you would be right to do it," Danica replied. "One hundred percent. You have gone legit and are a respectable person now. Good for you. How is real estate treating you these days?"

Vera groaned quietly. Real estate investment companies had swooped into Vegas, buying as many of the single-family homes and retirement townhouses as they could, driving up prices, and interest rates had just gone up, again, making mortgages more expensive. The townhouse Vera and Bryan and Dana were in was on the market for a couple hundred thousand more than it would have sold for even a year earlier, and it was near the bottom of what Vera had to show the couple.

Bryan and Dana weren't going to buy this townhouse, or the house in Henderson for that matter, because the amount it would cost them would cut into the profit of their sale of their house in Palm Springs. The margin just wasn't good enough for them; there wouldn't be enough left over for them to spend to truly spite their kids.

Vera had gotten her real estate license two years earlier, and had experienced a good Las Vegas sales environment for exactly three months before what had looked like a mild dip in the market had turned into a persistent decline. It wasn't just Vera; every real estate agent she had talked to was up against it these days. Vera's head was above water, but the water was getting higher, and she could just about time when it was going to hit her nostrils.

"It's fine," is what she said to Danica.

"Of course it is," Danica said. "So I suppose that means you wouldn't be interested in picking up a little bit of consulting work, would you?"

Vera was silent for a moment. Danica picked up on this. "It's not what you think," she said to Vera.

"If it's not what I think, what is it, then?"

"Why don't we meet and talk about it?" Danica said, which confirmed for Vera what the discussion would be about. There were certain business propositions Danica would never discuss on the phone. "Lightbringer's at the Illuminus. Have you been to it yet?"

The Illuminus was the newest hotel on the strip, a multibillion-dollar extravagance that catered to tech millionaires and people who wished they were tech millionaires. There were considerably more of the latter than the former. Lightbringer's was Illuminus's already infamous penthouse bar, where Silicon Valley moguls competed with one another to see who could drop the most for table service. It was what a goth club would look like if it were designed by Jony Ive.

"It's a little much for me, Danica," Vera said.

"It'll be fine, we'll be there early," Danica said. "It doesn't truly get obnoxious until after midnight. So. See you there at six?"

From the living room came the sounds of Bryan and Dana getting snippy with each other. The ride back to Vera's real estate office would be a treat. "You're buying my drinks," Vera said to Danica.

"Vera," Danica said. "Don't I always?"



“Let me start off with the fee,” Danica said, once the two had settled into their booth, gotten their drinks, and had enough catch-up chitchat to get to business. “Ten thousand dollars.”

“Is that before or after your cut?” Vera asked.

“It’s after. The ten thousand is all yours.”

“You realize that makes it worse, not better,” Vera said. “The first thousand is for services rendered. The rest buys them entitlement. The entitlement is one of the reasons I got out.”

“I thought you might say that, which is why I now move on to the conditions. The first is no sex.”

“Did you tell them that?”

“No, they made it clear up front. I should be more precise here. The client wants to get off. He intends to get off. You will participate, up to a point. Light touching. Massage, if you like. But only to a point. After that point, what he’ll really want you to do is watch. Which is the second condition: You have to watch.”

“Why is it important that I watch?”

“As I was told, ‘because it’s better for him when someone watches.’”

“And what, exactly, will I be watching?” Vera asked.

Danica told her.

“You’ve got to be kidding me,” is what Vera had to say to that.

“Vera, I don’t have to tell *you* that it takes all kinds to make a world,” Danica said. She shrugged. “Everybody has their little kinks. Some are more . . . imaginative than others. This is one of them. It’s not criminal, and it doesn’t hurt anyone, so why not? Anyway, this is the sort of thing you were so good at.”

“I’ve never done *that*,” Vera said.

“No, but what you did do is make clients comfortable with themselves and their little quirks. You didn’t shame them. You didn’t raise an eyebrow. You didn’t make it clear that you were faking it with them. No. You let them do whatever they wanted to indulge in, and you made them feel good about it—and not just good about it. *Normal* about it.”

“That’s just the job.”

Danica nodded. "That is the job, I agree. I also don't need to tell you how many of our people are not very good at that part of the job. It's why I thought of you."

"Is that the only reason?"

"Well, no," Danica said. "It helps you're out and have been for a while. My regulars are well-known at this point. This client needs an extra layer of discretion, and I know you understand that, for your own sake as well as his."

"Who is the client?"

"Representative Mike Groupo of Idaho. He's in town to speak at a conference. Apparently a man on the political rise. I understand he plans to run for senator. Not a man who wants to be seen with any of my usual folks." Danica considered Vera. "But, now, look at you. Wearing pearls and a nice conservative outfit to sell your townhomes."

"Anyone can wear pearls, Danica."

"Anyone can wear them," Danica said. "Not everyone can *sell* them. You know what I'm saying."

Vera thought about many things, including her bank account. "Assuming I do this, when and where?"

"Here at the Illuminus, and after Groupo's keynote. That'll be done at eight, and then he'll need to schmooze the conference VIPs for an hour or two. So you'll be on around ten. He's got a suite on twenty-three, and his staff have the suite next door to it. People are going in and out of there all the time. Staff and donors and VIPs and all that. You'll look like just another respectable Vegas mom looking to drop off a campaign contribution in person. Slip in to his suite through the interior door. Your costume will be in the bathroom. There will be a hotel caddy with everything you need. Do the job. Slip back out the interior door when you're done. You'll be ten thousand dollars better off."

"No sex."

"No sex," Danica confirmed.

"If this character changes his mind about that halfway through, not only will I call it off, but I will absolutely break his spine. You know I can do that."

"That's another reason why I thought of you for this, yes," Danica said. "But he won't. Representative Groupo wants to be able to go back home and tell his wife that there was no vow breaking."

“You don’t spend ten thousand dollars on things you’ll tell your wife about,” Vera pointed out.

“If she doesn’t ask, he’s not going to tell. But I think the implication here is that if she asks, she’s going to ask only about one thing. He wants to be able to say no to that.”

“And this is worth ten thousand dollars to him.”

Danica shrugged. “It’s like you said. The first thousand is for services rendered. The rest of it is for everything else. In this case, discretion, and to let him enjoy his kink without judgment. You’re going to give him one of the best nights of his life, just by being in the room. Ten thousand dollars for one of the best nights of your life is not too much to spend, if you have the money, which he does.”

“I wouldn’t do it for less.”

“I know, which is why I told them that’s what it would cost.” Danica held up her glass. “Now, Vera. Let’s toast. To men and their delightfully profitable kinks.”

A few hours later Vera, still in pearls and her conservatively tasteful real estate agent outfit, knocked on the door of the adjoining suite. The door opened, and a youngish man was behind it. “Ms. Garcia,” he said. “Charlie Simms, Representative Groupo’s legislative assistant. Nice to meet you. Come on in.”

Vera entered and found the suite empty except for Simms.

“I understand that you will need a little bit of time to set up your presentation for the representative,” Simms said. “So please take all the time you need. He’ll be busy at the conference, so it’s possible he might ask to reschedule for a later date if that’s all right.”

Vera stared at Simms, confused, until it dawned on her that his words were very specifically bland and general and designed to give both of them cover, should they ever come up in, say, a congressional inquiry. “I understand perfectly,” she said.

“Wonderful,” Simms replied, then clapped his hands together. “I have some tasks I need to attend to, so I’ll be on my way. If it turns out the representative is unable to see you, you can just let yourself out, yes?”

“Of course.”

“Well, then,” Simms said. “I’ll leave you to it.” With that Simms nodded, moved his eyes discreetly to the internal door between the suites, and left.

Vera headed toward the door and opened it. There was another door on the other side, ever so slightly ajar. She pushed it open and entered Groupo's suite, which like the previous suite was done in Illuminus house style, which meant it looked like being on the inside of an iPad. Vera looked around and found the promised hotel caddy with its items, which included tools that resembled those that the Apollo astronauts used on the moon. Vera sighed at the sight of them, and then went to the bathroom.

Inside the bathroom, neatly folded, was an article of clothing. Vera went to it, unfolded it, and held it up.

It was a blue NASA astronaut jumpsuit with all the patches, including one that had a pair of wings and the name LEMAE ANDERSON stitched into it. Vera had a suspicion that this was an actual, genuine, verifiable NASA astronaut jumpsuit, and not just something picked up at a Spirit Halloween store.

"LeMae Anderson, whoever you are, I apologize in advance for what your jumpsuit is going to see," Vera said. She slipped out of her clothes and put on the jumpsuit, which fit tolerably well. She looked at herself in the mirror and caught one error of verisimilitude.

"Ten thousand dollars," she said, reaching up to unlatch her string of pearls.



Two days later Vera looked up from her laptop at her desk at the real estate office to see Danica looming over her. "I'm here for our lunch date," Danica declared.

Vera, who had not scheduled a lunch date with Danica, or anyone else for that matter, nodded. "Of course," she said, closing her laptop.

"We have a problem," Danica said, as the two exited the realty office. They walked vaguely in the direction of the Mexican restaurant in the same shopping center. "There's a recording."

"There's video?" Vera asked.

Danica shook her head. "Audio only, thank god. Recorded from the suite next door. Not the one you entered from, the other side."

"Who recorded it?"

Danica looked over to Vera. “Well, that doesn’t really matter, does it? What matters is that Representative Groupo was very loud about his satisfaction, and now it’s on an audio file.”

“What’s happening with the audio?” Vera asked. “Are they trying to blackmail Groupo?”

Danica laughed. “I wish! No, they gave it to a reporter at the *Review-Journal*. Groupo’s people found out about it because the reporter called looking for a quote. Apparently the story is going to be published tomorrow.”

They got to the restaurant and got a booth. Danica ordered a margarita, Vera a Diet Coke. When the server went away, Danica turned her attention back to Vera. “Here’s the problem. There is no video. But there are some pictures. Outside of Groupo’s suite.”

Vera grimaced at this. “Pictures of me?”

“Security feed of you entering and exiting the suite next door. Nothing definitive, just a lot that’s suggestive.”

“Well, I can honestly say that I didn’t have sex with Representative Groupo,” Vera said. “That’s what this is about, right? If this reporter or anyone else tracks me down and asks, I can honestly say that.”

“You can. But. You remember the *special nature* of this request.”

Vera shuddered a bit at the memory. “Yes.”

“Apparently Groupo’s people got sloppy and procured through the Illuminus rather than dealing with it themselves. Someone on staff took pictures of it before it went to the room and then sold the pictures to interested parties, probably the same ones who recorded the audio.”

“Okay, but none of that is *my* problem,” Vera said.

“That’s the thing, Vera,” Danica said. “They would very much like to make it your problem.”

“I don’t understand.”

Danica sighed. “They want you to give a press conference and say you had sex with Groupo. Today. This afternoon, so it can be part of the story the *Review-Journal* is running.”

“What?!?” Vera exclaimed, just as the server came up with their drinks. The server shrank back, confused. “Sorry,” Vera said. “It’s not you.”

The server deposited the drinks and fled.

“I am *not* going to say I had sex with that man,” Vera continued to Danica.

“They will pay you a hundred thousand dollars if you do,” Danica replied.

She reached for her margarita.

Vera took the margarita instead. “Sorry, I’m going to need this to hear why they’ll pay me that much to lie.”

“It’s simple,” Danica said. “Representative Groupo is a rising star in his party. He is on several important House committees, including the one on Science, Space and Technology—the one that funds NASA, which is relevant —”

Vera thought about the jumpsuit and the lunar tools and nodded at this.

“—and a few others that give him significant power. He’s going to run for Senate very soon now, as I told you. And then, who knows? President? The sky is the limit for Michael Groupo.”

“I don’t see how a sex scandal helps him, then,” Vera said.

“It doesn’t, but it doesn’t *hurt* him,” Danica replied. “Everyone knows about sex scandals. No one is shocked by sex scandals anymore. Heterosexual ones, anyway. He’ll take a short-term hit, he’ll cry about his weakness in a megachurch, and pretend to be sad about the misery he put his family through, then he’ll be forgiven and everyone will go on. Everyone knows the steps to that dance. But that other thing? The thing he actually did? That’s just too *weird*, Vera. No one will know how to process that. There’s no coming back from that.”

“What about me, Dannie?” Vera said. “If I say I had sex with him, how do *I* come back from it?”

“That’s what the hundred thousand is for,” Danica said. “I’m sorry, Vera, but your name is going to come out no matter what. Someone will recognize you from the video in the hallway, or someone from Groupo’s people will leak it, and then your past will be out there for everyone to see. Groupo is going to sell the one-night-stand story no matter what. If you go along with it, your reputation will be trashed, but you’ll be paid enough to weather it out. If you don’t go along with it, your reputation will be trashed and you’ll get nothing. You should get paid.”

Vera glowered at Danica. “You did this to me,” she said.

“I know I did,” Danica answered. “I’m furious at Groupo and his people, and I’m furious with myself. I’m usually smarter than this. And I’ve hurt you. I would take it back if I could. I don’t know how I’m going to make this up to you.”

Vera grabbed a menu. “You can start by paying for lunch,” she said. “I’m

going to be out of a job after today.”



Vera was told to arrive at Lightbringer’s at 4:00 p.m. to meet with Charlie Simms ahead of her press conference, so Charlie could give her the official story that Groupo and his people would support. Then the press conference would happen at 5:00, and with it, the end of Vera’s anonymity and, for a very long time, her real estate business. Vera arrived at 3:30, because she wanted a drink before any of this happened.

Lightbringer’s was almost empty and quiet, as it had been two days before, when Danica made Vera the offer that she had come to regret. Vera sat in a high-backed booth that was part of a circular fixture of booths, each facing a hundred twenty degrees from each other, and waited for the one server on duty to see her and come take her order.

“It’s all set,” she heard from the booth to her left. Vera couldn’t see who was talking—the top of the booth was over both of their heads—but she recognized the voice as being Charlie Simms. He was on his phone, because she couldn’t hear anyone else talking. “She’ll be here in about a half hour, we’ll get our stories straight, and then she’ll go down to the conference room and give her prepared statement.”

A pause. “Well, obviously I wrote it. Don’t worry, I shittied it up so it sounds like it comes from a sex worker, not a legislative aide.” A laugh followed this, and Vera could feel her cheeks flushing. “It’ll be fine. She’ll say it, Mike will give his own press conference at 7:00 p.m. in Boise, we’ll do some podcast interviews, and we’ll own enough of it that when phase two hits we’ll end up looking great. Well, not *great*, but better.”

Phase two? Vera thought.

“No, obviously she knows zipo about that,” Simms said into his phone, and laughed. “I mean, how is that conversation going to go? ‘Hi, Ms. Garcia, here’s your prepared statement saying that you had spontaneous, consensual sex after meeting Representative Groupo at the conference, and by the way, we’re fixing it so that your previous history as a sex worker comes out at the same time we announce that your cash payoff looks like it was funded by the opposition leadership in the House and that you entrapped Representative Groupo for money.’”

Another laugh. “Yeah, no. The moment she needs to find out about that is when the FBI knock on her door. The longer she’s confused about that the better off we are. When it’s all done, Mike will win the Senate race on sympathy alone, and the scandal will give us both houses of Congress. Not bad for coming up with it all on the fly.”

Vera got up out of her booth just as the server walked up, making it the second time in a day that she had disconcerted waitstaff. She went back down to the lobby, held her breath for a moment to avoid screaming, and got out her phone.

At 4:00 p.m. Vera arrived at the entrance of Lightbringer’s and found Charlie Simms waiting for her. “Ms. Garcia,” he said, warmly, shaking her hand. “It is so good to see you. Thank you for coming.”

“No, thank you,” Vera said, as Simms led her inside the bar. “I . . . well. It’s been a day.”

“I’m sure it has,” Simms said. “I want to be sure that you know that Representative Groupo appreciates everything you’re doing. You will have his, and our, full support.” Simms motioned for her to sit in the booth he had already been occupying.

“Thank you,” Vera said, sitting down. “I’m just nervous, you know? So much could go wrong for me. I hardly know what I should be saying. I don’t know how I should say the . . . sex happened. I don’t want my story to be wrong.”

“Of course,” Simms said. “I don’t want you to worry about that. I’ll help you with that. In fact, I have some notes that you can use if you would like.”

“That would be wonderful, thank you,” Vera said. “And, Mr. Simms?”

“Yes, Ms. Garcia?”

“I don’t want to sound ungrateful, but . . . the money . . .”

“You’ll be paid in full, I assure you,” Simms said.

“I’m sure I will,” Vera said. “I mean, I have the ten thousand from the other night, thank you for that, by the way.”

“Of course.”

“I’m just worried that someone will look into it and connect you or your boss with it. I don’t want to get either of you in trouble for it. You’re helping me so much, here.”

“Well, Ms. Garcia, I won’t get into the details,” Simms said. “Honestly, the less you know, the better. I’ll just say I don’t want you to worry about it.

We'll take care of it on our end and everyone will come out of this happy."

"Okay," Vera said, and smiled. "That's a relief."

"Yes, it is." By this time the server had come up. "Now. Can I get you a drink before we get started?"

"You order first," Vera said. "I have to think about what I want."

The server looked over at Vera, confused, as Simms ordered a vodka martini. Vera made a very small hand motion at her neck to the server that Simms did not see. The server smiled, winked at Vera, and then asked for her order.



By 5:00 p.m. enough of the Las Vegas news community had caught wind of the Groupo Sex Scandal rumor that the conference room was full. The reporter from the *Las Vegas Review-Journal* was in the front row and had been promised an exclusive interview to make up for the pain of losing a scoop, while the rest of the seats were filled with television and radio reporters, some affiliated with national networks, video crews from CNN, Fox News and MSNBC, stringers for TMZ and a few other online gossip sites, plus others.

Also in the room: Charlie Simms, who it was understood would field some but not all questions prior to his boss's 7:00 p.m. Boise news conference, and Danica Albright, who stood in the back. Vera caught her eye just before she went to the lectern at the front of the conference room. Danica smiled and gave a small nod. Vera smiled back and then walked to the lectern, notes in hand.

"Thank you all for coming," Vera said, when the room had quieted down. "I'm Vera Garcia, and I hope that you will believe me when I say that I wish to the bottom of my heart that every single one of us in this room could be somewhere else right now, doing something else with our time. But I understand that's not possible now. So it's time to get to it, and tell you the truth of what happened the other night between Representative Michael Groupo and myself, here at this very hotel."

Vera held up her notes. "These notes have the story in them. These notes will tell you that I, a real estate agent here in Las Vegas, met Representative Groupo at the conference he was key-noting, and struck up a conversation

with him before his event. I suggested that we meet up later to discuss the possibility of my contributing to his campaign and other causes he thought important. Having met, we followed up on a mutual attraction and consensually engaged in sex. Afterward we both realized that in the heat of the moment, we had done something regrettable, and something we both needed to atone for, which included admitting to the public, and to Representative Groupo's constituency, what we had done. It was the only honorable thing to do after making a mistake. Atonement is the first step to earning forgiveness."

She paused to look at Charlie Simms, who was smiling. Then she threw the notes into the air.

"Too bad it's absolute trash," she said.

Simms stopped smiling.

"One: I wasn't at the conference. I have no idea what the conference was about. Two: I am a real estate agent, but that's not how Representative Groupo knew me. He didn't even know me at all. The first time we met was in his hotel suite. He assumed I was a sex worker. In fact I had been a sex worker when I was younger, and no, I'm not ashamed about that, because why should I be. Three: There was no mutual attraction. I was there because I was getting paid ten thousand dollars to be there. Four: We didn't have sex. In fact, at no point did Representative Groupo see any more of me than you're seeing right now."

Vera pulled out her phone and placed it on the lectern. "Five: I do not think I did anything I need to atone for. Representative Groupo's people offered me one hundred thousand dollars to say that I had sex with him. I recorded proof of that this afternoon when I met with Representative Groupo's legislative aide Charlie Simms"—every head in the room swiveled to Simms, who was red and furious—"and my friend and colleague Danica Albright can corroborate both the amount and its provenance."

From the back of the room Danica raised her hand.

"This afternoon I also heard Simms say the plan was to make it look like I had received the hundred-thousand-dollar payment from Groupo's political enemies, and to reveal my history as a sex worker to make it look like I had entrapped and seduced him for political purposes. I was to have no knowledge of this, but the money trail would be designed to make me out to be a liar."

By this time the room was in an uproar. Vera held up her hand to silence it. When the room was quiet again, she continued. “At this point, I know many of you are asking: If I didn’t have sex with Representative Michael Groupo, what did I do with him in his suite the other night? My first thought is to tell you nothing. As a former sex worker, I am here to tell you that as long as one’s own desires are exercised in a way that harms no living thing—and to be clear, Representative Groupo’s desires harmed no living thing, including me—then they should be allowed to be exercised, in a safe environment, free from judgment. My role the other night was not to offer sex, but to witness another person joyfully expressing their own impulses. In those impulses, Representative Michael Groupo, like anyone, deserves safety, security, and most of all, discretion. Shame on those who would have shamed him for their own purposes.”

Vera paused, taking in the room. “But then he had to screw things up by making me the fall guy for his political future, and to be complicit in a plot to use a lie to attack his enemies. I would possibly be in jail while he would be a senator. So, fine. Here’s what we were doing in that room: While dressed up in a NASA jumpsuit, I rubbed Representative Michael Groupo’s naked body with cheese, saying it had come fresh from the moon. And then, when he got excited enough, I watched him fuck an entire wheel of warm brie.”

Silence.

“Now,” Vera said. “Any questions?”

The room erupted in chaos.



Houston, Texas | Johnson Space Center

Davis Baruch could tell you, almost exactly to the minute, when it was he decided he was going to be an astronaut. It was December when he was seven years old, the first night of winter break from Ben Lomond Elementary in Covina, California. It was just after dinner when he wanted to play video games, but his dad was watching a movie instead, something called *Apollo 13*. He decided to watch the movie with his dad over bargaining to play Mario Kart.

It was a decision that would change his life. His dad explained that it was a dramatization, but to Davis's seven-year-old brain it was a documentary, happening in real time, the story of three astronauts headed to the moon whose spacecraft malfunctioned, leaving them to do everything they could to make it home alive. They rigged plastic bags and socks to a carbon scrubber so they could breathe, and tried to keep Earth in a tiny corner of their window so they could make it through the planet's atmosphere rather than skipping off it like a stone.

By the time the movie documented the splashdown of the Apollo 13 astronauts in the South Pacific, there was just one thought in young Davis Baruch's mind, and it was: *To hell with being a fireman. I'm gonna be an astronaut.*

When the film was over, Davis begged his father to watch it again, only to be informed that it was on cable and he would have to wait until they scheduled it again. Davis did not throw the tantrum he wanted to have at that.

During the family's Christ-mannukah celebration, however (Davis's mother was mildly Catholic, his father even more mildly Jewish, and they celebrated both winter holidays somewhat whimsically), Davis's dad got him his very own home video copy of *Apollo 13*. Davis just about wore it out.

Of course, a whole bunch of kids want to be astronauts when they grow up. But they want to be an astronaut like they want to be able to fly like Superman, or have conversations with their cats, or to be a super awesome ninja. Davis wanted to be an astronaut like it was an actual and achievable job, and set himself on that path with a will. Need to be good with math? Davis was nailing calculus in the eighth grade. A certain level of athleticism? Davis ran track and cross-country, avoiding contact sports because concussions weren't great for calculus. Good eyesight and not too tall? Well, Davis got lucky with that; his eyesight was 20/20, and his parents were of distinctly average height for US citizens. Davis Baruch clocked in at a perfectly average five foot ten. In his senior yearbook, Davis, who was voted salutatorian, was declared "Most Likely to Walk on the Moon."

Davis could literally have gone anywhere for university but knew that the cleanest path of the astronaut went through military pilot, so the Air Force Academy it was, followed by a master's at MIT and deployments around the US and internationally as a pilot and trainer. Davis knew he was being fast-tracked for leadership in the Air Force, but the Air Force was the means, not the end. Davis applied for, and was accepted into, NASA's astronaut training program as an Air Force major.

His astronaut group, which included LeMae Anderson, was widely regarded as one of the best and most diverse NASA had ever had, and Davis—charismatic and good with press, important guests and politicians—was widely regarded as the star of the group. When not in space, Davis was often detailed with giving tours of Johnson Space Center to VIPs, and handled it well, coming close to losing it only once, when Tom Hanks visited to meet the latest group of astronauts.

Later another VIP who took a shine to Davis on a tour became president of the United States. That, combined with Davis's hard work and years of diligence, led to him being named one of the Diana missions astronauts. It was widely assumed—by other Diana mission astronauts, NASA and the public at-large—that it would be Davis who would lead the mission to take

America back to the moon, and who would be the first to once again put his footprints on the lunar surface.

But then the moon turned to cheese and a billionaire hijacked his own prototype lunar lander to attempt a solo landing, which, if everything went according to plan, would happen tomorrow. And Davis Baruch, like every other actual astronaut who had spent decades of their life working tirelessly to get to where they were, was back here on Earth. Watching as a fool with money jumped, dangerously, to the head of the line of history.

What an asshole, Davis thought.

“Major Baruch?”

Davis blinked and looked over to the person who had spoken, Katrina Abbott, a reporter for ABC News. She was the first of more than two dozen reporters, podcasters, YouTubers and media personalities that Davis would be chatting with today for anywhere between five and twenty minutes, as part of NASA’s informational outreach about Jody Bannon reaching the moon with *Major Tom*. Nor was Davis the only astronaut doing these interviews; LeMae was in an adjoining room with her own two dozen interviews, and the rest of the Diana missions astronauts had been farmed out around the country to do local media in important markets. Bannon may have tricked everyone at NASA, but NASA wasn’t going to admit that. It wasn’t going to let any of its astronauts admit that either.

“Sorry,” Davis said. “I was mentally preparing myself.”

Abbott smiled. “It’s going to be a long day for you, isn’t it?”

“You have no idea,” Davis said, smiling back. Then he straightened himself up and got into public performance mode. “But I’m not going to let that be your problem. I’m ready when you are.”

Abbott fiddled with her microphone a bit—Davis had his lapel mic already on—and then looked at her field producer to make sure everything was ready. Since this was a NASA media room, all the cameras were run by their media staff; the interviewers would get their copies of the interview at the conclusion. All the media had to do is come in and do their set of questions; all Davis had to do was stay in his seat for hours and pretend to be excited about answering the same six questions over and over and over.

The first of which came immediately from Abbott.

“The announcement that billionaire Jody Bannon was heading to the moon took everyone by surprise,” she said. “How did NASA keep it a secret for so

long?”

Tell the truth as much as you can, Davis and the other astronauts had been told, extremely informally. Then they were handed a thick sheaf of talking points designed to cover the times they couldn't. “Well, they kept it a secret from a lot of people, including me!” Davis said, laughing, and dying inside only just a little as he did so. “More seriously, there was always a contingency plan for something like this with the *Major Tom* lander. It was, as you know, supposed to land on the moon no matter what, but uncrewed, so we could test its systems and learn how well it could operate autonomously. But then this opportunity presented itself, and it became too good of an opportunity not to take up.”

“By ‘opportunity’ here, you mean the moon turning to cheese, right?” asked CNN’s Eugene Dennis, his next interviewer.

“Well, we here at NASA don’t officially call it ‘cheese,’ for various scientific reasons. We prefer to say the moon is exhibiting an organic matrix,” Davis said. “And yes, that’s exactly the opportunity I’m talking about. Such an exciting challenge was one NASA decided needed a human element to it. We were fortunate that Jody Bannon, who I’ll remind you trained here at Johnson, agreed with us and accepted the last-minute call to participate.”

“You’re saying Bannon trained for this?” asked Monica Love, of Reuters. “What sort of training was that? And how does it compare to the sort of training you underwent?”

Davis remembered Bannon’s three-day sojourn at Johnson, when the billionaire asked to experience some basic astronaut training. NASA, humoring the man who would, after all, build their next lunar lander, gave him an extremely light “training schedule.” Even that was a disaster; Bannon was physically out of shape, had no endurance, and had a panic attack in Johnson’s Neutral Buoyancy Lab. At the end of the second day he manufactured a reason to be anywhere else in the world but Houston, skipping his final day of “training” entirely. They gave him a jumpsuit and a photo op and let him run away.

“It was of course somewhat abbreviated from what I and the other Diana missions astronauts went through,” is what Davis said. “That said, it’s my understanding that he incorporated a lot of our training as part of his general health regimen, so NASA cleared him for this extraordinary opportunity.

Besides that, PanGlobal Aerospace intentionally designed the *Major Tom* and all of their landers to be as autonomous as possible. This will be an opportunity for us here at NASA to learn what sort of training will be important for the next generation of astronauts.”

“All right,” said Bert Fields, of the BBC. “But isn’t landing on a moon made of chee—excuse me, a moon with a newly developed organic matrix, inherently dangerous? We just ran a feature on the moon geysers, and our interviewee mentioned that the continuing compression of the moon meant it was likely these eruptions would become both more extensive and more violent. Beyond that, the surface of the moon is vastly different than it was before. Aren’t you putting Mr. Bannon in harm’s way?”

“That’s an excellent question,” Davis said. “The short answer is that space exploration has always been inherently dangerous. Apollo 1 claimed three astronauts. Apollo 13 almost claimed another three. The Challenger and Columbia missions claimed their crews. There is always a risk, and anyone who doesn’t understand and accept that shouldn’t be in space. Jody Bannon understands what the risks are, and I guarantee you that if he didn’t, NASA would have made it clear to him. He’s on his way to the moon regardless.”

“There’s a rumor that NASA didn’t know Bannon was on the *Major Tom* until after the trans-lunar insertion,” said Edgar Myer, of the *New York Post*. “Do you have any thoughts on that?”

“Well, there was a rumor that the Apollo moon landings were directed by Stanley Kubrick, too,” Davis replied.

“Were the Apollo moon landings directed by Stanley Kubrick?” Myer asked.

“I wish they had been,” Davis said. “The footage we’d have from the moon would be so much better.”

“So you can confirm there’s nothing to this rumor,” Myer pressed.

“I can confirm if I were going to make up a rumor I would make it more believable,” Davis said. “Like, I don’t know, the moon being made of cheese.”

“Do we have any idea how that happened yet?” asked Erica Clark, from the *Texas Tribune*. “The moon changing to an organic matrix, I mean.”

“First, I compliment you on using the NASA-approved term,” Davis said, and laughed. “Second, I know we’re working on it, but I can’t say that I’ve

heard any of the latest hypotheses. As you can imagine, I am as curious as anyone else.”

“Why can’t we just say it was a miracle?” demanded the YouTuber who went by the *nom de Tube* of Darius the Truthseeker. Davis was led to understand that his presence on the media list was NASA’s attempt to tap into the conspiracy seeker audience without acknowledging it directly; Darius existed in a hazy “just asking questions” no-man’s-land between general sanity and extreme bullshit.

