

What Is Known: Prose Pieces

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What Is Known

Chapter One *August 3rd, 2011*

Petra Madsen dreams of her father's icebreakers, the endless roaring thunder of floes being crushed beneath the hull, the shudder before the ship breaks through meters-thick ice, the cold air whipping across the deck. Even in the dream a nagging voice reminds her that the only icebreakers she's ever been on have had loud days but have never lived up to the stories her father told her when she was a little girl—but dreaming Petra pays that voice no heed. In the dream the ship jerks down, smashes into ice with a sound like a thousand glasses splintering, and she jerks awake, convinced that she is sinking, and slams her hand onto the alarm clock near her head.

Each time she dreams of drowning she wakes calm, satiated, as if waking from a dream of a lover. The dreams of boats frighten her, though, the thought of being trapped in iron rooms unable to escape.

And yet as an oceanographer, so often she finds herself aboard them, this time in the middle of the Bering Sea on the R/V Robert Bartlett, some four hundred miles from their launch in Dutch Harbor. Masochism, her soon-to-be-ex-wife Aimee calls it. Unavoidable, Petra prefers.

Her research team is out here to map shifting currents and the ocean floor; with less ice cover these waters may soon be used more frequently for shipping, drilling, research. A second team on the ship has been tracking whale migration. A third is charting invertebrate populations, and a fourth, all the way from Sweden, is interested in corals. Their goal, the Zhemchug Canyon, the largest underwater canyon in the world, now stretches out below the Bartlett. The ship

reached the southern edge of the canyon yesterday, and today, if the weather holds, Petra will explore it. As Chief Scientist on board, she gets to go first.

Awake now long enough to have calmed down, she pulls her clothes on, gathers her hair into a bun, and groggily makes her way to the mess thinking of little more than coffee. She's not the first one there; her graduate assistants, Adam and Mariko, are sitting at the table with their backs to her, mugs in hand, a binder of data and diagrams between them. Adam has his hands outstretched in front of him. "Let's see. Bread, I miss that, and strawberries," he says, extending fingers one by one as he adds to the list. "And steak, I mean good steak, not this mangled frozen stuff, and apples, have you noticed there's not a single apple on this ship that isn't mealy? Oh, and fresh bread, did I say that already?"

"Yes. I'm sure you miss fish, too, of course," Mariko says, snickering.

Adam slumps forward on the table. "Fish," he moans. "So much fish." Three days ago a few of the crew members put out fishing lines and they've caught quite a bit, though they were annoyed when the researchers requisitioned several of the fish, sole and halibut, mostly, for dissection. "I mean it's delicious now, but for three more weeks?"

Mariko pats his back gingerly.

With so many projects, forward momentum has been slow, the Bartlett continually stopping so that the other researchers can take samples and track wildlife; if Petra's team were the only one on the Bartlett, they'd have reached the canyon a day or two earlier. But she doesn't really mind the wait. "It's only been a week," she points out, sitting next to them. "Best to just get used to it."

Mari jumps and snatches her hand away from Adam's back. She pours a third cup of coffee and hands it to Petra. "Well, sure," she says, "but why not plan ahead?"

Petra inhales the stale scent of instant coffee and takes a sip, pulling back when she burns her tongue. “If you say so.”

Mari and Adam take that as their cue to be quiet. Before they shipped out, Petra warned them that all the times they’ve seen her in the lab, she’s been thoroughly caffeinated—on the Bartlett, it’s in their best interest to leave her alone until she’s had her first cup of coffee. The mess fills with clinking of spoons against bowls of cereal, slurping of still-hot coffee, and shuffling of pieces of paper, and Petra is grateful. Yet part of her wishes they were still complaining about the food so she could think of anything other than what’s to come later in the day.

But no one distracts her, so finally she asks, “What’s the weather report?”

“All clear,” Adam says. “Sunny, surface temperature six degrees Celsius, light winds.”

“Basically perfect,” Mari adds.

Since leaving Dutch Harbor, the Bartlett has had good luck with the weather, uncommon for the arctic summer. It’s been cold, yes, but sunny, a welcome change from the typical rain and fog that Petra is used to on these expeditions. The sun has been a boon: up here in August, it never dips below the horizon, and the researchers can easily work through the night, taking samples. It won’t last forever, of course—gale-force winds are one of the only consistent things about the Bering Sea, and the flat expanse of the undersea shelf between the canyon and the mainland is so featureless that it does nothing to impede the waves—but they’re enjoying it while they can.

“Have you used the sub before?” Adam asks.

Petra takes a long sip of coffee. “Not since I was a post-doc,” she says, “and it was a shallow dive, just in the Monterey canyon.” Her students are silent, as if waiting for a bedtime

story—but Petra doesn't have one to give them, not one she's willing to tell. Instead, she says, "But not this model. They've gotten way better since the stone age."

"That's amazing," Adam says.

Petra shrugs. Even after years of teaching, she is still surprised when her students hang on her every word.

"I can't wait to do a dive," he adds. "Why haven't you gone since?"

"Haven't needed to." She puts on her teacher voice, just briefly. "You know that; haven't you used the ROV's?"

Adam looks annoyed, then returns to the binder in front of him.

"My brother builds them," Mari says gently. "He says there's hardly any need for the manned subs these days."

Petra nods. "It's true."

"Sure," Adam says, unable to stay out of it, "but still. I'd be in the subs all the time if I could be. Who cares about video feeds and samples? I want to see it all for myself. I want to know everything about this canyon."

"Good luck on those grant applications, then," Petra says brusquely.

Adam puts down his mug. "You don't sound excited."

Mari shoots him a look, ever the teacher's pet.

Petra sets her mug next to Adam's with a small, but noticeable, thud. "I'll be excited closer to," she lies. "But I have things to get done first." She pushes back from the table. "Come find me if you need me. Otherwise I'll see you at eleven thirty." Preparations for the dive begin on the next watch, at eleven; Petra's off-duty, so to speak, until then. She ignores the look—of confusion or amusement, she's not sure—that passes between Adam and Mari without a word.

Email, she thinks as she walks out of the mess. News from home. Anything is better.

The Bartlett gets and transmits email via satellite twice a day. This far out, no one's cell phone works, which Petra rather likes; she eagerly awaits the moment they get far enough out of port that everyone might as well switch their phones off and stow them in their bags for a couple of weeks. She doesn't check email often for the same reason, spends just enough time in the cramped, windowless computer lab to keep up on any changes in data that her colleagues back at Stanford send her way, but today she makes an exception.

At the top of her inbox is, as she hates to admit she hoped, an email from Aimee.

"Hey Pet," it begins, and Petra's throat dries at the nickname. "Just wanted to check in and see how things are going out in the great beyond. Think I remember you saying today's the day for the dive. It's gonna be great. Remember the way you raved after the Monterey one? You were on cloud nine for *days*, sweetie. Come back with stories. Isabella misses you. —Aimee."

The Monterey dive *had* been amazing. It was what, ten, eleven years ago? She hadn't even been thirty then. She'd done the dive with her mentor, Charles Stephenson. He'd narrated the whole time and she'd gasped in wonder as a pod of dolphins followed them out, even dove the first thirty meters with them, wheeling and turning around the tiny submersible. At that point she'd only read about undersea canyons, abyssal fans, turbidite—seen photos and samples and charts, of course, but had never been up close.

It hadn't been until the eighth or ninth time she'd told the story of the dive that she began to feel uneasy, that it began to dawn on her how absurd it was to plunge down under literal *tons* of water as if it was a completely normal thing to do. The anxiety crept further in with each retelling until she refused to talk about the dive at all.

You don't sound excited, Adam had said. She *is* excited, or at least she was while she was writing the grant. She'd pulled several all-nighters in the process: she'd write until one or two in the morning, then lie awake for hours next to Aimee peering at the ceiling in the dark, thinking of all the things she could add, all the other reasons she should get the grant, all the other scientists she should invite, until she gave up on sleep and sat in the kitchen until dawn typing away, exhilarated. Fear had never crossed her mind then, just the endless possibilities of what she might find, what new evidence, what building blocks.

She realizes she's been tapping her nails rapidly against the desk as she reads and rereads the email. But what to write back? She longs to list every single fear, every way the sub could fall to pieces with her inside it, the way she used to do before each trip out to sea, as if by naming the possibilities she was warding them off. Aimee always sat quietly beside her, rubbing her back as Petra listed shipwreck after shipwreck. Then Aimee countered with ships that *hadn't* sunk, with the physics of flotation, and finally, simply, the only words Petra really needed—"You'll be fine. I'll be here waiting for you and you always come back to me." Never mind that Aimee had no more control than Petra. That hardly mattered.

The problem is that she and Aimee are on the verge of a now-amicable divorce; the papers will be waiting for her when she gets home to California, presuming she gets home, that she has not imploded inside the bubble of the submersible, crushed to bits beneath a mile of ocean. *Now-amicable*, though it had gone through a rough patch at the beginning, and later a nasty patch over who would keep the apartment and, more importantly, the dog, Isabella Bird—named for the 19th-century explorer by Aimee in reference to Petra's vocation. They had decided, finally, that Petra would keep the apartment and Aimee the aging dog, though Aimee could take much of the furniture, which, if they were being honest, she had picked out, and Petra

would have visitation rights with Isabella when she was not off on one boat or another.

There had also been the rough patch when it had not been clear if they *could* get divorced, or if they were in fact married at all, the laws so constantly shifting in that regard. Through all this Petra reminded herself that she had not really wanted to get married in the first place, that she had gotten swept up in it all, in the excitement of the very possibility. Or rather *Aimee* had gotten swept up in it all; Petra had come home from work a week after the law had passed exhausted from endless faculty meetings and research data that simply wasn't working, to Aimee on one knee, giddy. To say no, Petra feared, would have been no different from asserting that she no longer wanted to be with Aimee, when the opposite was true, so she said yes.

It wasn't a fear of marriage—her parents had married in their early twenties and were still together. But then, perhaps it was—the fear of something she had not thought about in detail, of something she had always considered completely off the table and not worth her energy.

And now, irreconcilable differences, their outlook on what they wanted out of life too fundamentally opposite for them to stay together, no matter how in love they are or once were. Now they are “just friends.” Petra has heard rumors that Aimee's seeing someone else, but she hasn't had the courage to ask if they're true.

Petra looks up from the keyboard to realize that Laura, the leader of the invertebrate research team, is using the other computer, and has been watching her. “Sorry,” Petra says, and stops tapping her fingernails. “Too much coffee.”

Laura laughs. “Know the feeling. It's all this sunlight, I'm not sleeping well.”

“Must be that.” Petra turns back to the computer. “Let's hope you're right!” she writes. “Give my love to Isabella. Spoil her rotten while I'm gone. But you know that.” She clicks send and runs her fingers back through her hair, undoing and retying the bun. It would be nice to talk

to Aimee, to hear her voice. There are so many things that would be nice.

On a day like this, there are only so many emailed data sets Petra can read before she needs air, coffee, a drink, anything to keep her mind off what's to come. She signs out of her email and leaves the fresh spreadsheets sitting in the printer; she'll come back for them later. But for now, a break. She doesn't dare eat; the thought of motion sickness in the sub is enough to keep her far from the mess for her usual mid-morning snack.

Adam was right—it is a perfect, beautiful day. The sun is out in full force, the endless drizzling, foggy winds cleared out, at least for the time being. It's warm for Alaska in the summer, maybe 50 degrees, so Petra unzips her softshell to let some fresh air against her skin.

All this should be reassuring. Even though these boats make her nervous, Petra has always felt at home in Alaska and the Arctic. She chalks it up to her Norwegian heritage, some memory of her grandparents' childhoods in the northern fjords leeching into her bloodstream, keeping her warm. She leans over the guardrail and peers at the water below. What's down there? She longs to see the craggy canyon stretching out below them, the deepest of the three in the Bering Sea, wants to know why the sea ice melts differently over these canyons than it does elsewhere—is it just because the water is deeper? Because of the way the currents funnel through them? And how has the sediment been arranged from eons of tectonic activity? The Zhemchug is almost certainly an ancient riverbed and may hold clues to the formation of the Bering Land Bridge, the isthmus that may once have connected Asia to North America in times of climate shifts. The thought of adding a piece to the puzzle, of helping figure out the mystery of what the earth once looked like, to hint at what *will* happen as the climate changes, makes her giddy with excitement.

