

A PREQUEL STORY TO THE EXPANSE BOOK SERIES

# DRIVE

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**Syfy**

# **DRIVE**

## **by James S.A. Corey**

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# 1

Acceleration throws Solomon back into the captain's chair, then presses his chest like a weight. His right hand lands on his belly, his left falls onto the upholstery beside his ear. His ankles press back against the leg rests. The shock is a blow, an assault. His brain is the product of millions of years of primate evolution, and it isn't prepared for this. It decides that he's being attacked, and then that he's falling, and then that he's had some kind of terrible dream. The yacht isn't the product of evolution. Its alarms trigger in a strictly informational way. By the way, we're accelerating at four gravities. Five. Six. Seven. More than seven. In the exterior camera feed, Phobos darts past, and then there is only the star field, as seemingly unchanging as a still image.

It takes almost a full minute to understand what's happened, then he tries to grin. His laboring heart labors a little harder with elation. The interior of the yacht is cream and orange. The control panel is a simple touchscreen model, old enough that the surface has started going grey at the corners. It's not pretty, but it is functional. Solid. An alert pops up that the water recycler has gone off-line. Solomon's not surprised—he's outside the design specs—and he starts guessing where exactly the system failed. His guess, given that all the thrust is along the primary axis of the ship, is the reservoir back-flow valve, but he's looking forward to checking it when the run is finished. He tries to move his hand, but the weight of it astounds him. A human hand weighs something like three hundred grams. At seven g, that's still only a little over two thousand. He should still be able to move it. He pushes his arm toward the control panel, muscles trembling. He wonders how much above seven he's going. Since the sensors are pegged, he'll have to figure it out when the run is over. How long the burn lasted and whatever his final velocity winds up being.

Simple math. Kids could do it. He's not worried. He reaches for the control panel, really pushing it this time, and something wet and painful happens in his elbow.

Oops, he thinks. He wants to grit his teeth, but that's no more effective than grinning had been. This is going to be embarrassing. If he can't shut off the drive, he'll have to wait until the fuel runs out and then call for help. That might be problematic. Depending on how fast he's accelerating, the rescue ship's burn will have to be a very long one compared with his own. Maybe twice as long. They may need some sort of long-range craft to come get him. The fuel supply readout is a small number on the lower left side of the panel, green against black. It's hard to focus on it. Acceleration is pressing his eyeballs out of their right shape. High tech astigmatism. He squints. The yacht is built for long burns, and he started with the ejection tanks at ninety percent. The readout now shows the burn at ten minutes. The fuel supply ticks down to eighty-nine point six. That can't be right.

Two minutes later, it drops to point five. Two and a half minutes later, point four. That puts the burn at over thirty-seven hours and the final velocity at something just under five percent of  $c$ .

Solomon starts getting nervous.

## 2

He met her ten years before. The research center at Dhanbad Nova was one of the largest on Mars. Three generations after the first colonists dug into the rock and soil of humanity's second home, progress had pushed the envelope of human science, understanding, and culture so far that the underground city could support five bars, even if one of them was the alcohol-free honky-tonk where the Jainists and born-again Christians hung out. The other four sold alcohol and food that was exactly the same as the stuff they sold at the commissary, only with piped-in music and a wall monitor with an entertainment feed from Earth playing on it all hours of the day and night. Solomon and his cadre met up at this one two or three times a week when the work load at the center wasn't too heavy.

Usually the group was some assortment of the same dozen people. Today it was Tori and Raj from the water reclamation project. Voltaire whose real name was Edith. Julio and Carl and Malik who all worked together on anti-cancer therapies. And Solomon. Mars, they said, was the biggest small town in the solar system. There was almost never anyone new.

There was someone new. She sat beside Malik, had dark hair and a patient expression. Her face was a little too sharp to be classically beautiful, and the hair on her forearms was dark. She had the kind of genetics that developed a little mustache problem when she hit about thirty-five. Solomon didn't believe in love at first sight, but as soon as he sat down at the table, he was profoundly aware that he hadn't brushed his hair very effectively that morning and he was wearing the shirt with the sleeves a little too long.

“Mars *is* America,” Tori said, waving his beer expansively. “It’s exactly the same.”

“It’s not America,” Malik said.

“Not like it was at the end. Like the beginning. Look at how long it took to travel from Europe to North America in the 1500s. Two months. How long to get here from Earth? Four. Longer if the orbits are right.”

“Which is the first way in which it’s not like America,” Malik said, dryly.

“It’s within an order of magnitude,” Tori said. “My point is that politically speaking, distance is measured in time. We’re months away from Earth. They’re still thinking about us like we’re some kind of lost colony. Like we answer to them. How many people here, just at this table have had directives from someone who’s never been outside a gravity well but still felt like they should tell us where our research should go?”