“I’m perfectly fine with people calling it a miracle,” Davis said, absolutely truthfully. “You know what else was a miracle? The polio vaccine. Landing on the moon the first time was a miracle. Having a baby is a miracle. Just because something is miraculous doesn’t mean we can’t attempt to understand it. All of these things are inspiring, and make us appreciate the universe we live in. And we can appreciate the universe more by figuring out how it works. This new moon is many things, but one thing we know about it is that it’s following the laws of physics as we understand them. That means, to me, this is a miracle that we can learn about. That’s one reason we’re going back to it.”

As Davis said that last sentence, he was aware he had not stuck the dismount, as far as the truth was concerned. Darius the Truthseeker seemed not to notice, which put the lie to his name.

“Any comment on the Mike Groupo scandal?” asked Shane Fair, from the *Hill*.

“Oh, god,” Davis said. “Absolutely not.”

“I’m told that one of Groupo’s staff actually stole LeMae Anderson’s jumpsuit when the representative visited here last year,” Fair continued.

“One hundred percent no comment.”

“I’m also told the police have the wheel of brie in an evidence locker. They’re running a DNA test on it.”

Davis looked off camera for the NASA media coordinator. “For the love of Christ, please help me,” he said.

“Is it right that a billionaire is on his way to the moon?” asked Lyndsay Schmid, from TheNewSpaceRace.com, a site dedicated to space exploration and general astronomy, after Shane Fair had been booted out of the room. “I asked my readers to send in questions, and this is the one that I got the most. You’re someone who has worked all your life to get a shot to place your

footprints there, to be one of the first in decades to do so. You and all the other Diana mission astronauts earned your boots, so to speak. And yet it's Jody Bannon who gets to be the one to land on the moon. That doesn't seem fair."

This was one of the questions, more or less, that NASA had prepared a boilerplate answer for, one that leaned on Bannon's expertise through PanGlobal, and how what mattered was that humanity was going back to the moon, and which specific member of humanity it was mattered less than our boots on the surface, and so on and so forth. But the fact of the matter was that Davis had just spent six hours answering media questions, minus bathroom breaks and fifteen minutes to shove lunch into his mouth. He was tired and he was bored and while he knew it was drama on his part, he believed that in this particular moment he understood how Jim Lovell felt on Apollo 13, watching the surface of the moon pass below him, knowing he would never have another chance to step foot on it.

So, Davis Baruch thought to himself, fuck it.

"It's *absolutely* not fair," Davis said. "It's not fair to any of the Diana missions astronauts, but more importantly, it's not fair to the American public, whose tax dollars fund a space program that its government, in its wisdom, has decided to farm out largely to billionaires whose interest in space is to have bragging rights over other billionaires, or to make an escape hatch to Mars so they don't have to care how much they crap on the planet the rest of us call home.

"There's no reason an actual astronaut could not have been on their way to the moon right now. If my bosses told me they wanted me on the *Major Tom*, you wouldn't have been able to keep me out of that lander. LeMae the same. The same for any Diana missions astronaut, or any other astronaut at NASA. We could have been in Ecuador in six hours, tops. We trained for the trip and we trained for the risk.

"We come from all walks of life. I grew up in the middle class. LeMae was the first one in her family to finish high school, much less college. If *any* of us earned the right to land on the moon, it's her! But here she is instead in Houston, one room over, talking about the billionaire from an already ridiculously wealthy family who bought his way into an aerospace company just to put himself in the right place at the right time to go to the moon.

"So, no. It's not fair. But it's the world that we've made for ourselves, isn't

it. Or at least, the world that we let those who we elected decide was the one we should have.”

Schmid stared at him. So did everyone else in the room.

“I think I’m hangry,” Davis said.



LeMae Anderson was waiting for Davis when he came out of John Able’s office.

“How bad is it?” she asked.

“Well, I’m not going to the moon anytime soon,” Davis said.

LeMae smiled at this. “So, no worse than any of us.”

“Well, there’s also the part where I was told I should probably take the day off tomorrow. You know, the day of the actual moon landing, when I was meant to be here in mission control, waving the flag for space exploration. And then maybe stay in my hole until Bannon is back on Earth.”

“That’s not great,” LeMae admitted.

“It’s not,” Davis said. “But I can’t say I feel that bad about it. Yet. Tomorrow I’ll be regretting everything. Right now?” He shrugged. “And how was your day?”

“I didn’t blow up my career,” LeMae said. “I just spent half of my time saying ‘no comment’ about the congressman who was having sex with cheese while a woman in my jumpsuit looked on.”

“I’m sorry about that.”

LeMae gave a shrug and an expression that managed to cover her disgust with the event and the resignation at the ability of men to make existing as a woman an actual trial, and the desire never to think about any of it ever again. “I heard you said nice things about me,” she said, changing the subject.

“I did,” Davis said.

“I appreciate that, Davis.”

“I didn’t know the words were going to happen until they did.”

“That’s not like you.”

“It was a long day.”

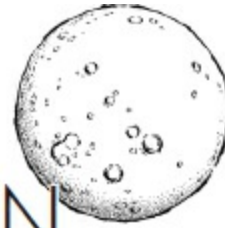
“If it makes you feel better, tomorrow is going to be longer,” LeMae said. “That toad is going to land on the moon, and we’ll have to pretend to be happy about it.” She motioned to Davis. “Well, not *you*. You get to be home.

The rest of us have to be here with our fake smiles. Are you going to watch it?"

"Probably will," Davis said. "Maybe with a bottle of scotch."

LeMae nodded. "Well, no reason not to get a head start on that. Come on, Davis. Your first round is on me."

DAY FOURTEEN



The Moon | Above the Lunar Surface

Jody Bannon discovered something important about space travel: It's fucking *boring*.

In a very real and significant way, this fact was entirely Jody Bannon's fault. Follow: Jody Bannon wanted to go to the moon. Jody Bannon knew he had neither the time nor patience to go through real astronaut training. So if he was going to go to the moon, he was going to have to buy an aerospace company (which he did), make a credible bid to build a next-generation lunar lander (which he did), and then have it built with so many automated and redundant systems that even an untrained dipshit (which he was) could make it to the moon and back, just by pressing the occasional button.

It wasn't sold to NASA like this, obviously. From NASA's point of view, the automated systems with their deep learning and autonomous control and ability to be flown with minimal staffing were just redundancies and emergency backups for highly trained and competent crews. And indeed, if the *Major Tom* was staffed with a trained and competent crew, that's all they would be. NASA did like its highly trained astronauts. They really did their best when they were under the illusion that space travel needed people who knew what they were doing.

Jody Bannon, on the other hand, kinda felt that was a bunch of smug mechanistic bullshit. Especially these days, when a computer could simulate landing on the moon millions of times a day, learning from each experience. Landing on the moon wasn't actually a challenge for any computer more

advanced than a Raspberry Pi; it was just physics applied to gravity, with a basic optical recognition program that would keep a lander from trying to perch partway on a boulder, or on the side of a crater.

Likewise going to the moon and back; that was even less physics. The *Major Tom* could have been powered by an iPhone and still have handled the whole trip, with enough computational headroom left over to play video games and take selfies.

The *Major Tom* was not powered by an iPhone or a Raspberry Pi, of course. It was powered by several computers, all multiply redundant and running in parallel, which had been shielded against errant cosmic radiation and hardened for the rigors of space. They could run even if the interior of the *Major Tom* opened up to the black, blasting its occupants into the void, the near vacuum of space both dropping the ambient temperature to a few degrees above absolute zero and making it difficult for the heat generated by the computer to dissipate.

It was, in point of fact, the most advanced, most protected, and safest automated system humans had ever put into space. It had to be—not because Jody Bannon wanted the best for the NASA astronauts, for whom he actually mostly wanted the bare minimum of everything, given the cost constraints the lander construction was under, but because *he* wanted the best for himself. Jody Bannon might think very well of himself, but he was in this case not under the illusion that he of all people, or any one person no matter their skill, would get to land on the moon without an immense amount of automated help, much less than leave the moon and return to Earth. Jody Bannon had exactly that much, and only that much, humility.

The original test of the *Major Tom* would have been to get to the moon and land, take off and return with as close to full autonomy as possible; the lander would accept course corrections and other commands from Manta or Houston if necessary, but only if necessary. The farther the *Major Tom* got from Earth and the closer it was to the moon, the more the speed of light would be a hindrance for remote command of the vessel. An informational round trip of two and a half seconds was untenable for a remote control moon landing. The *Major Tom* would do it on its own, informed by the millions of simulated landings it had already made.

What this meant was when Jody Bannon snuck his way onto the *Major Tom*, replacing the Human Modeling System bot that was his exact mass and

dimensions (and what a pain in the ass *that* was, to stay the same mass and dimensions for most of two years! How many delights and snacks were avoided! How much attention to metabolism had to be paid! How much last-minute guzzling of water was done to precisely match the HMS bot's exact mass because he was under it! And how much holding of pee until trans-lunar insertion!), he was already surplus to computing requirements.

Jody Bannon would need to do almost nothing while on the *Major Tom*; in fact, it was substantially better for him if he touched absolutely no navigational equipment at all. The only thing he needed to pay attention to was the override, should NASA somehow convince Manta control to cut short his trip to the moon. NASA had not. Jody Bannon's journey to the moon was treated as *fait accompli*, and now NASA was a partner in getting him to the moon and back.

(What would happen then? Who knows! Who cares! Jody would have been to the moon, the first since the Apollo astronauts, before Elon and Jeff and any other of his billionaire peers, before any actual astronauts, before anyone and everyone. *That* was the goal. *That* was the payoff. *That* was the endgame. Everything else was just aftermath.)

The problem with needing to do nothing while on the way to the moon, however: figuring out what to do with yourself for four days.

At first this was not a problem. Getting launched into space: not boring! Several Gs of thrust crushed you like a walrus coming in for a full-body hug. Jody was too busy trying to breathe to have his thoughts wander. One orbit of Earth, more or less, before trans-lunar insertion, which is when Jody had the fun of letting NASA, and the world, know he was on the *Major Tom* and on the way to the moon.

After that, a few hours of discussion with NASA on a private channel. Some of it was not pleasant at all, which Jody understood; the organization was (mostly) reasonably miffed that Jody had used them for his own purposes and, rather less critically, were worried that Jody was on a suicide mission, not only because he was largely untrained, but because the moon had, after all, turned to cheese. Jody made the point that what better test of the *Major Tom* could there be than to have, essentially, a stowaway on it, what better time for science than when the moon had literally materially changed, and what could NASA do anyway, because he was on the way to the moon no matter what.

It was the last of these arguments that turned out to be the most relevant. Everything became smoother with NASA after that.

During and after this came Jody learning to deal with zero G, which he knew was technically microgravity, or *something*, but zero G sounded cooler and that's what Jody had grown up with anyway, so zero G it was. Unfortunately, as cool as zero G was in theory, in practice the lizard part of Jody's brain kept constantly screaming HOLY FUCK WE ARE FAAAAALLLLLLIIIIING. When he was not arguing with NASA, Jody spent much of his first day in space vomiting, or wanting to vomit. Dry heaving in zero G, Jody learned, was an interesting application of physics.

Jody also learned about pooping and peeing in space. The *Major Tom*'s systems for that were state-of-the-art, but Jody had not spent any time training on them before he launched. The results from using them the first time were instructive.

And then . . . not much! NASA and Manta communicated with the *Major Tom*'s systems directly if there were any course corrections or changes that needed to be made; Jody was informed about them but did nothing about them. The *Major Tom* was stocked with supplies—the launch was meant to be as close as possible in mass and materials to a full launch, so everything Jody needed to eat, drink and survive was on board—but it was not stocked with diversions. Jody had the Internet, from which he posted his Reddit Ask Me Anything (without clearing it with NASA, which he learned the next day he was not supposed to have done, but, eh, what were they going to do about it), but maintaining a stable connection was a challenge. It wasn't like he could run an ethernet cable or anything.

On one hand this was useful information for PanGlobal to know—something to be fixed for the next iteration—but for Jody it meant very slow, mostly text-based communication with anyone who was not Manta or Houston. This was not great for Jody! Jody was an audiovisual guy, not a text guy. Jody informed Manta and NASA that he would be happy to do interviews via their audio and video feeds. NASA replied that the interviews could wait for his return to Earth and he needed to keep the line clear for updates and instructions.

Jody knew this was a goddamn lie. Everything Manta or Houston needed to do for the *Major Tom* they sent directly to the lander. Jody also knew that he, or at least his ego, would be better off if the world thought, for now

anyway, that he was somehow involved in piloting the spaceship. Outside of the Reddit AMA that he should not have done, Jody booked no other interviews, and crafted his social media posts so that it sounded like he was filled with the rapture of space rather than bored out of his skull. Even looking at the shrinking Earth and growing moon was only so interesting.

On the third day, Ricky Miller at Manta Mission Control opened a private channel to Jody. “Houston has concerns about the landing,” he said. “They’re saying the activity on the lunar surface is troubling.”

“We’re not going to land on a geyser,” Jody said, annoyed. The *Major Tom*’s orbital insertion around and planned descent to the moon was updated before launch to take into consideration the moon’s increased diameter and volcanic activity. The latter had been a challenge because the millions of previously simulated moon landings had not taken into consideration the idea that a geyser of cheese water might be active at a landing site. Those new considerations had to be baked in, and the *Major Tom* had been receiving this new data as it traveled.

“No one thinks the *Major Tom* is going to land on a geyser,” Miller said. The lag between Jody talking, Miller receiving and then responding was noticeable. It was like a bad cell phone connection. “There are two new things they’re worried about. The first is that there is enough material being thrown up that the moon now could be considered to have an atmosphere. A very thin one—much thinner than Mars—but enough of one that it needs to be factored in during the descent.”

“What’s the other thing?”

“Debris. The eruptions are getting stronger, and they’re throwing more of the surface into the sky. What goes up on the moon takes longer to come down, and travels farther. Even if you land someplace without an eruption, Houston’s worried that you’ll be taken out by something coming at you sideways.”

“NASA is worried about cheese rocks,” Jody said, skeptically.

“It sounds stupid when you put it like that, but it’s not a stupid concern,” Miller said. “The *Major Tom* wasn’t designed for the possibility of debris. You have radar and ranging for your landing, but if something comes at you fast, the lander might not be able to avoid getting hit.”

“Put it into simulation,” Jody said.

“We can do that, but that’s a whole new routine that will take time to

simulate, and you don't have a lot of bandwidth to receive that much new data," Miller said. "And it still might not be useful because the problem here would be the maneuvering thrusters on the *Major Tom*. That's hardware, not software. Not to mention that by the time we've simulated it enough to be useful, you'll be on landing approach. That's not a time you want to stuff a new program into the system."

Jody stewed on this. "What does Houston advise?"

"Abort the landing and come home."

"And what do you advise, Ricky?"

"Jody, my priority is to get you home alive," Miller said. "If Houston thinks this is a serious enough problem to tell you about it, it's a serious enough problem for you to listen to them. You've gone farther and done more than any human has in decades. You're already a hero to millions."

"I'm just not all the way to the moon."

"You've shown you can get there. You'll get there again."

Yeah but no, Jody's brain said to that. Publicly NASA was telling the world Jody's trip to the moon was a spontaneous but mutually agreed upon event, and it was celebrating his courage and ingenuity. Privately everyone from the administrator down to the janitors were fuming and wanting to punch him in the dick. Also, billionaire or not, you don't make a fool of the US government at this scale and get away with it. The only thing that was going to save him was landing on the moon. Without putting boots on the lunar surface he was well and truly fucked.

"Understood," Jody said. "Please inform Houston that the *Major Tom* is still on schedule for landing tomorrow."

"You're sure about this, Jody," Miller said.

"I'm sure," Jody said, and hoped it came across as confident and brave, and not like a man who had suddenly realized that he'd crossed a government that killed people on their balconies with knife-bearing missiles when they pissed it off.

And so it was, on the fourth day, that the *Major Tom* hung in the sky above the moon and prepared for its landing. Jody Bannon, sealed into the suit he would take onto the surface, strapped himself into what would be the command chair and informed Manta and Houston that he was ready for landing. At Manta, Ricky Miller acknowledged, and informed him that his cameras and radio were now live to the world.

“Ready to land,” is all Jody said to this. He wanted to save anything memorable for later.

With that, the *Major Tom* began its slow and careful descent to the surface of the moon.

In one sense, it didn’t matter where the *Major Tom* landed; the parts of the moon that weren’t erupting were of uniform height and flatness. But many parts of the moon *were* erupting, and some of those, as NASA had helpfully noted, were throwing material into the sky. A flat expanse was chosen, far enough from any active geysers and their particulate (and larger) matter to give the *Major Tom* its maximum chance for a safe and successful landing.

Jody, who had nothing to do other than sit there, listened as Ricky Miller called out to the world the details of the descent. For everyone on Earth, the words described events that happened a little longer than a second past. For Jody, it was two and a half seconds. He would feel a thruster burn, and then two and a half seconds later Ricky Miller would tell him why. Ricky had the calm and controlled voice of someone who wouldn’t panic even if a bomb went off beside him, and Jody felt almost lulled by the flat, confident delivery that Miller provided.

After the landing Jody would need to prepare to exit the *Major Tom*, an egress that came with its own significant checklist of things to do, both to make sure that Jody had everything he would need to take samples and to lay out reflectors—the *Major Tom* had been loaded like it would have been on an actual mission, after all—and to make sure he didn’t die the instant the *Major Tom*’s airlock cycled and opened out to the lunar surface.

Beyond this, while NASA was reasonably confident that the surface of the moon was solid rather than molten, there was considerable concern about what “solid” meant in this case, and whether the surface would support the weight of the *Major Tom* without deformation or causing the lander to sink partially or totally into the surface. The *Major Tom* had a protocol for re-launching itself if it determined that it was sinking or toppling over. But once it had determined that it was stable, it would be Jody’s time to shine.

As Miller called out the details of the descent, Jody let his mind drift to what he thought would be one of the most critical aspects of landing on the moon: what he would say as his foot made contact with the lunar surface. Jody acknowledged that there was no way that he was going to be able to top Armstrong’s “one small step,” but there was no reason he couldn’t come in

second. He couldn't remember what any other Apollo astronaut who had landed on the moon had said coming down the ladder, after all. The field was wide open.

The first thing that came to mind, because Jody was Jody, was "Suck it, Elon and Jeff." But as soon as that came to mind, it was as quickly dismissed. Not only was it not appropriate for the moment, but Jody knew that whatever it was that he finally said, "Suck it, Elon and Jeff" would be heavily implied. It would be enough to have it be subtext. Anyway he'd already said it on Reddit.

The next thoughts were the funny ones, like "I knew I should have taken that left at Albuquerque" or, "Hey, look, there's a Starbucks here." There was also "Well, this sure as hell ain't bean curd," which would be a nice little dig at the Chinese. Jody rejected all of these as well, because in the case of the first two, not everyone would get the joke, and in the case of the second one, Jody had significant manufacturing interests in China and there was no need to piss off his partners just for a joke.

No, Jody thought, it needs to have gravitas. Something that would look nice on a base of a statue or sculpture. Something reasonably humble that still pointed out what he was doing was a huge goddamn accomplishment, thank you very much.

It snapped into Jody's head. *I am but one man, yet I represent all humanity. May this landing be the first of many.*

That's perfect, Jody thought. It echoed Armstrong but was different enough to be distinctive. And it offered hope! We would be back! Now all he had to do was run it through his brain multiple times to make sure he got it right when he stepped onto the surface.

Jody was so busy repeating his first words like a mantra that he almost missed the sudden thrum of the thrusters, blasting on full. He didn't miss the jolt he felt as he was pressed into his seat, however.

"What the fuck?" Jody said, out loud.

Two and a half seconds after the thrusters, Ricky Miller's voice came over the radio.

"Abort. Abort. Abort. Eruption. Eruption. Abort. Abort. Abort."

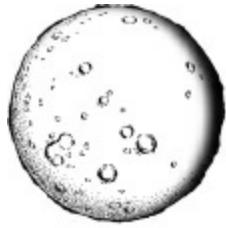
Jody Bannon had about a tenth of a second to think that this was the first time he'd ever heard Miller be anything but calm before something slammed into the *Major Tom* like a sledgehammer crushing an aluminum can, tearing

the spacecraft apart and hurling Jody, still strapped into his chair, sideways and slowly spinning, across the sky of the moon. Mid-spin Jody saw something immense above him, fleeing from the surface like it had been launched by its own rocket. He had no scale to judge it, but as he arced over the moon it looked like a mountain range had somehow taken flight.

Jody's arc stopped, and he felt himself being pulled by the gravity of the moon, at first lightly, and then more insistently.

Well, that's all right, Jody thought. I'll still get to be the next man on the moon.

Something smashed into Jody from below with incredible speed and force. He was dead before he landed on the surface of the moon, if in fact he landed on its surface at all.



DAY FIFTEEN

STATEMENT FROM PRESIDENT BRETT BOONE ON THE ATTEMPTED MOON LANDING AND ON JODY BANNON

Yesterday Jody Bannon went to the moon, and with humility and in representing the best of humanity, made his approach to land on its surface. Fate has determined that our moon will now be his final resting place.

The brave Americans who travel to space know that their work does not come without risk. Jody Bannon knew that risk and embraced it, to represent all of us. His story ends not with tragedy, but with honor and glory. His achievements, made for all of us, will echo into eternity and across the great void of space.

Let not this moment deter us from exploration and imagination. We will, as a nation and a people, return once again to the moon, place our footprints upon it, and plan for what comes after those momentous steps. We do it for all humanity, for Jody Bannon, and for all who have dared to reach toward the infinite.

I have ordered the United States flag to be flown at half-staff for three days in commemoration of Jody Bannon's life and achievements, and in recognition of his service to the United States and the world.

May his soul find rest and peace on our moon. May we look up and remember his presence there. And may God continue to bless these United States.

The Final Voyage of Major Tom:

How a Changing Moon Doomed Jody Bannon's Daring Mission

By Eugene Dennis, CNN

When Jody Bannon was launched toward the moon five days ago, scientists within NASA and outside of it made note of the high level of risk for the mission, above and beyond the usual dangers entailed with space travel of any sort. But none of them could have anticipated the shocking event that destroyed the *Major Tom* lunar lander: an immense explosion on the surface of the moon that launched chunks of moon into the lunar sky, some so large that they are visible from Earth itself.

How did that explosion happen in the first place?

The short answer: When the moon changed two weeks ago, it became a much more violent place.

“When the moon’s rock was replaced by an organic matrix, that organic matrix immediately started compressing in on itself,” said Dr. Cai Zhen, professor of astronomy at Rice University in Houston, Texas, using the NASA-approved term for that substance most of the rest of the world is colloquially calling “cheese.” “When that matrix compresses, it heats up and starts to break down into its component parts, including water, which turns into steam. It’s what’s been causing those geysers we’ve been seeing on the moon.”

But not all that steam immediately makes it to the surface of the moon, said Dr. Wan Xiaoli, of CalTech. “We suspect that some of that highly compressed steam got locked under the surface of the moon,” he said, where it created a massive pressurized pocket of superheated gas. This gas acts not unlike the magma underneath Yellowstone National Park, the one that has created in the past and may one day again create a massive “supervolcano” eruption in that area. “But the moon’s organic matrix is not as solid as the rock around Yellowstone, and that enormous reservoir of superheated gas pushed its way to the surface, blasting away parts of the moon where it came out.”

There are two important things here. The first is that the moon’s weaker gravity has allowed that material from the moon’s surface to launch higher, and farther, than it would here on Earth. When a volcano erupts here at home, particulate matter can darken the sky, and huge boulders of rock can be flung immense distances. But all of it remains bound to Earth by gravity.

Not so with the moon. “Some of that material that got thrown out by the eruption of the moon now appears to be in orbit around it,” Xiaoli said. The cheese moon now has its own cheese moons, in other words.

The second is that the time it took for this huge reservoir of superheated gas to erupt onto the surface of the moon was under two weeks, an amount of time that Dr. Zhen described as “shockingly short.” “It can take millennia for enough pressure to build for a volcano on Earth to erupt, and hundreds of millennia for an explosion of the size we’ve just seen on the moon,” he said. “This event happened within days of the moon’s composition changing.”

Does this mean that we can expect other eruptions and explosions of this size on the moon? “I think that is extremely likely,” Dr. Zhen said.

But this does not mean, Dr. Zhen added, that Jody Bannon’s mission to the moon was ill-advised. “We could have anticipated that one day we would see an eruption like this, but no one could have anticipated that it would have happened as quickly as it did,” he said. “This mission was always risky, but I imagine the scientists and mission directors at NASA thought there would still be some time before the activity on the moon got too intense to attempt a landing. I know many of these people. They’re not fools, and they work to minimize risk in everything they do.”

Dr. Xiaoli agreed. “We should celebrate Jody Bannon’s attempt to land on the moon,” he said. “Rather than how that mission failed.”

Smyrna, Delaware | Smyrna High School

“Consider this: One minute you’re a billionaire about to land on the moon,” Mackie Meyer said. “And then the next minute literally every orifice you

have is being invaded by cheese. Think about it.”

The Lunch Bunch, the loose collection of friends who had sat together at lunch since their time at Clayton Elementary School, let out a collective groan over their food.

“Why are you like this?” Lisa Christensen said to Mackie.

“I mean, you know why I am like this,” Mackie said. “Late capitalism and a short attention span.”

“You can’t blame late capitalism for your compulsion to talk about orifice invasions at *lunchtime*,” Lisa retorted. “Or your short attention span.”

“She has a point,” said Peter Strickland, between bites of his sandwich, which included cheese.

“When else am I going to talk about it?” Mackie exclaimed.

“That’s just it, Mackie,” said Cyrus Marx. “You don’t actually *have* to talk about it all.”

Mackie made a *pfffft* sound at this. “Man goes back to the moon for the first time in decades, a lunar lander gets within a few hundred meters of the actual surface, and then gets destroyed by flying cheese? How is this not a natural discussion topic for us?”

“You weren’t talking about *that*,” Lisa said. “You were taking about moon cheese enemas.”

“They’re related,” Mackie pointed out.

Lisa opened her mouth, closed it, and looked at Peter and Cyrus, who both shrugged. *It’s Mackie*, the shrugs seemed to be saying. *What are you going to do*. “I could be sitting at a table with popular kids,” she finally said.

“Yeah, but they’re boring,” Cyrus pointed out.

Which was true. The Lunch Bunch came together in the second grade when its three intensely nerdy boys realized that no one else in their class had the deep, spectrum-y love of weird shit that they had, and its one rather-less-nerdy-but-not-entirely-*un*nerdy girl realized that no one else in the class was as interesting to listen and talk to, or to watch. Mackie, Peter and Cyrus’s uncomplicated love of science, cartoons and video games served as a foundation for their lasting friend group.

The three boys came through the other side of puberty still profoundly nerdy, with all the social and sartorial baggage that implied, while Lisa developed into a conventionally attractive person of reasonable social skills. When high school came around she had the option to “trade up” in cliques.

She gave it an exploratory go, but found the lunchtime and after-school conversational topics of other cliques enervating. Also, as someone whose sexuality so far had expressed itself as “possibly asexual or maybe just unimpressed with the local talent,” she was happy to hang out with friends who wouldn’t, in fact, try to shove a tongue down her throat or a hand up her shirt. The boys weren’t asexual, but they had long ago sorted her into “sister” territory in their brains, and Lisa was perfectly fine with that.

But it did mean that occasionally the conversation went far afield, as was happening right now. This was especially the case with Mackie, who in their quartet of nerds was the one with the fewest filters, and who frequently delved too greedily and too deep into the strangest corners of conversational topics. Nevertheless, Mackie, sitting there in his bright green Mr. Celery T-shirt, worn more for irony than love of minor league baseball or its random mascots, clearly had somewhere he was going when he sat down and started blathering about the horrifyingly cheese-filled demise of Jody Bannon. He was doing everyone at the table the courtesy of waiting for the question he desperately wanted one of them to ask.

“All right,” Lisa said. “Why should we be thinking about this billionaire covered in cheese?”

“Because his death is now his defining characteristic,” Mackie said. “Jody Bannon was worth, what, a couple hundred billion dollars? Think about how much money that is. He could have spent a million dollars a day, on *anything*, and it would still take him ten lifetimes to spend it all.”

“Eleven,” Peter said.

“What?”

“Eleven lifetimes. Bannon was forty-eight when he died. It would take almost five hundred and fifty years to spend two hundred billion dollars at a million-dollar-a-day clip. So, eleven lifetimes.”

“You just did that in your head,” Lisa said.

Peter shrugged. “It’s just math.” He took another bite of his sandwich.

“Ten lifetimes, eleven lifetimes, he’s rich as hell, right?” Mackie continued. “I mean, he’s so rich he bought his way to the moon.”

“That’s not the official story,” Cyrus said.

“*Obviously* it’s not the official story,” Mackie said. “You expect NASA to admit the guy who makes their stuff just put himself on a moon rocket without their consent? Come on. And even if you went with the official story,

it just means he still got on that rocket before actual astronauts. It's all the same."

"So he's a rich asshole," Lisa said. "So what?"

Mackie pointed. "Exactly. One of the richest men in the history of this planet. Richer than Rockefeller. Richer than Croesus. Richer than Scrooge McDuck."

"No one's richer than Scrooge McDuck," Peter said.

"Wrong," Mackie said. "He's worth, like, fifty billion, tops."

"There was a comic where he said that if he spent a billion dollars a minute, he'd be broke in six hundred years, which would put his worth in the mid quadrillions," Peter said. "And that was in the seventies. It might be in the quintillions now with inflation."

"He's self-reporting," Cyrus said. "You can't trust rich people to honestly tell you what they're worth. Even a duck."

"*Epecially* a duck," Lisa chimed in, for the hell of it.

"*Realistically*," Mackie said, "he's worth about fifty billion."

"Realistically, for a *cartoon duck*," Peter said.

"I'm trying to get to my point," Mackie protested.

"Oh, well, *please*," Peter made an expansive motion with his hand.

"Leaving Scrooge McDuck out as a fictional and mathematically trivial outlier," Mackie continued, "Jody Bannon was one of the richest people who ever lived. And how did he die? Penetrated by cheese."

"Penetrated by cheese on the moon," Cyrus amended.

"Okay, but does that matter?" Mackie said. "No matter where you are in the universe, death by cheese is a pretty ignominious way to go. Has there ever been a worse way?"

"In the Great Molasses Flood of 1919, twenty-one people were drowned in syrup," Peter said. "Well. Some drowned. Others were crushed."

"I submit death by cheese is worse than death by molasses," Mackie said. "It's a matter of viscosity."