They've learned so much with the robots, the ROV's. She could keep sending them down, as she has in the past, keep poring over images and videos of sedimentation, keep sifting through samples pulled up by robotic arms. But there's so much she needs to see with her own eyes—the scope of the canyon, the formations, the way the currents move around the walls—and besides, this is what she's come here for: a fully comprehensive manned mission to the Zhemchug Canyon. It's how they got this grant, why everyone is on this ship.

In the distance, a whale breaches and lobtails, its flukes waving like a greeting hand on the horizon. Another surfaces beside it. If she had binoculars, and if she were the biologist she had thought she would be as a child, she would know what kind. She knows sperm whales can dive three kilometers down, their bodies perfectly adapted to it. They can reach the bottom of the ocean, then propel themselves upward to the surface.

Today she won't be diving that far but close to it, two kilometers, enough to get a sense of where the canyon drops and how, enough to see the difference in rock striations, enough to take samples of who knows what they'll find. They'll go to the bottom, more than three kilometers down, later in the week, then return several times before heading back to Dutch Harbor. If she were a sperm whale she could go down alone, just her and the water, no cage necessary.

Just thinking of it, she wants to jump off the ship and dive, see how far she'll get before the ocean swallows her up. Anything to get away from the sub.

Her fingers are sore from gripping the railing. She pries them off and the blood rushes back in, making them itch against the arctic air. The submersible waits in the stern; in two hours they will winch it off the boat and she will make the dive.

Will she?

She could have been anything other than an oceanographer. Could have specialized in above-water canyons, spent her days in Arizona, Tibet, Nepal—all landlocked, no boats necessary. Maybe Aimee was right. Maybe she is a masochist.

“You look a little green around the edges.”

Petra looks up, surprised; she hadn't noticed Donnelley standing next to her, binoculars in hand. He does that, she's noticed, enters a room quietly and then offers a surprisingly perceptive comment. She's known him for years, now, both of them faculty at Stanford, and never ceases to be taken off-guard. “How long have you been there?”

“Long enough to watch those humpbacks.” He points to the patch of ocean Petra had been gazing at and something in her deflates; without realizing it she'd been counting on the sperm whales she'd believed they were to keep her safe. “You might get to hear them sing, down in the sub.”

“Probably,” Petra says. She's been woken before by humpback songs echoing through the hulls of the ships she's been on. It stands to reason she'd hear them down below, too.

“You all set? Your ducklings have been hovering around the sub all morning. They can't wait.”

“They should be in the lab,” she says.

Donnelley chuckles. “Let them have some time in the sun. You remember being a grunt.” He looks at her. “Are you sure you're okay?”

She almost reminds him that she never said she was. If anyone on the boat would understand, it's Donnelley; he was the only person to notice the day she stopped wearing her wedding ring, even though the tan line made its absence stark, obvious. But Petra is in charge here. Competent. “Yeah. I'm fine.”

Donnelley leans over the guardrail and watches the water splash against the Bartlett's hull. "You're going pretty far down. I've only been down a hundred meters or so. Humpbacks, they don't dive too far."

"Right."

When Petra doesn't say anything else, Donnelley laughs to himself, then shakes his head. "I went down in one last year in Monterey, trying to get better recordings of a male—we'd been tracking his migration. We'd been down an hour and the pilot, Sam Jenkins—do you know him?—well, his foot fell asleep and he shook it to wake it up. I didn't see him do it, only heard the clang of his shoe against the metal, thought the whole sub was coming apart. Just about had a heart attack."

Petra realizes her fingers are wrapped tight around the railing again and forces herself to let go. "Thanks, Don. That's really quite reassuring."

Donnelley's cheeks flush and Petra wishes her tone had been a little less sharp. *You get mean when you're nervous*, Aimee told her once—when? Years ago, while she was prepping to lead her first research expedition, checking and rechecking the lists she'd made.

"Everything was fine," Donnelley says. "The subs are perfectly safe."

"I know." Petra tries not to sound as on-edge as she feels. A few clouds are gathering on the horizon, just little tufts like unraveled cotton swabs. Nothing serious; they'll blow through in the afternoon and by evening it'll be perfectly clear again.

She should keep her apprehension to herself, be strong. But it's been weeks since she's really been able to talk to anyone, and the words fall out of her mouth before she has a chance to stop herself. "We're just so far out, you know? What if something happens?"

"Didn't you write the emergency protocol?" There is a hint of surprise in Donnelley's

voice and Petra wishes she hadn't said anything.

"Of course," she says, defensive.

"You've got a whole crew up top taking care of you, a rescue ROV, too. And Tom's piloting. No one grumpier and more with it than him."

Petra snickers in spite of herself.

"Besides," he adds, "I'm going down tomorrow. I need you to bring that sub up. So you'll be fine."

"*That's* the kind of logic I was looking for," she says, smiling.

Donnelley presses his binoculars to his eyes and they stand in silence for several minutes watching the whales. One of them breaches again and again, nearly clearing the water completely several times. "Besides, I've spent tons of time on boats," she says. "It's always okay."

When Donnelley doesn't say anything else, she adds, "My dad was coast guard." He glances at her. "He was stationed out on an icebreaker up here, back when I was a baby. We lived in Seattle then. Well, my mom and I did—he came home every couple of months."

Donnelley has lowered his binoculars and turned to face her. "One winter one of the patrol boats got trapped in the ice and was almost crushed to pieces. They all should have died—they were *stuck*—but from miles and miles away my dad heard their distress signal over the radio. Saved every one of 'em, though a couple had hypothermia."

"Good man," Donnelley says.

"Yeah. I used to beg him to tell me that story. He'd let me take his medal out and parade around the house. I think he was a little sad when I didn't join up."

"Somehow I can't see you in the military."

“Thanks?” Petra smiles, though a part of her wonders what, exactly, Donnelley means. She’s always wondered if she let her father down by going straight to college. “He was fearless. Would have laughed at me for worrying about a little submersible.” She and Donnelley turn back to the whales, still surfacing every few minutes, closer now to the Bartlett. Now that they’re closer, she’s a little disgusted with herself for thinking they were sperm whales—they don’t look anything like that. She tries to think if her father ever told her stories about whales—one surfacing by the icebreaker, maybe, or swimming alongside it. In moments like these she wonders if her memory, too, is going; it’s been years since her father has told her a story. His memory is fading fast, pulled away by Alzheimer’s. But it’s easier not to think of that.

“He’s probably right,” she adds, finally.

“Mmm,” Donnelley says, barely listening now.

“I’ll go get ready.”

The submersible is roughly the size of an SUV and sits on deck patiently waiting for Petra. The cabin, a large, clear acrylic bubble, forms the entire center of the sub, for better visibility; it’s cradled by a glistening rectangular titanium frame. Two high definition digital video cameras stand ready to record; they are, of course, also accompanied by a still camera. From the front of the sub, two hydraulic sampling arms jut out—they are welcoming or menacing, depending on your perspective. Petra wants to see them as welcoming.

If only it were that easy.

There’s no need for her to change clothes; the sub is climate controlled, and that far down a wetsuit is the least of your worries. If she goes back to her berth before the launch she might not emerge, so instead she drops by the lab to grab a notebook. Adam and Mariko are waiting for

her. “Coffee?” Mariko offers.

Petra forces a laugh. “I’d just assume not have to pee in a bag down there.” Mariko blushes and Petra knows she’s crossed the invisible line between teacher and friend. After thirteen years of teaching, she thinks, she might have figured it out, but evidently not. Mariko, she’s found, is especially sensitive to it—when the two of them are alone in the lab she’s only ever willing to talk about work, not that Petra entirely minds. “But thanks,” she adds, including a measure of gruffness as a reset.

“So you’ll be watching the data we pull in, and the video feeds,” she says. “Any anomalies, you let me know immediately; I’ll have Tom get us closer so we can check it out.” She leans back against the counter, her shoulder blades brushing the nearest microscope. Focusing on the technicalities makes this easier. It’s just another experiment, just another opportunity to get more information, information Petra desperately wants to be on the leading edge of.

“Won’t you have the data with you?” Adam asks.

Petra crosses her arms. She’s already thought out everything that’s going to happen down there, can’t afford Adam’s questions now. This is not the time for her to be the flexible, understanding professor. She tries not to think of Aimee rolling her eyes at this rigidity.

“Isn’t there a ton going on down there, though?” Mariko points out, and Petra can’t help but be grateful. “Why would Petra look at the numbers when she can see the formations herself? We might as well send an ROV.”

“Exactly,” Petra says. “Ten points to you.” She pretends not to notice as Mariko shoots Adam a gloating smile. Instead, she glances at her watch. 11:15 am. By now the crew will be doing the last minute checks. Time to go. She tilts her head toward the door. “Come on.”

The way they stick to her reminds Petra of Isabella Bird, the way the dog trails behind her anywhere she goes, as if Petra might disappear at any moment and leave her behind. She shakes her head slightly to get the image out of her head. She hasn't left the dog. She's coming back, even if she did give up full custody. Behind her, Adam and Mariko joke quietly, Mari egging Adam on and then snickering as he cracks bad pun after bad pun. Adam's mentioned a girlfriend once or twice in the lab but Petra's pretty sure what she's overhearing is more than collegial joking.

Not her business. All she cares about is that they do the work, and do it well.

Tom Blakely holds a hand up in greeting. He has one foot on the deck and the other propped up on the sub as he does a last-minute check of the wiring. "Ten minutes to load up," he tells her.

She flashes him a thumbs up, then walks Mari and Adam through one more briefing, even though they've talked through procedure countless times. They seem to know that this rehashing of details is as much for her as it is for them, and they stand quietly until she releases them to the bridge, where they'll have access to the data readouts and the underwater telephone they'll use to communicate. Then it's time. She shoves trembling hands in the pockets of her jeans.

"All set?" Tom asks.

"Yep." It's 11:40. She follows him through the hatch at the bottom of the sub and they settle in. It's not her first time in the sub; back in Dutch Harbor he gave her the tour, talked her through the safety procedures, explained all the controls she'd need. "I'll be steering the thing," he told her, "so you've gotta know how to pull up samples." It didn't take her long to learn; between the sub she'd been in back as a post-doc and the controls for the ROV's she's been

using, everything makes sense.

She takes three deep breaths, focusing on the rise and fall of her chest. The curve of the sphere distorts everything ever so slightly, like looking at a mirror that's warped at the edges. Up on the bridge Mari and Adam wave and she salutes them with a grin. Up here she can almost pretend that everything's fine.

"Before we launch," Tom says, handing her a water bottle and a granola bar, "final safety briefing." This is standard protocol: at least part of the safety briefing has to take place in the sub itself. Thinking about being in a submersible and actually *being* in one are two entirely different things.

He explains the safety features to her—there's an auxiliary oxygen mask above her head, like they have on airplanes; the hatch will only open within fifty meters of the surface; a backup radio is on board in case the underwater telephone stops working. Any if anything goes wrong, there's an ROV on board the Bartlett to help out. Petra nods. She knows all this; she wrote the script that he's memorized. Then Tom pulls a piece of paper out of his pocket and unfolds a list of questions. She's familiar with these, of course, but the idea of actually *answering* them makes her feel surprisingly nervous.

"Question one. How do you feel about the dive?"

"Fine." Petra glances up at the bridge. "Excited."

"When did you last eat?"

"Breakfast. A couple hours ago."

"Full night's sleep last night?"

The dream-feeling of drowning, of being trapped, flickers through Petra's body and she shudders. "Close enough."

“What does that mean? I need you alert, Madsen.”