Tori raised his own hand, and Raj followed suit. Voltaire. Carl. Reluctantly, Malik. Tori’s grin was smug.

“Who’s doing the real science in the system?” Tori said. “That’s us. Our ships are newer and better. Our environmental science is at least a decade ahead of anything they’ve got on Earth. Last year, we hit self-sustaining.”

“I don’t believe that,” Voltaire said. The new one still hadn’t spoken, but Solomon watched her attention shift to each new speaker. He watched her listen.

“Even if there are a few things we still need from Earth, we can trade for them. Shit, give us a few years and we’ll be mining them out of the Belt,” Tori said, backing away from his last point and making a new, equally unlikely assertion at the same time. “It’s not like I’m saying we should cut off all diplomatic relations.”

“No,” Malik said. “You’re saying we should declare political independence.”

“Damn skippy, I am,” Tori said. “Because distance is measured in time.”

“And coherence is measured in beer,” Voltaire said, the cadence of her voice matching Tori’s perfectly. The new woman smiled at the mimicry.

“Even if we decided that all we had to lose was our chains,” Malik said, “why would we bother? We are already de facto our own government. Pointing out the fact is only going to stir up trouble.”

“Do you really think Earth hasn’t noticed?” Tori said. “You think the kids back at the labs on Luna and Sao Paulo aren’t looking up at the sky and saying *That little red dot is kicking our asses?* They’re jealous and they’re scared and they should be. It’s all I’m saying. If we do our own thing, the earliest they could do something about it still gives us months of lead time. England lost its colonies because you can’t maintain control with a sixty-day latency, much less a hundred and twenty.”

“Well,” said Voltaire drily, “that and the French.”

“And good damn thing, too,” Tori said as if she hadn’t spoken. “Because who was it that came in when the Nazis started knocking on England’s door? Am I right?”

“Um,” Solomon said, “no, actually. You just made the other point. We’re really the Germans.”

And because he spoke, the new woman’s gaze turned to him. He felt his throat go tight and sipped his beer to try to loosen up. If he spoke now, his voice would crack like he was fourteen again. Voltaire put her elbows on the table, cradled her chin in her dark hands, and hoisted her eyebrows. Her expression could have had *This should be good as the caption*.

“Okay,” Malik said, abandoning his disagreement with Tori. “I’ll bite. In what ways are we like a murderous bunch of fascists?” “By-by how we’d fight,” Solomon said. “Germany had all the best science, just like us. They had the best tech. They had rockets. No one had rockets, but they did. Nazi tanks could destroy allied tanks at something like five to one. They had the best attack submarines, drone missiles, early jet aircraft. They were just that much better. Better designed, better manufactured. They were elegant and they were smart.”

“Apart from the whole racial cleansing genocide thing,” Julio said.

“Apart from that,” Solomon agreed. “But they lost. They had all the best tech, just like we do. And they lost.”

“Because they were psychopathic and insane,” Julio said.

“No,” Solomon said. “I mean, they were, but there have been a lot of fascist psychopaths that *didn't* lose wars. They lost because even though one of their tanks was worth five of the other guy's, America could build ten. The industrial base was huge, and if the design wasn't as good, who cared? Earth has that industrial base. They have people. It could take them months, maybe years, to get here, but when they did, it would be in numbers we couldn't handle. Being technically advanced is great, but we're still just building better ones of the stuff that came before. If you want to overcome the kind of demographic advantage Earth has, you'll need something *paradigm-shiftingly* new.”

Voltaire raised her hand. “I nominate paradigm-shiftingly as the adverb of the night.”

“Seconded,” Julio said. Solomon felt the blush creeping up his neck.

“All in favor?” There was a small chorus. “The ayes have it,” Voltaire said. “Someone buy this man another drink.”

The conversation moved on, the way it always did. Politics and history gave way to art and fine-structure engineering. The great debate of the night was over whether artificial muscles worked better with the nanotubules in sheets or bundles, with both sides descending in the end to name-calling. Most of it was good-natured, and what wasn't pretended to be, which was almost the same. The wall monitor switched over to an all-music feed out of a little community on Syria Planum, the wailing and brass of rai juxtaposed with classical European strings. It was some of Solomon's favorite music because it was dense and intellectually complicated and he wasn't expected to dance to it. He wound up spending half the night sitting beside Carl talking about ejection efficiency systems and trying not to stare at the new woman. When she



moved from Malik's side to sit next to Voltaire, his heart leaped—maybe she wasn't here with Malik—and then sank—maybe she was a lesbian. He felt like he'd dropped a decade off his life and was suddenly stuck in the hormonal torture chamber of the lower university. He made up his mind to forget that the new woman existed. If she was new to the research center, there would be time to find out who she was and plan a way to speak with her that didn't make him look desperate and lonely. And if she wasn't, then she wouldn't be here. And even so, he kept looking for her, just to keep track.