"Bold of you to assume the cheese was more viscous than the molasses," Peter said. "It's a matter of temperature, isn't it."

"Fine, it's a tie."

"It's a tie for second place, then," Cyrus said.

"Why?" Lisa said. "What have you got?"

"The Erfurt Latrine Disaster of 1184," Cyrus said.

“You just made that up,” Lisa challenged Cyrus. “That’s not a real thing.”

“Oh, it was *very* real,” Cyrus replied, smugly. “A bunch of nobles gathered for a royal assembly at a cathedral fell through the floor into a literal cesspool. Sixty of them drowned in excrement. And they probably shit themselves as it happened, which adds another level of horrible recursiveness to it.”

“How do you know this?” Lisa asked.

“How could I *not* know this?” Cyrus said.

“I mean . . . it’s more of a Mackie thing.”

“I resent that,” Mackie said. “And also, that’s correct.”

“I’m allowed to know things,” Cyrus said, defensively.

Lisa held up her hand. “Fair.”

“And also, sixty nobles drowning in crap beats one billionaire getting his voids filled with cheese.”

“On the moon,” Mackie argued.

“Oh, *now* it happening on the moon matters,” Cyrus shot back.

“And we’re not debating based on *volume*.”

“We could be,” Peter said. “It wasn’t specified before.”

“Guys,” Lisa said. “We can agree that dying by cheese or molasses or crap are all horrible ways to go. We don’t have to rank them at the moment.”

The three boys looked unsatisfied by this pronouncement of Lisa’s but they also knew she was right. Reluctantly they let it go.

“You were saying,” Lisa prompted Mackie.

“I was *saying*,” Mackie continued, “that Jody Bannon dying by cheese shows that it doesn’t matter who you are, what you do or how much you are worth. If you die in a weird and humiliating way, that’s what people are going to remember you for, through the rest of human history.”

“So his being a billionaire or running an aerospace company or going to the moon won’t matter at all,” Lisa said. “Just the cheese incident.”

“He’ll be remembered for going to the moon *because* of the cheese incident,” Mackie said. “Why would he be remembered for being a billionaire? There are thousands of billionaires. How many do you know? I can think of maybe ten. It’s not *impressive* just to have money. I know billionaires probably think it is, but how many billionaires do any of *them* know, either?”

“They have secret clubs,” Peter said, darkly.

“They’re like any group,” Mackie said, ignoring his friend. “Some of them are famous but most of them aren’t. Being a billionaire won’t get you remembered. And neither will landing on the moon.”

“Come on,” Lisa said. “Everyone knows who Neil Armstrong is. And Buzz Aldrin.”

“Sure,” Mackie said. “Who was on Apollo 12? Apollo 14? Apollo 15?”

“Someone knows,” Cyrus said.

“Sure, like you know about the Erfrut Latrine Disaster,” Mackie said. “Or like how I know about . . . well, a lot of shit. There’s always nerds who know weird shit. But that’s not the same. Yeah, Bannon would have been remembered for being the first guy to land on the moon in decades . . . for a while. But then people would forget. But *now*.”

“Now that he’s died by cheese, he’ll be remembered,” Lisa said.

“Yes!” Mackie said. “But only because he died in some horrible, ridiculous way. His whole life’s legacy will be one thing, and one thing exactly: At the moment of his death, cheese entered his body from every possible entrance.”

Lisa pointed at her friend. “No, that’s just you. Everyone knows he dies by cheese, but only *you* are imagining a cheddar colonoscopy.”

“I mean, I kind of thought it, when it happened,” Peter said.

“Same,” said Cyrus.

Lisa glared at her friends. “You’re all *disturbed*.”

“It’s just biology,” Mackie said. “And topography.”

Lisa looked glumly at the table they were sitting at. “Great, now I’m thinking of this billionaire’s corpse on the moon, riddled with dairy.”

“If he’s on the moon at all,” Peter said.

“What?”

“Yeah, there’s a NASA guy on Reddit saying it’s likely his body was blown into space by the impact of the cheese eruption on the lunar lander,” Cyrus said. “I read it this morning.”

“So, what, he’s floating in space?” Lisa asked.

Mackie nodded. “Filled and encased in cheese,” he said. “Like a human Enchirito.”

Lisa narrowed her eyes. “You didn’t have to say that. Now it’s in my brain.”

“Do you think he’s orbiting the moon, or did he achieve escape velocity?” Cyrus asked.

“That explosion was pretty big,” Peter said. “They’re still tracking the debris from it. At least some of it hit escape velocity. Some of it might eventually get caught in Earth’s gravity well and fall to Earth.”

“A cheesy human Enchiriteorite,” Mackie said.

“You’re making me feel bad for him,” Lisa said.

Mackie shook his head. “Oh, don’t feel bad for him. He got everything he wanted out of this.”

Lisa looked at him skeptically. “He *wanted* to be invaded by cheese.”

“No, he wanted to go to the moon and he wanted to be remembered by every human on the planet. He got both of those.”

“Not the way he wanted, though,” Lisa pointed out.

Mackie shrugged at this. They all ate their lunches for a few moments in silence, contemplating this thought.

“What do you think it would be like to die by cheese?” Cyrus asked, when he finished his fruit snacks.

“Depends on the kind of cheese,” Peter said. “And its temperature. And its viscosity. And its velocity.”

“I didn’t want to ever think this much about cheese,” Lisa confessed.

“Well, the good news is, now you won’t ever have to again,” Mackie said. “Probably. Hopefully.”



Washington, DC | The Oval Office, White House

“Mr. President, there’s no easy way to put this, so I’m going to just dive right in,” said Kevin Olsen, the administrator of NASA. “Two days ago, a chunk of the moon roughly twice the size of Mount Everest was launched into space by the same explosion that claimed the life of Jody Bannon. We hoped it would be captured by the moon’s gravity and either fall back to the moon, or be captured and orbit the moon as its own satellite. Neither of these things has happened.”

Brett Boone, president of the United States, sat behind the Resolute desk as he received this information. Olsen stood in front of it, along with Pat Heffernan, Boone’s chief of staff, as well as General Vincent Spencer, chairman of the Joint Chiefs of Staff. It was 7:35 in the a.m., and Boone was waiting on his first cup of coffee.

The door to the Oval Office opened and Dolores Carson appeared, with Boone’s coffee, black, two Splenda. Boone took it from her, smiled gratefully, and took a sip out of it while she exited the room.

“Cut to the chase, Kevin,” he said, after he sat his coffee mug down. As he said this, he saw Heffernan give the briefest of smiles. He knew Pat liked to tell anyone who gave him a briefing to use simple words so he could use even simpler ones for the president. Boone was aware to many people this gave the impression that Pat was implying he was simple, but what Pat was doing was getting them to get to the goddamn point as quickly as possible. Everyone

wanted to sound like they knew what they were doing, and they usually took too many words to do it.

“Uh,” Olsen stammered, and then righted himself. “That chunk of the moon is heading to Earth, sir.”

Boone considered this as he took another sip of his coffee. “So, to recap: An asteroid made of cheese is going to hit the planet.”

“Technically probably not an asteroid,” Olsen said, because he was a scientist and he couldn’t help himself. “And yes.”

“When?”

“We’re working on that.”

“You don’t know?”

“The orbital dynamics are complex, Mr. President.”

“Give me a ballpark figure.”

“It could be months or it could be years.”

“So I might be out of office when it happens.”

“I . . .” Olsen stammered again. “I guess so.”

“Well,” Boone said. “At least *that’s* something.” He took another sip of his coffee and caught Olsen’s confused face. He turned to Heffernan. “So how bad is this?”

“It’s bad,” Heffernan said. “Real bad.”

“Give me a comparison.”

“Okay,” Heffernan said. “You know the asteroid that wiped out the dinosaurs?”

“I do.”

“It was smaller than this.”

Boone turned back to Olsen. “That was an asteroid, but this isn’t?”

Olsen looked miserable. “Asteroids are rocky, or metallic, or icy,” he said. “This isn’t any of those. The International Astronomical Union would have to make a ruling.”

“Relax, Kevin, I’m giving you shit,” Boone said, looking back to Heffernan. “It’s bigger than the dinosaur killer, sure. But it’s made of cheese.”

Heffernan shook his head. “It’s not going to matter.”

“It’s not going to break up? Turn into, I don’t know, toasted cheese globules or something?” Boone tapped his desk. “I don’t know how to talk about this in a way that doesn’t fundamentally sound ridiculous.”

“This has been a common problem,” Heffernan assured him. “And no, it won’t do any of those things.” He turned to Olsen. “Tell him why.”

“It’s just too big, sir,” Olsen said. “Too much mass, and when it eventually reaches Earth, it’ll be going too fast. It’s not going to burn up in the atmosphere; it’s just going to mostly push it aside. And when it hits, that mass is going to turn into energy. Cheese or rock, it doesn’t matter at that point.”

Boone turned to General Spencer. “And you can’t do anything about this?”

“We’re going to do everything we can,” Spencer said. He nodded at Olsen. “NASA and other national space agencies have been working the problem of deflecting near-Earth objects for years, with kinetic impactors and laser ablation and what have you. And the military has certain assets we could employ.”

“Space nukes,” Boone said.

“Yes, sir. We’re not allowed them under the Outer Space Treaty, so revealing them at this point will be problematic.”

“Less problematic than all life on Earth wiped out by cheese?”

“As commander in chief, that would be for you to decide,” Spencer said. “I will say that should it come to that, you should allow us to talk with China and Russia before you make any announcements.”

“So they’re not surprised by the announcement,” Boone said.

“Well, yes,” Spencer replied. “And also to invite them to task their space nukes for the purpose.”

“And will space nukes work?”

Spencer looked at Olsen, who gave a helpless shrug. “Our nuclear assets in space are designed to be aimed in one direction, not the other,” Spencer said. “There would be technical issues to resolve. It’s complicated.”

“Shorter version,” Heffernan said to Spencer.

“We’d want to nuke that thing as soon as possible, but the distance is a problem. We’d be effectively throwing nuclear-tipped darts at a moving target.”

“I have faith in your abilities,” Boone said.

“Thank you, sir,” Spencer said. “But even if we hit it, it doesn’t mean the problem is solved. If you’re using the nukes to move the thing, if we don’t nudge it perfectly, it’ll still eventually hit Earth, just at a different time. If you’re hoping to vaporize the thing entirely, we run the risk of simply

breaking it up. Those remnants may still be massive enough to do considerable damage.”

“Then we hit them again,” Heffernan said.

“Pat, believe it or not, we only have so many nukes in space,” Spencer replied. “Even with the Chinese and Russians helping, if they help, there’s only so much we’re going to be able to do.”

“Which is the other problem,” Olsen said.

“Oh, great, there’s *another* problem,” Boone muttered. He took another swig of his coffee and set his mug back down. “By all means, tell me this new problem, which you probably should have just told me about right from the start.”

Olsen reddened at this but got it together. “This isn’t a one-time thing,” he said. “The moon blew out a mountain-sized chunk of itself two weeks after changing into its new form. That’s incredibly fast, and the moon’s compression in on itself is only beginning, and is only going to get more violent from here. We’re talking about this one massive chunk of the moon, but there are other smaller chunks that are also now out of the moon’s gravity well and falling into ours. They’ll hit, too. Every eruption like this—and there will be others, and soon—will blast enough debris off the moon and into our path for this to be a consistent and persistent danger.” He looked at Spencer. “We absolutely don’t have enough nukes for this. Nobody does. Not now, not if we repurposed every single nuclear warhead we have to the task, and not in the time in which we would need them even if we could.”

“So you’re saying we’re doomed,” Boone said to Olsen.

“I didn’t say that,” Olsen protested.

Boone held up his hand. “Yes, you did, you just want to weasel out of it. But cut the shit, Kevin. You don’t think we’re getting out of this alive, do you?”

Olsen looked helpless. “It . . . doesn’t look good, Mr. President.”

“Given this new assessment, is it worth admitting we broke treaties to put nukes in space?” Boone asked Spencer.

“Mr. Olsen here is speculating on what might happen in the future,” Spencer said. “I would prefer to work on the problem we already have in front of us. Any time we buy is time we can use to work on the next problem.”

Boone nodded at this. “Gentlemen, thank you. You’ve given me a lot to

consider. Pat, stay behind, please.” Olsen and Spencer left the Oval Office, leaving the president with his chief of staff.

“‘You should run for president,’ you said. ‘It’ll be fun,’ you said,” Boone intoned to Heffernan.

Heffernan grinned. “It’s been fun for me, anyway.”

“Well, I’m happy for *you*, then,” Boone said, looked down at his now mostly empty coffee mug, and sighed. “Other presidents had wars, or civil unrest, or depressions. I have the end of the world. By fucking *cheese*, Pat.”

“It’s unexpected,” Heffernan agreed.

“What’s that poem? The one about the end of the world.”

“That’s about half of them.”

“No, the one with fire and ice.”

“You’re probably thinking of the one by Robert Frost,” Heffernan said.

“Some say the world will end in fire—”

“That’s the one,” Boone said. “The world will not end in fire, or in ice. It’ll end in cheese. Suck on that, Robert Frost.”

“Well, when the cheese hits, there will be fire,” Heffernan said. “So technically he still gets it right.”

“The Cheese Flambé Apocalypse,” Boone said. “That’s going to look great on my Wikipedia page, Pat.”

“It’ll be the end of the world,” Heffernan said. “No one will bother to write it.”

“So I have that going for me, which is nice,” Boone said. He drained the rest of his coffee.

“You know there is protocol for the president and his staff,” Heffernan pointed out. “In case of apocalypse.”

“*Pat*,” Boone said. “I don’t think the Continuity of Operation documents considered the death of the planet by cheese.” He motioned toward the door by which Olsen and Spencer had left. “Besides, you heard Kevin. This isn’t going to be a one-off. The moon is going to keep erupting. We’re going to keep being in the path. Maybe not every time the moon farts out a mountain, but more than enough. Earth can survive a dinosaur-killing asteroid once every couple hundred million years. Not every year, or every five years, or whatever. We’re not going to be able to sit that out in a bunker.”

“What do you want to do?” Heffernan asked.

“I want to nuke that fucking cheese,” Boone said. “Spencer was right. We

work the problem in front of us. And we're seen working the problem in front of us. If nothing else that means that we might keep everyone from panicking for a few more weeks or months. Things are going to be bad enough without complete anarchy."

"A well-managed apocalypse," Heffernan said, nodding. "That'll look great for Wikipedia."

"Thank you," Boone said, sarcastically. "How long until this gets out?"

"It's the same as when the moon turned to cheese in the first place," Heffernan answered. "Anyone can look up in the sky and see what happened. There are millions of scientists around the world, and even more people who can do math. It's already out there. We just have to manage it."

"So, three o'clock press conference?"

"Three o'clock press conference," Heffernan agreed. "I'll have Olsen and Spencer there. They'll handle most of it. In the meantime I'll have your schedule for today redone. You have to make phone calls to Moscow and Beijing again."

"Good. And, Pat."

"Yes, Mr. President."

"When you talk to our people, remember: We're leaning into the 'we're solving this problem' angle, not the 'we're all doomed' angle. We're leaning into solving this problem really, really hard."

"Of course, Mr. President," Heffernan said. He looked at Boone's coffee cup. "I'll tell Dolores you're out. And tell her to keep you topped up. You're going to need it today."



It was a little after ten in the evening before Brett Boone made his way to the White House master bedroom. Angie Boone, the first lady, to whom Brett had been married for twenty-five years now, if you can believe that, where does the time go, was already in the bed, propped up on pillows and reading from a tablet.

"Well, this was a day," Boone said to his wife. He began to undress.

"So I've been reading," Angie said. She looked over to her husband and turned the tablet around. "I particularly like this headline from the *New York Times*. 'We Will Work the Problem in Front of Us.'"

“I didn’t think that one up.”

“I know this. You might owe Andy Weir a royalty payment for it.”

Boone didn’t know who that was, so he ignored it, shed his button-down shirt and dropped it to the floor.

“I know you’re not just leaving that there,” said Angie, turning the tablet back around.

Boone looked over to his wife, exasperated. “I’m the president of the United States, you know,” he said. “I’m the president of the United States and I’ve been dealing with the end of the world all day long. I think I should be able to leave my shirt on the floor.”

Angie looked over the tablet at him, silent.

“Fine.” Boone reached down, picked up the shirt, and carried it and himself into the adjoining dressing room.

“Thank you,” Angie said, in a singsong private voice, eyes back on the article she was reading.

Boone came out of the dressing room, in pajamas and a robe. “We have staff, you know,” he said. “They would pick up a wayward shirt.”

“If you dropped a shirt with the expectation that someone else would pick up after you, I would divorce you instantly,” said Angie.

“Oh, *that’s* what you would divorce me for,” Boone said. “Out of all the other possible things.”

“The other things were human failings,” Angie said. “And stupidity. Dropping your shirt for someone else to pick up shows contempt. I didn’t like it when I was the person who would have had to pick it up. I don’t see why I would like it less now that someone else would have to do it.”

“It’s their job.”

“It’s only their job if you make it their job,” Angie replied. “And anyway. Even the high and mighty president of the United States should do a little manual labor, to keep in touch with the average American. Also, it’s my bedroom. I don’t want your crap on my floor.”

“*Your* floor.”

Angie Boone looked over at her husband again, not having to remind him that he wouldn’t have a White House master bedroom floor to drop a shirt on without her. Angie, who had bootstrapped a baked goods empire from a single storefront to nationwide distribution, and donated her company’s profits to charity, consistently polled as twenty points more popular than her

husband. In its postelection analysis, the *Washington Post* opined that Angie won Boone Ohio and Michigan, a Midwest one-two punch that give him the electoral vote margin he needed for victory. They were right.

"I *did* pick up my shirt," Boone finally said, slipping into bed.

"So is it the end of the world?" Angie asked her husband.

"Kevin Olsen seems to think so," Boone said.

"And you think he's right."

"I think he knows more than I do about this subject."

"To the extent that anyone knows anything about the moon these days," Angie observed.

"There is that," Boone allowed.

Angie looked over at her husband. "You think he's right, but you don't think we're doomed."

"What makes you say that?"

"Because we just spent minutes talking about your shirt," Angie said. "If you really thought we were doomed, when I complained about your shirt you would have just picked it up and walked it to the dressing room hamper without a word. You go silent when you're feeling defeated. You don't feel defeated. You don't think we're doomed."

Boone sat with this for a minute. Angie waited for him to think. "I don't think Olsen's wrong," he said, trying to choose his words. "Everything he had to say today made sense. Not just about what's happening right now, but what we can expect after this. My brain knows what he says is probably right. My brain also doesn't believe it."

"Doesn't believe it, or can't conceive it?" Angie asked.

"Shit, I don't know," Boone said. "Maybe both? It's entirely possible I don't want to believe it and my brain can't make it believable anyway. It's goddamn cheese, Angie. How are we even supposed to make sense of it? I can't make my brain accept it or accept that this could be the end of everything. So I'm not. Maybe that's wrong of me."

"It's not wrong of you," Angie said.

Boone looked at his wife, surprised. "This from the realist of the two of us."

"It's not wrong of you," Angie repeated. "Listen. Maybe Olsen's right, and we're all doomed. That's a luxury he can afford. You can't. You're the president of the United States. If you're convinced we're going to see the end

of this, then everyone else will be convinced we're going to see the end of this. And if they're not convinced, they'll keep it to themselves."

Boone snorted. "You've seen my latest poll numbers," he said. "My powers of persuasion are not what you think they are."

"This isn't about you trying to shepherd legislation," Angie said. "This is you being the actual most powerful human in the world. Right or wrong, that's who you are right now. People know it, even if they hate it and hate you. So if they get even a hint that you think we're doomed, it's all over. If they think you think we have a chance, they'll take that into their heads. Even if they think you're delusional."

"I *might* be delusional," Boone admitted.

"And you might not be. Maybe we will get through this."

"Maybe we will. And if we do, then maybe I'll get reelected."

"Don't get your hopes up," Angie said. "I've seen your poll numbers."

Boone looked at his wife, mouth open. Angie took one look at her husband's hurt expression, laughed out loud, and gave him a tackle kiss.



From the *Guardian*:

So Are We Doomed or What?

*As a new threat emerges
from the moon, many wonder:
What aren't they telling us?*

Orlando Gibbs-Hall, Science Reporter

United States President Brett Boone provided a calming picture of confidence as he spoke at yet another extraordinary press conference yesterday, describing a new threat to global peace and security: a roughly twenty-kilometer-long breakaway portion of the moon that has escaped the moon's gravitational pull and is now headed, inexorably, toward Earth. After stressing that more study and observation would need to be done in order to chart its course, and to assess what danger it offered to the world, Boone also announced a partnership with China, Russia and the European Union to "mitigate and if necessary, eliminate" the threat this moon debris presents. "We have the tools, we have the will, and we have the global cooperation to work this problem," Boone said.

It was inspiring stuff, and it showed in the flash polling done immediately after the press conference: Boone's approval rating shot up a dozen points, surely good news for a president whose recent polling has been beleaguered. But the press conference offered as many questions as it answered, among them: If this was a containable threat, why the sudden cooperation between nations whose current relationship status is, to put it politely, unambiguously strained?

"A twenty-kilometer, free-floating piece of the moon is absolutely potentially catastrophic," said Suzanne Dalton, professor of astrophysics at Oxford University. "If it eventually falls to Earth, it can do damage to our planet on a scale not seen in sixty-five million years. It is an existential threat to life on Earth. So it makes sense that the major powers of this planet might put aside whatever differences they might have in order to deal with it."

Does this sudden willingness to cooperate then mean it is, in fact, on a path toward our planet?

"I think it means they are very concerned about it," Dalton said. "But these same powers have also worked cooperatively in space even when their other relationships have been strained. The

International Space Station was crewed by Americans and Russians when those nations otherwise had hardly a polite word between them.”

And what about the presidential press conference itself? The American president himself commenting on the threat this moon rock presents could be seen as an indication of the severity of the threat. Neither Boone nor any other president would be speaking to the world about it if it were not, as Dr. Dalton put it, an existential threat to life on Earth. He’s simply too busy.

Astronaut LeMae Anderson, however, offered a slightly different take on the matter. “The president, and NASA, know the Lunar One is visible, and that astronomers and backyard stargazers alike are watching it,” she said. “He and we wanted to get ahead of any online speculation and offer our best understanding of it, to avoid unwarranted speculation or panic.”

Is it not a threat, then?

“We’re still figuring that out,” Anderson said. “We have to take it seriously. Lunar One is the largest object between us and the moon, and one of the largest objects near to Earth. It would be irresponsible not to recognize its potential threat. It would also be irresponsible at this point to overstate it.”

“Lunar One” is the current designation given by NASA to the object, although that designation is likely to be both temporary and unofficial. The International Astronomical Union has an established protocol for naming “minor planets” (as Lunar One would technically be at this point), but other aspects of its existence, such as its composition and the fact its orbit has not yet been definitively established, have hampered its official naming. Likewise, who is to be credited for its discovery. Several astronomers have suggested that the late Jody Bannon be listed as the discoverer, while others have said that suggestion was morbid and inappropriate.

The Internet, of course, has other names for Lunar One, most laden with dark humor. One of the earliest to appear was “the Banonnator,” because of Lunar One’s fatal encounter with the billionaire. Another, riffing off Bannon’s financial stature, labeled it “Marx’s Revenge.” As speculation that Lunar One might find itself on a collision course has increased, other names have surfaced, including “Fromageddon” and “Lactocalypse.”

The dark humor masks real apprehension, says psychologist Claire Wagner. “This is a hugely uncertain moment,” she said. “We’re all waiting for NASA to tell us whether this thing is a threat, or just another new object in the case. If it’s a threat, it’s on a level that none of us have ever seen, or really can imagine. The jokes are our way of trying to wrap our brains around it.”

That threat is also why NASA and the world governments are soft-pedaling the threat, said Dayton Bailey, whose popular science book *That’s No Moon* shot to the top of the bestseller charts in the US and UK in the wake of the moon turning to cheese. “If it sinks in that we are truly facing an extinction-level event, then we won’t have to wait for this thing to hit us,” he said. “All the mechanisms that keep our world running will come to a halt.”

Are we talking riots? “Not necessarily,” Bailey said. “But, look. If you knew for sure that the end was near, would you go to work? Would anyone? Would you be interviewing me, or hanging out with your loved ones? Would I be taking the interview? It wouldn’t matter how many books I sell at that point. I won’t be around to collect the royalties.”

While Bailey isn’t ready to abandon all hope for his royalties (yet), he also doesn’t underplay the threat Lunar One poses for us all. “There’s a thing called the Torino scale, which is used to estimate the threat that near-Earth astronomical objects pose to our planet,” he said. “It goes from zero to ten, with zero meaning no danger at all, to ten being something like the Chicxulub impact, which killed off the dinosaurs. In all the time the Torino scale’s been used, nothing’s ever been rated more than a four, which means a less than one percent chance of the near-Earth object causing limited damage within the next century.”

How would Bailey rank Lunar One? “It’s a seven, for sure,” he said. “That means we don’t

know if it will hit in the next century, but if it does, it will be globally catastrophic. A seven is as high as the Torino scale goes without an impact being certain.”

And if an impact does become certain? “I’ll find the highest place I can get to and flip the thing the finger as it comes down.”

Eugene, Oregon | The Francis M. Wilkins Shelter, Hendricks Park

Sal Palacio was thinking about new and exciting ways to avoid writing their paper on the agricultural pressures on the Incan Empire immediately prior to its European conquest, and not coming up with much other than staring blankly at the ceiling wondering why they thought it would be a great idea to get a major in Latin American studies instead of, like, accounting, which was just fuckin’ *numbers*, when Rosa Miralles knocked on their open dorm room door.

“Why are you doing that?” she asked Sal.

“Doing what?”

“Sprawling in your chair like you’ve been shot.”

“I’m seeing if it helps me think about 1400s Peru.”

“How’s it going?”

“Not great, and now my neck hurts.”

Rosa nodded. “Well, stop doing that and come with me.”

“Why?”

“Because I’m going to a party to flip off the moon.”

Sal raised their head at this. “A what now?”

“A party to flip off the moon. It’s at Hendricks Park.”

“But . . . you can flip off the moon from anywhere,” Sal said. They raised a middle finger to the sky, which was blocked by the ceiling, but even so.

“Look. I’ve done it just now.”

“Yeah, but the way you’ve done it is sad and pathetic. The way I’m going to do it is fun and social.”

“That’s just, like, your opinion.”

“No, it’s a fact. So get your hoodie, you’re coming with me.”

“*Uuungh*,” Sal said, in protest, but was secretly thrilled, because they were not coming up with a way to procrastinate on their own and yet, through

Rosa, here was nature providing. Nevertheless, there were forms to be observed. “But what if it sucks?”

“If it sucks, it sucks,” Rosa said. “But then at least you’ll have done something besides give yourself a neck cramp.”

“But I don’t have to go anywhere to do that.”

“God, Sal, I don’t know why I bother with you.”

“It’s because you love me,” Sal said. Sal and Rosa had been fast friends since orientation week, when they met in their dorm as part of the Comunidad de Latinx and within minutes became annoyed that they were not each other’s roommates; both of them got paired with roommates that were almost nonentities. This became a nonissue, as both of their roommates quickly paired off with romantic partners and spent nearly all their time elsewhere. Since the second week of the school year, Sal saw their roommate, Maite, maybe once a week if that. Sal and Rosa now effectively had single rooms, which was even better than being roommates.

“I do love you,” Rosa confirmed. “And also, if you don’t get off that chair in thirty seconds, I’m leaving without you.”

Sal groaned again, grabbed a hoodie, and they headed out.

The party was going to be at a shelter at Hendricks Park, about a mile away from Justice Bean Hall, so Sal and Rosa decided to walk it rather than bike or use Sal’s shitty Toyota, which only questionably could handle the grade of the road up to the shelter. Sal was dreading the drive back to Portland at the end of the semester; it had barely made it to the school as it was. As they walked, Rosa kept looking up at the sky, and at the now a-bit-less-than-full moon.

“What?” Sal said to their friend.

“It should be dark,” Rosa said.

Sal looked around. “It is dark.”

“It’s not *that* dark,” Rosa said, and pointed upward. “The sky is still blue.”

“Dark blue.”

“Which is still blue,” Rosa said. “And it’s been blue for most of the nights.”

“I think it looks nice,” Sal said.

“You call yourself a goth,” Rosa mocked. Most of Sal’s clothing was black, and their music ran the gamut from Bauhaus to A Cloud of Ravens, along with Mexican Goth bands like Tragico Ballet, Oblivion Requiem and

the Darkstar Calling, whom Sal loved because they rocked and because most goth types barely knew that the culture that had *fucking perfected* goth life, thank you very much, had its own goth tradition, and they liked lording it over the rest of them.

“Dark blue is goth,” Sal said, only a little defensively. “Advanced goth gets you jewel tones.”

Rosa laughed at this. Rosa was not goth. Rosa called herself the Enid to Sal’s Wednesday, and gender inexactitude aside, this was not wrong.

Sal looked up at the moon, still nearly blindingly bright, and saw the bright speck to the side of it. “So that’s the thing that’s going to kill us all,” they said.

Rosa looked up and squinted at it. “Yeah, maybe?”

“You’re taking it well,” Sal observed.

“They’re still deciding if it’s going to kill us,” Rosa said. “And in the meantime I still have tests and reading to do. I can’t get too worked up about death by cheese when I have six pre-Socratic philosophers to catch up on first.”

“That’s a good set of priorities,” Sal said. “At least until they find out it is going to kill us, in which who gives a shit about Anaximander?” Sal, too, had taken the History of Western Philosophy.

“Yeah,” Rosa said. “Of course, the funny thing is that Anaximander would have loved this. He was all about his apeiron bullshit. He’d probably say that if the moon wipes us out it’s just everything returning back to its original form or something.”

Sal looked at their friend admiringly. “You remember more about this stuff than I do.”

“It’s just pre-Socratic thinking, it’s not like it’s *hard* or anything,” Rosa said. “Really, *oooooh*, the universe is made out of *love* and *strife*, *oooooh*, thanks Empedocles, that’s *super* deep.”

Sal laughed.

“I mean, I get that they get credit for thinking it up for the first time,” Rosa continued. “Great, fine. I just don’t know how much credit it’s worth, you know?”

The two friends continued walking and chatting, and sooner than either would have expected found themselves at the FM Wilkins shelter in Hendricks Park, where already a couple dozen University of Oregon students

were milling about, drinking from bottles and sneaking puffs from vapes, and waiting on someone to tell them what to do next. At the end of the shelter, a very earnest-looking dude with an acoustic guitar was strumming out something, which Sal recognized as “Pink Moon” by Nick Drake, one of their grandfather’s favorite artists.