She forces a smile. “Just took me a little while to fall asleep, that’s all—the light,” she says, tilting her head up to the sun. “But I got plenty of sleep.”

“Got it.” He glances down at the list. “Are you comfortable? Knees aren’t too cramped?”

“Comfortable enough.” The sub is small, six or seven feet in diameter; she could straighten her legs and stand but she’d have to stoop over to keep from hitting her head.

He asks her to turn around and touch the panel behind her head, and she does. “Good flexibility,” he says, and she wonders why that’s important. Do you need to be able to twist around to escape the submersible? Is there any escaping, once something goes wrong at 2500 feet?

“Any health conditions I should know about?”

Health conditions? she thinks. *Anxiety, loneliness, trouble sleeping.* She shakes her head. *Jesus, Petra, stop being so melodramatic.* “No.”

“Are you sure? Took you a minute there.”

“I’m sure.” She traces her finger across the acrylic bubble. Sunlight beams directly in on them and the sub is becoming oppressively hot. She takes a sip of water and unzips her fleece.

“Can I turn the air conditioning up?”

“Go ahead. Remember how to do it?”

She leans forward and fiddles with the controls. The feeling of the dial at her fingertips and the cooler air that begins to flow through the vents is reassuring. It’s just like being in any other room.

“Last question. Any claustrophobia?”

She bites her lip, looks at the crew outside, everyone bustling about with an excited sense

of purpose. Then she looks at Tom, studies his wire-frame glasses, the way the light reflects off his recently-shaved head. *I'm not claustrophobic*, she tells herself again and again until she thinks she might finally believe herself, might finally sound convincing. "No claustrophobia," she says. "I'm good."

She feels like she's being studied. She knows these questions are standard, but still she feels like he's just waiting for her to crack, like he knows she will if he just gives her enough time. But she's probably just being paranoid, she thinks. She looks him in the eye. "I'm good," she repeats.

"Okay. We're good, then. Any questions before we launch? Concerns?"

Questions spiral through Petra's mind—*Is it safe How do you know What if we hit something What if it cracks What if What if*—but she digs her fingernails into her palm, forces herself to stop. "No questions," she says. "I'm good."

"Good." He hands her the piece of paper and a pen, and she signs on the bottom under the words "I certify that I have received a complete safety briefing prior to the dive."

Petra leans back, closes her eyes, and listens as Tom runs through the final check with Marley Kershner, the submersible operations director. His voice is gravelly and deep; it seems to hit two or three pitches at once, with a gap like a bubble in his throat between each note. At a higher pitch it might have seemed quavering, even weak, but in Tom's baritone the voice is like an orchestra filling the sub. Petra likes to think the multitonality of his voice suggests a skill for multitasking. Tom is ex-Navy, and does everything with a quick but purposeful efficiency.

"Ready to launch," he says into the microphone once the final check is complete.

"Launching!" Marley says on the other end, and with a lurch the sub is airborne, winched up by a crane. Petra opens her eyes. It feels like the slow chug of a roller coaster about to launch,

and Petra half expects the sub to plummet into a harrowing corkscrew turn. Then, some fifteen feet off the deck's surface, they stop rising. The sub sways from side to side and Petra grabs the edge of her seat and forces herself to keep her eyes open. People can still see her. It's just the breeze, just the waves rocking the Bartlett.

They inch over the deck until the ship is no longer below them. Petra looks down at the waves, small and calm in the day's gorgeous weather. Just water. Just the ocean. She loves the ocean, she does, she loves it; in her mind she repeats this like a mantra. Then they are dropping, too quickly, it seems, but before she can react they are on the surface.

The sub gently shifts atop the waves and Petra begins to relax. Just like any other boat.

Tom turns to her and grins. "Ready for the dive, Madsen?"

This is her last chance. She can change her mind now, insist that Marley pull them back on board, that the Bartlett turn around and head back to Dutch Harbor, that she take the next flight back to California. She can throw in the towel. Be done. Come back another time.

But changing her mind would also mean refusing this opportunity, losing face in front of her students—she'd never live it down, they'd never feel like she had anything to teach them again, never respect her, request a new supervisor, laugh in her face. But that would be moot, she'd probably lose her job, what good is an oceanographer who's afraid of the ocean?

This is the last thing she has.

She loosens her grip on the seat. "Ready."

The crane disengages and they are bobbing, untethered, in the open ocean. Both Petra and Tom turn and wave to the crew on board. Then Tom hits several buttons, pushes forward on a joystick that looks like it ought to be attached to a video game console and an old cathode ray television, and the sub begins to plunge.

When the water starts to close overtop the sphere Petra nearly screams. She presses her hand against the acrylic wall as if it will let her out if only she pushes hard enough. The water crushes in inch by inch by foot, foamy waves coming closer and closer together until there's no more sky above them, and she can't help but think of the countless dead goldfish she flushed down the toilet as a child—is this what it felt like? It finally fully hits her that she is heading so deep that she might as well be launching herself into outer space.

“That moment is always a little freaky,” Tom says, watching her out of the corner of his eye as he guides the sub deeper. “Nothing like watching the sun disappear.” Petra pulls her hand in and sits on it. It's true, the water around them is growing darker and darker.

Tom switches on the xenon headlights and light floods the area in front of them. Small, silver fish scatter. He glances down at the radar. “Ten meters,” he says into the microphone, and when the Bartlett confirms, he adds, “Diving.” He pushes the joystick further. The radar beeps steadily; its metronomic tones begin to lull Petra into comfort. She can almost forget where she is.

She turns on the video cameras and they dive for half an hour, the silence broken every few seconds as Tom reads out their depth. In the headlights, the water is filled with tiny, white particulate like snow. Fish—Pacific perch, Greenland turbot, herring, according to one of the scientists up top, cooing with excitement over the variety—dart in and out of view. For several minutes a whale song echoes through the sub like a trumpet, like a crying child, and though Donnelley chatters excitedly in the background up above, she can't shake the feeling that it sounds like a banshee.

But once the whale quiets, the back and forth of numbers, names, data, calms Petra; the front of confidence she puts on as she describes what's around her begins to feel genuine. And

since she isn't a biologist, she can ask questions, be uncertain, and no one finds it strange.

“Almost there—one hundred ninety meters —” Tom says, and there it is, the sea floor, a smooth shelf stretching east toward the shores of Alaska, and at its edge, an enormous escarpment dropping down who knows how far. That is, she presumes it's enormous; the headlights' beams only go so far and they're reaching the lower limits of the euphotic zone. Below two hundred meters, there will, effectively, be no light at all beyond the submersible's beams.

Petra has seen pictures of the canyon wall sent up by ROV's, she's spent hours poring over bathymetric maps, but this is the first time she—or anyone, as far as she knows—has seen it in person. Tom dips the sub below the edge. Cheers resonate from the speakers, bouncing around the cabin. Petra grins.

“Can we stop here a minute?” she asks. “I want to look at the edge.”

“Can do.” For the first time since they left the boat they stop descending and the sub hovers just feet away from the near-vertical wall.

Petra doesn't know why she'd only expected to see sand and rock; the floor here is anything but lifeless. Corals dot the bottom, their reds and pinks brilliant in the xenon lights. They've probably never experienced such light before. Perch and rockfish swim about, a few of them hiding behind corals; a squid scuttles past. The sea floor here is sandy, with deposits of gravel scattered about. “I'm going to take some samples of these,” she tells Tom and those up top. Later, she'll pick them apart to determine their mineral composition. She hopes the rocks are similar from those that have been found on the Alaskan mainland, even better, Seward Peninsula—then she might know where this river started, when it carved the canyon. She uses a small joystick to maneuver a vacuum tube over a patch of gravel and grins as the rocks get

sucked into a sample container.

“What’s that to your right?” Adam calls down, his voice crackling and popping through the speaker.

“Starboard,” Tom corrects, gruffly.

“Sorry. Starboard.”

Tom pilots the sub in that direction, toward what looks like a deep scar in the sand. For as far as the headlights illuminate, dead, grey corals have been uprooted and knocked aside.

“Trawler scar,” Petra says, and gestures for Tom to get closer. The gash in the sea floor goes on for nearly five meters; bits of fishing gear are scattered around it. She takes a photo with the still camera. She can hear angry muttering up top through the speakers.

They continue down the canyon for two hours, pausing every ten minutes or so for Petra to drill cores of rocks and sediment from the canyon wall. Corals, sea fans, and sponges have latched on to the sides and the ledges, and small shrimps and other creatures lurk in their branches. Petra maneuvers the sub’s mechanical arms to take samples so that Lars’s and Laura’s teams can analyze them up top. “Are you guys seeing this?” she asks into the microphone, giddy.

As they drop deeper into the Zhemchug, the stratification of sediment becomes clearer. “Check out this turbidite,” she tells Adam and Mari. “That’s almost a complete Bouma cycle. This is incredible.” Tom snickers. “What?” she says, gesturing toward the control panel. “I don’t make fun of all your little buttons.”

He laughs again. Through the speakers, Mari sounds like she’s on the verge of tears. “This is *incredible*,” she whispers.

They descend further as Mari and Adam read off temperatures and current speeds; Tom works his way into the center of the canyon so that they can get a better sense of the water flow.

As they move away from the canyon walls Petra is vaguely aware that she should be afraid, that she should be worried; far away from the walls there's no way to tell where they are, just the GPS, the depth sounding, the occasional grotesque, pale benthic fish swimming past. But her glee is overpowering. Practically everything they see down here—the fish, the coral, the shrimps, the rock formations—it's all new. No one has ever seen this before. This is the stuff of Petra's dreams.

When Tom finally calls out “Two thousand meters,” they're still nowhere near the bottom. Petra's stomach growls and she unwraps her granola bar and takes a bite. Then Tom says it's time to head up; this first mission was planned to last five hours and they've been down for nearly three. “Okay,” she says, regretfully.

They're halfway up when Tom interrupts his depth readings, saying, “Nine hundred meters, four hours and nine minutes, still got plenty of air. Not gonna run out this time.” Someone up top chuckles.

Petra freezes, her fear flooding back all at once. “Can we do that?” she asks. Her calm happiness has vanished completely.

“That was a joke,” he says, glancing at her. “We could be down here for days and have plenty of air.”

“Oh.” Petra realizes she's begun to breathe heavily and tries to calm herself. The canyon. The canyon was glorious—the sedimentation, the currents, the bizarre deep sea animals! She tells herself to think of that, as if by doing so she might regain her composure, but still every muscle in her body feels taut and ready to spring. Even if it was a joke, this is a problem she's somehow overlooked, though now she can't imagine how she didn't think of it. She was so focused on what would happen if the submersible cracked, if it popped open like two halves of

an easter egg, that she didn't even think about the possibility that they could still be safe inside the sub and suffocate to death in the middle of the ocean. Now each radar beep might as well be a ticking bomb, Tom's depth readings some kind of horrible doomsday countdown.

No matter how much she sips from her bottle of water, her mouth stays dry, her jaw tight. She pushes her hands into her thighs as if that will keep them from shaking. For a few minutes, she tries to describe what she sees, but finally she falls silent, lets the other scientists' words wash over her. She's aware that they're speaking in full words, sentences, but it all just sounds like noise. The last hour in the sub is torture.

She doesn't relax until they reach the surface, and even then, she nearly opens the hatch to swim through the frigid sea to the boat—the sooner she gets back aboard the Bartlett, the better. It's not dry land but she'll take it. But she resists, waits, pretends to be patient as Marley reattaches the crane and they're hoisted, ever-so-slowly, back onto the ship.

She smiles when she crawls out of the sub, Tom behind her. Mari and Adam swarm her, chattering with questions and observations, and she lets them speak, nods or shakes her head as necessary to answer them. But their smiles are for the thrill of discovery. She's just happy to be back on deck.

Chapter Two
August 4th-6th, 2011

Aimee,

Made it through yesterday, mostly. Got some amazing data—there are corals down there, even at the canyon edge, and the sedimentation is phenomenal. I'd expected that, of course, given the bathymetry, but the drop-off is so much more dramatic in person. It's clear this thing used to be a river valley.