Raj was the first one to leave, the same as always. He was on development, which meant he had all the same burden of technical work plus steering committee meetings. If, someday, the terraforming project actually took hold, it would have Raj's intellectual DNA. Julio and Carl left next, arm in arm with Carl resting his head on Julio's shoulder the way he did when they were both a little drunk and amorous. With only Malik, Voltaire, and Tori left, avoiding the new woman was harder. Solomon got up to leave once, but then stopped at the head and wandered back in without entirely meaning to. As soon as the new woman left, he told himself. When she was gone, he could go. But if he saw who she left with, then he'd know who to ask about her. Or, if she left with Voltaire, not to ask. It was just data collection. That was all. When the monitor changed to the early morning newsfeed, he had to admit he was bullshitting. He waved his goodnights for real this time, pushed his hands into his pockets, and headed out to the main corridor.

Between the engineering problems in building a robust dome and Mars' absolute lack of a functioning magnetosphere, all the habitats were deep underground. The main corridor's hallways had ceilings four meters high and LEDs that changed their warmth and intensity with the time of day, but Solomon still had the occasional atavistic longing for sky. For a sense of openness and possibility, and maybe for not living his whole life buried.

Her voice came from behind him. "So, hey."

She walked with a comfortable rolling gait. Her smile looked warm and maybe a little tentative. Outside of the dimness of the bar, he could see the lighter streaks in her hair.

“Ah. Hey.”

“We never really got around to meeting in there,” she said, holding out her hand. “Caitlin Esquibel.”

Solomon took her hand, shaking it once like they were at the center. “Solomon Epstein.”

“Solomon Epstein?” she said, walking forward. Somehow they were walking side by side now. Together. “So what’s a nice Jewish boy like you doing on a planet like this?”

If he hadn’t still been a little drunk, he’d just have laughed it off. “Trying to get the courage to meet you, mostly,” he said. “Sort of noticed that.”

“Hope it was adorable.”

“It was better than your friend Malik always finding reasons to touch my arm. Anyway. I’m working resource management for Kwikowski Mutual Interest Group. Just came in from Luna a month ago. That thing you were saying about Mars and Earth and America. That was interesting.”

“Thank you,” Solomon said. “I’m an engine engineer for Masstech.” “Engine engineer,” she said. “Seems like it ought to be redundant.” “I always thought thrust specialist sounded dirty,” he said.

“How long are you staying on Mars?”

“Until I leave. Open contract. You?”

“Oh, I was born here,” he said. “I expect I’ll die here too.” She glanced up his long, thin frame once, her smile mocking.

Of course she’d known he was born there. No way to hide it. His words felt like a weak brag now.

“A company man,” she said, letting it be a joke between them.

“A Martian.” The cart kiosk had half a dozen of the cramped electric devices ready to rent. Solomon pulled out his card and waved it in a figure eight until the reader got good signal and the first cart in line clicked from amber to green. He pulled it out before he realized he really didn’t want to get in.

“Do you—” Solomon began, then cleared his throat and tried again. “Would you like to come home with me?”

He could see the *Sure, why not* forming in her brain stem. He could follow it along the short arcing path to her lips. It was close enough to pull at his blood like a moon. And he watched it turn aside at the last moment. When she shook her head, it wasn’t a refusal so much as her trying to clear her mind. But she smiled. She did smile.

“Moving a little fast there, Sol.”

### 3

Speed isn't the problem. Unless he runs into something, velocity is just velocity; he could be weightless going almost the speed of light. It's the delta vee that's hurting him. The acceleration. The change. Every second, he's going sixty-eight meters per second faster than he was the second before. Or more. Maybe more.

Only the acceleration isn't the problem either. Ships have had the power to burn at fifteen or even twenty g since the early chemical rockets. The power is always there. It's the efficiency necessary to maintain a burn that was missing. Thrust to weight when most of your weight is propellant to give you thrust. And bodies can accelerate at over twenty g for a fraction of a second. It's the sustain that's killing him. It's going for hours.

There are emergency shutoffs. If the reactor starts to overheat or the magnetic bottle gets unstable, the drive will shut down. There are all kinds of shutoffs for all kinds of emergencies, but nothing's going wrong. Everything's running perfectly. That's the problem. That's what's killing him.

There is also a manual cutoff on the control panel. The icon is a big red button. A panic button. If he could touch it, he'd be fine. But he can't. All the joy is gone now. Instead of elation, there's only panic and the growing, grinding pain. If he can just reach the controls. Or if something, anything, could just go *wrong*.