“How did you hear about this?” Sal asked Rosa.

“I saw a flyer about it,” she said.

“A flyer? You weren’t worried it was just a fishing expedition for a cult? Like we’ll be made ritual sacrifices or something?”

“I considered it,” Rosa said.

“And we came anyway.”

“If it turns out we’re supposed to be ritual sacrifices I’ll just trip you so they get you first.”

“Aaaah,” Sal said. “Now I see why you brought me.”

“I do love you,” Rosa said. “And also, yes.”

“Hello!” someone yelled, and leaped up on one of the picnic tables inside the shelter. He was young and cute in that “I take my fashion cues from years of Japanese high school anime” way. “I’m Gale! Welcome to the ‘Flip Off the Moon’ party!”

There was a general cheer to this, and some bottles hoisted.

“Are you going to murder us in a ritual sacrifice?” Sal demanded.

“Damn it! You found me out!” Gale said, and there was laughter. “Well, since that surprise was ruined, I guess we will just have to go with what I put on the flyer. And let me tell you about that. I was reading a news article earlier today talking about the chunk of the moon they’re calling Lunar One ____”

There were dramatic boos.

Gale smiled. “Yes! Boo it! But not yet!” There was more laughter. “In the article, a scientist was saying that if Lunar One was coming to kill us all, then he would spend his last day at the top of a mountain flipping it off.” Cheers came up at this. “And I thought, why wait? The moon and Lunar One have already done enough! The moon turned to friggin’ cheese! That wasn’t supposed to happen! In this or any other universe! Then it killed a billionaire ____”

“That’s not bad!” someone in the crowd said.

“Which, okay, thank you, Soviet citizen,” Gale said to whoever yelled that,

to laughter. “—but in addition to killing a billionaire it also kind of killed our whole moon landing program, and then, a chunk bigger than Everest came off of it, and even if it *doesn't* kill us, a whole bunch of us are going to get PTSD about it every time we look at it. The moon and its little pal have done enough to warrant our scorn!”

The cheers came again.

Gale motioned. “So come with me now as we stand outside this shelter, and on the count of three, flip them both off! And as we do it, let's say ‘fuck you, moon’ and ‘fuck you, Lunar One,’ and let's do both loud enough that they can hear us! In space! Through vacuum! It's the thought that counts! Come with me!” He hopped off the picnic table and walked to the patch of grass immediately outside the shelter. Sal, Rosa and the rest of the people in the shelter went with him.

Gale counted them off, and on “three” they all thrust their middle fingers in the air, and started telling the moon and Lunar One to fuck right off.

Sal looked around, saw the fingers upraised, and for a small but very real moment, was as happy as they had been in a long time. Yes, the world might be coming to an end sooner than later, and yes, flipping off the moon and its (relatively) tiny homicidal offspring was the most futile of futile gestures, and yes, when it was all done they would still have to write that paper on Incan agriculture. But right now, in this moment, with their best friend Rosa and in a throng of people they didn't know, this act of simple defiance against fate and physics gave them joy, and, if not exactly hope, at least a moment of inner peace that they had the presence of mind to appreciate, because who knew if it would ever come again in this life.

Sal looked at Rosa, who was smiling, and suspected she was having a similar moment. As the chanting against the moon fell into cheering, the two friends hugged.

“Okay, that didn't suck,” Sal said.

“I told you it would be fun,” Rosa said, and then turned in the direction of Gale. “Hey!” she shouted. “Now what?”

“I don't know!” Gale shouted back. “I didn't think anyone would actually show up!”

There was laughing, the earnest young man with the acoustic guitar started up again, and Sal and Rosa, holding hands, stared again into the deep blue sky and at its bright, bright moon.



Madison, Wisconsin | DemocraCheese

“Okay, what the hell is this damn thing?” Ted Hubbard said, peering out onto Pinckney Street, where a group of presumably University of Wisconsin students were beginning to gather. His shop, DemocraCheese, had just closed for the evening, and Hubbard along with his employee Felix Collier were doing the end-of-the-day cleanup and accounting.

Well, Ted was. Felix was looking at his phone and grinning at it. Ted knew what that was about. Felix was texting that girl from the Fromagery, Ann or Annette or Annie or something like that.

Well, that was partly Ted’s fault; on Felix’s first day he’d had his new hire sneak over to his brother Jack’s cheese shop to check it out and report back. Ann/Annette/Annie, on her first day at Jack’s shop, snuck into DemocraCheese to do the same thing. The two new employees started flirting, and a week in, it was pretty clear their allegiance was to each other and not the Hubbard brothers’ dueling cheese emporiums.

Which was, obviously, fine. Ted and Jack had more than enough animosity to go around. No one else needed to be part of it. Certainly their spouses weren’t, nor their children; Ted’s three children and Jack’s four got along better than most cousins. Now Felix and whoever her name was that started with an A were apparently going to steadfastly ignore their feud. Ted low-key appreciated this; it meant Felix could go visit his girlfriend and report back what was going on at Jack’s store.

The gathering on Pinckney had grown to a few dozen people now, a sort of purposeful milling about.

"You know anything about this?" Ted asked Felix.

Felix looked up from his phone, grin still on his face. "Pardon?"

Ted pointed out the window. "A bunch of kids out there on the street."

Felix looked past his boss to the assembled mass. "It might be a flip off," he said.

"A what?"

"It's a thing that's taking off," Felix said. "People are gathering to flip off the moon. It's mostly a student thing. I read about it on Reddit earlier today."

"Why are they flipping off the moon?"

"Because it's making them question the nature of reality and confront their possible mortality, mostly."

"We used to take shrooms for that," Ted said.

Felix grinned at this. "That's good to know." His eyes drifted toward his phone again.

"Hey," Ted said. "Stop flirting with that girl. Maybe sweep up."

Felix grinned again. "Sorry, boss."

"It's all right, I get it. I just also need the floors swept. If you can sweep and flirt at the same time, that's fine, too."

This made Felix break into a wide smile. He went to the back of the shop to get a broom and a dustpan.

Outside, the crowd had grown to fifty or sixty and someone was speaking to the assembled mass. Ted couldn't hear what they were saying, but it was popular because there was laughing and cheering and a few pumped fists. Ted shook his head and got back to tucking his shop in for the night.

A few minutes later there was chanting. Ted looked up, and sure enough, the assembled crowd was extending their collective middle finger toward the moon.

"Are they chanting 'fuck the moon'?" Ted asked Felix, who was dutifully sweeping and not looking at his phone.

Felix listened. "It sure sounds like it," he said. "'Fuck the moon,' is popular, and I believe that some places add 'fuck Lunar One,' which is the chunk that came off of it."

"I know about that," Ted said. "I do watch the news." He looked back at the crowd. "They know it doesn't do anything, right?"

“I think they know the moon can’t hear them, yes,” Felix said. “I think it’s more of a cathartic thing, and it’s more fun when there’s a crowd.”

“You want to go out and join them?”

“Me?”

“You were in the Astronomy Department,” Ted said. “You told me you were having an existential crisis about the moon turning to cheese.” He waved at the chanters. “This seems like it might be right up your alley.”

Felix looked back out at the crowd. “Tempting,” he said. “But at the end of the day—and it is the end of the day, isn’t it—chanting crowds really aren’t my thing. Once we close up shop I’m going to go across the way and then Annette and I are going to have dinner. Seems a better use of my time.”

“Annette!” Ted said.

“What?” Felix cocked his head.

“Sorry,” Ted replied. “I couldn’t remember if her name was Annette or Ann or Annie or something else.”

“It’s definitely Annette.”

“You got on with her pretty quickly,” Ted said, and then quickly amended. “I mean, liking her. Not anything else, that’s not my business.”

Felix held up his hand. “No, I got what you were saying. And yes.”

“Well, that’s good, then.”

“I think so,” Felix said. “I mean, I think she’s pretty grea—” His voice trailed off and he looked past Ted, out toward the street.

Ted waited a second to hear him complete his sentence, realized that the completion was not forthcoming, and turned around to follow his gaze.

The crowd of people on Pinckney Street, now silent, were looking into the cheese shop.

“Uh,” Ted said.

From the back of the crowd someone started a new chant. Ted couldn’t hear it at first, but then a few more people picked it up, and then a few more, and then even more, and then there were sixty or so people in front of his shop chanting “Fuck the cheese” over and over again.

Felix laughed at this and got out his phone.

“What are you doing?” Ted asked him.

“I’m going to get a recording. This is hilarious,” he said.

It didn’t feel hilarious to Ted.

From the crowd a couple of the people closest to the store came to the door

and, still chanting, tried to open it. It was locked, because DemocraCheese had closed for the evening. They didn't seem to like this and started rattling the door, trying to open it. Other members of the crowd were now coming up to the display windows and started rapping on them with their fists.

"Ooookay, this is suddenly not so funny anymore," Felix said, backing away from the storefront and heading farther into the store.

"Felix, do me a favor and go make sure the back door is closed up," Ted said, not taking his eyes off the crowd. "Do it quick."

"That's a great idea, boss," Felix said, and ducked into the back part of the store.

The rapping on the windows had now changed to actual fists thumping on the glass. The faces of the people he could see at the glass didn't look like the faces of people who were having a good time. They looked angry.

"Why the hell are you angry at *me*?" Ted yelled at them.

The crowd outside had no response to this, probably because the chant had amped up in volume and anger.

Watching them, a thought occurred to Ted. When they were flipping off the moon, it was harmless, because the moon was in space and they couldn't get to it. But Ted's cheese shop was literally right here. And it had the stuff the moon was made out of. And even if some of them had started chanting "fuck the cheese" as a joke, well, here was a whole store full of the stuff that might actually kill them.

And that would be enough for some of them to smash the place to bits.

"Hell of a day to run a cheese shop," Ted muttered to himself.

"Where are the police?" Felix said, having returned from the back of the store, where, hopefully, he had bolted the door to the alley as securely as possible. "The state capitol is right there. We should be flooded with cops."

Ted looked at him. "You have a damn phone," he said. "Stop texting your girlfriend and call 911."

There was a loud *thwack* from the front of the store. Ted turned around to see a crack at the top of his display window, where someone had thrown something hard at it. As he watched, something else solid was flung at a different window, which rattled but did not crack or break. But now that someone had gotten it in their head to start throwing things, it was only a matter of time.

"Well, shit," Ted said. Of all the things he had ever expected out of

DemocraCheese, a full-scale cheese riot had not been one of them. He couldn't remember if his insurance covered riots. He was about to find out.

The chanting outside suddenly became chaotic and confused, and the people at the front of the store, shaking his door and banging on his windows, backed away in a hurry. Ted was confused as to why that was happening, and then saw it: some large man, swinging what looked like a baseball bat, yelling at the mob to get away from the shop. The mob, its spell of madness broken by the potential of physical injury, shrank back.

The man moved fast and parked himself in front of the door, back to the shop. But once the crowd had moved itself roughly one bat swing away, the man looked back into the shop to check that everything was all right.

"Jack," Ted said. It was his brother.

Jack nodded briefly at his sibling and then turned back to the crowd and started saying something. Ted came closer to hear it.

"—the goddamn hell is wrong with all of you," Ted heard Jack say. "Do you really think this shop has anything to do with what's going on in the world right now? Do you think that smashing a window and taking revenge on a goddamn wheel of cheese is going to change a damn thing? All you are doing is hurting the people who own this shop! They have done nothing to you, and destroying their shop won't do anything but put them out of work! You're goddamn college students, for Christ's sake, I know you can use your heads! I know you're angry and scared, I get it, I'm in the same boat as you. I go to work every day because I don't know what the hell else to do right now. But I don't trash someone else's life. That won't make my life better. It just makes someone's else's life worse."

They all stared at Jack, silent.

"Go home," Jack said. "The damn capitol is right there; you know the cops are on their way. Get out of here before you have to call someone for bail money. Go away and it's done and over. Don't screw up your life over"—he gestured at the shop—"goddamned cheese."

The mob, perhaps realizing that they were in fact about to commit multiple felonies because of a dairy product, broke. Some walked; some ran. All of them were gone within seconds.

The last of them dispersed as the cops finally rolled up, lights flashing. They poured out of their cars, service pistols out, yelling at Jack to put his hands up and to get on the ground.

Jack dropped his bat, looked at his brother as if to say, *See what I do for you*, and complied before a cop decided to shoot him.



Jack was not shot, although it took longer than it should have to convince the cops on the scene that the bat-wielding large man at the front of the store was not in fact threatening the shop, or Ted, or the cheese. Felix explained that just before calling the cops he had texted Annette (who by this time had arrived, worried to death about Felix, and also Ted) about the mob in front of the shop; Annette had told Phyllis and Jack, the latter of whom instantly went to the back of the shop, grabbed the Louisville Slugger he kept there for basic shop protection, and ran full speed across the Capitol Square to help out his brother.

Jack and Ted confirmed their relationship without burdening the police with their backstory, IDs were produced, and Felix's video of the mob shown to give context to the story. Yes, everything was fine now. No, Ted would not be pressing charges against any members of the mob. Yes, DemocraCheese did have a discount for members of the police, but only when open.

In the end, the cops went away, Annette and Felix had a tearful reunion that included both of them telling the other that they loved them, which was apparently a first for both. That being the case, Jack and Ted walked to the outside of the shop to give the two of them a little space.

"They're a nice couple," Ted said to Jack.

"I suppose they are," Jack said. "It's nice. Young people falling in love."

"I remember what that was like," Ted said.

Jack looked over to his brother with a look that said *Are we going to go through this again*.

Ted held up his hand. "That's not what I meant."

"I didn't say anything," Jack said.

"You didn't have to," Ted said. "I spent decades saying it. Yes, I thought I was in love with Phyllis, way back when. But she was in love with you, and you were in love—really in love—with her, too. I was stupid and didn't understand it, until I actually fell in love, too. And then I knew that even if I loved Phyllis, once, what I felt more was hurt and jealousy. When I knew that I should have ended this whole stupid thing."

“You know I would have been happy to end it,” Jack said. “If you had asked.”

“I know. And I know it would have had to be me that asked.” Ted grimaced. “We’re Hubbards. We love a good grudge.”

“You’re not wrong,” Jack said. “But I would have loved to talk to my brother more.”

Ted thought about this for a bit. Then: “You just . . . went and got your baseball bat?” he said to Jack. “Didn’t think about it, just came in swinging? Against a mob.”

“Pretty much.”

“No plan.”

“Not really.”

“That wasn’t very smart,” Ted said.

“No,” Jack agreed. “But people were threatening my little brother.”

“Who wouldn’t talk to you for twenty years. And who you wouldn’t talk to either.”

“That’s different,” Jack said. “That’s between you and me. Someone gets in your face, that’s a whole other thing.”

“I’m not sure if they had been in front of your shop, I would have done the same thing,” Ted confessed.

“Of course you wouldn’t,” Jack said. “You don’t have a baseball bat in your shop.”

Ted grinned at this. The two looked back in the shop to see Annette and Felix give each other a tender kiss and then stand there, touching foreheads, being close.

“It doesn’t seem fair,” Ted said.

“What doesn’t seem fair?” Jack asked.

Ted motioned at their employees. “The two of them. Falling in love just in time for the end of the world.”

Jack smiled. “It’s not the end of the world yet. They can get a lot in between then and now.”

“Yes,” Ted said. “After their work hours, of course.”

“Oh, of course,” Jack said. “That goes without saying.”

Ted put his hand on his brother’s shoulder, for the first time in twenty years.

“Thank you, Jack,” he said.

“Of course, Ted,” Jack said. “Although if you ever feel like making it up to me, there is something you can do.”

“What is it?”

“I need another pound of your Yorkshire Wensleydale,” Jack said. “Phyllis really digs that stuff.”



DAY NINETEEN

From the *Washington Post*:

An Eclipse, Eclipsed

**A once-in-a-lifetime celestial event has been overshadowed by current events.
Is anybody going to bother to look up?**

By Michelle Watson

This morning the White House released the guest list for its Eclipse Event ten days hence, and what's not surprising is the mix of invitees: They range from congresspeople on both sides of the aisle to astronauts to science educators and influencers and even the musical nostalgia act Postmodern Jukebox, which will be doing a special doo-wop version of the classic Bonnie Tyler hit "Total Eclipse of the Heart." After all, who wouldn't want to view an eclipse from the White House lawn?

No, what was surprising was that, after everything that has happened in the last three weeks, there was going to be a White House eclipse-viewing party at all. After all, the moon has turned into cheese (or "an organic matrix" as NASA still insists on calling it), there was a failed attempt at a landing that claimed the life of one of the country's most famous tech billionaires, and now there is a chunk of the moon that looks increasingly likely to be headed toward Earth. If there was any time where an eclipse could be considered to be an afterthought, it would be now.

But not so, said White House Social Secretary Elizabeth Charles. "Now more than ever, there needs to be a celebration of the wonder of nature, and of science and space exploration," she said. "This eclipse party will not only be a one-of-a-kind viewing experience for all those who attend, but also a commemoration of those who have explored the universe." To that end, Charles added, the invite list includes not only all the Diana missions astronauts, but friends of the late Jody Bannon, including the executor of his estate, Byron Matthews.

Which is not to say that President Brett Boone didn't give consideration to whether it would be appropriate to have the soiree after the death of Bannon and the emergence of "Lunar One," the chunk of moon substance that broke away from its surface after a violent eruption. But in the end, Charles said, President Boone chose optimism. "The president believes we still have things to celebrate."

This belief, it should be noted, has not been universally applied. Across the path of the totality, which sweeps up most of the US Eastern seaboard, local eclipse celebrations have been scaled down or canceled outright, as municipalities across several states cite concerns about appropriateness and lack of interest. “When we planned this event two years ago, we expected our hotels and bed-and-breakfasts to be full,” said Vicky Porter, director of economic development for the town of Leesburg, Virginia. But two weeks out, reservations are struggling and even locals are showing a lack of enthusiasm for the town’s scheduled events. “There’s just not a lot of enthusiasm,” Porter said. Not even the eclipse turning from an annular to total eclipse thanks to the moon’s increased diameter moved the needle.

“I think people have other things on their minds,” Porter said. “It’s not just us. I know people who were planning to throw private parties who are now calling them off. No one wants to look up. Everyone just wants to stay at home.”

Worcester, Massachusetts | Lyle Briggs’s “Lyle and Austin’s Big Damn Eclipse Party!!!” Slack Channel

Lyle: All right, I’m just going to come right out and say it. You all SUCK for bailing on the eclipse party

Lyle: I’ve only been planning it for a year, and you all knew and said yes, and now less than two weeks out the ONLY one of you who is still a yes is Gunnar

Lyle: He’s coming from ICELAND, what’s your excuse for not making it

Tony: I mean there is an apocalypse

Randall: Yes this, Lyle when I said yes the moon hadn’t turned to cheese or barfed out a murderous cheese curd in the direction of the planet where I keep all my shit

Lyle: I am being serious here, Randall

Randall: I am also being serious here Lyle

Kerry: Can’t we just reschedule

Lyle: You can’t fucking reschedule an ECLIPSE, Kerry, who taught you astronomy

Kerry: No one taught me astronomy, Lyle, we didn’t all go to ritzy private boarding schools like SOME people

Randall: To be fair my public school did a month on astronomy my freshman year

Kerry: That’s nice Randall, but doesn’t change the fact I’m feeling a little attacked right now

Randall: That’s fair

Lyle: NO IT IS NOT FAIR look the eclipse is not going to *accommodate* another date, it happens when it happens

Eduardo: Yeah and it happens on a Monday

Lyle: Okay and so what

Eduardo: Some of us do have jobs Lyle

Lyle: Ed you said YES a year ago, I have your email right here in front of me, it says OMG SO MUCH FUN I WOULDN’T MISS IT FOR ANYTHING

Eduardo: Right and a year ago my restaurant wasn’t a hair and a half from disappearing because in the last week everyone decided it was more important to start stocking their disaster shelters with canned goods than go out and enjoy a meal

Lyle: You’re the chef Monday is your day off anyway

Eduardo: If no one is coming in Tuesday through Sunday it doesn’t matter whether I have Monday off, way to miss the fucking point LYLE

Lyle: Gunnar has a job too and yet he’s flying from an entirely different continent to be here, that’s all I know

Tony: Iceland is an island Lyle

Lyle: WHICH IS IN FUCKING EUROPE TONY

Tony: Barely

Randall: You guys ever see that picture of the scuba diving guy who is in the sea off Iceland who is touching both the North American and European continental plates? It's really cool

Tony: Wow that is cool, now I want to go scuba diving off of Iceland

Randall: It would be hella awesome but also cold as hell I bet your testicles would migrate all the way back into your abdomen

Kerry: I did not need this image right now

Randall: Abdominal BALLS, Kerry

Kerry: Gaaaaahhh

Lyle: THE POINT IS, the one friend who is the furthest away has made time for this

Gunnar: So about that

Lyle: WHAT

Lyle: WHAT ABOUT THAT GUNNAR

Tony: Daaaaaaamn things are 'bout to get awkward

Randall: (gets popcorn)

Kerry: (motions for popcorn)

Eduardo: (steals popcorn from Kerry)

Kerry: THAT'S MY POPCORN EDUARDO

Gunnar: IT'S NOT MY FAULT Icelandair canceled my flight into Boston next week and there are no available seats for any other Boston flight until after the eclipse

Eduardo: Is Boston actually that much of a travel destination for Icelanders

Gunnar: I don't know, it's probably connecting flights from elsewhere and also I don't actually give a shit all I know is my flight was canceled

Lyle: Rebook through another airport you can probably just transfer the ticket over

Gunnar: The thing is Icelandair refunded the ticket through my credit card so now I have to rebook from scratch and booking flights a week out is really expensive

Gunnar: It's like three times the price

Lyle: Gunnar are you pleading poverty

Lyle: You, Gunnar

Lyle: Gunnar Kristjansen, scion of ICELAND'S FROZEN FISH BARON

Randall: Damn it I'm out of popcorn

Tony: I have some popcorn shrimp, from Iceland's frozen fish baron

Randall: That works

Gunnar: I'm not pleading poverty but I am saying that if I get a ticket for a month or so from now I would have more time to spend hanging out with you all

Kerry: Oh look, someone else who wants to reschedule

Lyle: How many times do I have to say you can't reschedule a goddamned eclipse

Gunnar: I mean I don't really care that much about the eclipse, we had one here not too long ago, it was fine but nothing THAT great

Tony: (gasps)

Eduardo: (gasps)

Kerry: (gasps)

Randall: (gasps)

Randall: (chokes on popcorn shrimp)

Tony: (thumps Randall's back)

Lyle: Loving that this all a funny joke to each of you, that's making me feel 100 percent fanfuckingtastic

Tony: Lyle, what's really going on?

Lyle: What does that mean

Tony: Clearly you aren't seeing it, but you're coming across as kinda unreasonably angry

Tony: I love you, Lyle, I really do, but you have to see that the world is unusually fucked up right now and that an eclipse party is kind of low on everyone's priority list

Kerry: In all seriousness I am spending about half my life on the phone with my mother, she is under the impression that rapture is happening

Kerry: And I have to tell her, no, mom, it's not the rapture, we're just all gonna die under a literal mountain of cheese

Eduardo: No one's coming into the restaurant and also I am trying to keep my sous chef from quitting and heading back to Guatemala

Eduardo: He says he doesn't want to die in a country that hates him as much as this one

Gunnar: That's some real shit right there

Eduardo: He's not wrong either

Randall: So Lyle, with love, from all of us, what the actual fuck is up with you right now

Lyle: . . .

Lyle: Goddammit

Lyle: Look, I was gonna propose to Austin at the eclipse party

Lyle: First when it was just gonna be an annular eclipse I was going to do it because 'annular' means 'ring' and I thought that was pretty much as close to a sign as you get

Lyle: Then it was going to be a total eclipse and I thought, perfect, I can do it during totality, he won't be able to miss that

Lyle: And now that maybe the end of the fucking world is coming it all has a certain level of urgency around it doesn't it

Lyle: So that's why I wanted you guys there, because you're my best friends OR WERE and I wanted it to be a perfect moment with all of you and me and Austin

Kerry: Well, shit, now I feel like an asshole for wanting to reschedule

Lyle: AS YOU SHOULD

Randall: Lyle you should have told us before this

Lyle: I wanted it to be a surprise for everyone

Lyle: And also I knew if I told you ahead of time one of you would spoil it for Austin AND YES I'M LOOKING AT YOU RANDALL

Tony: Oh, ouch

Eduardo: He's not wrong though

Tony: No Randall has always been a gossipy little bitch

Randall: I'm right here

Tony: I know you are and I said what I said

Gunnar: Wait a minute Lyle, you said you wanted it to be a surprise for all of us

Lyle: Yes

Gunnar: Does that include Austin

Lyle: OBVIOUSLY that includes Austin

Tony: Yeah, proposals are usually a surprise, Gunnar

Gunnar: No, I mean, have you and Austin ever talked about marriage, Lyle

Gunnar: I mean, really talked about it

Lyle: Not as such

Tony: Ooooooooooh

Kerry: Ooooooooooh

Eduardo: Ooooooooooh

Lyle: FUCKING STOP THAT

Tony: No I get what Gunnar's getting at

Kerry: He's saying you don't pop the question unless you've already made sure that the answer is going to be yes

Gunnar: That's exactly what I'm saying

Lyle: Of course the answer is going to be yes

Eduardo: What makes you so sure if you haven't actually talked about it

Lyle: I don't know where you guys have been, but Austin and I have been together for five years now

Gunnar: And

Tony: Yeah and

Lyle: AND you don't stay with someone for five years unless you are ready to marry them

Lyle: Hello?

Lyle: . . .

Lyle: I KNOW YOU GUYS ARE STILL FUCKING THERE

Tony: I'm sorry, it took me this long to uncurl from the involuntary cringe reaction I had

Kerry: Lyle are you fucking serious right now you've NEVER talked to Austin about getting married? Never once took his temperature on the subject

Lyle: I didn't want to jinx it

Eduardo: Oh my god

Eduardo: Oh my fucking god Lyle are you twelve right now who thought it was a good idea for you to be in a relationship with an actual live human

Gunnar: Eduardo's out of line right now but he's not wrong, Lyle

Gunnar: You can't just ask Austin to marry you without some serious prep

Kerry: IN FRONT OF ALL OF YOUR FRIENDS LYLE

Tony: Because that's not psychologically coercive or anything

Tony: I'm think I'm beginning to cringe again

Tony: Yup, definitely cringing

Tony: I am such a tight ball of cringe right now

Lyle: Oh for Christ's sake all of you are being EXHAUSTING

Lyle: You, Tony. You, Eduardo. You, Kerry. You, Gunnar. And you too, Randall

Lyle: Wait

Lyle: Where did Randall go

Lyle: WHERE THE FUCK DID RANDALL GO

Austin: So, I was told to come in here right this instant

LYLE: GOD DAMN IT RANDALL YOU GOSSIPY LITTLE BITCH

Randall: So very guilty

Tony: I love being right

Lyle: Austin, don't scroll up

Randall: Austin, DEFINITELY scroll up

Austin: Oh, I already have

Lyle: Fuck

Lyle: Fuck fuck fuckity fuck fuck

Austin: Lyle, they're ALL right. I love you but if you had put me on the spot at a party in front of all of your friends, well. It would not have gone the way you wanted it to go.

Randall: So rude of him really

Austin: NOT rude. But not a good sort of surprise. And not something I would have liked.

Lyle: So you wouldn't want to marry me

Austin: No, I do want to marry you and also I don't want to be proposed to without consultation. You never asked me before if that was something I wanted

Austin: And I never told you it was something I wanted because you never brought up the subject

Austin: And after a certain point I got curious about whether you WERE ever going to bring up the subject

Austin: Maybe that wasn't entirely fair of me to put starting the marriage discussion all on you so I'm going to go ahead and apologize for that, it should have been more of a two-way street

Austin: But on the other hand I didn't know you were going to get all weird about it and that's on you

Tony: Damn where is the popcorn

Austin: Shut it, Tony

Kerry: YEAH SHUT IT TONY

Austin: You shut it too, Kerry. All of you can shut it for a minute, I want to hear from Lyle now

Austin: Any time, my love

Lyle: So you do want to marry me

Austin: Now that we've sort of had an actual discussion about it, I can say that yes, I would be happy to marry you

Austin: If you asked

Austin: Which you technically have not, you have merely ascertained that I would want to marry you, hypothetically

Austin: So now you would actually have to ask

Lyle: Will you marry me?

Tony: Oh for fuck's sake Lyle

Eduardo: DO IT IN PERSON YOU UNBELIEVABLE PASTRY FORK OF A MAN

Randall: I happen to know for a fact Austin is on a laptop ONE FLOOR BELOW YOU in your condo, Lyle

Kerry: Only one stairwell stands between you and eternal happiness RUN TO HIM LYLE RUN TO HIM NOW

Gunnar: Don't actually run be responsible on the stairs please

Tony: Well it's been ten minutes now what do you think happened

Gunnar: I think there was a "yes" and then they excused themselves from the slack for the rest of the night

Eduardo: Fair

Randall: And it was all thanks to this gossipy bitch. You're welcome

Kerry: So . . . does this mean we're rescheduling the party or what?



DAY TWENTY

New York City | 30 Rockefeller Plaza

Dustin Jones was out very late on Friday night, so he was sleeping the sleep of the deeply stoned when a technical paper from the China National Space Administration leaked out of the walled garden of the Chinese Internet and out into the rest of the world, reporting a greater than 95 percent confidence that Lunar One would impact Earth in two years and three months, plus or minus three weeks. When NASA gave its hastily assembled lunchtime press conference acknowledging the Chinese paper, Dustin had barely dragged his ass out of bed and into the tiny, oddly shaped bathroom of his tiny, oddly shaped West Village studio, for which he paid roughly 60 percent of his salary because *fucking hell* Manhattan rents, to launch what had to be one of the all-time longest piss streams into the toilet bowl. So he missed that bit of news, too.

He finally heard about all of it when Cassie Lassen gave him a call at 1:30 p.m., as he was shoving a cheap slice down his gullet at the \$1.50 pizza joint on West Fourteenth. It had been a 99 cent pizza joint when he moved in, but inflation was kicking everyone's ass these days.

"So have you heard we're doomed?" she asked Dustin.

"Is this the regular doom, or is this a somehow newly expedited doom?" Dustin asked back. He took a bite of his freshly acquired slice and felt one dollar and fifty cents of lava-like cheese blister the roof of his mouth, not two-thirds more efficiently than the way it did when it was merely ninety-

nine cents worth of molten dairy product, but this was the way of the world at the moment.

“It’s the same doom on a tighter schedule,” Cassie said, and filled Dustin in on the details, burbling along while Dustin ate his slice, grunting every now and then to encourage his pal to keep talking while he kept eating.