But I wish I could just see it for that. I freaked out, I mean. When we first dove, I felt like I was going to suffocate, like I was trapped and drowning. Tom noticed—the people up top probably did too, though my team hasn't mentioned it. And when we came up I realized that there's only so much air that can fit in the sub. Jesus, I wanted to get out of there so badly.

Writing about it now just feels ridiculous. I know I just need to stop thinking about it. I did, for a little while down there, and that was great. I wish I could do that all the time. I actually remembered why I chose the ocean in the first place, why I bothered to go down there. There's so much down there to discover.

Anyway, Donnelley goes down today. Then Lars the next day, and then I have to do it again. All the way to the bottom this time. I'm beginning to regret this grant.

Petra glances around the room. She's alone. Her computer is the only one turned on; the other sits patiently waiting for someone else to use it. This time of day, all the other scientists are asleep. Only Petra, unable to sleep more than an hour or two at a time, has dragged herself out of bed.

The clicks of her fingers on the filthy, crumb-coated keyboard—crumb-coated despite the handwritten sign above the computers exhorting *no food in the computer lab*—have been the

only sound filling the room and now that she's stopped it is eerily quiet. She listens to herself breathe, the small, constricted puffs of air the only hint of the awful tight feeling she's been feeling across her chest, her shoulders, her jaw, since getting out of the sub the day before. Maybe it's just sore muscles from sitting cramped in a six-foot-diameter sphere for hours.

But that's unlikely.

She reads through what she's written, twice. This won't do. She needs to stop relying on Aimee so much. This is what it means to divorce, it means she doesn't get to wish Aimee would be here to make it all better, to save her, protect her. It means she needs to find someone new. Or better yet, grow a spine. Be self-reliant.

Why couldn't she have just given in when Aimee said she wanted children? How hard would it have been to go along with it, adopt a kid—or weed through thousands of sperm donors, men she's never met and wouldn't want to, yet would have to trust enough to use their genes—and raise it? She would be a good mother, Aimee had told her over and over again.

But I only have so much energy, Petra had said. I can focus on myself, and on you, and my career—my research *and* my teaching—but I can't add something else so big. Then something will have to give. And which would she choose? Thankfully, Aimee hadn't asked and Petra hadn't had to think about it.

And it's overpopulation that's doing the most damage, Petra, ever the scientist, had added, when the energy issue didn't convince Aimee. Having children would be the worst thing she—especially studying climate change!—could do.

Do you ever get to be a real person? Aimee had asked then. To have actual human, biological impulses? And anyway, if that's what you're worried about, we can adopt.

She could have played that horrible stereotypical father role, she supposed, never been

home, let Aimee be a stay-at-home mom while she *brought home the bacon*. Then maybe she'd have a kid like the one she'd been, the sort of kid who would never stop bugging her when she *was* home, who'd even go so far as following her to work and hanging out in the lab. But she didn't want to do that. Couldn't. And besides, she didn't *like* children.

As an only child, Aimee had pointed out, how could she really know that she didn't like kids? Maybe she did. So why couldn't she just change her mind, say yes, okay, let's do it? That was the only reason for this, really, this divorce, well, besides the constant quarreling when they spent more than an hour or two together, and the way Aimee complained that Petra wouldn't even *look* at her when she was in the throes of new research, unable to get out of that headspace (*are you a robot*, Aimee had asked once, *or am I suddenly hideous?*). But that was all so easy to forget about when Aimee was back in California and Petra was out here.

They are divorcing.

She needs to wrap her mind around that. To let go.

She places her hands back on the keyboard, presses down on the delete key until all that's left is:

Aimee,

Made it through yesterday. Got some amazing data—there are corals down there, even at the canyon edge, and the sedimentation is phenomenal.

That feels skimpy after the reassurance Aimee sent yesterday, so she keeps typing.

Heading back down in a couple of days. Should be good. Give Isabella a scratch behind the ears for me, okay?

- P.

She doesn't—can't—bother to read through it. Instead, she taps send and listens as the

click of the mouse practically fills the room. Then she closes out of her email, shuts the computer down, and heads back to her berth to take a nap before her team wakes up.

Despite her (short, fitful) nap, she gets to the lab long before Adam and Mariko. She hunkers down in the data the sub sent up the day before, ignoring the dull ache in her lower back that comes from spending too many hours on a stool. Behind her she is vaguely aware of voices, Lars, Laura, their teams, prepping for their dive the next day, going over their own numbers. But other than a curt nod when they enter, she doesn't talk to them and they don't seem to take offense.

When Adam and Mariko join her she fills them in on what she thinks of the data, and they bat around hypotheses about what they'll find when she heads down to the bottom, about whether they'll be able to date the canyon's formation, see how it may be changing now that it's submerged. Petra doesn't mind it so much when they talk about the technicalities, the science. It's the same as discussing any other sort of experiment. Numbers, facts, she can handle these.

"Do you think we'll find life down there?" Mariko asks. "I was so surprised to see *coral* that far down, even just at two thousand meters. It doesn't seem possible that anything could survive that much pressure."

"It doesn't, does it." Petra tries to keep her voice even, to not think about what that kind of pressure could do to a human body.

"But then, I guess there could be black smokers," Mariko says. "Vents like that could at least make it warm enough."

"Maybe we'll find the kraken," Adam jokes, standing up with his arms over his head and gesturing like a monster. "It'll swallow the sub whole, then come up for the rest of us!" He snaps

his hands together in a crocodilian gesture.

Both women hold back smiles. “I’m thinking you’ve been watching too much sci-fi,” Petra says. The Bartlett has a TV and a DVD player and some of the researchers have been gathering to watch movies in the evening. The collection includes *Sphere*, *Jaws*, *The Abyss*, *The Perfect Storm*, and *The Deep*. Some previous passenger had a sick sense of humor.

“I was just kidding,” Adam says, shrugging. “Sorry.” When Petra and Mari don’t say anything, he adds, “But anyway, there’s all sorts of stuff that people have found at the bottom of the ocean. They found fish at the bottom of the Mariana Trench. If corals can adapt to two thousand meters, why not three thousand?”

“Fair point.” Petra pretends not to notice as Adam begins to gloat. “But still, our main concern is how it’s built. The structure. Let Donnelley and Laura deal with the kraken.”

Mariko snickers.

They weed through the readouts for several hours until, out of the corner of her eye, Petra sees Adam and Mari’s heads bob up every few minutes like surfacing seals to look at the clock. The other scientists trickle out until they’re the only ones left. She sighs and pushes her stool back from the counter. “What time is the launch?” she asks.

“Eleven,” they say in unison.

She snorts. “Not like you’re excited.” She looks at her watch; 10:40. “Ok, let’s go.” They shut their binders as soon as she’s spoken. They’re like children, she thinks, then swallows back the thought of Aimee. She lets them leave before her, then turns out the light and follows.

It’s colder today than yesterday. Thick, grey clouds are settling in, and everything feels muted and flat. Even the water is glossy, smoother than it’s been so far on this expedition. If they were sailing, it would be a problem—they’d be stuck—but fortunately the Bartlett runs on diesel.

Donnelley is standing on the port side of the sub, talking to his grad students and Tom, going over the plan for the dive. They won't be going nearly as far down today, just to the rim and above the canyon, tracking whale prey, surveying to see if there are more small fish and copepods here than over the shallow, flat expanse of the Bering shelf, or less. If they're lucky, they'll find a whale or two, but that, she overhears Donnelley telling his team, is unlikely.

He's so calm, like it hasn't even occurred to him that in minutes he'll have thousands of pounds of ocean bearing down on him. How is he not nervous?

What would it feel like to feel no fear?

"Five minutes to load-up," Tom says, and Donnelley nods. He crosses the deck to Petra.

"You're going to roast in that," she says before he can ask her how she's doing. He's wearing the same down jacket Petra has on, the red Stanford Oceanography one that almost all the scientists on deck are wearing. They look like a team about to play an arctic game of baseball.

He is momentarily taken aback, then smiles. "You're right." He starts to unzip the jacket, then stops. "I don't have time to go down to my berth. Would you mind bringing it up to the bridge with you? You're heading up there, right?"

She hadn't wanted to—had planned to hide in safety of the lab—but she realizes now how ridiculous that would seem, to shy away from Don's footage of the rim. The Bartlett has been slowly moving along the perimeter of the canyon, so he'll be exploring an entirely different section of it. "Sure."

"Thanks." He unzips the jacket the rest of the way, then pulls it off and hands it to her. "God," he says, shaking his arms and shrugging his shoulders. "It's cold without that thing."

She smiles and feels Adam and Mariko watching them, curious. *Not my type, guys*, she

thinks. *I have—had—a wife*. The familiar creaking tension in her chest begins to rise.

But it would be nice if she and Donnelley were closer friends. They're the sort of acquaintances who try, every now and then, to be closer—a drink after work every once in a while, chats in the doorways of one another's offices. But those encounters are few and far between, both Donnelley and Petra workaholics, unable to give people attention if they don't have the answers to their questions.

Still, Donnelley always seems to get her, to understand what she's thinking.

What would he say if she asked him why he wasn't scared?

No. Not possible. She'd probably cry, or start to shake, or *somehow* make a fool of herself. Donnelley would laugh her out of the room, never speak to her again. He would tell her she obviously had no right to be here. He would tell her she was soft, had no business teaching students about the ocean—what, would she teach them how *scary* it was? That's not science. He would tell her that no wonder people said women weren't any good at science. That Aimee was right to divorce her. That she was useless. That she ought to be ashamed of herself. That—

Tom waves Donnelley over impatiently. "It's time," Don says. "See you in a bit."

"Yeah," Petra says softly, jolted out of what was beginning to feel like a panic attack. She and her students head up to the bridge. The deck is a dangerous place to be once the sub's winched up; an errant gust of wind and it could knock you flat on your back, or worse, overboard, never to be heard from again. Fish food.

From up top, they can see farther, anyway. The bridge has a three-hundred-sixty-degree view of the ocean and the deck, and because it's the ship's highest enclosed point, those inside can see more of the sea *and* stay relatively warm. It's lined with radio equipment, computers, machinery, video screens—all to help steer the ship, keep it running, and launch the sub and, if

necessary, the ROV. Petra and her students park themselves in front of the windows, between a radio operator whose name Petra doesn't know and the video screens they'll use to watch the dive.

Marley turns the screens on for them, then radios down to the sub to make sure that Tom and Donnelley are ready. Petra inhales sharply as Marley presses an impossibly complex sequence of buttons and moves through the launching commands. She breathes shallowly, hardly breathes at all, as the sub levitates, hoisted up by the crane on deck. Suspended, it sways like a fishing lure, then moves slowly over the deck and out over the ocean.

A few feet away from Petra, Adam leans against the window and complains to Mariko about how long the launch always seems to take. Mari ignores his whining and together they narrate the dive, try to guess what it must feel like. Petra ignores how close they're standing to one another.

Then, with a slight splash, the sub is bobbing in the water. Donnelley waves, and over the intercom, Tom's voice crackles. "Diving," he says, and Marley tells him he's clear to go.

Inch by inch the sub sinks below the surface and Petra wants to stop Tom and Donnelley, wants to tell them *no, don't*. From above it looks like they're slipping through a portal to another universe and it seems like an irreversibly terrible thing to do, feels like they'll be lost, like they'll never return. She is vaguely aware that Adam and Mariko are talking now in hushed tones; it's possible she hears her name. She turns to look at them and they get quiet, stop talking, then begin to chatter again like nothing's happened.

When Petra turns back to the window the sub is underwater, concentric ripples on the surface the only evidence that it was ever there. And Tom's voice echoes through the bridge: "Five meters, ten meters, fifteen meters..."

Petra exhales. There's only so long she can hold her breath.