Nothing is going wrong. He is struggling to breathe, gasping the way the safety instructors taught him to. He tenses his legs and arms, trying to force the blood through his arteries and veins. If he passes out, he won't come back, and there is darkness growing at the edges of his vision. If he can't find a way out, he will die here. In this chair with his hands pinned

against him and his hair pulling back his scalp. His hand terminal in his pocket feels like someone driving a dull knife into his hip. He tries to remember how much mass a hand terminal has. He can't. He fights to breathe.

His hand terminal. If he can reach it, if he can pull it out, maybe he can signal to Caitlin. Maybe she can make a remote connection and shut the engines down. The hand laying across his belly presses hard into his viscera, but it's only centimeters from his pocket. He pushed until his bones creak, and his wrists shifts. The friction of skin against skin tears a little hole in his belly and the blood that comes out races back toward the seat like it was afraid of something, but he does move.

He pushes again. A little closer. The blood is a lubricant. The friction is less. His hand moves farther. It takes minutes. His fingernails touch the hardened plastic. He can do this.

Power and efficiency, he thinks, and a moment's pleasure passes through him despite everything. He's done it. The magic pair.

The tendons in his fingers ache, but he pulls the cloth of his pocket aside. He can feel the hand terminal begin to slip free of his pocket, but he can't lift his head to see it.

## 4

Three years after he met her, Caitlin showed up at the door to his hole at three in the morning, crying, frightened, and sober. It wasn't the sort of thing Solomon expected from her, and he'd spent a fair amount of time in her company. They'd become lovers almost seven months after they'd met. He called it that. Becoming lovers wasn't the kind of thing Caitlin said. With her, it was always something crude and a little raunchy. That was who she was. He thought it was a kind of emotional protection that she was never exactly sincere. It was a way to control fear and deny anxieties. And really as long as she still wanted to come share his bed some nights, he was fine with that. And if she hadn't wanted to anymore, he'd have been disappointed, but he still would have been fine with it. He liked the way she smirked at the world. The confidence she carried herself with, especially when she was faking it. He liked, all in all, who she was. That made everything easier.

Twice, her contract had ticked past its automatic renewal dates without her exercising the option to leave. When he'd taken a position with the functional magnetism workgroup, one of the issues he'd considered was whether the extra time he took with it would alienate her. Neither of them had made any sexual or romantic connections with other people at the center. Everyone treated them as if they were each other's tacit property, and so even though they'd never made any explicit promises, Solomon would have called them *de facto* monogamists. Certainly he would have felt hurt and betrayed if she'd been sleeping with someone else, and assumed she'd feel the same about him.

But sex and companionship, as pleasant as they were, didn't mean a great deal of vulnerability. So he was surprised.

“Did you hear?” she asked. Her voice was ragged and low. Fresh tears ran down her cheeks, and her mouth pulled in and down at the corners.

“I don’t think so,” Solomon said, standing back to let her past. His hole was a standard design: a small multipurpose room at the front with enough resources to cook simple meals, a quarter-sized wall monitor, and space for three or four people to sit. Behind it was the bedroom. Behind that, a storage closet and a bathroom. On Mars, the joke went, a man’s hole was his castle where values of castle approached dorm room. She sat heavily on one of the benches, and wrapped her arms around herself. Solomon closed the door. He didn’t know whether to talk to her or hold her or both. He started with holding her. Her tears had a smell to them; salt and damp and skin. She wept into his shoulder until curiosity and distress drove him past the consolation of being her soft monkey. “So. Did I hear what, exactly?”

She coughed out a phlegmy laugh.

“The United Nations,” she said. “They invoked the breakaway province rule. Their ships have already done their acceleration burns. Forty of them. They’re already ballistic.”

“Oh,” he said, and she started weeping again.

“It’s those fucking secessionists. Ever since they published their manifesto, people have been acting like they’re serious. Like they aren’t a bunch of shortsighted assholes who’re in it for the attention. Now they’ve started a war. They’re really going to do it, Sol. They’re going to drop rocks on us until we’re just a carbon layer ten atoms thick.”

“They won’t do that. They won’t do that,” he said, and immediately regretted repeating himself. It made him sound like he was trying to talk himself into it. “Every time the breakaway province rule’s been invoked, it’s been because the UN wanted to grab resources. If they break all our infrastructure, they can’t get the resources. They’re just trying to scare us.”

Caitlin raised one hand like a schoolgirl asking to be recognized. “Working. Scared now.”

“And it isn’t about the secessionists, even if that’s what they’re claiming,” Solomon said. He felt himself warming up now. He wasn’t repeating sentences. “It’s about Earth running out of lithium and molybdenum. Even with the landfill mines, they need more than they’ve got. We have access to raw ore. That’s all it is. It’s all about money, Cait. They aren’t going to start dropping rocks. Besides, if they do that to us, we’ll do that to them. We’ve got better ships.”

“Eighteen of them,” she said. “They’ve got forty coasting toward us right now, and just as many playing defense.”