“You don’t sound too upset about the end of the world,” Dustin finally said, when he was down to a sliver of crust.

“In two years and three months, plus or minus three weeks, I have a greater than ninety-five percent chance of being *extremely upset*,” Cassie said. “But *today*, the end of the world is working for me, because it means some people who were going to be in the *Saturday Night Live* audience tonight have bailed. Now I have two tickets. And they’re *really good* tickets because these were VIPs who bailed, which is why I got the call. I have a friend who works there, and they urgently need those seats filled. The usual standby list fills up weeks out. So. Wanna come?”

“I don’t know,” Dustin said. “It’s not a vintage year for *Saturday Night Live*.”

“I don’t think there’s going to be time for them to have another vintage year.”

“That’s . . . actually a really good point.”

“I’ll be around at eight thirty. Wear something cool.”

“I will,” Dustin said.

“You think *that’s* cool?” Cassie said when she arrived at Dustin’s apartment precisely at eight thirty, as promised.

“What?” Dustin said, holding his arms out so Cassie could take in his ensemble better. “It’s perfect.”

“Tell me what you think you were going for.”

“Kind of a seventies downtown art scene look,” Dustin said. “Like I was hanging out with the members of Blondie.”

“You aimed for Blondie. You hit Vampire Weekend.”

“That’s an awful thing to say to someone.”

“I was being nice,” Cassie said. “I almost said you hit Owl City.”

“How dare you.”

“I said ‘almost.’ I left you with some dignity.” Cassie stalked the extremely short distance to Dustin’s wardrobe, which was less of a wardrobe and more of a structured pile of arguably clean apparel. “Here,” she said,

selecting new items for Dustin. "It's still not hang-out-with-Debbie-Harry worthy. Maybe hang-out-with-Jerry-Harrison worthy."

"Who is that?"

"Stop embarrassing me and change," Cassie said, flinging the clothes at Dustin.

"Who do you know at *Saturday Night Live*?" Dustin asked, as they rode the F train north.

"A friend who went to Parsons with me," Cassie said. "Freida. Works in costumes there. Called me because apparently there's a bit of panic going on. Lots of VIPs dropping their tickets after the Chinese paper leaked. People suddenly deciding to stay home."

Dustin looked around the train car, which did not appear unpacked with people, all staring into their phones as they headed uptown. "Might be a VIP thing," he observed.

"Maybe," Cassie said. "You know I've been branching into comedy—"

"I didn't know that," Dustin said.

"What are you talking about? You saw me do stand-up last month."

"No I didn't."

"Yes you absolutely did," Cassie said. "At that bar on Jay Street."

"I remember the bar," Dustin said. "You were doing comedy there?"

"Well, what the fuck did you *think* I was doing, Dustin?"

"I thought it was a poetry slam."

"My comedy sounded like *blank verse* to you?" Cassie exclaimed.

"You were talking about your period."

"And? Menstrual issues make you think *poetry*?"

"It was your delivery."

Cassie made a dismissive sound. "And every other person who was performing that night? None of whom had a routine about tampons?"

Dustin sighed. "Let me put it this way," he said. "You were the funniest person there that night."

"Oh. Well," Cassie said, somewhat mollified by this most backhanded of compliments. "My point was, I'm wanting to do more comedy. I've been wanting tickets to *Saturday Night Live* for a while, so I can see how people who do this for a living make it happen in a live environment. I told Freida awhile back that if anything opened up that she should tell me."

"Why didn't you just enter the usual lottery for the tickets?" Dustin wanted

to know.

“What’s the point of knowing people if you can’t use them for favors?” Cassie said.

“What does Freida get out of it?”

“Back when I asked, I may have hinted that my gratitude might include some light petting.”

“I thought you were straight,” Dustin said.

“I’m not straight, I’m just lazy,” Cassie said. “I don’t want to have to go looking, and men hit on me more. So it’s just a numbers game at that point.”

“That’s kind of a depressing way to have a social life.”

“How’s *your* social life, Dustin?”

“No one’s bothered to hit on me, if that’s what you’re asking. Of any gender.”

“Well, then,” Cassie said. “I’d say my way of having a social life is less depressing than yours.”

“I hate that I don’t have a good counterargument here,” Dustin said.

Cassie patted his arm. “Don’t be too sad. The fact I knew you would be available tonight means you have tickets to *Saturday Night Live*.”

“In a nonvintage year,” Dustin pointed out.

“Take what you can get,” Cassie said.

When they arrived at 30 Rock, Cassie pulled out her phone and texted Freida, who appeared a few minutes later to help them skip the line for the evening’s broadcast. Freida, it turned out, was stunning in a way that few people were, including models and movie stars, and also had a look of consternation on her face. Cassie noted it on the elevator up to Studio 8H.

“It’s kind of stressful tonight,” Freida said to Cassie. “Our dress rehearsal audience was only about half-filled. That’s never happened in the time I’ve been on the show.”

“Is it because it was dress rehearsal?” Dustin asked.

Freida shook her head. “The real comedy nerds *want* the dress rehearsal tickets. There are skits in it that get cut for time in the actual show, and they try different things to see what works. We never have a problem filling seats.”

“Probably the whole end-of-the-world thing,” Cassie said. The elevator ride had stopped, and the three of them exited onto the eighth floor.

“I mean, it has to be, doesn’t it?” Freida said. “It’s why I was able to get

you seats. The director came into props and costuming today and asked us to get people to sit in the front rows. People who would look good there.”

Freida looked approvingly at Cassie’s attire and, somewhat less approvingly, at Dustin’s. “You’re replacing some friends of Hobie Whitlock.”

“Wow,” Cassie said. Hobie Whitlock was the week’s host, whose latest movie, a war drama called *The Other Side of Peace*, had opened to general indifference three weeks earlier. This was just before the moon had turned to cheese, so they couldn’t even blame it on that, although it probably didn’t help with subsequent weekends. “It’s not great when your friends ditch you.”

“The official excuse was COVID,” Freida said. “And who knows? They might even be telling the truth. But we had an awful lot of VIPs dropping at the last minute. That’s a sudden surge, if you ask me.” Freida stopped in front of a young man. “This is Lenny; he’s going to take you to your seats now. You’re getting in a little early, before everyone else, so you can relax for a few minutes before things get rolling.”

“Okay,” Cassie said. “And we’re going to see you after?”

Freida looked pained. “I would love to, Cassie, but as soon as we’re done tonight I have to drive to my mom’s in Harrisburg. She’s kind of freaking out about Lunar One and that Chinese paper. I’m the only one of the kids in driving distance, so I have to go try to talk her down.”

“Oh,” Cassie said, and didn’t appear to hide her disappointment.

“For what talking her down is worth, anyway,” Freida continued, oblivious to her friend’s disappointment. “We’re all apparently screwed in two years, right?”

“Two years and three months,” Dustin said, trying to be helpful. Freida didn’t appear to notice that, either.

Lenny coughed discreetly as a hint that he had other tasks to do, so Freida gave Cassie a hug, looked over Dustin’s ensemble once more with something less than total satisfaction, and then disappeared into the bowels of 30 Rock.

“I’m sorry about the cancelation of your light petting,” Dustin said to Cassie after Lenny had showed them to their seats in the second row of the audience.

“Dustin, shut up,” Cassie said, and grumpily slouched into her seat.



The audience was full for the taping. Dustin would learn the next day that SNL staff ended up having to wrangle night staff from around 30 Rock into filling seats in the main audience section, taking some people who would have been in the main audience section and putting them into the floor seats. This would be important for later events.

The warm-up act for the show were two of the featured performers, Tommy Swanson and Loretta Carr, who attempted a bit of light banter, which was met with a muted response, and then two songs: “That’s Amore” and “Blue Moon,” both of which received the most polite of applause. “I told you we should have gone with ‘Moon River,’” Tommy joked to Loretta, to scattered, mostly unamused groans.

“What are you writing in your notes?” Dustin asked Cassie, as the crew set up the cold open.

“To not try to warm up a comedy audience with ninety-year-old songs,” Cassie replied.

The cold open for the week was SNL cast member Cliff Carter, pretending to be President Brett Boone, reassuring the country that the cheese moon was nothing to be afraid of, slowly escalating into a screaming fit that the moon would in fact kill us all. Carter’s Boone imitation, never great, was especially shaky this time around, and the payoff of the skit, where Boone took revenge on a tray of cheeses, landed with a monumental thud. The skit writers clearly assumed the audience would cheer President Boone taking a sledgehammer to wheels of cheese, but what they got instead was stony, awkward silence.

It was one of the most uncomfortable performances Dustin had experienced, unsavable even by the “live from New York” line leading into the opening credits.

“Well?” Dustin asked Cassie, as the crew rushed to dismantle the cold open set.

“Oh my *god*,” Cassie replied. “I could actually *taste* the flop sweat.”

The audience livened up to welcome Hobie Whitlock for the opening monologue, but it became clear three sentences in that Whitlock was an actor whose performances were crafted in the editing suite. He read his cue cards like he was a hostage reading a prepared statement while an off-camera gun was trained on his skull. By the time he got to the part about being a native of Wisconsin, and how now being called a cheese head was a hate crime, the audience had reverted back into sullen muteness. They gave no indication of

being convinced it was going to be a great show, even if the musical guest was current top-ten hitmakers the Carrington Event.

"I feel like we should go now," Dustin whispered to Cassie, during the commercial break.

"We can't," Cassie said. "It'll make Freida look bad if we ditch."

"It's not like you're going to get to make out with her anyway."

"That's not the point."

"They've lost the audience and we've just gotten to the first commercial break."

"They can get them back," Cassie said.

"How?"

"By not having the next skit be cheese or moon related."

The next skit was about Jody Bannon, played by Diego Gomez, arriving in heaven, only to be told by Whitlock's Saint Peter that heaven is a cheese shop. The first actual boos of the evening were audible when SNL performer Kristy Todd appeared on set to sing a cheese-centered version of the Belinda Carlisle hit "Heaven Is a Place on Earth." When Bannon fled heaven for hell, which was revealed to be a hot tub of melted Velveeta, more boos cropped up and were loud enough that they almost certainly were heard on mic before the cut to commercial.

"Look." Dustin nudged Cassie and pointed to the main audience seating, where security guards were milling, looking for whoever had booed. Three of the security guards converged on one man, and after a moment of heated discussion the man got up and was escorted out. This was met to even more booing, which took time to settle down.

"That was a long commercial break," Cassie said to him as the next skit started. The good news was this one wasn't related to the moon or cheese; it was about the further adventures of Hungry Sam, a popular recurring character played by Eric Sutton, the unremarkable season's one breakout star. The bad news was that by this time the audience was in no mood for Hungry Sam's wild antics. All the physical comedy flung out into the audience came back as a hostile wave of silence. Sutton began to flub his lines.

Dustin looked over to Cassie, who was leaning forward in her seat, intent.

"What is it?" Dustin whispered as quietly as he could.

"This is *amazing*," Cassie whispered back. "This is an objectively funny skit and it is flopping *so hard* right now. I've never seen anything flop this

hard. And I'm someone whose tight five was confused for slam poetry."

The skit ended to silence. Eric Sutton stormed off the set.

"Can we go now?" Dustin said, during the set change.

"Never," Cassie said. "This is too good."

"Your definition of 'too good' is off."

"Dustin," Cassie said, staring at him. "This is a historic moment in comedy history. This is an actual hate watch by a *live studio audience*. And we are *here* for it. You couldn't drag me away."

Hobie Whitlock came out to introduce the musical guest, the Carrington Event, who played their current big hit, "What Do You Mean?" It was fine, and the applause that greeted the performance suggested that no one in the audience was holding the night's debacle against the band.

Would the goodwill created by the Carrington Event carry over to the Weekend Update, with its host, Grady Barker?

"Our top story tonight: We're doomed!" Grady Barker said, with all of his teeth showing.

"Fuck you!" was the response from somewhere above and behind Dustin, in the main audience seating.

It was this line that got the loudest and most sustained applause of the evening.

Barker, to his credit, held his ground. "Well, if you hate that one, this is going to be a very long nine minutes for all of us," he said. Then he launched into the rest of his joke news, defiantly saying every line like it was going to have a big laugh at the end of it, and waiting at the end of each line for exactly as long as Barker, who had been doing the Weekend Report for three seasons now, figured the laughs would take on a night when the audience had not, in fact, turned feral.

It was the weirdest and most bravura comedy performance Dustin had ever witnessed, up to and including Barker's sign-off: "and that's the news, I'm Grady Barker, and each of you in the audience can suck *all* of my balls, good night," followed by tossing his papers in the air and flipping both the birds at the audience, and then sitting there, middle fingers extended, as the Weekend Report set was broken down around him. The boos didn't stop, nor did the middle fingers, until crew members came, hoisted up Barker, still in his chair, and carried him offstage.

Dustin didn't know if the SNL Digital Short was intended to be next in the

lineup when the show started, but that's where it was now. Given the amount of booing, Dustin strongly suspected it was being shown without the live audience response.

There was another extremely long commercial break, and when it was done, Hobie Whitlock came out, no set for a skit behind him, but with Tommy Swanson and Loretta Carr flanking him, two steps behind his position. He held his hands up, imploring the audience for silence. After a few moments, he got it.

"Thank you," Whitlock said. He waited for his cue card man to position himself, and began. "This evening was meant to be a celebration. A celebration of comedy, of humor and satire, and of defiance against the absurdity of the reality we find ourselves in today. But we are learning that in this moment, we are all a little raw, and that, maybe, we're in a place where, for now, comedy cannot go. A place where laughter is held at bay."

From behind him, piano notes began to meander, and Swanson and Carr sang in low and quiet harmony.

"So just for tonight, let's put aside the comedy. Let's put aside the laughter. But let's *not* put aside what's important: Our shared humanity. Our common decency. Our belief that no matter what happens, we will get through anything . . . together."

The piano notes coalesced into a melody, simple, beautiful, insistent.

An audible shock went through the audience as, in the same instant, everyone realized they knew what was being played. A song from their shared past. A song they could all sing.

Whitlock grinned. "Yes," he said. "Yes. You know this song, don't you? Come, my friends. Let's sing it together. We *can* sing it together, can't we?"

Swanson and Carr rose in their harmony, as the audience, too, began to make their own noise.

Whitlock stepped forward, closed his eyes, and with a smile that spoke of serenity, opened his mouth to sing.

"Imagine," he sang, with a beautiful tenor as clear as a bell, until a chair caught him square in the face, breaking his nose.

Whitlock's beautiful tenor voice cut off with a honk and he collapsed to the stage floor in a heap. Behind him Swanson and Carr screamed, the piano abruptly quit, and the audience rioted, outraged at the idea that their anger could be mollified by such cheap and overused sentiment.

The doors of the studio burst open and security flooded in, engaging with the audience on both floors. From the stage of Studio 8H, the band started up another tune entirely. It took a minute for Dustin to recognize it: “Saturday Night’s Alright for Fighting.”

They played as the audience flung chairs and punched guards, and the guards punched back, and cast members dragged the unconscious Whitlock from the stage.

“Okay!” Cassie yelled at Dustin, grinning like mad as they ducked chairs and fists. “Now we should go.”

DAY TWENTY-ONE



Maquoketa, Iowa | The Meadow Hill Church

Pastor James Evans was used to late-to-the-service congregants sneaking into the pews like the proverbial church mice, quiet and vaguely apologetic when and if they caught James's eye while he was up at the pulpit. This was never a problem—aside from James and his staff, no one *had* to be at church on any given Sunday, and James would rather have them attend late than not at all. He also noted that the latecomers, perhaps in compensation, tended to pay attention to the sermon better. As someone who had to come up with a topic each week and then make it worth listening to, James did appreciate when his congregation paid attention to him, rather than sneaking looks at their phones.

Caleb Talbot did not sneak into the Meadow Hill Church, despite the fact that James had just begun the sermon portion of the service, on the topic of “The Renewal of Faith in Challenging Times.” This was a topic suggested for the week by the editors at PreachDex, on the basis of the failure of the recent moon mission and the death of Jody Bannon, and certainly accentuated by the leaking of the Chinese Paper (as it had already quickly become known) and its implied ticking clock for humanity. As PreachDex always did, they also offered a sample sermon, which individual ministers and preachers could tweak and modify for their own congregations and their interests.

Which James would normally do, if he used the PreachDex suggested sermon topic and sample at all. This week, however, he was using the sample pretty much verbatim, since he had had a wedding, two funerals and a larger-than-usual number of pastoral visits, and was experiencing, for multiple

reasons that James had little time to dwell on, a creative block. James was never a very fluid writer; the not-very-charitable rumor that his wife, Abby, was responsible for his college essays (and education) was not accurate but also close to accurate, since she edited everything he wrote. James was an adult before he figured out he was dyslexic to some degree. One of the residues of that was that it made it easy for him to get blocked when it came to writing, especially when stressed. So, canned sermon it was this week.

As James got into the meat of the sermon, he watched Caleb wander toward the pews, a little unsteady, looking for someone—probably his wife, Kady, who'd come on time. Kady, seeing her husband, did a quick wave to him, and then looked toward James to see if he would be annoyed. James smiled at her in reassurance.

Caleb spied his wife and headed toward her, bumping into a pew and nearly stumbling as he did so. *Is he drunk?* James thought to himself. *Drunk at 10 a.m. on a Sunday?* Caleb Talbot was one of Meadow Hill's more chaotic members, and James knew he attended mostly because Kady asked him to, and whatever Caleb's other struggles, he was devoted to his wife and her wishes. And Caleb was known to enjoy a good time, and his beer. But there was enjoying slamming some back with pals, and then there was being drunk on a Sunday morning at church. The Caleb who James knew was one but not the other.

But if there was any doubt there was something going on with Caleb this Sunday morning, it was quickly put to rest, as Caleb started offering commentary to the sermon. The PreachDex sermon, designed as a basic template for the subject, was necessarily bland, but touched on the idea that God was among the faithful even when tragedy struck and we were left to question how such things could happen, and played the changes on this theme across fifteen minutes' worth of sermon (depending on reading speed).

The commentary at first was a few snorts and throat clearings, which were vague enough. Then came an "Oh, *right*," followed by a "come *on*," and then a "what *crap*," at which point other members of the congregation began to turn in their pews to look at Caleb. Kady Talbot whispered urgently into her husband's ear, which seemed to calm him down for a moment. But then the PreachDex sermon mentioned Jody Bannon by name and Caleb ripped out a loud *booooooooooooo*.

This time the entire congregation turned to look at Caleb. "What?!?" he

said.

“We’re trying to listen to the sermon,” said Mike Clifford.

“Why?” Caleb said. “It’s bullshit!” He waved toward James. “It’s not like he wrote it anyway. We all know Abby’s the brains behind this operation.”

“Caleb!” Kady said, shocked and embarrassed by her husband.

“It’s all right,” James said, to her and the congregation. “I think everyone knows I rely on Abby for a lot of things.”

“Yes!” Caleb said. “*Thank* you.”

“But I can honestly say Abby had nothing to do with this sermon,” James continued.

“Well then maybe she should have, because it’s just a load of crap,” Caleb said. He stood, unsteadily. “It’s *all* crap. All of this. Every bit of it.”

“Caleb, what the hell are you going on about?” said Al Manning.

“All of it!” Caleb said. “Jesus Christ, haven’t any of you had contact with the real world? We’re all going to die! Every one of us! A huge friggin’ chunk of the moon is coming to end us all! And that chunk of the moon? It’s made of goddamn cheese.”

Caleb turned to James. “Reverend Pastor Jimmy, show me where in the Bible Jesus tells us the end is coming by goddamned cheese, if you please. I don’t remember it. I don’t remember anyone else saying anything about it. And as weird as the Book of Renovations is, I know it doesn’t have any fucking cheese in it.”

“It’s the Book of Revelations, Caleb,” Stacie Good said.

“Like that *fucking matters*, Stacie,” Caleb said. He looked around. “Don’t you get it? Don’t *any* of you get it? You’ve been coming to this goddamn church—I’ve been coming to this god-damned church—for years, listening to *him*”—Caleb pointed at James—“spoon-feed you a bunch of nice crap about love and Jesus and heaven and how all of you are saved because you have faith. Well, you’re not saved. None of us are saved! We’re all going to die! All of us! We’ve got two years, tops, and then you know what happens? Fucking *cheese* happens. No fire, no brimstone, no flights of angels, no goddamned rapture taking all of you gullible fools up into the sky while everyone else gets left behind. Just *cheese*.”

“Caleb, you’re drunk,” Pete Burch said.

“Yes, I *am* drunk,” Caleb affirmed. “I started yesterday when NASA had that press conference, and I have kept on going. But just because I’m drunk

doesn't mean I'm *wrong*. I have never been more right in my life. We're all going to die, and it's going to be by cheese, and nothing Pastor Jimmy or Joel Osteen or Pope Whateverthefuckhisnameis says about it is going to change that fact."

"Caleb," James said. "I hear you, and I think you and I have a lot to say to each other about this. Will you let me finish the service, and then you and I can talk?"

Caleb spread his arms. "Well, Pastor Jimmy, why wait? Is there anything in the rest of the just awful sermon that you've been reading that is going to say anything about what's really going on? Or are you just going to drone on about 'faith' and 'belief' and all that happy horseshit when a cheese asteroid is going to kill us all? I don't have to have faith in that! It's *going* to happen."

"Caleb—" James started again.

"No!" Caleb yelled. "I'm not here to be *handled*, Jimmy. I'm here to listen to you—you! not your fucking prewritten sermon!—explain to me about faith. Because I'm not going to lie to you: Right about now I don't have all that much of it left. Not in God. Not in Jesus. Not even in the devil." Caleb laughed here, something low and bitter. "Two weeks ago I thought maybe the devil had changed the moon. So maybe I'm the stupid one here. Well, I'm over that now. Now, *right* now, I want you to tell me why, with a *whole goddamn moon of cheese* trying to kill us, I need faith."

Caleb stood there, slightly swaying but defiant, staring at James. Eventually the whole congregation turned to face James as well.

James looked down at the pages of the PreachDex sermon, nodded, and ripped up the pages. "All right, then," he said. He stepped away from the pulpit.

"A lot of you will remember my father, Andrew Evans," James said, and pointed to the second row. "You remember that he always used to sit there on Sundays. That he was always a leader for Meadow Hill. That he was a good husband to my late mother, a good father to me and my brother, and a fantastic grandfather to his grandkids, even if he spoiled them in a way he never spoiled his own kids." This got a small murmur of a laugh.

"So, this is how he died: He was sitting on the toilet, trying to void his bowels, pushed a little too hard and had a stroke." Another murmur about this. "When I found him—and it was me who found him—he had fallen off the throne, facedown. There wasn't a lot of space in his bathroom between

his toilet and his bathtub, so he was actually wedged there—no space to fall sideways.”

James looked around at his congregation. “Now, I can see some of you are uncomfortable with me telling you this,” he said. “You’re thinking that you didn’t need to know this, and there’s no point in robbing my father of his dignity in death. But his lack of dignity in death is my point. My dad didn’t choose his death. It is absolutely not the death he would have wanted for himself, I can tell you that. But my dad did choose his life. Up until the moment that he was called, he was a good man. A good husband. A good father and grandfather. He lived his life within the Word of Christ and was uplifted and inspired by it. His death is nothing. His life was everything.

“Caleb,” James said, and Caleb straightened, slightly, for a second. “You’re not wrong. A moon made of cheese is not in the Bible. Jesus doesn’t speak of it, just like he didn’t speak of microwaves, or of cell phones, or of airplanes or of the United States of America, or of Maquoketa. The Bible is only so long. It can’t contain everything. We shouldn’t focus on what it doesn’t say, but what it *does* say.

“And what does it say about faith? That it promises easy times for those who have it?” James laughed. “The most famous stories of faith have it tested and even broken. Job had everything taken from him as a test of his faith. Peter, who swore his faith to Jesus, denied him three times before the cock crowed. Thomas had to touch the wounds of Jesus. Faith isn’t meant to be easy. It can and will and should be tested. Do you think my own father’s faith was never tested? I can tell you it was. I can tell you I was one of the things that tested it!”

This got a laugh from the congregation. Maquoketa was a small town. Most of them knew about James’s stoner past, and his getting Abby knocked up before they got married.

“There is a sword over our heads,” James continued. “What it is made of makes no difference. It may be that this sword is the one that delivers us into the arms of Christ. It may be that, like Caleb, you find this sword unbelievable, and undignified, and unworthy of the task that it is set to. You may be angry and upset that this, of all ways, is the one chosen for us to take.

“But think again about my dad. His end was undignified. But his life was good and kind and filled with love and faith. His life of faith, not his death, is what carried him into the arms of Jesus.”

James looked around once more at his flock. “So I ask you, my friends. Here is a test of your faith. How you answer this test is going to be up to you. It can be with anger, or resignation, or with abandon. It can also be with a renewal of that faith. Not just faith in the Lord. Faith in yourself. Faith in your friends and in your people. A faith that whatever fate awaits us, we will face it together, with our belief in Christ.

“Caleb, come here,” James said, motioning at his congregant. Caleb, reluctantly, came forward, his previous anger replaced with something else, something almost shy. He got close enough that James could smell the mix of beer and Southern Comfort on his breath. James took his hand. “Caleb, I don’t know what will happen. The Lord tells us it is not ours to know the hour of our reckoning, even if NASA will tell us to the very second. But if the Lord lets me live to that very last moment, I tell you right now where I’m going to be. I’m going to be here, sharing my last moments and all of my faith with my friends and the people I love, here within these walls. If you are here then, Caleb, I will share those last minutes with you. I will be glad to be with you, Caleb, when the moment comes. And then to walk the path into heaven by your side.”

Caleb, openly weeping now, collapsed to the floor. James followed him.

“I’m sorry,” Caleb said, over and over. “I’m so sorry.”

“You don’t have anything to be sorry for,” James assured him, and gave him a hug.



That night, at home, Abby fixed James steak and eggs, his favorite meal, and then the two of them sat on their deck, beers in hand, talking about this and that and various trivial matters as the sun set and the dusk of the sun turned into the slightly deeper dusk of the moon beginning its rise to the east. James and Abby chatted more about little topics until Abby decided her husband was finally ready to talk about what happened in church.

And then she said, “I was really proud of how you managed Caleb today.”

James smiled at that. “Not the first time I’ve talked down a drunk.”

“No, but the first time while you were doing a service. Which was really good once you got off script, by the way.”

“Yes.” James nodded. “I know you don’t like when I use the PreachDex stuff.”

“It’s bland, no matter how you try to spice it up,” she said. “And you do better speaking from your heart. I know you were focused on Caleb today, as you should have been. But I was watching the rest of the congregation while you were focused on him. You’re always good. But you’ve never connected to them as well as you did today.”

“Well, that’s because it wasn’t just Caleb who was feeling that way,” James said.

“What do you mean?”

“I mean that there is a moon made of cheese in the sky and a chunk of it is fixing to wipe us out,” James said. “That’s not something most people are going to be able to swallow all that easily. Caleb was the only one who would say anything about it, and even he had to get drunk to do it.”

“You did him some good today.”

“I did what I am supposed to do,” James said.

Abby smiled. “You don’t have to be too humble around me. I know you.”

James smiled back at this. “It felt good,” he admitted. “I didn’t know what I was going to say until it came out, I’ll tell you that. The part about my dad? Complete surprise.”

“I’m not sure he would have liked you telling the entire congregation he died on the toilet,” Abby said.

“No, he would not,” James agreed. “But I think he would have approved of *why* I told it.”

Abby laughed quietly at this. “Maybe,” she said. She got up and held out a hand to her husband. “I’m going to go read in bed for a while. Care to join me?”

James took her hand and kissed it. “In a minute,” he said. “I’m going to sit here and have a little talk with the Lord first.”

Abby leaned over and kissed the top of James’s head. “All right,” she said. “But don’t take up too much of His time. There are probably a lot of people who want to get Him on the line.” She opened up the sliding patio door and went inside.

James waited a few minutes for Abby to go upstairs, swirled the beer in his bottle to figure out how many swallows were left, and then took one of the

two he estimated were still there. Then he looked up at the sky, toward the west.

“I think you know why I wanted to talk to you tonight,” James said, to the sky. James did this from time to time, speak out loud to God. He did it to speak out loud his own concerns as a pastor, because saying them out loud helped his brain to deal with them. Most things he could say to Abby, who everyone including James knew was smarter than he was. But some things went straight to the source. “You know I did some lying today. I lied to Caleb, I lied to the congregation, and I just lied to Abby.

“I lied to them. I lied to them about faith, and the having of it, because, between you and me, Lord, I’m having a real hard time with it right now. I swear to you, this morning when Caleb started calling out the crap in the PreachDex sermon, about half my head was telling him to keep going. Every single thing he was saying was something I was feeling as I was standing up there, just trying to get through reading it.

“And then he dared me to answer him! And, you saw it. I did my best. I said the things I hoped would give him faith. That would heal the hurt he had. The uncertainty. Things to help him and to help everyone else who was feeling the same thing. I think it worked. On almost everyone.

“But it didn’t help *me*, Lord. I was up there giving him comfort I wasn’t feeling and a faith that at this very moment I don’t know that I have. And, I don’t know. Maybe I was hoping that saying those words to him and to the congregation would fix my own doubts. It didn’t. I feel like a hypocrite right now. Healing others with a broken tool.”

James looked at his beer bottle, considering it. “This afternoon I was thinking about which of the people whose faith you tested I was most like, Lord. Was I like Job, who you heaped misery on until he broke? And I thought, no, not like him. My life is good, thank you for that, and the trial you’ve given me is the trial you’ve given everyone else. You’re not singling me out. I’m not a Job. And I’m not Peter, because even now I’m not denying you. I’m talking to you right now.

“I guess maybe I’m like Thomas. I want to have faith in you, faith in your word and whatever plan it is that you have that involves a moon that’s made of cheese and the part of it that’s maybe going to kill us all. I want to believe it’s for a purpose. I want to believe in the promise of the rainbow, the sign

you gave that you would never again set your wrath against all of us. I want to believe it, Lord.

“But right now, I have doubts. I have doubts, and like Thomas, I need to see. And I know that needing proof for faith is a lesser faith, Lord. You said it to Thomas himself. I wish I could have that faith right now. But I can’t. I’m trying, but I just can’t.”

James stood. “Whatever happens, Lord, I will be there for Meadow Hill. For Caleb and for every other congregant who has doubts and fears, for any of them who need comfort. I will give them faith in you. I promise you I will steady them when they waver, and hold them when they fall into despair. It’s what they deserve and what I can provide.

“Just know that I also need to be steadied. I also need that hand at my elbow when I start to fall. I’m falling, Lord. I’m sorry but I am. I don’t know if I’m worthy of a sign that my faith is not for nothing. But if you can give it, I am ready to get it. Today, tomorrow, whenever you decide it’s time. But, soon, okay, Lord? Soon would be really good for me.”