Donnelley is fine, of course. Why does she worry? This sub has been tested a thousand times before and this is hardly its first trip into the ocean. And Tom is a pro, there's no better sub pilot in the business. But still, the next day, when Lars is due to head down, she sends Mariko and Adam up to the bridge and stays down in the lab.

"Don't you want to watch?" Mariko asks.

Petra bites the inside of her lip. She should, she knows she should. "I do," she lies, "but the information Lars is gathering isn't essential to our project. You know that. It's interesting, certainly, and there's a *chance* it will help us, but it's a slim one." She ignores Mariko's gradually slumping shoulders—the girl needs to learn how to take criticism. "So you two can go up and watch. Take notes. I need to finish all of this."

"Okay," Mariko says, but stands there waiting—for what? An apology? Petra can't always be the friend-teacher. Sometimes she has to just be the teacher, and this work needs to get done. This isn't a vacation.

But a small voice in the back of her head admits she could have been a little nicer about it.

"Come on," Adam says, and touches Mariko on the wrist. She follows him out.

It's odd, Petra thinks, the way they swing so quickly from competing to caring for one another.

As she sorts through images and data, she lets her mind wander. The numbers blur together like waves and troughs on the ocean.

Some evenings when she was a teenager, she and her father took Sunfish and Lasers and

the occasional Hobie Cat out on the San Francisco bay. After school she'd wander around the marinas waiting for him to finish his work as the operations manager for the San Francisco Yacht Club, the job he'd had ever since he left the Coast Guard and they'd moved away from Seattle. Sometimes she checked out all the boats, rated their names in the ledger she kept mentally, *Fancy Free* and its ilk rating far below *Don't Touch My Dingy*, names referencing Greek myths either above or below those depending on her mood, and those named for the owners' wives or mothers or mistresses or daughters—*Martha*, *Kathie-Ann*, *Miss Susie*—always, *always* ranked last. But mostly she sat by the water's edge and daydreamed about what it would be like to live in the Bay. A houseboat was a possibility, but she'd rather be a dolphin, or a selkie, or a scuba diver (these dreams progressing unstoppably toward the practical and the human as she aged). The water was cold, sure, but she'd adapt, make friends with the fish and always manage to evade the sharks.

After four o'clock, she'd make her way to the yacht club and nag her father to finish up already and take her sailing. They'd sign out one of the smaller boats and tack around the bay until the sun set.

They never talked much on those trips; they sailed in silence, so attuned to one another's movements that they never needed to tell the other that it was time to come about, never needed the commands they heard other sailors call to one another, their yells traveling across the water. And the water was always soothing, not frightening. Her father taught her how to read the tides and when to expect a current to catch them; he taught her which buoys meant an obstacle and which marked a channel. He showed her how to turn the sailboat against the wind *just so* that it heeled over just enough to feel like they were flying across the water.

As they crisscrossed the bay she'd watch the bigger boats flash by with their colorful

spinnakers like billboards for their wealth. She dragged her hand in the water to feel it tickle her fingers until they grew numb and scanned the surface for fish rising to catch insects and show off their flashing scales, and for the occasional sea lion to pop its head up as if out of nowhere. It was the animals, then, that fascinated her; her love of the structures beneath the sea wouldn't come until college. When she was tired of silence, she'd beg her father to tell her stories.

It always took more than one request. At first he'd pretend not to hear her over the wind, but she'd persist, asking more loudly and leaning toward him, then practically pleading, *please Dad, I'm so bored*, protesting when he joked that maybe they should head in, then, amending her plea to *I love it out here but it would be so much better if you'd tell me a story, come on*, until he caved. He'd tell her about nasty storms in the Arctic—rocking the sailboat with his hips to try to explain what thirty-foot swells felt like—and little scraps he'd heard about Norway from his parents, her grandparents. He'd start quietly, hesitant, his voice practically inaudible over the wind, but once he got going his voice grew stronger, intense. He was her favorite storyteller.

Now he'd look at her blankly when she asked him, desperately, for stories. He didn't remember any of them.

Half the time he didn't even remember her.

Behind her, someone clears his throat and she jumps, nearly slipping off her stool. "Sorry," the voice—Donnelley's—says. "Didn't mean to scare you. You looked like you were...someplace else."

She swivels to face him. Her legs feel squeezed, compressed, from the jump in her blood pressure. She leans back into the counter and wills them to relax. "It's ok. I was just thinking."

He sits on the stool next to hers. "About what?" Then, glancing down at the data sheet in front of her, he says, "Oh. I could see how you could get stuck in that."

“What?” The data looks completely reasonable to her. She shakes her head. “Biologists. You say you’re real scientists but you don’t even use numbers.”

“Don’t start that, now.”

“Well then don’t insult my data.” She crosses her arms, petulant. Is this flirting? Ugh, Petra, don’t flirt with him, she thinks. You’ll give him the wrong idea.

She has never been good at knowing when she’s flirting. Aimee claims they flirted for weeks before their first date but Petra has no memory of that; she always thought they were just talking, maybe joking a little.

“Anyway, I noticed you weren’t up top,” Donnelley says. “I just wanted to make sure you were feeling okay.”

“Do I have to be sick to do my work?”

“No...I just thought—”

“I’ve got a lot to do, Don. I don’t want to waste time. I sent my team up.” She can feel herself getting worked up, feel the blood flushing her face, the way it always does when she gets defensive. She reminds herself to breathe.

“Sorry. I’ll let you get back to it.” He stands and moves to the door.

“Wait—” Petra says. “I’m sorry. Just—I didn’t sleep much last night, is all.” He watches her without speaking and she wishes she could be smaller, invisible. “Did you get good stuff in your dive yesterday?”

He nods and grins; forgiveness comes quick to Donnelley. “Sure did. No whales—I’m hoping we’ll pick up a song or two, so we’ll be able to go down with them in a couple of days, once you’ve done your dive”—Petra’s legs begin to ache again—“but we did a fish count down by the rim and it’s clear that there’s more food around here for them.”

“Right, you were counting fish. I was distracted by the rocks,” she murmurs, sheepish.

“You would be.”

She shrugs. They are silent for a minute until Petra can’t stand it any longer. Silences with Donnelley aren’t like the silences with her father, or with Aimee; she feels like she has to say something, fill the space, keep things moving. But each thing she thinks to say sounds stupid, boring, unnecessary, until finally she blurts, “Do you get nervous, down there?”

“Nervous?” he repeats, sitting back down on the stool next to hers. “Well—I mean there’s the first part, where it really hits you that you’re going under water. But Tom said that that freaks everybody out. Is that what you mean?”

“Yeah—well, no. I mean more nervous than that.”

He considers for a moment. “I guess not.”

“Why not?”

“What do you mean?”

Petra leans forward. “I mean, there’s a couple thousand pounds of pressure bearing down, not to mention we don’t wear dive gear so if anything happened we’d drown if we weren’t just crushed—” She stops herself. Donnelley is looking at her like she’s crazy. “Is that crazy?”

“No—well, maybe? But when you put it that way maybe I *should* be worried.” He picks up Petra’s pencil and taps the eraser against the counter once, twice, three times. “Is this what you were worried about the other day?”

“Maybe.”

“I guess I just figure that if anything *does* happen it’ll either happen really quickly, so I won’t even know it’s happening, or really slowly, so there’s decent odds of rescue. That’s why we have the ROV on board.” He puts the pencil down. “But that’s assuming anything does

happen, and that's pretty unlikely. Especially with Tom running the show." He laughs quietly. "And didn't you help set up the safety protocol, Professor Chief Scientist?" he asks.

She nods—though it was months ago, when they were putting the grant together and deciding who would come. Now that they're on the ship her job is mostly to make sure that everyone has what they need to do their research.

"See? You know it's alright. You'll be fine." The last word lands somewhere between a statement and a question, and Petra wonders which it was intended as, and if Donnelley is really as sure as he seems.

"Yeah," she says. "Probably."

It would be an exaggeration, an overstatement, to say that Petra sleeps the night before she is due to dive again. It would, similarly, be an exaggeration to say that Donnelley's words assuaged her fears.

She turns them over in her head as she tosses back and forth in the too-small bed in her berth, her feet tapping against the wall as she rolls. *Either it will happen really quickly or I'll be rescued, and either way it's okay.* Each time she replays the conversation his words morph a little until Petra no longer remembers exactly what he said. She only knows that she doesn't agree.

Disasters tumble through her head: submarines shoved into canyon walls by errant, sudden currents, forming cracks, imploding dramatically. Or sunk by rogue missiles and underwater mines, splintering into shards of ceramic and glass and titanium and human flesh. Or just a slow leak forming. That would be worse, the water flooding in until they were up to their chests, their necks, their noses, pressed up against the glass trying to get air until finally—

She has to get up. Staying in bed is just making this worse; every moment she can't sleep but doesn't have anything to occupy her mind is a moment where she can dwell on everything that could possibly go wrong. She rolls out of bed, pulls on a pair of jeans, a fleece, and her down jacket. She'll get some air.

Up top she is surprised, as always, to find it light out; the curtains on her berth's porthole are thick enough that she can trick her body into thinking that night in the Alaskan summer is actually dark. She nods to one of the crew members on her way to the bow, then settles in to watch the sea.

The submersible looms behind her, waiting.

She imagines it crumbling to pieces beneath the waves. The image feels so *real* to her, almost as if something were trying to tell her—

She is a *scientist*. She does not believe in premonitions. There is no such thing.

It would be nice to believe in them, though; she has always been a little jealous of spiritual people. Guidance from above—that could be good. It could be helpful, reassuring.

Has she had premonitions? Would she know one if it hit her?

She doubts it. For a scientist, she is woefully unobservant.

Honestly—When did she notice her father starting to lose his mind? Was it when he started to misplace his keys on a daily basis, or when he started to get angry each time he lost them? Or was it later, since the key thing wasn't entirely out of character even when he was well—later, when he started calling her Emma, not absentmindedly, in the way he did sometimes when she was a child and he was in the middle of something, but when he was looking right at her, studying her face for clues of who she might be, saying “Emma” as if it were a question, as if he wasn't really sure. And his lack of recognition so striking not just because he had known

her all her life, of course, but also because everyone said Petra looked far more like Søren than her mother, having inherited his height, and his ice-blond hair, rather than Emma's German curves and hazel eyes.

Or was it earlier, when his stories started splintering into inconsistent accounts of where he'd been, what he'd done, what had happened? When the story about the polar bear hunting a ringed seal he'd told her thousands of times ended up having no bear at all, just a seal shot for sport by his ship's crew?

But these are symptoms. Not premonitions.

But is there really a difference? Shouldn't she have seen it coming? What if she had? Would she have been able to stop it, make him better, make him sane?

What if all this worry about the dive is for a reason—what if some cosmic force *is* warning her, like the key thing and the name thing had been warning her about her father's dementia?

No, Petra. There are no such things as premonitions.

And still, she spends all night on deck, unwilling to go back to bed. Here, at least she can keep an eye on the ocean, make sure it isn't plotting against her, planning anything horrible—ridiculous, she knows, the ocean isn't sentient, but at least on deck if anything *were* to happen, she'd wind up in the ocean, where she could swim. She would not be trapped.

When did this get so bad?

When did the jitters she felt in the first few minutes on a boat turn into her heart slamming against her ribs like a prisoner against bars in a jail cell, her throat tight, her breath forced?

It's not unfamiliarity with water; she'd learned to swim even before she could really

walk. As soon as she had enough motor control in her limbs her parents had signed her up for lessons at the local YMCA.

And as a child, perhaps five or six years old, she'd run too fast on the docks at the yacht club, tripped on a hose, and launched belly-first into the oily water, only to immediately pop back to the surface, swim back to the dock, and hoist herself up. It was only when she found her father, her teeth chattering in time with her clothes dripping in a pitter-patter around her, that she started crying. He'd scooped her up and towed her off with his sweater as she told him between sobs what had happened, and then he'd whispered to her that she was a good girl for swimming back to the dock right away, and that she should never, *ever* run on the docks again, do you hear me? She'd nodded, and the next day he'd taken her to the pool. I don't want you to be afraid, he told her. It's important that you jump in. There's nothing to be afraid of.