“But if they miss one,” he said, and didn’t finish the thought.

She swallowed, wiped her cheeks with the palm of her hands. He leaned across the room and plucked a towel out of the dispenser for her.

“Do you actually know any of that?” she said. “Or are you just talking a good game to calm me down?”

“Do I have to answer that?” She sighed, collapsing into him.

“It’ll be weeks,” he said. “Minimum. Probably months.”

“So. If you had four months to live, what would you do?”

“Crawl into bed with you and not come out.” She reached over and kissed him. There was a violence in her that unnerved him. No, that wasn’t right. Not violence. Sincerity.

“C’mon,” she said.

He woke with his hand terminal buzzing in alarm and only vaguely aware he’d been hearing the sound for a while. Caitlin was curled up against him, her eyes still closed, her mouth open and calm. She looked young like that. Relaxed. He shut off the alarm as he checked the time. On one hand, he was egregiously late for his shift. On the other, another hour wouldn’t be particularly more egregious. There were two messages from his team lead queued. Caitlin muttered and stretched. The motion pulled the sheet away from her body. He put the hand terminal down, pushed his hand under his pillow and went back to sleep.



The next time he woke, she was sitting up, looking at him. The softness had left her face again, but she was still beautiful. He smiled up at her and reached out to weave his fingers with hers.

“Will you marry me?” he asked. “Oh, please.”

“No, really. Will you marry me?”

“Why? Because we’re about to get into a war that’ll kill us and everyone we know and there’s nothing we can do to affect it one way or the other? Quick, let’s do something permanent before the permanence is all mined out.”

“Sure. Will you marry me?”

“Of course I will, Sol.”

The ceremony was a small one. Voltaire was Caitlin’s maid of honor. Raj was Solomon’s best man. The priest was a Methodist whose childhood had been spent in the Punjab, but now spoke with the faux-Texan drawl of the Mariner Valley. There were several chapels in the research center, and this one was actually quite lovely. Everything, even the altar, had been carved from the native stone and then covered with a clear sealant that left it looking wet and rich and vibrant. Lines of white and black ran through the red stone, and flecks of crystalline brightness. The air was thick with the scent of lilacs that Voltaire had bought by the armful from the greenhouses.

As they stood together, exchanging the formulaic vows, Solomon thought Caitlin’s face had the same calm that it did when she was sleeping. Or maybe he was just projecting. When he put the ring on her finger, he felt something shift in his breast and he was utterly and irrationally happy in a way he didn’t remember ever having been before. The UN fleet was still three weeks away. Even at the worst, they wouldn’t die for almost a month. It made him wish they’d done it all earlier. The first night he’d seen her, for instance. Or that they’d met when they were younger. In the pictures they sent to her parents, he looked like he was about to burst into song. He hated the images, but Catlin loved them, so he loved them too. They took their honeymoon in the hotel right there in Dhanbad Nova, drying themselves with towels and washing

with soaps that had been made in the image of luxury on Earth. He'd bathed twice as much while they were there, almost feeling the heat of the water and the softness of his robe as magic, and if by being decadent he could pass for a Terran.

And, by coincidence, it worked. Whatever negotiations had been going on behind the scenes paid off. The UN ships flipped for their deceleration burn early and burned twice as long. They were on their way home. He watching the announcer on the newsfeed tracking the orbital mechanics of the voyage out and back. He tried to imagine what it was like for the marines in those ships. Out almost all the way to the new world, and then back without ever having seen it. Over half a year of their lives gone in an act of political theater. Caitlin sat on the edge of the bed, leaning in toward the monitor, not taking her eyes from it. Drinking it in. Sitting behind her, his back pressing against the headboard, Solomon felt a ghost of unease pass through him, cold and unwelcome.

"I guess permanent just got a lot longer," he said, trying to make a joke out of it.

"Mm-hm," she agreed. "Sort of changes things."

"Mm-hm." He scratched at the back of his hand even though it didn't itch.

The dry sound of fingernails against skin was drowned in the announcer's voice so that he felt it more than heard it. Caitlin ran a hand through her hair, her fingers disappearing in the black and then re-emerging.

"So," he said. "Do you want a divorce?"

"No."

"Because I know you were thinking that the rest of your life was going to be kind of a short run. And if...if this wasn't what you would have picked. Anyway, I'd understand it."

Caitlin looked at him over her shoulder. The light of the monitor shone on her cheek, her eye, her hair like she was made of colored glass.

“You are adorable, and you are my husband, and I love you and trust you like I never have anyone in my life. I wouldn’t trade this for anything but more of this. Why? Do you want out?”

“No. Just being polite. No, not that. Insecure all of a sudden.”