And with that, James finished his beer, nodded to the sky, and headed into the house.



Charlotte, North Carolina | BancUsonia Headquarters

“Ladies and Gentlemen, we have had the whole weekend to consider the end of the world,” said BancUsonia chairman and CEO Randolph Klein. He, like the rest of the BancUsonia management team, was sitting in a conference room on the forty-fifth floor of the BancUsonia Building, close enough to the Bank of America Building that Klein could throw a rock at it, and was sometimes tempted to. “Before that we had three weeks to consider a moon made out of cheese. Tell me how it’s affecting our business. Todd, you start. What are our common depositors doing?”

“They’re not panicking yet,” Todd Moore, chief financial officer of BancUsonia, told the management team. “But at least some of that was down to the Chinese Paper leaking on a Saturday, when we have reduced hours, and our branches being closed on Sunday. We expect some panic withdrawals today and during the week, but the end of the world is still two years out. We anticipate attempts for full withdrawals happening more in the coming months. Not just us, of course. All banks.”

“What’s going to push people to withdraw their money?” Klein asked.

“Well, you know, the fact that in just a little over two years, we’re all going die,” Moore said. “People are going to ask themselves, Why am I letting my money sit in a bank when I could be using it on all those bucket list experiences I never got around to.”

“Bucket list experiences are overrated,” Klein said. “I wanted to go to Venice for years. We finally went a couple of years ago and it was terrible.

Everything was crowded and flooded.”

“Be that as it may, other people may still wish to have them. Time is running out for all those experiences that people kept putting off. And the argument of the benefit of long-term savings is compromised by a global Armageddon.”

“How about your people?” Klein asked Isabel Hutchinson, who headed up the Private Banking Division. “Are our high-worth customers going to cash out for bucket list items?”

Hutchinson shook her head. “We’re not seeing any evidence of that. High-net-worth individuals are usually liquid enough to keep themselves amused without having to draw out of their long-term savings. Their other investments are handled by his division”—Hutchinson pointed to John Bell, who ran Wealth Management—“so there’s no reason for them to do anything with their accounts with us. They’re just ticking over, earning interest.”

Klein nodded at this and then came back to his first concern. “Where’s the government on panic withdrawals?” Klein asked Nathan Yang, who had driven down very early in the morning from his Washington, DC, home to be at the meeting, and who would be driving back as soon as it was done.

“The official line from the Fed and from the Boone administration is that they’re watching to see what the public does, but that any action they would take to bolster the banks would in itself be seen as a sign of a problem. They’re not going to even hint they’re worried about a run on the banks, which means that we really don’t know what they’re going to do until they act.”

“They’re cowards,” Klein said.

“The Boone administration has always been extremely cautious with fiscal policy,” Yang agreed.

“Extremely cautious isn’t going to do us any good if in four months every single small depositor wants to cash out.” Klein thought a moment and then turned to Dana Gibbs, who ran BancUsonia’s Consumer Credit Division. “How are the cards doing?”

“They’re doing great,” Gibbs said. “We haven’t seen any drop in their use since the moon turned. If anything we’ve seen an uptick. We think that retail therapy has been a significant coping mechanism in the last couple of weeks. We expect that to continue at least in the short term.”

“I’m having a thought here,” Klein said. He pointed at Moore. “If people

are going to close out their accounts, it's not because they want to close out their accounts. It's because they want the money in the account. Withdrawing everything is just the way they *get* to the money."

"Yes," Moore said, not sure where Klein was going with this.

"So we give them money."

"I'm . . . not following."

"I am," Gibbs said. "When they try to close their accounts, you want to give them a credit card instead."

Klein snapped his fingers. "Exactly. If we say, 'Don't take out that \$20,000, here's a credit card with a \$40,000 spending limit instead.' All of a sudden they have the bucket list money."

"At twenty-two percent APR," Moore pointed out.

Gibbs shook her said. "No, we offer a low introductory rate, for . . . two years?" She looked over to Klein, who nodded. "The customer gets cheap money and still keeps the money they already have in the bank, which means we keep the money."

"The two-year introductory rate is the clincher," Klein said. "Anyone who is trying to close out their account knows when the end of the world is supposed to happen. They'll think to themselves that they're not going to live long enough to pay it off anyway. It's free money."

"Isn't it free money?" asked Cliff Williams, who ran BancUsonia's regional banking.

"If it is, then having fronted it is going to be the least of our worries," Gibbs said. "And if it's not, then we'll have done very well for ourselves."

"At least until the defaults start coming in," Williams pointed out. "The people we'll be giving these credit cards to are going to be subprime, otherwise they wouldn't be trying to get their money out in the first place."

Gibbs laughed. "That's probably true, but it won't be *our* problem," she said. "We already sell off our credit card debt to private equity." She looked over to Klein. "I don't expect we'll have a problem with this initiative either. I can think of three different private equity firms who will snap up a debt package from us, end of the world or not."

Klein looked over to Louise Thornton, BancUsonia's general counsel. "Is there going to be a problem doing this?"

"As always, Randy, a lot depends on how you do it," Thornton said, laconically. Thornton was a very excellent general counsel for a large

financial services company because she almost never said no, because the things that were a hard no when it came to finance in the United States turned out to be an extremely limited number. In fifteen years, Klein had heard Thornton say no only once, and it had had such a flat and final aspect to it that everyone in the room dropped the topic of conversation and never spoke of it again.

“Let’s get the ball rolling on that, then,” Klein said to Gibbs, who nodded. They would have a new card ready by the end of the week, with an enticing name like “Reserve Status” or something like that. That matter disposed of, Klein turned his attention to John Bell, from Wealth Management. “Any investor panic?”

“There’s lots of investor panic,” Bell said. “That’s the natural state of the investor. President Boone slips coming down the stairs of Air Force One and the Dow Jones drops two hundred points. When the moon turned to cheese the market dropped nine hundred points, and made it back in a week.” Bell looked at his phone. “We’re down four hundred and thirty points and the market just opened. I think by Thursday we’ll be up again.”

“And in the long term?” Klein asked.

“In the long term we’re all dead,” Bell replied. “But there’s a lot of time for profit-taking between now and then.”

“For what little good it will do them,” Thornton said.

Bell shrugged. “Some people want to have bucket list experiences. Other people want to die with the biggest net worth. That cheese rock has put a big fat finish line on the game, yes. And some people are going to play it until the very last minute. Which means we can expect the stock market to become increasingly volatile as we go along. But as long as it’s up, people will be in it, and we’ll do a nice business advising them. Same with every other bond and equity market.”

“I would expect the ten-year bond market to crash,” joked Gibbs.

“You’ll be surprised,” Bell promised. “The only real thing we have to worry about is whenever it is that everyone finally says ‘screw this’ and quits their jobs. That’s the real end of everything, when it comes to the markets, and wealth, and, well, getting things from stores.”

“And when do we expect that to happen?” Klein asked.

“I can field this,” said Rod Holland, BancUsonia’s chief risk officer. “We have a model for the end of the world. We didn’t develop it for the cheese

moon; we developed it after the last pandemic to give us a better grip on how things would proceed when it became clear, for whatever reason, civilization had reached a point where trying to maintain it was futile. We modeled two scenarios here: fast and slow. Fast would be for things like a nuclear exchange, and the short version of that is, the end is already there. Slow would be for things like this, where we can see the end coming but have some time before we get there.”

“So when is the end of everything?”

“Just after Christmas,” Holland said.

“I beg your pardon,” Klein said, blinking.

“You’ve heard of that thing where people who are dying will make it through one last holiday season?” Holland asked. Around the table, heads nodded. “Same thing, just with all of civilization. Even in the face of imminent collapse, people will keep it together for one last Christmas or Hanukkah, those being the two most celebrated winter holidays in the US and the Western world. They want to see family and friends, they want to exchange gifts, they want to squeeze out that one last bit of joy. Then they power through New Year’s Eve.”

Holland leaned forward. “*But*. As soon as the ball drops, everyone will realize that’s it. Last Christmas. Last Hanukkah. Last New Year. That’s all you get, forever. After that point, people just start wandering off. The final collapse of everything is about two weeks out from the very end, when the power shuts down, gas pumps stop working and water systems lose pressure. But the beginning of the end is January second of whatever year the end finally comes. So, yeah. As a *company*, we have two Christmases.”

Everyone stared at Holland.

“Jesus, Rod,” Klein finally said.

“We could be wrong,” Holland acknowledged. “But my people in risk management are very good.”

“Anything we can do to stretch that?” Klein asked the table.

Vineet Goyal, chief technology officer, raised his hand.

“This is going to be about AI, isn’t it?” Klein said.

Goyal put his hand back down, uncertain.

“No, no, go ahead.” Klein waved at him to continue.

“Right,” Goyal said. “Simply put, we’ve been using a proprietary large language model for a couple of years now on our web presence and phone

app in order to help our customers navigate the system while keeping our costs down.”

“The customers hate it,” Cliff Williams said. “Trust me, their hate for the AI help desk is about thirty percent of the feedback I get about the bank.”

“They only hate it because we admit it’s a large language model,” Goyal said.

“No, they hate it because it sucks for doing anything other than yelling at it to let you talk to a real live person.”

Goyal turned to Klein. “This is not what our consultants tell us.”

Klein waved his hand, irritably. “Let’s actually get to the point, please.”

Goyal shot a look at Williams and continued. “We’re about to get a new version of the LLM. A whole number release. It’s going to be better in every way, and when, after that last Christmas, our employees start wandering off, we’ll be able to use it to keep BancUsonia going. IT, interbank and international work, even, yes, customer service.”

“Oh, hell no,” Bell said. “I don’t want your CashGPT anywhere near an actual financial transaction, Vin. The goddamn thing will hallucinate ten billion dollars into someone’s account and then we’ll be screwed.”

“There would be guardrails, obviously,” Goyal said. “And we have two Christmases to model and tweak. The whole point here is that we won’t use it until we have to. But when we have to, we’ll have it. Which will be a competitive advantage when the time comes.”

“So we can be the last bank on Earth,” Holland said.

“This isn’t a joke,” Goyal said.

“I’m sorry, you thought I was being sarcastic when in fact I was expressing admiration,” Holland replied.

“I agree with Cliff that it’s not something we should use until we absolutely have to,” Klein said. “I’m also pretty sure at some point we will absolutely have to. Vin, get to work on it.” Vin nodded and looked satisfied.

“Anything else we need to be thinking of?” Klein asked his people.

“I’ve got one thing,” Williams said. “To go back to the thing about people closing out their accounts. In some of our western branches we’ve got people cashing out their accounts and asking if they can trade the cash for gold bullion.”

“Are they under the impression that gold is going to be worth anything when a massive wheel of brie crashes into the planet?” asked Gibbs.

“One, we don’t know it’s brie, and two, I’m not here to dissect the financial logic of these individuals,” Williams said. “I’m just telling you what I’m hearing. And, with all due respect to Dana, the sort of person who wants to withdraw their life savings and trade it in for gold coins to bury in the backyard is not the sort of person we’re going to entice with a credit card.”

“No,” Klein said. “But we might be able to entice them with a vault. We can do the transaction and then offer to put it in a safety deposit box in the vault. It’s safer than burying it all in a backyard. We can keep the account open in case they want to transfer it back, we make a cut of the transaction both ways, plus the cost of the safety deposit box, and while we’re holding their money for them, we don’t have to pay them any interest.”

“I think they’d rather take their chances with the backyard,” Williams said.

“Then make sure we know their address,” Klein said. “Just in case we want to do a little digging later.” This got chuckles.

Klein smiled, then stopped smiling and looked back at Holland. “So, two Christmases, then.”

“More or less,” Holland said. “But yes.”

“Now I’m thinking of all the things that I actually do want to do between now and then,” Klein said.

“The good news is, you’ve already got Venice out of the way,” said Todd Moore.



DAY TWENTY-THREE

Albuquerque, New Mexico | 5022 Inspiration Drive SE

Once upon a time in the pleasant but less than entirely magical land of Albuquerque, New Mexico, there was born a girl child, who was named Lessa Sarah Cirrincione. And while Lessa Sarah was not a lost princess, nor a secret wizard, nor born with superhuman strength nor the ability to shape-change into a wolf, she was born with one gift: the ability to create entire worlds with just her mind.

This power was, all things considered, not too surprising. Lessa Sarah's parents were, in the parlance of their nation and time, Big Damn Nerds. They met on a LARPing campaign at the University of New Mexico, where Claire's sorceress felled Marc's thief, who had been possessed by a demon, as they so often were. Marc proposed to Claire at the local ren faire, with a ring that had an amethyst (Claire's birthstone) encircled by a dragon, and the two were married at Bubonicon, Albuquerque's preeminent science fiction convention. Lessa Sarah was named after a heroine of the Dragonriders of Pern books and the heroine of the movie *Labyrinth*, respectively.

Lessa Sarah grew up surrounded by worlds of imagination, with dragons and aliens and unicorns and avatars and gems and spaceships and vampires and ghosts and time lords and various incarnations of metaphysical concepts. She attended her first science fiction convention at the age of three months, and by five years old knew exactly where her favorite shops were at the ren faire. By ten she was an old hand in helping her mother and her friends with their cosplay attire, tasked as Claire's "costume caddy," with a carrying case

full of thread and fabric and emergency safety pins. Lessa Sarah started reading at three and advanced precociously from there; by the third grade she was known to be snobbish to the kids who would prefer film or television versions of a story to its original book.

Given this fact, and surrounded as she was by the universes of fantasy and science fiction, it was no surprise that in the fifth grade she began to imagine her own fantasy world—the world of Skalaria, and its primary character, Brinn, who was plucky and resourceful and who just wanted to be at home with her family, but adventure kept finding her anyway. Armed with paper and writing implements, Lessa Sarah started building out her world an adventure at a time.

“They’re *very* good stories for a fifth grader,” Lessa Sarah’s fifth-grade teacher, Ms. Garcia, told Claire and Marc. “But they are getting in the way of her paying attention in class.”

“Are you saying she should stop writing her stories?” Claire asked, getting ready to be wound up in outrage that her only child’s creative expression was about to be stifled by the controlling arm of the state.

“Absolutely not!” Ms. Garcia said, and Claire was flustered, because her incipient rage on behalf of her child suddenly had nowhere to go. “Lessa Sarah has a gift, and I want her to explore it. Maybe just not while I’m trying to teach her math.”

A compromise was reached. Lessa Sarah would pay more attention to math (and history, and science, etc.) and in return, during the language arts portion of the day, she could pursue an “independent study,” which was to say, write about Skalaria, while the other kids in her class were doing grammar sheets and independent reading. Lessa Sarah was already reading at a high school level anyway, and frequently corrected the grammar of adults, which they strangely did not usually appreciate. There was nothing about language arts that Ms. Garcia could teach Lessa Sarah that she did not already know.

Given free rein by Ms. Garcia, Lessa Sarah populated Skalaria with characters and creatures and continents. The world of Skalaria opened up to Lessa Sarah, and she wandered it, seeing it through the eyes of Brinn and her many faithful companions. Soon the world was as rich and full as the fantasy and science fiction worlds that Lessa Sarah’s favorite authors had created and published.

There was just one problem, as far as Lessa Sarah could see.

"I hate my writing," Lessa Sarah told her parents one day in the eighth grade, as they drove back from that year's Bubonicon convention.

"Why do you hate it?" Marc asked. He was driving, so he didn't look at his daughter directly, but he glanced up in the rearview mirror at her.

"It's not good."

"That's not what your teachers say," Marc said.

"It's not what I would say either," Claire added. Claire was Lessa Sarah's biggest cheerleader.

"It's 'good for my age,'" Lessa Sarah said, making air quotes with her fingers. "That means 'not actually good.' And how am I going to get published in high school if I'm not any good?"

"Honey, very few writers get published in high school," Marc told his daughter.

"That writer who wrote that book Mom likes did. Something Hinton."

"S. E. Hinton," Claire said.

"That's one," Marc said. "One out of a lot of teen writers."

"I'm just saying it's not an *unreasonable* expectation," Lessa Sarah said.

Marc glanced at Claire. "I'm going to let you handle this one," he said.

"Sweetie, everything takes effort to get good at," Claire said.

"But I'm supposed to already *be* good at it."

"That's the curse of the gifted kid," Marc said.

"I thought you said you were going to let me handle this," Claire said to Marc.

"Sorry."

"No," Lessa Sarah said. "What does 'curse of the gifted kid' mean?"

"It means that when you're a gifted kid, everything is easy, until it isn't, and then when it isn't, you get really frustrated, really fast," Marc said. "Ask me how I know about that."

"You were a gifted kid?" Lessa Sarah said.

Marc looked again into the rearview mirror. "Damn, girl."

"I'm *joking*, Dad."

"You *are* a really good writer, sweetheart," Claire said. "For any age. You write better than most adults."

"But not most *writers*," Lessa Sarah said.

"Then you have a goal. Your dad is right: It can be frustrating when something you were good at gets harder. But this is your gift, honey. You're

going to have to work just as hard to do anything else, and you're not going to like it as much."

Lessa Sarah listened to her mother, and grudgingly accepted the truth of what she was saying. The world of Skalaria and the adventures of Brinn and her many friends were what Lessa Sarah lived for. But as much as she loved them, she also wanted to share them with the world. She knew that right now, the world she saw in her head outstripped her ability to share it on the page. The hard part—writing well enough to share that world—would now have to begin.

At the very least, Lessa Sarah had allies in her parents, who bought her books on the craft of writing and took her to author events, and encouraged her to read all sorts of writing. When Lessa Sarah went to high school, there was a creative writing elective every semester, and Lessa Sarah took it three times before being told she couldn't get credit for it anymore. A local community college offered a summer creative workshop that Lessa Sarah signed up for, and then almost dropped when the instructor said that she wouldn't allow submissions that were science fiction or fantasy. "I just think they're an excuse for lazy writing," the instructor said.

Lessa Sarah held her tongue, participated in the workshop anyway, and endured six weeks of classmate stories about depressed housewives getting divorces. When it was Lessa Sarah's turn to share, she wrote a ghost story and argued with the instructor that it wasn't fantasy because it took place in the present; it was, instead, "magical realism." Lessa Sarah referenced Isabel Allende and *The House of the Spirits*. The instructor, unprepared for the Allende Maneuver, backed down.

In her senior year, Lessa Sarah got accepted into several elite colleges, including Wesleyan and Vassar, on the strength of her essays. But then her dad got laid off and rather than drain the family savings or load up on loans, Lessa Sarah went to her backup school, the University of New Mexico. It had offered free tuition, and, since she lived within thirty miles of the campus, which qualified her for a residency exemption, lived at home to save money.

She planned for an English major, but spooked by her dad's layoff and the family's sudden change in financial security, wavered for the first time at the idea of pursuing creative writing. She began to consider professional and technical writing courses as a hedge. She would still be visiting the world of

Skalaria, of course, and writing about what she saw there. But there were practical considerations for her to consider as well.

In her sophomore year, while loitering in the Student Union Building at lunchtime, looking for her friends, Lessa Sarah saw a young man with a sketch pad, sitting by himself at a table, sketching the scene in front of him. As she got closer, she saw that the sketch wasn't the Student Union Building as it was, but as a ruin, with holes in the walls, foliage invading the interior and a single deer standing in front of the ruin of the Chick-fil-A kiosk.

The young man turned around and looked at Lessa Sarah, confused as to why she was looming over him.

"I'm sorry," Lessa Sarah said, taking a step back. "I didn't mean to bother you. I was just looking at your sketch."

"Oh," the young man said. "Right." He motioned around the Student Union. "I'm doing some studies for a project I'm working on. What the university would look like after the people are all gone."

"You have other sketches?"

"Sure." The young man flipped through some other pages he'd worked on, and Lessa Sarah saw other parts of the university, decayed but beautiful.

"Are these for a class?" she asked.

The young man smiled. "No. Computer science major. This is on my own time."

"But you said it was for a project."

"I did," the young man said, and then grimaced. "It's going to sound silly. But I was thinking, when I did the completed art, of maybe putting them together in a book or something."

"Oh!" Lessa Sarah said. "I'm writing a book, too."

"Yours is probably better than mine."

"Don't say that," Lessa Sarah said, and pointed. "You have sketches. All I have right now is an idea."

The young man looked at Lessa Sarah, and then extended a leg to push out the other seat at the table. "Tell me," he said.

Lessa Sarah sat.

The young man reached out a hand. "I'm Hector."

"Lessa Sarah." They shook hands, and then Lessa Sarah started talking about Skalaria. Five minutes in, Hector took his sketch pad, flipped over to a

new page, and started drawing as Lessa Sarah talked. When she was done, Hector turned the page around so Lessa Sarah could see it.

It was the Skalarian landscape, with a character Lessa Sarah knew was Brinn, who was looking out to the horizon, ready to start an adventure.

Lessa Sarah stared at it for a long moment, and then looked up at Hector. “Marry me,” she said.

Hector smiled. “Well, okay,” he said. “But maybe we should have a first date, just to be sure.”

Lessa Sarah and Hector were married two years after they graduated from University of New Mexico and had landed at their first jobs, both in education-related fields: Hector went straight into the IT Department at the university, while Lessa Sarah went to the Communications Department of the Albuquerque Public Schools. For their wedding gift, Lessa Sarah’s and Hector’s parents teamed up to give them a down payment on a small house in an okay neighborhood, whose monthly mortgage they could afford on their respective salaries. Hector and Lessa Sarah converted one of the three bedrooms in the house into an art studio / writing den, so the two of them could pursue their passions when time allowed. Another year passed before Lessa Sarah was finally ready to pursue them.

And she *was* ready! After so many years, she was confident that she had the skills to bring Brinn and the world of Skalaria into being, the way they should be seen by others. On the weekends, while Hector slept in, Lessa Sarah began the process of building her world for tourists to visit.

After three months of writing and revising and writing again, Lessa Sarah had a solid start on three chapters of her novel, tentatively titled *The Skalarian Way*. It was a first novel in what would be at least a trilogy, although if Lessa Sarah was being honest with herself, she fully expected the story to encompass five volumes, or possibly six, depending on how a publisher would want to present them. Possibly two trilogies would be better than a single pentology.

“This is terrific,” Claire said, when Lessa Sarah showed those first three chapters to her mom. “I want more! When can I get more?”

“Soon,” Lessa Sarah said. “But first I want to workshop them with my writing group.”

“Why? This is perfect.”

“I love you, Mom, and I love that you’re my biggest fan, but you’re

biased,” Lessa Sarah said, laughing. “I want to get the perspective of people who are actually writing.”

“I’m biased but I’m not *illiterate*,” Claire said, trying not to be hurt. “I’ve read all the books you have. Before you did, even.”

Lessa Sarah gave her mom a hug. “That’s not what I meant and you know it,” she said. “I just want a few more eyes on it, you know?”

“Well, what did Hector think?”

“He loved it, too.”

“There it is then!”

“And like you, Mom, he’s not exactly unbiased.”

“*Hmmph*. Well, fine,” Claire said. “Get your feedback. And then give me more chapters.”

As expected, Lessa Sarah’s writing group, the Albuquerqueies, as they called themselves, had extensive notes. There were six other writers in the group, two of whom had already been published in genre magazines, one in *Strange Horizons* and the other in *Analog*. Doug Vargas, the one who had been published in *Analog*, gave the largest number of notes, praising the pacing but making the point that the intro chapters were too similar to any number of fantasy novels before it. “It’s all ‘Call to Adventure,’” he said, “and no setting of scene.”

Lessa Sarah gratefully took his and everyone else’s notes, and started applying them to the three chapters she’d written, revising to incorporate the suggestions and tips. When she was done, a couple of months later, she showed the revised chapters to Hector.

“They’re still good,” he said. “I don’t know, I kind of liked the first pass better.”

“Why?” Lessa Sarah wanted to know.

Hector shrugged. “It sounded more like you. I mean, these revisions are still super readable, and I see why they gave you the notes they did. But the first pass still speaks to me.”

“I like that you like my voice,” Lessa Sarah said. “I also feel like published authors have some experience that might be valuable.”

“Yeah,” Hector agreed. “I’m a tech nerd who draws things occasionally. I’ll tell you what I think, but I guess they will tell you what they *know*. That’s a big difference.”

Lessa Sarah brought the revisions back to the Albuquerqueies, who helpfully

larded her down with another set of notes and suggested revisions. Three months later this time, she brought a third pass to them. More notes. More revisions.

This went on for two years.

“I don’t know how much I’m getting out of my writing group anymore,” Lessa Sarah told Hector one night, over dinner. “I found a new group online and have been looking at some of the stuff they’re writing. It’s really cool and really different. I think they would be a good fit for me.”

“What are you going to show them?” Hector asked.

“I’ve got those three chapters of *The Skalarian Way*,” she said.

“Okay,” Hector said. “That’s fine, although you might try something else, too.”

“I’ve been thinking of some short stories, but I don’t have any ready yet,” Lessa Sarah said. “Anyway, you can only send in one thing at a time. The chapters are ready.”

“You should write some more chapters.”

“I know,” Lessa Sarah said. “I’m going to.”

The online writing group was called the Scrivimators, and their unofficial rule was that any new member needed to contribute comments and notes for a full round before they could present their own material. That made sense to Lessa Sarah, and she was more than willing to pull her weight. There were nine other members, and each week a different member shared a new story or a revision. So two months went by before the three chapters of *The Skalarian Way* were presented to the group.

The comments were vicious.

“Hackwork,” began one. “Substandard worldbuilding,” said another. “I fell asleep two paragraphs in,” began a third. “This is a D and D adventure run by fourth graders,” said another.

Lessa Sarah read all the comments, thanked everyone for their input, closed her laptop in her writing den, and didn’t go back into that room for another year, except to dust and vacuum.

In the meantime, she attended local author events, and book fairs, and conventions, listening to panels and occasionally standing in line to get books signed. Sometimes, when she handed a book over to an author to be signed, she would mention that she, too, was writing a book. The published authors were always encouraging to her when she did.

Eventually, Lessa Sarah felt the pull of Skalaria once more, and of Brinn calling to her.

“Look at this,” she said to Hector, putting her laptop in front of him. “There’s a speculative fiction workshop in Martha’s Vineyard.”

“That’s a funny place for a speculative fiction workshop,” he said.

“It runs in the off-season, so they probably get a good rate at their hotel. I think it would be helpful. I really want to go.”

“I don’t think you can get the time off for a real workshop.”

“That’s the thing, it’s just a week. I can get a week off.”

“What can you learn in a week?”

“More than what I’ve been learning in the last year, anyway. Look, here are some of the writers who have gone to this thing, and who teach there. Look at all those awards and bestsellers.”

“Honey, you don’t have to sell me,” Hector said. “I just don’t want to have happen what happened the last time.”

“The last time they were assholes.”

“Yes, but assholes are everywhere, you know.”

There were no assholes at the one-week workshop at Martha’s Vineyard, or if there were they kept it to themselves. The teachers and students were all funny and smart and delightful. The days were spent discussing stories and writing and publishing, eating fried clams and spending evenings playing guitar and declaiming Shakespeare out loud to each other. Lessa Sarah brought *The Skalarian Way* and workshopped the first chapter. She got insightful comments on it from the other students and from the instructor who led her session, whose novels Lessa Sarah had on her bookshelf long before she ever met her.

At the workshop you could also ask other instructors for a private consultation on your work, if they decided they had time. Lessa Sarah asked Tamara Nelson, whose day job was being a senior editor for one of the genre imprints that Lessa Sarah definitely hoped to be published by one day. She gave Nelson all three extant chapters of *The Skalarian Way* to read, and then on the last day of the workshop, went in to speak to her.

“Do you bake?” Nelson asked Lessa Sarah, after both of them had sat down in Nelson’s hotel room, Nelson on the couch and Lessa Sarah on a chair.

“Uh . . . not really?” Lessa Sarah said. “Cookies sometimes?”

Nelson nodded. "I like to bake. I especially like to bake bread. So much better than what you can get in the store, as long as you know what you're doing. Do you know what gluten is?"

"It's the thing in bread people are allergic to."

"It is that. Specifically, it's a protein that's found in wheat. When you make bread, you knead the dough, yes? And when you knead the dough, strands of the gluten protein develop and give the dough its shape and consistency. Now, you have to knead the dough, because it needs to come together. It needs some internal structure. But if you knead the dough too much or for too long, then you overdevelop the gluten. The dough becomes stiff, and tough, and if you bake it, your bread comes out a mess."

Nelson reached over to the side table by the couch, and lifted the three chapters of *The Skalarian Way*. "I've read this. There are some very good things in here, Lessa Sarah. But it's stiff and tough and a bit of a mess. It's a mess in a very particular way. Which leads me to ask: Have you brought these chapters to a workshop before?"

"I . . . might have."

"More than once? And more than once to at least one of those workshops?"

Lessa Sarah nodded mutely.

Nelson motioned with the chapters. "And these are all the chapters there are, yes?"

Another nod.

"Okay." Nelson set the pages back down on the side table. "The first thing I want you to do is not to worry. This is fixable. Do you want to know how?"

"Yes, please."

"In baking, when you're kneading bread and you've overdeveloped the gluten, do you know what you do? You stop. You stop kneading. You let it rest and you do other things in the kitchen that need doing. What else needs to be done in your kitchen?"

"I don't know."

"Oh, I think you do," Nelson said. "You need to make other food." She tapped the pages. "This is one loaf of bread. You have other dishes to make. You've spent so much time trying to make this one loaf so perfect that you haven't gotten around to creating the rest of the feast. Don't worry about the

bread right now. It needs to be left alone while you prepare everything else. Do you understand?”

Lessa Sarah nodded. “I need to write more.”

Nelson clapped. “Yes. Write more. If you want to have other people read it as you go along, that’s fine. But don’t let that stop you. The problem with workshopping is how easy it is to forget that you can’t *win* workshopping. You will never write a chapter, or three, that everyone thinks is perfect. People will always find something for you to fix, because that’s the nature of the workshop. A little workshopping is fine and useful, and you can learn things about your work through other people’s eyes. Too much, and you can get stuck, always revising, never moving forward. Which happened to you, yes?”

“Yes.”

“How long?”

“Three years.”

“Ooof.” Nelson picked up the pages again. “Here is my assignment to you. No more writing *these* chapters. You are not allowed to touch them again until and unless you finish the rest of this book. Any new chapter you write, you’re also done with. No more editing them until and unless you finish the rest of the book. Your goal is not to write a perfect chapter. It is to write an imperfect book. And when that imperfect book is done, *then* you can go back and work on the chapters. Because then you can see the whole story. And when you can see the whole story, one thing you might see is that those chapters you kept working to make them so perfect, were just as imperfect as everything else.” She handed the pages to Lessa Sarah.