And she had.

And on warm days when the fog lifted off the bay, a passerby might see a small blonde child running to the end of the dock and vaulting into a cannonball, making an impressive splash for someone her size, then being scolded by a stern but smiling man. He always threatened to ban her from the docks, to tell her she wasn't allowed to visit him at work, but never had the heart to. She was his only child, and he'd been away on one ship or another for most of the first three years of her life. He couldn't send her away, even just for a few hours.

So why this fear now?

Maybe if she cannonballs off the edge of the Bartlett she will revert to her childhood self, fearless, eager.

But the water down there is *cold*. She'd have hypothermia in minutes.

In any case this fear doesn't seem to want to go away and she hasn't slept a wink; the

others will be waking soon.

She cannot do this.

She can't.

And the alternative? She could cancel the dive, explain to the NSF why their illustrious grant recipient was too chicken to actually use the money properly. She could head back to port, tail between her legs, never get any money again. Or maybe a storm will come up, make it impossible—but storms only last so long and eventually she'd have to dive.

Behind her, a crew member on watch walks by, whistling.

So nonchalant. So at ease. Petra hates him for it.

She can't just give up the project—that would ruin her. But she could—she could send someone in her stead, Adam, Mariko.

Could she give up the chance to be the first person to reach the bottom of the canyon, to see it with her own eyes? It would be a selfless act, she could frame it that way, as helping her students get ahead, the job market these days is just terrible. And if word got out, she'd get the best—or worst, most power-hungry—grad students after that.

But she's worked toward this. Her entire life, to this.

She tries to remember the wonder she felt just days ago—but all she feels is terrible churning in her stomach, such nausea, and her throat turning into sandpaper. Even if she could convince herself it would all be okay, this nausea—she could pass out. She might. She probably would, and how would that be better?

She clears her throat and spits over the edge, watching the liquid churn into the ocean until it is part of it, inseparable.

Chapter Three
July 24th, 1974

It is a rare sunny summer day in San Francisco and Søren Madsen is avoiding eye contact. The steering wheel of the marina taxi boat, the Mollie, though, he can look at that, notice how solid it feels in his hand, the beautiful grain of the wood far fancier than this sort of boat really requires, but the San Francisco Yacht Club doesn't skimp on the details, or didn't, until recently. He can look at the water, the sunlight that glistens and reflects off of it forcing him to squint through sunglasses that make him feel a little silly; he never wore sunglasses back in Seattle, no need. And he can look at that buoy, bobbing in the water, steer around it, don't hit it, there he goes, no problem here. Got it covered. Nicely done.

And with whom is he avoiding eye contact? Oh, one of the regulars, Avery or Stuart or Bradley or some such, Søren always pretends to know their names but God forbid anyone should quiz him; they all look the same with their boat shoes and their cable sweaters over polo shirts emblazoned with the crests of Ivy League schools, places where Søren would never dream of going but that's okay, he has a college education, a small state school but a college nonetheless, and he has a job, and a family, who cares if his parents think this job is beneath him, accused him of abandoning the family business when really he just wanted to make Emma happy, move her closer to her parents, after she practically lived with his parents for the three years he was off in the Arctic, and besides, he *runs* this place, General Marina Manager, that's a big deal. And he's alive. That's more than so many of his generation can say. Could say. If they were alive. God damn it.

It's not that he was against the war, not exactly, not at first, but that he was against the idea of dying, and his parents, well his parents hardly let him sit in their sights for five minutes

without launching into hissing explanations of how this was not a *just cause*, this was not like *their experiences* back in Norway, and well, if you're told that often enough, you have to start to believe it, so of *course* he avoided the war.

How did Emma feel about the war? Well, that—that had been an awkward spot of tension when he had been more or less against it and Emma for it, well, she wasn't *for* it, exactly, but her brother was and she would die before she failed to support her big brother. But then Julian had been wounded and Emma started to see Søren's side of it, though she didn't try to tell Julian not to go back, that would have been a step too far.

But it's over now. He can stop thinking about it. Needs to.

The marina. The yacht club. The yachters. Yes, yes, he doesn't know their names but he knows their *boats*, knows that this man sitting in the bow of the Mollie belongs to the brand new thirty-foot Catalina out on mooring nine, knows that he bought it after swapping in his brand new thirty-four-foot Pearson, the man might as well just buy himself a racing boat already, he's clearly heading in that direction. Søren hasn't the faintest idea why a man with that much money would prefer a mooring over a slip. Privacy, maybe. Or maybe fear of scratching the paint. Years on an icebreaker would help him conquer *that* fear—months of nothing but wind and the horrible crushing sound of steel hull on ice.

The man is saying something. What is he saying? Something about the weather, that's all they ever talk about to him. Søren usually just lets them talk; they're hardly interested in what he has to say. But now the man is silent, silent, as if waiting for Søren to respond—oh. Look up at the sky, admire the view, say something inoffensive. "It's a shame they can't all be like this."

"*Exactly*," the man says. "But I suppose we signed up for the fog when we moved here."

Søren nods and smiles, then pushes two inflated bumpers over the port side of the Mollie.

He puts the engine in neutral and the boat drifts toward the Catalina, slowing just inches away as Søren leans over and grabs a hold of the gunwale. A person would think he'd been doing this his whole life—a good thing, since that's what he told the owner, Ian Parker, when he interviewed. Made it sound as if in the Coast Guard he'd been doing more than just listening to radio chatter.

“Where are you from?” the man asks.

Søren hates this question. He's gotten it his whole life, his hint of an accent somehow still detectable after all these years. It's not much, just a soft s, a few throaty vowels, occasional, well, fairly regular, misses of words containing a th, all the result of a lifetime of English in school, Norwegian at home, only recently a little bit of English added in with his parents as they have finally, finally become more comfortable with their adopted language. Søren can only imagine what communicating with them was like for Emma. *You don't speak Norwegian?* his parents had asked—rather, accused—when they'd first met her, and had practically spat on the ground when Emma had told them *No, no Norwegian, a little bit of German, though*. (If they go back to Norway now, he tells them, they'll find people speaking English there too, but they haven't been back, won't go back to Narvik, too many terrible memories, they tell him, though they won't specify *what* memories, only angry mutterings in Norwegian about the resistance and bad winters and occasional flinches when they don't hear him coming.) But despite being born in the United States Norwegian is his first language and apparently that shows. And he hates it.

“Seattle,” he says.

The man looks at him strangely, opens his mouth as if to persist in his interrogation, then seems to change his mind. “Thanks for the lift,” he says, handing him a few dollars. “I'll be back in tomorrow.” They don't have to tip but they always do and Søren can't decide if he appreciates it or finds it vaguely insulting.

Appreciation is easier. “See you then,” Søren says, and the man steps onto the Catalina.

Søren eases the throttle forward and turns the Mollie back toward the dock. He checks his watch. Quick calculation: He has fifteen minutes before he has to meet Emma and Petra, so that he can take Petra so Emma can go to her afternoon nurse’s shift at Dr. Paulson’s office. There’s no preschool in the summer and daycare is too expensive and Emma’s parents are busy today. Not that he’d want them to take Petra, not that he’s told Emma that, not that he *could* tell her that, but he’d much rather split his attention between work and Petra than hand her over to her grandparents, not much better than handing her over to the man on the brand new Catalina, she’d start to judge him the way they do, like the way, when he was in the Coast Guard, on shore leave from the icebreaker, Emma’s parents used to ask him so snidely *No promotion yet, still a Junior Lieutenant?* while his brother-in-law was a twice-decorated veteran, back from Vietnam after going back—going back!—after recovering from his wounds, shot by a VC in the leg, always going to be a little sore but that’s okay, Julian is strong, can suffer through, live a normal life, making more money than Søren can even dream of on Wall Street—

Get a hold of yourself. No need to speed back to the dock, show a little restraint, ease back on the throttle. That’s way too much wake. Good thing Mr. Parker isn’t here. Calculation, again, stick with it this time: fifteen minutes before meeting Petra and Emma. Five minutes back to the dock, when motoring at a Safe and Responsible speed, another two to tie up the Mollie, he has plenty of time even if Emma’s early, which she so often is.

He focuses on the outboard motor’s thrum, imagines it like the engine room of the Polaris, that gigantic, 270-foot icebreaker he wasted three years of his life on, free from it now almost precisely five months. Imagines that the Mollie is the engine room, where he so often hid while off-duty, avoiding the noise on the ship, the constant yelling of data and commands, the

clanging and pinging of hot metal contracting and stretching against cold water, the thudding of boots below deck, above deck—in the engine room everything else was drowned out. Nothing but diesel fumes and vibrations against his back. It's amazing, really, that no one ever seemed to notice him there, never kicked him out. He felt like a ghost on the Polaris, drifting from room to room, person to person, hardly ever speaking, ignored despite his viking height.

He considers doing laps around the marina; out here in the water with no passengers he is blissfully, blissfully alone.

But no. That would be a waste of fuel and besides, he doesn't have time. Instead he pulls into the dock, loops the rope around the wooden pillars, ties off. He checks his watch again. He can spare five minutes. He closes his eyes and lets the sun soak into his skin. Closes his eyes and lets his mind shut off, thoughts sliding away like melting ice cubes.

Does he fall asleep? He doesn't feel like he does but when he sits up and glances at his watch fifteen minutes have passed. Shit. He vaults up onto the dock, runs down it before the echo of Mr. Parker's voice in his mind tells him to *Set an example* and *Always model the facility's safety rules* and he slows to an oddly bouncing power walk and hopes no one can see him. He takes a deep breath as he rounds the corner to the office and sees Emma waiting for him, Petra in her arms, unruly blonde curls in her face despite Emma's attempt at tying them into a ponytail. Emma's arms must be exhausted; at three years old Petra is off the charts for expected height and even he gets tired after holding her for just a few minutes. She's too old to be carried, really, but sometimes she gets cranky and refuses to be put down.

"I'm so sorry," he tells Emma. "I got hung up." She looks so pretty in the sunlight, the reddish highlights in her brown hair out in full force. He wants to hold her and kiss her and suggest they both skip work and go home, crawl in bed, Petra between them, and cuddle as a

family. Make up for the long months and years he spent away from them. Or go to the park, watch Petra as she plays with other children. Emma worries she spends too much time alone.

“That’s okay,” she says, though her voice is clipped. “But I have to run, I’m late for work.” She kisses him quickly on the cheek and hands Petra to him. “Oh and don’t forget, we’re having dinner tonight at my parents’. Julian’s in town.” He had forgotten. Had tried to forget.

She leans forward to nuzzle Petra on her forehead and give her a kiss, and Søren takes the opportunity to smell her hair, the mingling scent of shampoo and perfume and sweat familiar and comforting. “Be good,” she says, and turns to go.

He watches her walk away, the spot on his cheek where she kissed him still warm. When she is almost to the street he surprises himself and calls, “Wait!”

She turns.

“I love you,” he says.

“You too,” she says, then continues on her way.

Even on a day as nice as this, it’s midweek and that usually means a lull in the afternoon. Either the yacht owners take off work all day and head out in the morning or they come by after work, maybe having knocked off an hour or two early, it’s no problem, the extra two hours of work hardly means anything to them, don’t need the money, already have the prestige. That lull is when he gets things done—cleans up the docks, does basic maintenance on the dinghies and the small sailboats, the Sunfish and the Hobie Cats (though never the yachts, they have an engineer on staff part-time for that, a professional, with *expertise*), checks the books to make sure everyone has paid rent on their slips and moorings. The San Francisco Yacht Club is smaller than its name suggests and his title more a formality than anything else—he hardly manages

anyone, really just the engineer and Phillip, a college student who helps out on weekends and evenings. It used to be bigger, of course, but with the oil crisis fewer people have been buying boats and those who own them hardly use them. Only the wealthiest members, like Avery-Stuart-Bradley-whatever-his-name-is, still show up with any regularity. With any luck, though, now that the embargo is lifted things will hurry up and get back to normal. Or so predicts Mr. Parker, the owner. As long as the Yacht Club stays open and he keeps his job, Søren doesn't much mind the quiet.