“Stop it. And anyway, it hasn’t changed. Earth is still running out of lithium and molybdenum and all sorts of industrial minerals. We still have them. They turned back this time, but they’re still coming, and they’ll keep on coming.”

“Unless they find some way to do what they need to do with other metals. Or find another source. Things change all the time. Something could make the whole question irrelevant.”

“Could,” she agreed. “That’s what peace is, right? Postponing the conflict until the thing you were fighting over doesn’t matter.”

On the screen, the UN ships burned, arcs of flame flaring behind them as they went back where they came from.

## 5

The hand terminal eases a little farther out of his pocket, and he's fairly sure it's going to leave a track of bruise as wide as the case. He doesn't care. He tries to remember if he left the voice activation on, and either he didn't or his throat is too deformed by the thrust gravity for his voice to be recognizable. It has to be done by hand. He can't relax or he'll lose consciousness, but it's getting harder and harder to remember that. Intellectually he knows that the blood is being pressed to the back of his body, pooling in the back part of his cerebellum and flooding his kidneys. He hasn't done enough medical work to know what that means, but it can't be good. The hand terminal comes almost all the way out. It's in his hand now.

The ship shudders once, and a notification pops up on the screen. It's amber-colored, and there's some text with it, but he can't make it out. His eyes won't focus. If it were red, it would have triggered a shut down. He waits for a few seconds, hoping that whatever it is gets worse, but it doesn't. The yacht's solid. Well-designed and well-built. He turns his attention back to the hand terminal.

Caitlin will be at the hole now. She'll be starting dinner and listening to the newsfeed for information about the shipyards crisis. If he can put in a connection request, she'll get it. He has the sudden, powerful fear that she'll think he sat on his terminal. That she'll say his name a few times, then laugh it off and drop the connection. He'll have to make noise when she accepts. Even if actual speech is too hard, he has to let her know there's something wrong. He's thumbed in connection requests without looking at his terminal thousands of times, but everything feels different now, and his muscle memory isn't helping him. The weight of the terminal is overwhelming. Everything in his hand aches like he's been hit with a hammer. His belly hurts. The worst headache he can

imagine blooms. Nothing about this experience is fun except the knowledge that he's succeeded. Even as he struggles to make the terminal respond, he's also thinking what the drive means practically. With efficiency like this, ships can be under thrust all through a voyage. Acceleration thrust to the halfway point, then cut the engines, flip, and decelerate the rest of the trip. Even a relatively gentle one third g will mean not only getting wherever they are headed much faster, but there won't be any of the problems of long-term weightlessness. He tries to figure how long the transit to Earth will take, but he can't. He has to pay attention to the terminal.

Something in the topology of his gut shifts, changing the angle the terminal is sitting. It starts to slip, and he doesn't have strength or speed to catch it. It reaches his side, falls the centimeters to the chair. He tries to move his left arm from where it's pinned beside his ear, but it won't move.

It won't move at all. It won't even tense up with effort.

Oh, he thinks, I'm having a stroke.

## 6

They had been married for six years when Solomon took the money he'd saved from his performances and efficiency bonuses and bought himself a yacht. It wasn't a large ship; the living space in it was smaller than his first hole. It was almost five years old, and was going to require a month in the orbital shipyard docks before very much longer. The interior color scheme—cream and orange—wasn't to his tastes. It had been sitting in dry dock for eight and a half months since its previous owner—a junior vice president of a Luna-based conglomerate—had died. His family on Luna didn't have any plans to come to Mars, and the bother of retrieving it across the months-deep void made it easier for them to price it low and sell. For most people on Mars, a boat like that was an ostentatious status symbol and nothing more. There was no settled moon or inhabited L5 station to travel between. The trip to Earth in it would have been neither comfortable nor particularly safe. It could go around in orbit. It could run out into the vacuum near Mars, and then come back. That was about it, and the pointlessness of the exercise helped drive down the price ever farther. As a statement of wealth, it said its owner had had too much. As a means of transport, it was like having a race car that could never leave its track.

For Solomon, it was the perfect test vehicle.

The yacht had been designed around an engine he knew, and the build code was one he'd helped to write. When he looked at the technical and maintenance history, he could see every control array, every air recycling vent and cover. Before he'd even set foot on it, he knew it as well as he knew anything. Some parts of the exhaust system were things he'd designed himself a decade before. And, since he held the title to it, half a year's worth of red tape would simply go away if

he wanted to use it to test a some new refinements to the engines. That idea alone could make him cackle with delight.

No more permissions committees. No more hard capital liability reports. Just the boat, its reactor, a couple EVA suits and a set of industrial waldoes he'd had since he was in school. In previous eras, a scientist might have a garage PCR machine or a shed in the back of the house with beehives or disassembled engines or half-built prototypes of inventions that would change the world if they could just be made to work. Solomon had his yacht, and getting it was the most self-indulgent, delightful, important thing he'd done since the day he'd asked Caitlin to marry him.