Who took them and looked at Nelson. “Are you always this zen?” she asked.

“Oh, I enjoy going full Yoda every now and then,” Nelson said. “But don’t let that keep you from catching my point. Be *imperfect*, Lessa Sarah. You deserve it.”

Lessa Sarah came home from Martha’s Vineyard exhilarated and excited and ready to be imperfect. Then the day after she came home the moon turned to cheese, and after that launched a world-ending chunk of itself toward Earth.

And through all that, no matter how Lessa Sarah tried to write, she just . . . couldn’t.

She tried. Every night she would come home from work, go to her writing den, open her laptop, and then stare at the screen for a half hour at least, before closing the laptop and doing anything else at all.

After three weeks of this, Hector finally came into the den. He pulled up his painting stool and sat next to his wife.

“Okay,” he said. “I left you alone to figure out whatever it is you’re trying to figure out and *that’s* not working. So tell me what’s going on in your head right now.”

“I waited too long,” Lessa Sarah said, still looking at the laptop screen.

“What does that mean?” Hector asked.

“I mean, I waited *too long*. I spent so much time messing around with those first three chapters, and now, when I’m finally inspired to write more, here we are at the end of the world.”

“It’s not the end of the world yet.”

Lessa Sarah looked at her husband. “I don’t have enough time *until* the end of the world. It took me three months to write three chapters. Even if I try to speed things up, it’ll take me a year or longer to write the whole book. And then how am I going to sell it? Do you think any publishing house will still be accepting manuscripts then? And if I self-publish, who even knows if the Internet is going to be up in a year, much less any longer than that?”

“You’ll still have written it, though,” Hector said.

Lessa Sarah laughed at this. “Yeah. Well, the thing is, I’ve had Skalaria in my head since the fifth grade. Brinn has gone on hundreds of adventures in my mind.” She gestured at the computer screen. “I wasn’t writing this for *me*. I was writing it for everybody else. It’s why I got trapped in a perfectionist loop in the first place. I wanted for everyone to feel about Skalaria the way *I* feel about it. And now it’s too late for that. I can write as fast as I can, and it still won’t matter. I’ve waited too long. I’ve wasted too much time. And now Skalaria will always be just inside my head. Plus, I wanted to be *famous*, okay? Me and Tolkien, and, I don’t know, Brandon Sanderson, all hanging out on bookshelves.”

Hector sat there, silent, and Lessa Sarah watched him think. Then he got up and walked over to the closet, where he kept his supplies and archives. He went in, rummaged around, and came out with an old sketchbook. He opened it up to the sketch he’d made the day that he and Lessa Sarah met. The one of Skalaria, and of Brinn, staring into the distance.

“Skalaria hasn’t been just inside your head,” Hector said. “I saw it years ago when you told me about it, when you sat across from me. *You* drew this picture. I just grabbed it out of the space between us. *This* is what you showed me, Lessa Sarah. I saw it as clearly as I’m seeing you now.”

Hector handed the sketchbook to his wife, who took it. “I’m not going to say I married you because I wanted to see Skalaria. I married you for a lot of reasons, and also because you proposed to me after you saw me make art.” Lessa Sarah laughed softly at this. “But I hoped that one day I would get to see more of the world you have in your head. Because what I saw, I fell in love with, just like I fell in love with you.”

“Flatterer,” Lessa Sarah said.

“It’s just the truth.” Hector motioned at the laptop. “Maybe the whole world won’t get to see Skalaria. Okay, fine, that’s just how it goes. And maybe it’s too late to be famous. But it doesn’t mean you still can’t share your world. You can share it with me. You can share it with your mom, who wants a book from you more than she wants a grandkid. You can share it with your dad, and with all your friends. And, who knows, maybe there *will* be time for the world to see it. It depends on how fast you type.”

Lessa Sarah laughed again, and started to cry.

“Don’t finish your book for the world,” Hector said. “Finish it for me. *I* want to see it. I’ve wanted to see it since the very first day I met you. And if that in itself won’t do it, then let me guilt you into it. Because if we’re going to die *anyway*, then you can consider this my final request: Write your book. Write it so I can read it and see everything you see, and know everything there is to know about you, before it’s all over.”

“Huh,” Lessa Sarah said, wiping her eyes. “No pressure there.”

“It is *absolutely* pressure,” Hector said. “I want to see your book. Quit your job if you want to. I don’t think money is going to matter for much longer anyway. But *write the book*. Write it for me. Show me that whole world. Please.”

Lessa Sarah put the sketchbook down, stood up, and folded herself into her husband’s arms, kissing him.

“Look, there’s something you have to know,” she said, when she finally stopped kissing him.

“What’s that?” Hector asked.

“It’s going to be a *really messy* first draft,” Lessa Sarah said. “You’re just

going to have to live with that. I don't think I'm going to have time to revise."



DAY TWENTY-FOUR

Stillwater, Oklahoma | The Short Stack Diner

Clyde Ramsey was almost never at the Short Stack Diner at 9:45 p.m.—frankly, if he wasn’t in bed at 9:45 p.m. it was because he’d fallen asleep on the couch—but since the Chinese Paper leaked and he and the rest of the world learned they were definitively screwed, he hadn’t been sleeping very well, or pretty much at all. So here he was at the diner, where he would probably be again in the morning, and then, because his calendar of appointments was wide open at the moment, probably back again tomorrow evening as well.

At least he wasn’t alone. Dave Potter and Alton Nunez were here with him, drawn to the diner for mostly the same reason. Clyde momentarily considered what had happened to his life that most of it now appeared to be playing out in a small-town diner. Then he remembered: retirement. And also, the end of everything.

Clyde drained his coffee cup and then caught the eye of Giselle Lewis, the Short Stack’s evening waitress. “Refill, please,” he said. Giselle nodded and headed behind the counter for the coffeepot.

“I wonder how long that will last,” Dave Potter said, nodding at Clyde’s coffee mug.

“This place has endless refills,” Alton said.

“He means how long will coffee exist,” Clyde said. Giselle had come over and filled the mug. “Thank you,” he said to her, before turning his attention back to Alton. “Tonight, I will get as much coffee as I want. Probably

tomorrow, too. And next week. But six months from now? A year?" Clyde raised his mug at Alton and Dave, and drank from it.

"It's hard to believe coffee will come to a stop," Alton said.

"Believe it," Clyde said. "Coffee was already in trouble because of climate change."

"That and chocolate," Dave piped in.

"That and chocolate," Clyde agreed. "But now you have to wonder: How long will the farmers growing coffee keep growing it and picking it? How long will the sailors on the container ships that bring it to the US keep staffing their ships? How long will the dockworkers unload it and put it on trucks? How long will the truckers work, or the workers at the warehouses?" Clyde motioned to the Short Stack. "How long will this place stay open? Factor in all of *that*, when you factor how long until your last cup of coffee."

"So how long will it be until the coffee runs out?" Alton asked Clyde. "Best guess."

"I don't know, maybe eighteen months," Clyde said. "I have no real insight into the mind of a coffee farmer, but I think at some point all those sailors are going to decide they would rather be at home than on a boat in the middle of the Pacific. I think that's when things like coffee and chocolate start going away. And any fruit we don't grow here in the US."

"Bye-bye bananas," Dave said.

Clyde nodded. "Bananas, mangos, oranges out of season. Pretty much anything out of season."

"All those people who keep telling us to 'eat local' are going to celebrate," Alton said.

"Well, until the produce here runs out because we don't farm enough of it locally," Dave pointed out. He turned to Clyde. "What does Oklahoma produce?"

"Why do you think I know?" Clyde asked.

"Shit, Clyde, you know everything. That's why we keep you around."

Clyde fished out his phone and asked Google what Oklahoma's primary agricultural products were. "Corn, wheat, soybeans, oats, hay and sorghum," he recited.

"Wow, sorghum. I haven't thought about that stuff since elementary school."

"Well, we still produce it," Clyde said, and put his phone back into his

pocket. "So when the shipping runs out, we'll be living off grits and oatmeal for a few months after that."

"I don't like either of those options," Alton said.

"Good time to plant a garden," Dave said to his friend.

"I don't like *that* option, either. So much work. Planting and weeding and harvesting and canning. I would rather starve."

"You know who says stupid things like that? People who have never starved once in their life."

Alton patted his belly. "You've got that right. This baby here is probably worth two weeks of survival all on its own."

"You'll dehydrate in three days," Clyde said.

"There's a whole lake right in town."

"You're seriously going to drink from Boomer Lake," Dave said.

Alton shrugged. "It's freshwater."

Dave looked over to Clyde. "Are you listening to this?"

"If that's the way he wants to go out, I'm not going to stop him," Clyde said.

"Do you have a better idea?" Alton challenged his friends.

"Not for nothing, but I do have well water and solar panels on my house," Clyde said. "I may or may not starve, but I should have a reasonably constant source of fresh water."

"That settles it," Alton said. "I'm moving in."

"Oh, *now* you don't want to drink lake water," Dave exclaimed.

"Look, if I have options . . ." Alton replied.

"I don't remember inviting you," Clyde said, mildly.

"You would turn me away? During the end of the world?" Alton said, in mock horror.

"Well, what do you bring to the scenario?" Clyde asked.

"What do you want me to do?"

"Weed my garden."

Alton turned back to Dave. "I take it back. It's lake water for me."

Dave raised his mug to Alton. "It's been nice knowing you."

Giselle appeared a moment later, coffeepot in hand. "It looked like you were asking for a top-off," she said to Dave.

"I wasn't, but now that you're here I will take one, thank you," Dave said, and held up his mug.

“And you?” she said to Alton, as she refilled Dave’s mug.

“I’m fine, thank you,” Alton said. “But maybe you can answer a question. My friends and I are talking about the end of the world, and we were wondering how long the Short Stack is going to remain open. If you know.”

“I mean, the Townsends told me that if this thing really happens, they’re going to stay open to the end,” Giselle said, mentioning the name of the owners. “I don’t think they think it’s really going to happen, which is one reason why they plan to stay open. And I think even if it *does* happen, that it’s not like they have somewhere else to be. They’ve run this place forever.”

“What about you?” Clyde asked. “Do you have somewhere else to be? If you don’t mind me asking.”

“My mom’s in Tulsa, so if it came to that I would go there,” Giselle said. “I don’t know. It’s still two years away. I don’t really want to think about it yet, you know what I mean?”

“I do,” Clyde said. “Giselle, would you go get me a slice of pie?”

“You want ice cream with that?”

“Better get it,” Alton said. “It’ll probably go away faster than coffee.”

Clyde ignored his friend. “Yes, please,” he said to Giselle.

“So are *you* going to stay here when the end comes?” Dave asked Clyde, after Giselle walked away. “I know your daughter’s in Chicago with her family.”

Clyde nodded. “I talked to Andi yesterday, and she told me that she wants me to come up at the end,” he said. “I don’t think that makes much sense, though. She lives in Wicker Park, and their apartment is already cramped with three of them. I don’t know if I want to spend the end of the world sleeping on a couch.”

“Have them come down here,” Alton said. “You’ve got space. And solar panels. And water.”

“Lainey doesn’t like Oklahoma,” Clyde said, referring to his daughter’s wife. “It’s to do with the homophobia.”

“At the end of the world people wouldn’t have time for homophobia,” Dave said.

“Oh, honey,” Alton said.

“*You*’ve lived here your whole life, Alton,” Dave pointed out.

“Yes,” Alton agreed. “And this is why I just said ‘oh, honey’ to you.”

Dave shrugged. “All right, fair.”

“I’m still going to try to get them down here,” Clyde said. “But I don’t give it much of a chance.”

“So you’ll go up to Chicago?” Alton said.

“I think I’ll go up to Chicago the Christmas before and say all the goodbyes I need to say then,” Clyde said.

Giselle arrived at that moment with the pie and ice cream. There was silence as Clyde ate his first few bites of pie. “What about you, Dave?” Clyde asked, eventually.

“Oh, well, you know,” Dave said. “I’m a widower, and unless you count some cousins I don’t really like, I don’t have any family. I’ll be here. My plan is to check out a bunch of books from the library in the last week and then never return them. With any luck I’ll be reading a big fat James Michener book when the cheese hits.” He turned to Alton. “You can come over if you want,” he said. “I’ll stock up on bottled water so you don’t have to drink out of the lake.”

Alton frowned. “All that plastic,” he said.

“You’re not wrong, but we’re well past worrying about microplastics, aren’t we?”

“The irony,” Alton said. “All those shitty people were right not to worry about trashing the planet.”

“They weren’t right,” Clyde said. “They just missed out having to deal with the consequences. That’s different.”

“Spoken like a true philosopher,” Dave said.

“Also, you won’t have to stock up on water bottles,” Clyde said. “Just before the cheese comes down, you can both stay with me. I already have a garden, I have solar panels and I have well water. At the end of everything, we’ll still have showers and electric lights and operating toilets. You can’t ask for much more than that.”

“We could ask not to be smothered in cheese,” Alton said.

“You can ask that,” Clyde confirmed. “But the answer is probably going to be no.”

“Damn it.”

“I know,” Clyde said. “I’m annoyed, too. Anyway, there’s the offer.”

“That’s kind of you, Clyde,” Dave said. “But what if your family does show up?”

“Then the two of you will have to share a bedroom.”

Alton turned to Dave. "I snore."

"That's all right," Dave said. "I fart."

Alton turned to Clyde. "Please stock up on air freshener before it runs out."

"You two don't have to come," Clyde said. "It's on offer, not a demand."

"Don't be stupid," Dave said, and looked at Alton, who nodded. "We both accept. Obviously. If we have to have an end of the world, might as well have it with people we know we like."

"And have showers and food and indoor plumbing," Alton said, and was going to say more, but then looked at his friend. "Clyde. Are you all right?"

"What?" Clyde said.

Alton motioned to Clyde's face. "You might have something in your eye."

"Oh." Clyde blinked furiously. "No, that's just me getting teary. Sorry."

"Don't take this the wrong way, but you've never gotten teary about us before," Dave said. "Annoyed. Frustrated. Irritated. Not teary."

"Well, you know," Clyde said. "I haven't been sleeping well the last few days. In a weird space in my head. I've been internalizing the end of everything." Clyde touched a hand to his chest. "Lots of tension in here, and I don't think I knew how much I was carrying. Having you two say you'll be with me at the end of the world just released a lot of it all at once. Thank you."

"You're welcome," Dave said. "Of course. But. I'm still bringing a big fat James Michener novel with me. I will, by god, get to the end of *Centennial* before we all die, even if it kills me."

"You will be killed either way," Alton reassured him. He turned to Clyde. "And thank you. For officially inviting us to the end of the world."

"You're welcome," Clyde said. He put himself back together and stabbed his fork into his ice cream. "There's still two years between now and then. We could still drive each other bonkers in that time. You might change your mind."

"Hell no, I'm not changing my mind," Alton said. "All I have to look forward to is starvation and lake water. This is my apocalypse sorted."

Clyde smiled at this, ate his pie, and talked to his friends some more. Then he went home and, after taking his dog out for a quick bit of business, got into bed and fell asleep almost instantly.

He slept, deeply, for the entire night.



DAY TWENTY-FIVE

Holualoa, Hawaii | 75–819 Hiona Street, aka the Lookout

“There’s some irony in planning to die before the end of the world,” Ian Smythe said. “It’s like leaving your birthday party before the cake gets wheeled out.”

Jackie Hyland, who was once, briefly and long ago, Jackie Hyland-Smythe, turned to her former husband. “That actually sounds exactly like something you would do,” she said.

Ian smiled at this. “I didn’t say it wasn’t something I wouldn’t do,” he said. “Just that it was ironic.”

The two of them were seated on the lanai of the Lookout, Ian’s hillside house, which overlooked the Pacific, although you had to look past some other houses to get to it. It was nice, but not too nice, as befitted Ian Smythe’s status in the world, having amassed a large fortune, blown most of it on questionable pursuits, and only in the last few years worked his way back up to a modest fortune.

“This is your first time here,” Ian observed to Jackie.

“You bought it after you left me,” Jackie observed right back to Ian.

“To be fair, I bought it after I left Patricia,” Ian said, mentioning the name of his third wife. Jackie had been the first. The second was Brittannia, the mononymic soon-to-be superstar Ian had started fucking while he was still married to Jackie, which Jackie had at the time taken exception to. “And a good thing that I bought after her. If I bought it before we divorced, she would probably own it. Her lawyer was very good.”

“I’m surprised you didn’t have a prenup.”

“I did have a prenup,” Ian said. “But it mostly covered the songs and the publishing. Everything else was up for grabs. And she grabbed very well.”

Jackie looked around, at the lanai, and at the couple of acres that came with the property, on which Ian had started a boutique coffee company that sold its product to shops in Kona, and to the Pacific beyond the coffee. “You seem to have come out of it okay,” she said.

Ian nodded. “Some of that was luck,” he said. “The previous owner was about to be foreclosed on, and was motivated to sell. I know he got other offers, but it turns out he was also a fan. I gave him the guitar I wrote ‘This Summer Girl’ on, and he let me have the house for well below market value.”

“You gave him the Taylor I gave you for your twenty-third birthday?” Jackie said, narrowing her eyes at him.

“That would be the one, yeah.”

“You motherfucker,” Jackie said. “I saved up tips for a whole fucking year to get you that thing.”

“Well, I didn’t know that, did I?” Ian replied. “You didn’t tell me that’s how you saved up for it.”

“I was working as a waitress at Bob’s Big Boy, Ian. Where did you *think* I got the money?”

“I didn’t really think about it,” Ian confessed.

Jackie sighed and looked back out at the ocean.

“It *was* a lovely guitar,” Ian said.

“It clearly had deep and meaningful sentimental value to you.”

“It did. And also, it cut a hundred and fifty thousand off the asking price of this place.” Ian chuckled. “Anyway, a fat lot of good it would have done me to keep it. I have a whole room on the first floor, positively stuffed with guitars. When I die, they’re going to be abandoned. You can take one of them, if you want.”

“Thanks,” Jackie said, dryly.

“There’s even a Taylor in there. A really lovely koa one. At least if you take it, I know it’ll get played. The one you gave me is probably on a wall as a relic.”

“One thing about you hasn’t changed, Ian. You never knew when to stop digging a hole.”

Ian laughed at this. “That’s true enough,” he said. “I’m sorry, Jackie. I’m

not trying to be an asshole. It just happens. You know that.”

“I do know that,” Jackie assured him.

“I am so happy you came to see me.”

“Well, you know,” Jackie said. “When you get a postcard that says ‘Darling, I know we haven’t talked in twenty years, but I have pancreatic cancer and plan to kill myself very soon now, it would be lovely if you would come round before then,’ you do feel an obligation.”

“*You* feel an obligation,” Ian corrected her. “Neither Britt nor Patricia bothered.”

“I imagine Britt’s busy with a world tour. And Patricia hates you, if the press I read about your divorce is any indication.”

“‘Hate’ is such a strong word,” Ian mused. “I think a mere ‘disgusted’ would suffice.”

“You did it to yourself,” Jackie pointed out. “You married the actual president of your fan club. You should know better than to try to upgrade a parasocial relationship like that.”

“It worked for Gary Numan.”

“Good for Gary Numan. It was a disaster for you.”

“I can’t argue that. It’s just as well I don’t plan to be buried anywhere; she would come piss on my grave.”

“What about Britt?” Jackie asked. She still felt frosty toward the woman after most of a quarter century.

“Britt had the decency to send flowers,” Ian said, and then pointed into the house, toward the kitchen. “The card that came with it had lyrics to that song she wrote about me.”

“I was only aware of the breakup song,” Jackie said.

“That’s the one,” Ian confirmed. “The lyrics were the couplet in it about the good times we had, not the twenty other lines about what a complete shit I turned out to be.”

“A top-ten hit for her, if I remember correctly.”

“It got to number three and stayed there for five weeks,” Ian said. “I was sad it didn’t hit number one. If it had gotten to number one, it would be up there with ‘You’re So Vain’ and that Taylor Swift song about the scarf. It would have been nice to be spoken of in the same breath as Warren Beatty and Jake Gyllenhaal.”

“Your ego is fascinating.”

“Darling, if you’re going to be shat on for the whole world to see, might as well have it be memorable.” Ian chuckled again. “With that being said, the flowers were lovely. And when I am safely and surely dead, I’m certain I will be the subject of quite a touching Instagram post from her.”

Jackie looked hard at Ian, which made him uncomfortable. “What?” he said.

“This is going to come out wrong,” Jackie warned him.

“A recurring theme in our relationship, but go ahead.”

“You don’t look sick,” Jackie said. “Don’t get me wrong, you don’t look *good*—”

“Oh, well, thank you for that,” Ian said, sarcastically.

“—but you don’t look like you’re about *die*, either. You just look”—Jackie motioned—“like any other late-fifties former rock star who took shit care of himself.”

“You look good,” Ian said to his former wife.

“No I don’t,” Jackie said. “I look like a late-fifties former alcoholic whose one pass at plastic surgery was a waste of money.”

“You should take a compliment, my dear.”

“If you want to give me a real one, I might take it. Until then, let’s talk about how you don’t look like you’re dying.”

Ian took a deep breath. “One, I *am* dying, and that’s certain. Pancreatic cancer and it’s metastasized, into my bones and my lungs, and probably into my brain. When they found it, it was already too late to do much about it. And since *that* was the case, I decided not to fight it. I jumped through the hoops to take advantage of Hawaii’s End of Life Care Option, got the doctors and psychiatrists to sign off, and scheduled my end date. The reason I don’t look that sick is that at the moment, I haven’t gotten to the point where existing is a total shit show. I’m not keen to get to that point. It’s too late for me to die young and leave a beautiful corpse, but it’s not too late for me to die on my own terms, without too much pain, and without having spent what little money I actually have left on medical care that won’t do anything for me except extend my misery.”

“When?” Jackie asked.

“When am I exiting?”

“Yes.”

Ian looked at his watch. “In about five hours.”

Jackie blinked. "What?"

"I'm going to die around sunset tonight. More or less. I'll start things off as the bottom of the sun hits the ocean, and then it'll be a bit before it takes hold. In fact, I will probably do it here, in this chair, looking at the water. And when the sun sets, so will I. I thought that was poetic."

Jackie stared at her ex-husband.

"Jackie," he said. "I told you I was dying."

"I didn't expect it to be today!" she blurted out.

"I scheduled it after you said this was the day you'd come to see me," Ian said. "You are the last person on my schedule, my dear. And when you're gone, I have no one else that I want or need to see, except for the very lovely hospice care people who will arrive in a couple hours to make sure everything goes as planned and that my body is taken care of. I'm being cremated, by the way." He pointed. "I'm going to have my ashes spread under my coffee plants. A very dark roast indeed."

"I'm going to stay," Jackie said.

"No you are *not*," Ian said, firmly, a hard expression on his face. He saw the look on Jackie's face and gentled his own expression. "Thank you, Jackie. But no. I have already caused you enough pain in this life. I don't want the very last you see of me to be my corpse. Remember me as I am now, alive, looking like a former rock star who took shit care of himself. I mean, that's bad enough."

Jackie nodded and was silent for a few moments. "You did cause me pain in my life," she said to Ian, eventually.

"I know," Ian acknowledged. "I was young and I was stupid and I didn't understand all the ways I was hurting you, except when I *did* understand it and did it anyway, because I was twenty-three years old and I was a real shit. I offer you no excuses, Jackie. But I am sorry."

"You know I attempted suicide after you left," Jackie said. "A bunch of Jack Daniels and Nyquil."

"That's . . . not a great combination."

Jackie nodded. "It'll do the trick, if you can keep it down. I couldn't. I threw up all over that white leather couch of ours."

"You could have told me before this."

"No, I couldn't," Jackie said. "After I did it I didn't want you to know. I was very much in a 'fuck you' mode after that."

“I do remember that mode.”

“You deserved it.”

“No argument.”

“Not only for leaving me for fucking Britt, but then actually becoming a rock star after we divorced, with all the songs you wrote *about* me.”

“Sorry.”

“You could at least have had the decency to become a rock star before we divorced,” Jackie said. “I could have used the money.”

“I am aware I was inconvenient, and I’m aware that in some ways the best that you can say about me was that you survived me,” Ian said. “But you did. And still will.”

Jackie barked out a laugh. “For two years!”

“Two more years than I’ll have.”

“It’s not like they’re going to be comfortable. Sooner or later our doom will become real and then everyone will panic and things will get messy. I might be looking at another Nyquil and Jack cocktail.”

Ian made a face at this. “Please don’t.”

“I won’t,” Jackie said. “I’ve been sober for twenty years now. I’m not going to blow my sobriety on something as trivial as the end of the world.”

This got a smile from Ian. “That’s the Jackie I remember.”

“No it’s not,” Jackie said. “But it’s nice of you to say, Ian.”

The two of them talked until the hospice workers arrived. Then Jackie gave Ian a hug and a peck on the cheek, said goodbye to her ex-husband for the very last time, got in her rental Toyota RAV4 and drove it back to her hotel, the Royal Kona Resort.

When she got there, she changed into a swimsuit and shorts, headed to the pool area, secured herself a table, and waited for the sunset. She took a deep breath when the lower limb of the sun touched the horizon, and watched as the sun slid into the water.

The last of the sun disappeared a few moments later, with a brief flash of something as it went away.

“Oh, cool, green flash,” someone said from behind Jackie.

She turned around to see her waiter, who had dropped by occasionally to bring her club sodas. “Excuse me?” she said to him.

He motioned with his head to where the sun set. “Green flash,” he said. “It’s an atmospheric effect that happens sometimes when the sun goes down.

But not that often. You just saw a very special sunset.”

“Yeah, I did,” Jackie said, turning back to the sea.

“Another club soda?” the waiter asked.

Jackie smiled. “No, thank you. Just my check.”

The check came, was paid. Jackie headed to her room, closed the blackout curtains, got undressed and, when she was finally in bed, allowed herself the complete mental breakdown she had been promising herself since she pulled into Ian’s driveway earlier in the day.

“Fucking Ian,” she said to herself, between sobs. Jackie was not in love with Ian, had not been in love with Ian for decades now, and had loved other people since, some with better results and some with less. But not one of them had fucked her up as much as Ian had. That was because she had been just as young and stupid and senseless as Ian had been, and opened herself up to him in a way she had never dared with anyone before him, and would not dare with anyone after. She’d loved him like someone who didn’t know any better, because she hadn’t.

And when it was done she’d hated him, not because he had broken her heart, but because she had broken her own heart over him. It had made her bitter, and destructive to herself and others. It gave her the excuse she needed to fuck up the rest of her twenties (and why stop there, the excuse she needed to fuck up most of her thirties as well), and to crawl into a bottle so hard she almost wasn’t able to crawl out of it.

But she did eventually crawl out, and she did eventually stop giving herself excuses to self-sabotage. Ian became a has-been who screwed up his career and then two other marriages, which shouldn’t have helped her deal with her own issues, but did. His fuckups settled him down into the role of Just Another Ex in her brain.

Which is where he’d stayed until a few hours ago.

“Fucking Ian,” Jackie said again, and decided she wasn’t going out of the room again tonight.



DAY TWENTY-SIX

Kailua-Kona, Hawaii | The Royal Kona Resort

Jackie decided she wasn't going out of the room today, either.



DAY TWENTY-SEVEN

Kailua-Kona, Hawaii | The Royal Kona Resort

Fuck it, she was staying in today as well.

DAY TWENTY-EIGHT



Kailua-Kona, Hawaii | The Royal Kona Resort

And on the third day, there was a knock on Jackie's hotel door. Jackie frowned, put on sweatpants and a T-shirt, and opened the door. It was a hotel staffer, holding a guitar case in one hand and an envelope in the other.

"I didn't order a guitar," Jackie said.

"One was delivered for you anyway," the staffer said. "And this envelope." He thrust both forward. "You don't have to pay for them," he said when she looked at them suspiciously.

Jackie took the guitar case, put it to the side of the door, and then took the envelope. "Thank you," she said to the staffer. She reached over to the desk for her purse to give him a tip, and then closed the door behind her.

She took the guitar case, put it on the bed, and opened it. Inside was a Taylor Koa Grand Symphony guitar. She took it out of the case, carefully, made a G chord and strummed. It was perfectly tuned, and the strings were new.

She set the guitar back in the case and fetched the envelope. She sat in the hotel desk chair, opened the envelope. The letter inside was in the still-familiar scratchy handwriting of Ian's, with which he wrote all his lyrics, because who the hell types song lyrics?

My dear Jackie, it began,

The first thing to know is that I planned this before you came to visit. This is not a Willy Wonka thing, where you get the prize

because you were the last one standing. I know you would wonder if I didn't say something.

The second thing to know is that when my will is read next week, you will officially learn that you have inherited all my music rights. Songwriter rights, performance rights, publishing rights, the whole proverbial kit and kaboodle. I don't know how much they will be worth in the time the world has left, but whatever they are worth, they're all yours now.

You might ask why. It's not because Britt doesn't need them and Patricia already has everything else, although both of those things are true. It's because you were right: You were the muse. The muse for the songs that made me famous, which allowed all the other songs to be written too.

You and I never had children together, which I used to think was a lucky thing, but now I feel very certain was not. But these songs were made between us. They were mine, but they should have always been yours, too. Now they're yours alone.

I don't know how much time you have left—who does? I know that I thought I would have more—but in that time that remains to you I wish you love, and joy, and peace in your heart. Here at the end of things I'm happy to say that I don't have many regrets, but your visit reminds me that I do have one. I wish that when we were together I could have been who I was in my songs to you, the one who loved you purely, and wholly, and who knew just how extraordinary you were. My songs were the better version of me, and who I should have been to you.

In the time I had with you, I was a lucky man. I wish with all my heart I knew it then. I know it now.

*Goodbye, Jackie, my summer girl.
Ian*

Jackie set the letter down, went over to the bed, took out the guitar, and started strumming the opening chords to “This Summer Girl,” Ian’s biggest hit, the one that, briefly, launched him into the pop music stratosphere. The verses she strummed, and when she got to the chorus she sang.

This summer girl

*She's the light of the world
She's the sun in the sky
She's the whole reason why
Yes this summer girl
She's a moon made of pearls
And her smile when it shines
It shines forever.*

These were not the immortal lyrics of Lennon and McCartney. But they were the lyrics of a newly minted twenty-three-year-old, so overjoyed at a surprising gift from his young wife that he took the gift and spontaneously wrote a song about how much he loved her, reaching for words and settling for what came out. They were the lyrics that the young wife, who had saved every tip she got to buy the guitar she knew her young husband would love, knew were for her and her alone, and she thrilled to every flubbed line and misfingered chord.

They were the words in a moment of time, in a moment of love, between two people who, even if they could not stay in that moment, still got to have it, and would get to carry it with them all the rest of their lives. There would be a small time when everyone would know the song. But only these two people would have that moment.