He carries Petra over to the front desk and sets her down, nodding as she chatters about the stuffed seal she's been carrying everywhere with her lately, telling him what Mr. Seal did that morning and how Mr. Seal wishes he could go to the pool with her. A couple of months ago, just after he got this job, he and Emma decided to start Petra with swimming lessons; if she was to spend any time at the yacht club with Søren they wanted to be sure she would be safe. And so far she's *loved* the lessons. While all the other kids hang back from the pool, cry when they're told to jump in, complain about being cold or scared, Petra can hardly be kept from the water. She only cries when it's time to go home. She tells them she wishes she had been born a dolphin, a seal. Was thrilled when they took her down to the aquarium a few weekends ago and showed her the animals, bought her the stuffed seal. She'd immediately declared Mr. Seal her best friend.

Her misery when she has to leave the pool is heartbreaking, really; Søren hates to wrench her away from a place she loves so much. It is at least a little bit funny, too, to watch her talk with Mr. Seal as if he were her sibling, to watch her enter the water like she's returning to a long-lost friend. But Emma doesn't like it when he laughs at Petra. She'll have low self-esteem, she tells him. We have to *support* her.

He's not sure he believes in Emma's logic but it's easier to go along with what she says.

She didn't skip out on Petra's first few years, anyway, so she has, it seems to him, more expertise on the matter. So he tries not to tease his daughter.

The front desk. How long have they been standing here? What's still on the to-do list for the day? He's already cleaned the bays and swept the dock—ridiculous that Mr. Parker makes him do that every day. He was about to refuel the Mollie and the other dinghies when Avery-Stuart-Bradley showed up and asked to be taken to his mooring. He should finish refueling.

He pulls the child-size life preserver off from its hook behind his desk. It's a bright orange monstrosity but he won't allow Petra near the water without it. "Come on, Petra, let's go to the docks," he says, extending a hand that she refuses. She is nothing if not stubborn and stands up gingerly from where she'd plunked herself down on the floor. Then and only then does she take his hand and allow him to help her into the life jacket. She tries to tuck Mr. Seal in the front but the bulk of the life jacket gets in her way. "Daddy, I can't reach," she whines.

He takes Mr. Seal from her and wedges him in so that his head sticks up beneath her neck. "All good?" he asks her.

"Good," she says, nuzzling Mr. Seal. Then they waddle down to the main dock together.

He lifts her into the Mollie with strict instructions not to go anywhere. Then he steps back onto the dock, picks up a jerry can full of motor oil in one hand and a second one of diesel in the other, and sets them down in the boat next to Petra. He checks the oil in the outboard motor, then tops it off, whistling as he does so. Behind him Petra blows out through her lips, trying to join in. He whistles louder for her, trying not to laugh at the strange sputtering sounds his daughter is making.

His whistle is the only sound that ever comes out of his mouth that doesn't make him cringe; it's pure and sharp, always on pitch. If only he could communicate entirely in whistles.

One whistle for yes, two for no, no need for anything else.

On the *Polaris* he was always getting made fun of for not talking. He just didn't have much to say.

He *used* to talk all the time, at least to Emma, they used to do nothing but drive around for hours just listening to the radio and talking—about what? Everything. Plans for the future, both of them getting a little space from their families, maybe moving to a new city, traveling. Telling stupid stories about their families, like the time her brother fell asleep at the dinner table and literally put his face in his hamburger. She always had more of those stories than he did, though he did tell her the story about the time his cousin visited from Norway and had sat outside without a shirt on in 50-degree weather, scandalizing the neighbors, because it was “so warm.” And the not-so-stupid stories, they told those too. He still remembers the way she listened intently, nodding with a look of complete understanding, as he told her about his wish in high school to change his name to anything more American after endless teasing nicknames by peers unable to pronounce the rounded *ø* of his name, to change it to something like Will or Peter, no, he'd told his mother, not Vilhelm or Per. And he'd told Emma his memory of his mother's face falling, her heart visibly breaking when he mentioned this to her at age fifteen, and his immediately reneging on that plan—

He used to tell her about all those these things. And it used to be so easy to talk to her, even when he found it so hard with everyone else.

But on the *Polaris* it got difficult. He was gone for so long, sent her letters, yes, but up in the Arctic Circle there was no way to keep in touch regularly, and there was so much *noise* on the *Polaris* that chipped away at his desire to talk to anyone, even Emma.

The shameful time on Adak, standing at the end of the line for the only public phone,

watching the lucky man at the front of the line huddled up against the phone whispering it his secrets, his love, his questions. Checking his watch, checking it again, actually *looking* at it finally, realizing that it was ten in the morning, Emma would be at work, this was back when she was pregnant but still working, she'd take time off once Petra was born. Finally he got to the phone, dialed the number, the digits still unfamiliar, hadn't spent enough time in their new apartment in Seattle. They'd only recently been married before he'd gotten his promotion and was sent off to Alaska. Held his breath, waited, waited, then—a click of tape, the new answering machine that they got just for Søren's absence, and then a soft, feminine, familiar voice: *Hello, you have reached Søren and Emma Madsen, we're not available right now but please leave a message and we'll get back to you as soon as we can.* He'd exhaled, breathed, no need to talk, not really, just say a few words, *Hello love, I'm so sorry to have missed you, there's so much to tell you, I'll call you as soon as I can but it may not be for weeks but but*—stammering now, life as a radioman apparently having taught him nothing of use—*oh love I miss you so much.*

Later, back on the Polaris, head under the too-thin pillow trying to sleep and failing, he'd tried to remember what he'd even said, so nervous at the time, tried to convince himself that he hadn't timed it perfectly to avoid speaking to Em, that he hadn't purposefully hung back until the line had formed ahead of him—

“Daddy, look! I'm taking a bath. Look!” He's forgotten Petra behind him. She loves bath time. No surprise, given how much she loves the water. He turns to see her sitting in front of the jerry can of diesel, having popped the lid off the spout and tilted the can down so that the liquid is pooling in her lap.

Oh god this is no time to be amused by Petra's obsession with water that's *diesel* she's pouring on herself. “Petra, no!” he cries, surprising himself with the strength of his voice. And

her too, apparently, as she turns to look at him and immediately bursts into tears. He levels the jerry can and snaps the lid back on and scoops her up in his arms. “Shh, shh, it’s okay. You’re okay.” She reeks of fuel, is dripping with it. He doesn’t understand how she didn’t realize that she wasn’t pouring water on herself. She keeps crying, crying, crying, as he bounces her gently in his arms.

When she finally quiets and nestles her head into his chest, he tells her, “Honey, that’s not water. You can’t take a bath in it.”

“Why?” She sniffles.

“It’s dangerous.”

“Why?”

Oh no, not this again. This has been her favorite game lately. He pictures her diesel-drenched clothes getting too close to something hot, her jumper going up in flames, swallowing his little girl whole. He shakes his head. “Because that stuff is—dirty. It’s dirty.”

“Why?”

“Because it is.”

“Why?”

“Petra, it just is.” His voice is curter that he’d like it to be but he just can’t help it. God, Emma is going to kill him when she finds out. Why wasn’t he watching Petra? He’d assumed she would just play with Mr. Seal. He’d gotten so lost in his own head. He always does this. Always.

He has no business being a father. Can hardly take care of himself.

He swings her around onto his back, then picks up one of the dock hoses and quickly sprays down the Mollie. A few small puddles of diesel-water remain in the corners but they’ll evaporate and it’ll be fine. As he moves, Petra slips down his back and her arms tighten around

his neck, choking him, he can't breathe—"Petra," he wheezes, "You need to stop pulling on my neck." She pulls tighter, trying to hoist herself up higher on his back.

He leans forward to lessen some of the pressure on his neck, then drops the hose and pushes her up so that her legs are wrapped around his ribs. "Hold on there, okay?" he says, pulling her hands lower on his chest. Sweet, sweet air. Shit. The hose is drenching the dock, dripping perfectly good water into the marina below it. He moves over to the spout and turns it off.

"Daddy, something smells," Petra complains.

She's just now noticing? How is she just now noticing? "I know, Pet," he says, trying to keep his exasperation from his voice. "I'm working on it."

He crouches slowly, out of balance with Petra on his back, to pick up the jerry cans. The diesel can is noticeably lighter than before; she must've spilled more than he realized. He'll have to figure out how to account for that in the yacht club books. Later, though. And she reeks, the diesel fumes burning his nose so that he feels like he's constantly stifling a cough. He'll have to take her home, bathe her; they can't go straight to Emma's parents' house like this. Oh, Jesus. They already hate him enough, they'd never let him have another minute with Petra alone. Would make Emma leave him, divorce him, take Petra from him. What kind of father *is* he? He just thought—she's usually so good. So quiet.

They make their way up from the docks with a stop at the storage bay to put the jerry cans back. Once that's done, he locks up the main office and leaves a note for Phillip, who's due in an hour for the evening shift, telling him he's feeling under the weather. That'll be alright. Phillip can handle the place on his own. Then he sets Petra down, crouches so his face is level with hers. "Petra," he says. "Can you promise me something?"

She nods.

“Promise me you won’t tell Mommy about your bath.”

“Why?”

“Because she’ll be very worried that—” What to tell her that won’t make her hate him? How do you tell your daughter to lie to her mother? And how do you get a three-year-old to keep a secret? “She’ll be worried that you took a bath outside and it’s cold out and baths should always be warm.”

“Why?”

“Because.” Petra is shivering, just a little bit. “If you take a cold bath you might get sick.” He pulls Mr. Seal out from her life vest and hands him to her, then unstraps the vest and wraps his sweatshirt around her. “And Mr. Seal might get sick, too.”

“Mr. Seal can’t get sick. He’s invincible.” She stumbles on the last word, though she says it stubbornly.

“Is he? Okay.” Søren sighs. “Well he might not get sick, but you might, and then Mommy and I would be sad and worried, and you’d have the sniffles, which isn’t fun. Remember the last time you had the sniffles?”

She nods and frowns at the memory. Good. Then maybe this’ll stick. “Promise me you won’t tell Mommy about your bath,” he repeats. “Promise?”

“Promise,” she tells him, and Søren hopes she’ll remember to keep it.

He throws away Petra’s jumper and shirt after her real bath, this one with water and soap, the way they ought to be. No amount of washing will get that smell out and anyway, if he leaves the clothes in the laundry room Emma will find them and will *definitely* notice that something

happened. And then she'll notice that he didn't tell her, and then she'll ask him why, and then she'll ask him what else he's lied about, and he'll tell her nothing, but she won't believe him, and maybe she shouldn't.

It's not that he lies to her often. He just. Sometimes he isn't good at telling the truth. Sometimes he stretches things a little bit. But just a little. A tiny bit. Just when he has to, though. When he needs to. Never for anything big.

So he drops the jumper and shirt in the trash on their way out to the car, a Chevy, a little beat up but not too bad, and buckles Petra in beside him. He rolls the window down to get rid of the residual smell from when they drove home from the yacht club. "Remember," he tells her. "Don't tell Mommy."

She nods.

As they drive across town he drums his fingers on the steering wheel, wonders what he'll do if she *does* tell Emma. Will he deny it? Apologize profusely? Deny it and then get caught lying and then have to apologize for multiple things? Should he tell Emma preemptively, so that she can be impressed with his honesty and his quick thinking? But what if she doesn't care about his honesty, just focuses on the fact that he let their daughter pour flammable liquid all over herself?

Deep breaths. Focus on the road, the other cars merging in front of him, honking at him because he's forgotten to keep the car up to speed. It'll be okay. It'll be fine. Even if she finds out, she'll understand.

Without Mr. Seal to talk to, Petra is quiet beside him. Søren had explained to her that Mr. Seal needed a bath, too, so he's at home, spinning around in the dryer. He'd offered Petra a different stuffed animal to keep her occupied but she'd looked at him with what could only be

described as pure disdain. Mr. Seal is the only one she wants. Loyal, his little girl.