And yet, even as the fertile garden of his mind sent up a thousand different green shoots of ideas and project, tests and tweaks and adjustments, he found himself dreading the part where he told his wife what he'd done. And when the time came, his unease was justified.

"Oh, Sol. Oh, baby."

"I didn't spend my salary on it," he said. "It was all bonus money. And it was only mine. I didn't use ours."

Caitlin was sitting on the bench in their multipurpose room, tapping her mouth with the tips of her fingers the way she did when she was thinking hard. The system was playing a gentle ambient music that was all soft percussion and strings loud enough to cover the hiss of the air recyclers but not so much as to overwhelm the conversation. As with almost all the new buildings on Mars, it was larger, better appointed, and deeper underground.

"So what I just heard you say is you can spend as much money out of the account as you want without talking to me if the total you pull is less than whatever you've made in bonuses. Is that what you meant?"

"No," he said, though it was pretty close. "I'm saying that it wasn't money we were counting on. All our obligations are covered. We're not going to try to buy food and have the accounts come up empty. We're not going to have to work extra hours or take on side jobs."

“All right.”

“And this is important work. The design I have for the magnetic coil exhaust can really increase drive efficiency, if I can get—”

“All right,” she said.

He leaned against the door frame. The strings rose in a delicate arpeggio.

“You’re angry.”

“No, sweetie. I’m not angry,” she said gently. “Angry is yelling. This is resentful, and it’s because you’re cutting me out from the fun parts. Really, I look at you, and see the happiness and the excitement, and I want to be part of that. I want to jump up and down and wave my arms and talk about how great it all is. But that money was our safety net. You’re ignoring the fact that you spent our safety net, and if we *both* ignore it, the first time something unexpected comes up, we’re screwed. I love our life, so now I have to be the one who cares and disapproves and doesn’t get to be excited. You’re making me the grown-up. I don’t want to be the grown-up. I want us both to be grown-ups, so that when we do something like this, we both get to be kids.”

She looked up at him and shrugged. Her face was harder than it was when they met. There were threads of white in the darkness of her hair. When she smiled, he felt the hardness in his chest erode away.

“I may...have gotten a little carried away. I saw it was there and we could afford it.”

“And you zoomed ahead without thinking about all of what it would mean. Because you’re Solomon Epstein, and you are the smartest, most rigorous and methodical man who ever made every single important choice in his life by impulse.” If there hadn’t been warmth and laughter in her voice, it would have sounded like a condemnation. Instead it sounded like love.

“I’m cute, though,” he said.



“You’re adorable. And I want to hear all about your new whatever it is you’re going to try. Only first tell me that you’ll try to think about the future next time?”

“I will.”

They spent the evening with him talking about power and efficiency, ejection mass and velocity multipliers. And when that was done, they talked about building a responsible retirement plan and making sure their wills were up to date. It felt like an apology, and he hoped that they’d be able to do it again when she understood how much maintenance on the yacht was going to cost. It was a fight for another day.

The days, he spent working as usual with the team at the propulsion group. The nights, he sat on the monitors back at their hole and designed his own things. Caitlin started a program over the network with a group in Londres Nova discussing how companies like Kwikowski could intervene in the destabilizing spiral of threat and avoidance that Earth and Mars seemed locked in. Whenever he heard her talking to the others—about propaganda and divergent moral codes and any number of other plausible-sounding vaguenesses—she brought up lithium, molybdenum. Now tungsten too. All the other things were interesting, important, informative, and profound. But unless they could figure out the ore rights issues, they could address everything else and still not solve the problem. He was always proud of her when she said that. A liberal arts background was a hard thing to overcome, but she was doing great.

Eventually, the time came to test his idea and plans. He made the long journey to the shipyards on the new public transport system: evacuated tubes drilled through the rock and lined with electromagnetic rails like a slow, underpowered gauss gun. It was cramped and uncomfortable, but it was fast. He got to his yacht an hour before the sun set at the nearby Martian horizon. He finished the last-minute tweaks to the prototype he’d fabricated, ran the diagnostic sequences twice, and took the ship up beyond the thin atmosphere. Once he reached high orbit, he floated for a while, enjoying the novelty of null g. He brewed himself a bulb of fresh tea, strapped

himself into the captain's chair, and ran his fingertip across the old touchscreen monitor.

If he was right, the additions he'd made would increase efficiency by almost sixteen percent above baseline. When the numbers came back, he hadn't been right. Efficiency had *dropped* by four and a half. He landed back at the shipyards and rode the transit tube home, muttering darkly to himself the whole way.