Jackie, remembering the moment, smiled.

When the song was finished, Jackie put the guitar back into the case. Then she walked over to the blackout curtains and pulled them aside. She unlatched the sliding balcony door, stepped through it, and standing there, let the light from the warm Hawaiian sun play across her face.



Washington, DC | The White House

Dayton Bailey wanted to be excited about his first—and, all things considered, probably *only*—White House event invitation, but the truth of the matter was, it was feeling all a bit . . . anticlimactic.

The major reason for that—the elephant in the room, really—was that everyone was going to die, by cheese of all things, in the next couple of years. It turns out that having certain knowledge of human civilization’s imminent demise, and the date it will happen, plus or minus a couple of weeks, puts a real damper on celebratory events.

It wasn’t just official White House functions that suffered from this. The other day Dayton had read a story about how people were canceling weddings because the end of the world had shifted their priorities about marriage, and because fewer people wanted to spend \$100,000 on a destination wedding for a marriage that was going to last a couple of years, tops. Bar mitzvah parties and quinceañeras had also taken a hit; why celebrate a transition into adulthood when the recipient wasn’t going to make it to eighteen?

When Dayton read the story it made him a little sad. Humans would still need celebrations. But now, here, on the White House lawn, with his eclipse glasses in his suit pocket, he got it. It wasn’t celebrating per se that was out of step with the world. It was the formal trappings of celebration that rang false. The sort of enforced jollity that planned events had. That just wasn’t working so well, anymore.

It wasn't that people were *miserable*. Dayton looked around the lawn and saw people having perfectly pleasant conversations with one another, or trying on the eclipse glasses that the White House had thoughtfully provided for the event, complete with the presidential seal and the date embossed on the side, or taking selfies of themselves with the White House behind them, because social media still existed here at the end of the world, and still must be fed.

To his left Dayton saw the astronaut LeMae Anderson standing with someone who looked like an older version of herself; Dayton assumed it was her mother. To his right Aubrey Stewart, Dayton's agent and plus-one for the event, was talking to White House Chief of Staff Pat Heffernan in chummy tones. Dayton didn't know if Aubrey knew Heffernan socially, but he wouldn't have been surprised if she had. A little farther down the lawn a group of musicians in 1950s costumes were posing for the official White House photographer. These weren't people slammed at the moment by unbearable waves of existential ennui.

And yet. As Dayton wandered, hearing bits of conversation and watching people chat, everything seemed subdued. There was something about it that felt familiar, but Dayton couldn't quite place it until he saw President Boone working the crowd a bit. Boone had always reminded Dayton of his uncle Phil, who had the same sort of big, boisterous, glad-handing-but-in-a-good-way air about him. *That's it*, Dayton thought. This party reminded him of his uncle Phil's funeral. Which had been a pretty good funeral! It had been well attended and everyone had good memories of Phil, and remembered him fondly. But it was still a funeral.

Dayton mentioned this to Aubrey, who had wandered back to him after extracting herself from her conversation with Heffernan.

"Darling, it's because it *is* a funeral," she said. "It's going to be one of the last official celebrations of this administration. I'm sure they will schedule more, but you know the coming anarchy will put a damper on that. So this is going to be it. Why do you think I came?"

"Because we're friends?" Dayton said.

Aubrey squeezed his arm. "We *are* friends, Dayton. Thank you. And you're a good client, for what it's worth these days."

"Nobody taking your clients' proposals?"

"Nobody!" Aubrey said. "Which is to be expected, yes—it takes two years

to put a book together, and in two years everything will be on fire if it's not already covered in *cheese*." Aubrey made a face, considering the humiliating prospect of a cheese-filled demise. "But it's still depressing. I have such good books on submission. Most of them are going to end up being self-published if they're published at all. And anyone who *doesn't* have a book already written, well." She patted his arm again. "At least you're going to go out with a bang, dear. Bestselling nonfiction book of the year already. Number one New York Times bestseller. And you've earned out your advance. You won't die poor, Dayton Bailey."

"I mean, I was going to be fine," Dayton said. "I had tenure."

"You're doing better than other people in publishing, then," Aubrey said. "I was talking to Jenny, your editor at Pantheon, and she was saying the rumor is that publishers are going to start laying off editors and staff at all the major houses. Now, where is the sense in that, I ask you? They're going to save that money for the end of the world eight fiscal quarters from now? If we're doomed, darling, at least let us have *jobs*."

"I saw you talking to the chief of staff," Dayton said, changing the subject. "Do you know him?"

"Pat? He's a dear," Aubrey said. "I once tried to get him as a client. Didn't work, but we kept in touch. He says there's a contingent of congresspeople who are saying we should cancel the next set of elections. Saying that there needs to be continuity of government for the end of the world, and such things."

"That's . . . not great."

"He's not a fan, and neither is President Boone, apparently. Says American democracy has survived worse things than the end of the world. Which is a nice sound bite, isn't it? Naïve, but nice. So be ready to go to a polling station at least one more time in your life, darling."

"I can't wait," Dayton said, with only a hint of sardonicism to his voice.

"Speaking of waiting, how long until this eclipse, anyway?" Aubrey said. "This funeral is lovely, but I do actually want to get back to New York."

"You don't like Washington?"

"No," Aubrey said. "It's a level of sweaty I don't enjoy." Another arm pat. "But I'm still glad you asked me to come, Dayton. For you, I'll handle Washington sweat levels. For a few hours, anyway."

The eclipse began just before noon, with the slightest of nibbles taken out

of the sun. Dayton, in his official White House eclipse glasses, watched as the nibble slowly but inexorably got bigger.

“I thought it would go faster,” Aubrey whispered to Dayton.

“Why are you whispering?”

“I don’t know, darling. I thought eclipses were a whispering sort of thing.”

“Is this your first eclipse?”

“Yes. I was invited to a different eclipse party once. It was going to be in Kenya. If I’m only going to tolerate Washington for a few hours I wasn’t going to spend a week on an entirely different continent. Also I wasn’t so fond of the fellow who invited me as I am of you.”

“Well, thank you.”

“You’re welcome. Do we have to keep these glasses on the whole time?”

“Only when you’re looking at the sun,” he said. “When it’s the totality you can look at the sun without them.”

For the next hour Dayton and Aubrey stayed in their spot on the White House lawn, chatting and occasionally donning their glasses to check on the progress of the eclipse. As the eclipse progressed and got closer to totality, Dayton noted the change in the quality of sunlight, an uncanny dimness that was simultaneously like and not unlike dusk, because the light was dimmer but also coming from above. Birds flew out of trees, confused by what was happening. And while Washington, DC, was not the place to hear the silence that accompanies an approaching totality, even in the center of city and the literal seat of the United States government the hum of humanity had lessened.

Dayton looked around the lawn and saw dozens of people, silent and staring up at the sun, including President Boone himself, who stayed on the lawn rather than retire to the privacy of a White House balcony. Dayton imagined this would not please his Secret Service contingent, and then wondered if the imminent demise of civilization meant that the threat level for world leaders had decreased. After all, why attempt to assassinate the president when a block of cheese the size of a mountain was going to do it for you?

“Look, here it comes,” Aubrey said, looking into the sky with her glasses. Dayton put his glasses back on and saw the smallest sliver of the sun remaining. Dayton realized he might be imagining it, but at the last moment,

he thought he saw a wavering of the sun, caused by its light filtered through the plumes of steam blasting out of the surface of the moon.

The sun went entirely dark.

“You can take off your glasses now,” Dayton whispered to Aubrey, taking off his own.

She did, and looked at the eclipse. “Oh,” she said. “*Oh*. Oh, wow,” she said. “I get it now.” She reached a hand out to Dayton, who took it and then turned his face toward the eclipse. It was breathtaking.

After a minute he turned to look at his agent. She had tears running down her face. “You all right?” he asked.

She nodded, not taking her eyes off the eclipse or taking her hand to wipe her face. “I’m fine. I was just thinking, this is just about the most beautiful thing I’ve ever seen, and it’s the last one, isn’t it? The last eclipse any of us will ever see.”

Dayton knew there would be some partial eclipses in the next couple of years, but also knew that was not what Aubrey was actually asking. “It might be,” is what he said.

Aubrey nodded to this, still not taking her eyes off the eclipse. “I should have gone to Kenya,” she said.

Dayton smiled and turned his face back to the eclipse. Aubrey was right; one way or another, this was the last eclipse they would see, and so Dayton wanted to look at it in full, to give it all his attention so he could take the memory of it with him to whatever fate came.

And so he did, and as he did, his mind wandered to all the things that, soon, he would be doing for the last time. The last plane ride. The last trip to a McDonald’s drive-through. The last hug from a friend. The last cup of coffee. The last song he would hear. The last movie he would see, the last book he would read. The last time he would sleep. The last time he would dream.

Everyone has a last time for everything, part of his brain told him. Yes, well, but that was the thing. Usually you wouldn’t know. You could say goodbye to a friend and not know it was the last time. You could tie your shoe and not know it was the last time. Now, coming to the end of things, Dayton realized what a comfort that actually was. When you *know* something is for the last time, it weighs on you. The moment becomes about the moment, and how you meet it, and how you leave it. It becomes a *thing*.

When you don't know, you can just . . . tie your shoe. Or hug your friend. And just have it be that. Dayton was pretty sure he liked it that way better.

Dayton looked down for a moment, at Aubrey's hand, which he was still holding.

"Thank you for coming to this with me," he said.

Aubrey turned to look at Dayton, smiled at him, squeezed his hand, and turned back to look at the eclipse.

A moment later, Dayton turned his face back to the eclipse as well.

And was blinded.

"What the actual *fuck*—" Dayton said, turning his face away quickly. Aubrey also exclaimed, less profanely, and around them on the White House lawn, Dayton heard dozens of people annoyed and aggravated by the sudden blast of sunlight that had gone directly into their eyeballs. Dayton broke contact with Aubrey and fished into his coat for his official presidential eclipse glasses, put them on, and looked back at the sun.

It was a ring, with the center being the moon, blacked out in shadow.

Dayton stared at it for a good long time before it finally clicked in his brain what it might represent.

He tore off his glasses and looked around for anyone else who would understand it. His eyes fell on LeMae Anderson, and the person who was presumably her mother. "Do you see it?" he yelled, running up to her.

"I see it," Anderson said. She was still looking at the sun with her glasses. "I don't believe it, but I see it."

"Do you think—"

"Sir, with all due respect, until I talk to my people at NASA, I'm not officially thinking anything," Anderson said. She took off her glasses and looked at him directly. "Unofficially? Yeah."

"How?" Dayton asked.

"Shit," Anderson said. "How did it change in the first place?"

From inside someone's pocket, a phone rang. It was Anderson's. She pulled it out and turned away to talk into it. Dayton looked at the older woman with the astronaut. "Hello," he said to her. She nodded and turned toward her daughter.

Dayton made a quick survey of the lawn and noticed there was not a single major government official on it. President Boone had been hustled off, and

with him, presumably, Chief of Staff Heffernan and anyone else who might need to be in a secure conference room in the next few minutes.

He glanced back at Anderson, who had turned around but was still on the phone with an intent look on her face. She saw him looking at her, saw the questioning expression on his face, and with the hand not holding the phone, gave him a thumbs-up.

Dayton smiled widely, nodded his acknowledgment to her, and went back to Aubrey. She had her glasses back on.

“Tell me what I’m seeing,” she said to Dayton, as he came up to her.

“It’s an annular eclipse,” he said. “When the moon is slightly farther away in its orbit during an eclipse, it’s too small to cover the sun. So you get a ring, or an ‘annulus.’ This eclipse was always supposed to be an annular eclipse. Then the moon changed and its diameter widened, and it became a total eclipse. But just now, it became an annular eclipse again. Like it was supposed to before.”

Aubrey processed this, took off her glasses, and turned to face Dayton. “So, the moon . . .”

“I think it’s changed back, yes,” said Dayton. He glanced over at Anderson, still on the phone. “I have a pretty good reason to think it did.”

“And the moon being cheese?”

“I think it’s gone.”

“Just gone?”

“Yes. I think so.”

“And that chunk of the moon? Lunar One?”

“I’m guessing if the cheese moon is gone, it might be gone, too,” Dayton said. “We’ll have to check, but that would make sense to me. I mean . . .” And here Dayton crossed his fingers.

“So we’re *not* all going to die in two years.”

“If the old moon is back and Lunar One is gone, then, no. We’ll live.” Dayton smiled as widely as he ever had in his life. “We’re going to *live*, Aubrey.”

Aubrey Stewart took in this news, nodded, folded her official presidential solar eclipse glasses, and then turned back to Dayton and said, in the loudest voice he had ever heard her use, “Are you *fucking kidding me* right now?!?!?”

“What?” Dayton said, rearing back.

“I have spent the last fucking month trying to wrap my brain around the idea that the moon—an actual thing that floats in space—was somehow turned into *cheese*,” Aubrey said, loud enough that other people on the White House lawn were now looking at her. “I’ve spent the last *week* dealing with the idea that this cheese was going to wipe out life on Earth, if we don’t just all starve or kill each other first. I have spent so much *effort* trying to keep my shit together in the face of imminent fucking doom, dealing with clients and editors who are losing their shit because their careers are going down the shithole—not like mine *isn’t*, thank you very much—and taking the train down to this swampy Potomac ass crack to be nice to *you*, and now you tell me that none of that fucking *matters*. That suddenly everything’s back to normal”—she snapped her fingers—“just like that. No. Fuck that. Fuck you. Fuck *all* of you.”

“I thought you would be relieved,” Dayton said, after a second of taking this in.

“I *am* relieved!” Aubrey said. “I am also *very fucking angry* right now.”

“I’m getting that.”

Aubrey opened her mouth to say more, seemed to think better of it, then screwed up her face into a mask of absolute fury, let out a roar, realized she was still holding her official presidential solar eclipse glasses, screamed at them, flung them to the ground, and started stomping on them with both feet, yelling “Fuck you, fuck you, fuck *you*” as she did so. The official presidential solar eclipse glasses did not break, but Aubrey did manage to embed them into the lawn with her stomping.

Eventually she stopped. Dayton opened his mouth, but Aubrey put up a hand. “No,” she said. “Whatever it is, just no. Not now. I am *leaving*. I am walking out of here and I am taking a taxi to Union Station and I am going to try to process my *fucking rage* on the train ride back to New York. Because if I stay here one minute longer the Secret Service are going to tase me. At *least*.”

“I’ll come with you,” Dayton said.

“Like *hell*,” Aubrey said.

“Oh. Okay. Sorry.”

Dayton’s dejected tone here gave his agent a sudden pause. “I’m not angry with *you*, darling,” Aubrey said, and as she did, Dayton realized that she had suddenly snapped back into her usual persona, the witty, urbane one that

almost never used the word “fuck” and certainly would never stomp an innocent pair of official presidential solar eclipse glasses. “But at the moment, you just happen to be the personification of everything I’m *extremely angry* about. It’s not your fault. You just *are*.”

“Got it,” Dayton said.

“Goodbye, Dayton,” Aubrey said, and with that walked away on the lawn. Everyone watched her go.

Halfway across the lawn, Aubrey turned. “And, Dayton. Send me a new book proposal when you get home. After all, darling, we will live.”

She turned and walked away without looking back.



From the *New York Times*

MOON RETURNS; LUNAR ONE THREAT ENDED

By Robert Evansen, NYTimes Staff Writer

Four weeks after President Brett Boone gave one of the most extraordinary press conferences in United States history, the president returned to offer an equally extraordinary announcement: The moon, made of basalt and other rock, had returned, replacing the moon that had replaced it, and which had threatened life on Earth.

"We do not yet know how it has returned," President Boone said, as he stood surrounded by NASA scientists and political advisers. "Just as we do not yet know how it had been replaced. We can say with its return, the threat posed by Lunar One is gone. It, like the former moon it was part of, is gone."

Neither Boone nor NASA staff could say where Lunar One, or the moon it was part of, had gone. As to why Lunar One was not replaced by a rocky object of similar mass, Dr. Debra Dixon, chief scientist at NASA, said, "Our speculation, and it *is* speculation, is that wherever our moon has been, we do not believe it was exposed to the same physical forces and conditions as the moon that replaced it, so an equivalent of Lunar One did not form."

Dr. Dixon would go on to note that they believed that the now-current moon is indeed the one that formed around our planet billions of years ago and not a newer replacement, noting NASA and other science agencies around the world confirmed the presence of human-made artifacts that had been on the surface of the moon before it disappeared were present on the current moon as well.

When asked if there was a chance the now-former moon could return, and with it Lunar One, Dr. Dixon said, "For now, all we can do is monitor what happens. Our recent history, however, suggests that we should be ready for anything."

Dr. Dixon also announced that NASA, to minimize future confusion and ambiguity, would now officially refer to the current rocky moon as "Luna," and the previous, organic moon as "Caseus," which derives from the Latin word for "cheese."



NASA Press Release

No Sign of Change with the Moon as a New Lunar Cycle Begins

NASA announced today that our current moon ("Luna") has remained in orbit, one full lunar cycle after it returned, replacing the previous moon ("Caseus"), which in turn had replaced Luna during the previous lunar cycle.

"Although it is theoretically possible that Luna and Caseus might replace each other at any time, the fact that the previous switchovers happened at the turn of the lunar cycle was not lost on us," said NASA Chief Scientist Dr. Debra Dixon. "We are pleased that at this turn of the cycle, there was no change."

NASA will continue to monitor Luna and prepare for any possible return of Caseus.



DAY THREE HUNDRED SIXTY-FIVE

From r/conspiracy

Look, Can't We Admit that "Caseus" Was a Hoax?

It's now been a year since the moon allegedly was "replaced" by an orb of cheese, that we're now calling "Caseus," which was then "replaced" a lunar cycle later by our actual moon. It's time to call bullshit on that, and to agree on what really happened: a global and multinational "dry run" by governments around the world to redefine reality and sell us a lie so big that all the smaller lies they feed us daily will be that much easier to swallow.

Leaving aside the absolute ridiculousness of something the mass of the moon being replaced by cheese (how many mammals would you need? Short answer: More than have ever existed), consider these other factors:

1. The continued development, by NASA and private companies, of "solar shields," ostensibly for the purpose of spacecraft power and propulsion, but which would also, coincidentally, be easy enough to park in low orbit, be made wide enough to mimic the size and position of the moon. Remember even if they are wide, they are incredibly thin, so you wouldn't need much material or mass. You could easily launch one into orbit with a PanGlobal UltraMega rocket.
2. Speaking of PanGlobal, the rumors of Jody Bannon, or someone who looks incredibly like him, showing up in Malta on a 300-foot yacht, certainly feed into the supposition that the billionaire not only didn't die on (or near) the moon, he never even left the planet. The Major Tom mission was never designed to leave low orbit anyway, plus the idea that a civilian, even one like Jody Bannon, would be able to hijack a moon mission is laughable. Less laughable, Bannon himself is one of the architects of the global "big lie" project, and "sacrificed" himself in order for his businesses to profit from it—is PanGlobal not moving forward with their lunar landers for the upcoming Diana missions?
3. The extreme coordination of world governments during the "Lunar One" phase of the hoax was just a dry run for the eventual global government we all know is coming. Come on: China AND Russia AND the US AND the EU all banding together for something? The performative

malfunction of the UN has always been for show, and the ease with which these governments slid into cooperation is a big damn red flag for anyone who is paying attention.

4. Where is the physical evidence? Is there any real and tangible evidence that the moon somehow turned to cheese? No, there is not. There was that rumor that the moon samples NASA had turned to cheese when "Caseus" showed up, but the fact that all the moon samples are now back on display all over the world gives lie to that. (I actually drove to Ohio's Armstrong Air and Space Museum a couple of weeks ago to see their moon rock to make sure it's really a rock. It really is.) There is nothing, other than the word of global governments, to suggest that "Caseus" ever existed. All we have is the fact that everyone managed to keep their stories straight for a month—more evidence, if you need it, that the global government is already here.

I mean, come on, guys, this is such a slam dunk that it shouldn't even be on the r/conspiracy subreddit, it should be in the *Washington Post*. We were told the biggest lie of all time. A moon made of cheese. How stupid do you actually have to be to believe it?



DAY THREE THOUSAND SIX HUNDRED AND FIFTY-TWO

From the *Washington Post*

Ten Years On, Doubt Is Rising about Caseus

Nearly a third of Americans now believe the “cheese moon” never existed.

By Benni Hwang

Ten years ago, the unthinkable happened: Our moon, Luna, was suddenly and for reasons that still elude scientists, replaced by Caseus, a moon made from an organic matrix, or as everyone who was not a scientist called it, “cheese.” Our curiosity and fascination with this new moon soon turned to horror as a chunk of it, dubbed “Lunar One,” broke free and headed toward Earth. And yet, one lunar cycle later, the threat was vanquished: Caseus disappeared, replaced by Luna, which has remained in our skies ever since. It was a stroke of celestial luck almost too good to be true.

And, as it happens, an increasing number of Americans agree: It is too good to be true.

That was the finding of a poll put out jointly by the *Washington Post* and NORC at the University of Chicago: a sampling of 1,305 Americans finds that 31 percent of us—nearly a third—“strongly” or “somewhat” believe that Caseus never existed, and that it was a hoax, although who the hoax was pulled by, and for what purpose, is still up for debate.

This result shows a substantial increase from the number of Americans who believed Caseus never existed the last time the *Post* and NORC fielded this poll five years ago. Then, only 21 percent of Americans strongly or somewhat believed the “moon cheese” was a fabrication.

“As time goes on and we move further from the event, Americans’ memories of that month have begun to fade,” said Willis Mundus, director of polling at NORC. “That, and a generation of Americans who were young when it happened, and whose memories of the time are not as pronounced or nuanced, are beginning to filter into our polling sample.”

If this trend continues it is likely to be a source of frustration for policy makers, and for NASA, whose Project Caseus is still working to uncover the causes of Caseus’s sudden appearance and equally sudden disappearance. “It was real and it happened,” said Lynne Pearson, project manager for Project Caseus at the Jet Propulsion Laboratory in Pasadena,

California. “I understand the skepticism, because so much of science can feel unbelievable when you first encounter it, from heliocentrism to quantum theory. But we have the history and the data, and we are happy to show it to anyone so they can make up their own minds.”



DAY THIRTY-SIX THOUSAND FIVE HUNDRED TWENTY-FOUR

From Kainospedia

The Caseusian Hoax

“The Caseusian Hoax” is the name given to a global delusion in which the moon (referred to in the hoax as “Luna”) was replaced for the length of a lunar cycle by a moon comprised of a substance most closely resembling cheese (thus the name “Caseus,” derived from the Latin word for “cheese”). While many initially believed the hoax to have been performed for the benefit of national governments, most notably the United States and China, it is now commonly accepted that it was performed by a collective of technology and media companies, most notably PanGlobal Aerospace, who employed various then-nascent technologies and strategies to give the impression the moon had changed size and composition and constituted a global threat. These companies then leveraged that fear for their own long-term economic benefits.

While the Caseusian Hoax was not ultimately successful, it is notable for being arguably the first of a new class of “Mega Hoaxes” designed to undermine the concept of a shared and physically consistent reality, in order to promote or promulgate political, social or economic goals, primarily by corporations or by governments.

The Caseusian Hoax ended after a single lunar orbit when the low-orbit apparatus designed to obscure the moon failed during a solar eclipse, and the media and technology companies promulgating the hoax were forced to abandon it. Jody Bannon, the presumed mastermind of the hoax who engineered his own “death” to lend it an air of authenticity, disappeared after its failure. Five decades after his disappearance, shepherds in the Tierra del Fuego province of Argentina produced human remains claimed to be Bannon’s. DNA analysis, however, proved to be inconclusive.

AFTERWORD AND ACKNOWLEDGMENTS

I thought this would be an easy novel to write because, honestly, how hard could it be to write a book about the moon turning to cheese, have each chapter represent a day in the lunar cycle, each chapter with mostly different characters in mostly different places in the United States, reacting to it in ways specific to them alone? *Pfffffft*, anyone could do that!

Anyway. This was not an easy novel to write, and also I am deeply proud to have written it. Thank you for reading it.

A few notes here before we wind things down.

The first is that you should know that the science in this book is, and here is an obscure technical term, extremely loosey-goosey. Whenever possible, I left things as vague as I could, because I knew, especially with a book about a cheese moon, that the moment I feinted toward specificity, scientists and nerds (much overlap there) would fall on me for my errors—not out of malice, but just to be helpful (“Hey, just so you know . . .”). Even specifying what kind of cheese the moon was made of would have opened me up to lots of emails from folks telling me that given the specific density of that cheese, I got the diameter of the moon incorrect, or that its albedo was off, and so on.

I did do research, and I did bounce some specific questions off scientist friends, including my pal Phil Plait, and I actively tried to make the settings and science realistic enough for the purposes of the story—a moon made of cheese would indeed compress and eventually develop an atmosphere and oceans, for example. But here in the afterword I fully admit the rigor of the science in this book is somewhere in the category of “fable,” and when the inevitable forty-five-minute YouTube rant about the bad science in this book appears, I will be in my office watching it and going, “Yup, that’s fair.”

This is all on me; please don’t blame anyone else, especially Phil, who I realize I just put a target on by naming him. He’s blameless! I am the science villain here! Also, if you contact me to complain to me about the science, I will just refer you to this afterword.

A couple of notes on names: Patrick Heffernan, friend and bookseller, contacted me last year to let me know that he had a terminal illness, and wondered if I might be able to slip his name into the next book somehow. I answered by asking him which he preferred the character named after him to be: president or chief of staff. If you've read the book, you know which he chose. Patrick is fondly remembered, by me and others.

The character of Dan Sandler, who shows up as a screenwriter pitching a TV show about the cheese moon, is named for the actual Dan Sandler, who donated money for the appearance. When the fund-raiser happened I warned that it was possible that the character would die horribly, and Dan noted that he hoped that if he died, a coconut would somehow be involved.

As it happens, Dan's character did not die in the pages of the story, but I regret to say that after Dan Sandler the screenwriter left his TV show pitch, he was tragically killed on the 101 South, after the driver of an eighteen-wheeler carrying a load of coconuts lost control and swerved into Dan's Tesla Model 3. The memorial service was well attended, and posthumously, Dan's screenplay for a movie called *Hey, That's My Monkey!* became a popular watch on Netflix. The producers dedicated the movie to him in the final credits. Isn't that nice.

No other characters in the book are named after real people, but the sharp-eyed among readers might notice a character who is somewhat like editor and essayist (and friend) Teresa Nielsen Hayden, who is seen teaching at a writing workshop not unlike Viable Paradise. I can't say if Teresa ever in real life gave the advice her kind-of analogue did in the book, but I wouldn't be surprised if she had.

I'll finish up on this part of the afterword and acknowledgments by noting that *Moon* is what I consider the final installment of a very loose conceptual trilogy of novels that also includes *The Kaiju Preservation Society* and *Starter Villain*. The books share no characters, nor do they exist in the same universe, and none of them can be considered a prequel, sequel or sidequel to any of the others. They are standalone novels that can be read by themselves.

What they do share, however, is a similar conceit of "Everyday people dealing with an extremely high-concept situation, in contemporary settings," and a chunk of time: *Kaiju*, *Villain* and *Moon* were all released in sequence. For this reason, my brain groups them together. Maybe one day they will make a nice boxed set.

(The next novel I'm writing takes place in space and will have aliens and spaceships in it. And so an era passes.)

This book exists because I said, "I have this weird damn idea," and Patrick Nielsen Hayden, my editor at Tor, said, "Cool, I want to read that, go write it." He gets my thanks for, basically, letting me write a whole bunch of weird damn ideas into the world. Thanks are also due to Mal Frazier at Tor, for helping me keep to a schedule and (critically) helping find extra time in that schedule so that I didn't end up writing the last third of the book in a frenzied, Coke Zero-fueled weekend.

Getting books out into the world is a group effort, and I am very lucky that Tor has assembled a top-notch team to get this novel to you. These include copyeditor Deanna Hoak, page designer Heather Saunders, cover designer Peter Lutjen, production editor Jeff LaSala, managing editor Rafal Gibek, and production manager Jim Kapp. Also thank you to my forever fabulous publicist, Alexis Saarela, and to Sarah Reidy and Lucille Rettino. At Tor UK, Bella Pagan, Michael Beale and Ana Taylor have my thanks for being the best. Also special thanks to Tor publisher Devi Pillai for keeping me around for, you know, awhile.

At Audible, thanks as always to Steve Feldberg, Katie Stewart and Esther Bochner. This is also a very fine place to thank Wil Wheaton, who has narrated enough of my books at this point that readers often tell me they read my words and hear his voice in their heads. Which is great; his diction is so much better than mine.

I owe much to Team Scalzi, i.e., my agent, manager, lawyer and their amazing coagents and staff: Ethan Ellenberg, Ezra Ellenberg, Bibi Lewis, Joel Gotler, Joe Haar, Colin Spalten and Matt Sugarman. Thank you folks for selling the books and options and reading all the fine print.

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A special thank-you to the fabulous people who sailed away on the JoCo Cruise 2024, for whom I read an early version of Day Two. When it was revealed that the moon had turned to cheese, they cheered like mad. It was a

huge boost in my confidence that this ridiculous story was going to work after all. Y'all are the best.

Also, thank you to the moon(!) for positioning itself in such a way that the April 8, 2024, total solar eclipse went directly over my house, and thank you Ohio for deciding that April 8 was going to be the one day for weeks on either side of that day that you wouldn't cover the sky with clouds and rain. It was really helpful to have the experience of an actual total eclipse for Day Twenty-Nine.

I am aware, you know, that I have been extremely fortunate in this life. I get to write books, I have the support of a great publisher, I have exceptional friends and professional peers, and I get to travel the world and meet readers and fans. The books sell and sometimes win awards. This is everything I could have ever asked for. The thing I am most fortunate in, however, is my family, Kristine and Athena Scalzi. All the rest of it could go away, and as long as I had them, I would be fine. I love that I get to live my life with them. I could go on, and have before, and probably will again, but this time around just know that I love them more than anything.

And finally, thank you. For reading the book and for spending your time with my words. I really do appreciate that you have.

—John Scalzi
May 19, 2024

ABOUT THE AUTHOR



JOHN SCALZI is one of the most popular and acclaimed SF authors of his generation. His debut, *Old Man's War*, won him science fiction's John W. Campbell Award for Best New Writer. His *New York Times* bestsellers include *The Last Colony*, *Fuzzy Nation*, *Lock In*, *Redshirts* – which won 2013's Hugo Award for Best Novel – *The Last Emperox* and *The Kaiju Preservation Society*. Material from his widely read blog, *Whatever*, has also earned him two other Hugo Awards. He lives in Ohio with his wife and daughter.

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