The United Nations issued a statement that all future Martian ships would be contracted through the Bush shipyards on Earth. The local government didn't even comment on it; they just kept on with the scheduled builds and negotiated for new ones after that. The United Nations ordered that all shipyards on Mars shut down until an inspection team could be sent out there. Seven months to get the team together, and almost six months in transit because of the relative distances of the two planets in their orbits around the sun. Sol was a little nervous when he heard that. If they closed the shipyards, it might mean grounding his test yacht. He didn't need to concern himself. The shipyards all stayed open. The rumors of war started up again, and Solomon tried to ignore them. Tried to tell himself that this time would be no different than the one before or the one before that.

Raj, to everyone's surprise, resigned from development, rented a cheap hole up near the surface, and started selling hand-made ceramic art. He said he'd never been happier. Voltaire got a divorce and wanted all the old crew to come out the bars with her. There were eight of them now, but pretty much nobody went. Julio and Carl had a baby together and stopped socializing with anyone. Tori went in on a little chemical safety consultancy that pretended to serve any business with a Martian charter, but actually got all their business from the terraforming projects. Malik died from an unresponsive spinal cancer. Life struggled on, winning and failing. Solomon's experimental drives got to where they were almost as good as the unmodified ship. Then a little bit better.

A year almost to the day after he'd bought it, Solomon rode out to the yacht with a new design. If he was right, it would increase efficiency by almost four and a half percent

above baseline. He was in the engine room installing it when his hand terminal chimed. It was Caitlin. He accepted the request.

“What’s up?” he asked.

“Did we decide to take that long weekend next month?” she asked. “I know we talked about it, but I don’t think we made a decision.”

“We didn’t, but I’d better not. The team’s a little behind.”

“Overtime behind?”

“No. Just keep-showing-up behind.”

“All right. Then I may plan something with Maggie Chu.”

“You have my blessing. I’ll be home as soon as this is done.”

“All *right*,” she said, and dropped the connection.

He tested the housings, did an extra weld where the coil would suffer the most stress, and headed back up for the captain’s chair. The yacht rose through the thin atmosphere and into high orbit. Solomon ran the diagnostics again, making sure before he started that everything looked good. For a almost half an hour, he floated in his chair, held in place by his straps.

As he started the burn sequence, he remembered that the team was going to be in Londres Nova the weekend he’d been thinking about taking off with Caitlin. He wondered whether she’d put her plans with Maggie Chu in place, or if there was still time to change things. He started the burn.

Acceleration threw Solomon back into the captain’s chair, then pressed his chest like a weight. His right hand landed on his belly, his left fell onto the upholstery beside his ear. His ankles pressed back against the leg rests.

# 7

The ship sings a low dirge, throaty and passionate and sad like the songs his father used to sing at temple. He understands now that he's going to die here. He's going too fast and too far for help to reach him. For a while—months or years—his little yacht will mark the farthest out of Earth's gravity well a manned ship has ever gone. They'll find the design specs at the hole. Caitlin is smart. She'll know to sell the design. She'll have enough money to eat beef every meal for the rest of her life. He's taken good care of her, anyway, if not himself.

If he had control, he could reach the asteroid belt. He could go to the Jovian system and be the first person to walk on Europa and Ganymede. He isn't going to, though. That's going to be someone else. But when they get there, they will be carried by his drive.

And the war! If distance is measured in time, Mars just got very, very close to Earth while Earth is still very distant from Mars. That kind of asymmetry changes everything. He wonders how they'll negotiate that. What they'll do. All the lithium and molybdenum and tungsten anyone could want is within reach of mining companies now. They can go to the asteroid belt and the moons of Saturn and Jupiter. The thing that that kept Earth and Mars from ever reaching a lasting peace isn't going to matter anymore.

The pain in his head and his spine are getting worse. It's hard to remember to tense his legs and arms, to help his failing heart move the blood. He almost blacks out again, but he's not sure if it's the stroke or the thrust gravity. He's pretty sure driving blood pressure higher while having a stroke is considered poor form.

The ship's dirge shifts a little, and now it's literally singing in his father's voice, Hebrew syllables whose meaning

Solomon has forgotten if he ever knew. Aural hallucinations, then. That's interesting.

He's sorry that he won't be able to see Caitlin one more time. To tell her goodbye and that he loves her. He's sorry he won't get to see the consequences of his drive. Even through the screaming pain, a calmness and euphoria start to wash over him. It's always been like this, he thinks. From when Moses saw the promised land that he could never enter, people have been on their deathbeds just wanting to see what happens next. He wonders if that's what makes the promised land holy: that you can see it but you can't quite reach it. The grass is always greener on the other side of personal extinction. It sounds like something Malik would say. Something Caitlin would laugh at.

The next few years—decades even—are going to be fascinating, and it will be because of him. He closes his eyes. He wishes he could be there to see it all happen.

Solomon relaxes, and the expanse folds itself around him like a lover.