Maybe it's strange for a child to be so quiet. Maybe it's strange for him to be so quiet around her. If he'd been talking to her, watching her, none of this would ever have happened. If she'd been in his line of sight—if he'd been somehow *connecting* with her instead of ignoring her, stuck in his own stupid world of refueling and work and who knows what else. He needs to change. To be a better father.

But what can he say to her? She's only three, only a kid, he doesn't even have the slightest idea of what goes on in her head. Doesn't really know how to talk to her. When Emma's around the two of them chatter together, play together, tell stories—

Stories. He can tell her some of those.

“Hey Pet,” he says, digging around in his memory for something to tell her about. He looks at her hands, tiny and a little bit chubby, so empty after holding Mr. Seal all afternoon. Mr. Seal. “Did I ever tell you about the seals I saw when I was up in Alaska?”

“You saw seals?” She doesn't sound like she believes him.

“Tons of them. Just like Mr. Seal but so, so much bigger.”

“Did you play with them?”

“Well—” Maybe this wasn't the best story to tell her. Mostly they just saw seals from the ship but sometimes a few of the crew members would head out onto the ice with a rifle or two and go hunting. Seal meat, it turns out, is delicious. Fatty and marbled, rich, a little bit salty—if he tells Petra that, though, she'll hate him, think he's just biding his time before chowing down on her best friend.

“They're pretty shy, you know, so we can't really play with them. They wouldn't like that and we had to respect that.”

Her face falls. “That’s sad.”

“It is, isn’t it.” He glances over at her. She’s turned to look out the window. He can’t even keep a toddler’s attention for five minutes. What else can he tell her? He’s heard stories from other crew members of going out with researchers to try to tag the seals, of trying to catch them with nets. “One time,” he says, “we had some scientists with us. They went out to catch the seals, so they could...talk with them. Ask them where they’d gone, what they ate, that sort of thing.”

“Seals can’t talk,” she scoffs. This is another thing that throws him off, these inconsistencies of his daughter’s imagination.

“Sure they can. Don’t you talk to Mr. Seal?” She shrugs and for a moment he has a terrible vision of the teenager she will be, sullen and refusing ever to speak with him. He has to keep talking. “So the scientists crept out onto the ice in all white, so that the seals wouldn’t see them and be scared. But they kept scaring the seals anyway, without meaning to! They’d get close and then the seals would slip down into the water. The scientists would get splashed and before long they were cold and sad.”

“Why were the seals afraid?”

Because the only other humans they’d encountered tried to eat them. But he can’t tell her that. Something else. Something...fun. “Because—because they didn’t know them. But one seal, he wasn’t afraid, and the scientists finally got close and sat down and had tea and fish with him and he told them all about his life in the Arctic.” As he finishes his story he pulls up at a red light. He glances at her. Does she believe him?

It doesn’t matter. She’s smiling. That’s enough for him.

They drive the next two blocks in happy silence and finally they reach Dr. Paulson’s

office. Emma is waiting outside. She swings open the car door and moves Petra into the backseat. “You changed her,” she says when she gets in beside him.

He shrugs, tries to keep his voice level. “We got a little dirty playing at the marina. Nothing major, but I had a few extra minutes to clean her up.”

“What were you doing?” she asks, and he wonders if she can see through him.

“Oh, you know,” he says. Think, think, think. “Just...playing on the docks. She wanted to show her seal around.” He holds his breath and glances into the rearview mirror at Petra.

Emma leans around the front seat to look at Petra. “Where’s Mr. Seal now?”

Søren can feel his pulse shift into a sprint. Petra looks at Søren, then at Emma. “In the bath,” she says.

“He got dirty too,” Søren explains, relieved.

“You didn’t put him in the bathtub, did you?” Emma asks.

“What? No. The washing machine. Was that wrong? Should I have put him in the bath?”

Emma reaches across the gear stick and squeezes him on the leg. “No, that’s perfect,” she says. “Thank you.” She leans back in her seat, then sniffs, once, twice, and inhales more deeply.

“What smells?”

“What do you mean?” he asks, a little too quickly.

She wrinkles her nose. “Smells kind of like gas. Is the car okay?”

He’d thought he’d aired out the car enough. Apparently not, apparently you can get used to diesel like any other smell. This is the time, the time where he should tell her, be honest, be like they used to be. How hard can it be to start to talk again? He’s been home for months now. It’s time for things to go back to normal. But instead, he blurts, “My clothes got a little dirty at the marina. It’s probably just that. That’s why I changed.” How did that come out so easily? He

didn't even hesitate with that. That lie.

“Oh.” She looks at him for what feels like a long, long time. Then she tells him, “Well, you look nice,” and he can't decide if he should breathe easy or go somewhere far, far away where no one, not even himself, has to hear his stupid, stupid lies.

Chapter Four
August 6th, 2011

In the lab, Petra coughs into the crook of her elbow, rubs her temples.

“Are you okay?” Mariko asks.

Petra shakes her head. “I feel like hell.”

Mariko’s eyes widen. “But you’re diving today!”

Petra drops her head, stares at the counter as if she were desperately disappointed—which she is, but not for the reasons Mariko imagines. Then she looks up and waves Adam over. “On second thought, keep your distance,” she says. “I don’t want you catching this.”

“We could postpone the dive,” Mariko says. “Swap days with Laura?”

“But the conditions today are *perfect*,” Adam moans.

“They are,” Petra agrees. When she returned below-deck only an hour earlier, the sea was still glassy. Who knows how long it will last? Weather reports suggest a front coming through, though it’s still unclear when, or if, it will hit. “And I think it would be absurd to pass this up.” She starts to cough again, loudly. When she’s finished, she adds, “But I don’t think I’m in any condition to go.”

Mariko and Adam exchange a look.

“Adam,” she says. “Do you feel comfortable going in the sub?”

He stares at her, his mouth open like a cartoon character. “Are you serious?”

Is she condemning him to risk that she herself is unwilling to take? This is not the responsible thing to do. She ought to go herself. She should tell him she was joking. “Would I ask if I weren’t serious?”

“Of course I can.” He stands up straighter, as if awaiting inspection.

“Good. Head up top, tell Tom you’ll be going in my place. He’ll be able to fill you in on the controls.” She glances at her watch. “You’ve got about two hours, so go.”

He nods, then runs off.

Petra sits down and puts her elbows on the counter, holding her head in her hands. Deep breaths. Deep breaths. It will be fine. Her name will still be first on the paper—papers, likely—they inevitably publish. This is still *her* research mission.

She is being benevolent, allowing Adam to get this incredible experience.

But she won’t be the first to the bottom. What was she thinking?

Mari is standing across the counter from her, watching her. Petra meets her gaze.

“Why Adam? Why not me?” Mari asks.

“I—” Petra begins, but Mari interrupts.

“Is it because he’s a guy?”

“What? Absolutely not, Mari, you know better than that. Do you really think I would do that?”

“Then *why*?” Mari looks like she’s on the verge of tears; every few words she presses her lips together, inhales, and exhales, tilting her head back and looking up as if that will keep her face stony. “I’m at the top of my class, you *know* I know my stuff.” She swallows. “And, and, my brother *builds* ROVs. I’m good with tech. Adam’s never been in a sub before.”

“Have you?”

“That’s not the point! The point is that I have experience that Adam doesn’t. I think you’re just playing favorites.” She stops herself, embarrassed, as if in that accusation she has crossed a personal line.

How can Petra respond to that? If anything, *Mari* is her favorite, not Adam; his

eagerness, his sarcasm, tend to annoy her. But she can't tell Mari that. And they're the same year; Petra can't simply claim that Adam has seniority.

But he *does* have more research experience; he's spent more time on boats doing experiments, gathering data. He was an oceanography student in undergrad, while Mariko was a geology major. And Adam is a few years older. That's how she decided it this morning, up on deck.

"I'm not playing favorites, Mariko," she says, quietly but firmly. "Adam has more experience on the water than you do." She holds a hand up to keep her from interrupting. "I know it doesn't feel fair—trust me, I know what it feels like to *want* to go down—but I think it's safer to send him. And that's what's most important here."

Mari's lips are still pressed tightly together.

"And we might have time for one more dive, you never know. If that's the case, then of course you'll get to head down. Look," she adds, "I know you're upset with me. But I need you to try to understand. This only works if we're all at a hundred percent."

"I understand," Mari says. "That doesn't mean I like it." She brushes past Petra. Petra listens to her boots clomp up the stairs, slowly, sullenly, then drops her head back into her hands.

Is it too late to change her mind?

Better question—is she willing to?

What would Aimee say if she knew what Petra were doing? She would have put a stop to this long ago, convinced Petra that she'd be fine and that this all is ridiculous.

But now she is not willing to change her mind; no amount of shame can get her there. She shuts the binder of data and tucks it under her arm, then heads up top to see how Adam's doing.

On her way up, Donnelley stops her on the stairs. “Is it true you’re not diving?” he asks. “That you’re sending Adam instead?”

She snuffles, coughs lightly. “It’s true. I’m not feeling well.”

He looks at her oddly, like if he examines her closely enough he’ll be able to figure out whatever elaborate game she’s playing. But before he can say anything else, Petra says, “I need to go see how he’s doing,” and continues past him. She doesn’t look back, though she can hear from the lack of footsteps behind her that he is still standing there, wondering.

To describe Tom as “pleased” with the situation would be, to say the least, inaccurate. When Petra reaches the deck he is immediately in front of her. “Is this true?”

She coughs, holds up a finger for him to wait, blows her nose. “Yes. It is.” She waves Adam over. “I assume he told you I wasn’t feeling well and he’ll be heading down in my stead?”

Tom grunts an affirmative.

“Will that be a problem?”

“It’ll likely delay the launch an hour—I’ll need to finish the cross-check, then teach this kid how to work his controls. Give him the safety briefing. And there’s some talk of weather coming our way. Hard to say if it’ll actually come to us, but these conditions”—he gestures toward the sea—“might not hold.”

Petra nods. “Well, he’s a quick learner. And if you have any reservations about him, you let me know. We can delay a day if need be, but I’d rather not throw off the whole launch schedule.”

“Fine,” Tom says. “We’ll do that.”

Petra turns to Adam. “Follow Tom, do whatever he says. I’ll be down in the lab if you

need me.”

When Tom begins to give Adam a series of gruff commands, Adam looks at her for help, like she could make Tom more sympathetic, more fatherly, but she’s already walking away.

In the lab she finally breathes easy. She can take off her professional voice, stop pretending to be on top of everything, competent, calm. It’s done. She won’t be heading down. She can relax.

She switches the radio on; best to have some noise to get her out of her head. And Tom said there’d be weather. She’d like to hear the report for herself.

On Monday, August 6th, 2012, the computerized voice drones, its pauses and intonation awkward and stiff, calm seas, waves one to three feet, northwest winds zero to five knots. Low pressure front moving through to the east. Tomorrow, increasing to twenty-five to thirty knots by morning; waves seven to ten feet; small craft advisory beginning this evening. Heavy freezing spray, freezing rain possible. Freezing rain continuing in to...she switches it off.

It’ll be choppy when the sub comes up, but it’ll be fine. They’ll be up long before nightfall.

It turns out that Adam is a quick learner when it comes to the sub controls; his practice with the ROVs has transferred well. When Petra returns above deck an hour before launch with a binder of charts and data in hand, Tom greets her with, “Twenty minutes to load-up; half an hour until launch.”

“All set?” she asks Adam. “Any questions?”

“No questions,” he tells her. He grins and she gives him a small smile in return. “Thank you so, so much, Professor.”

She raises an eyebrow. Professor? He hasn't called her that since he first interviewed for the PhD program. "You're welcome," she says. "Don't let it go to your head. Let me know if you need anything." Keep the sentences short, the statements brief, hope he doesn't think of any questions. That way, she thinks, she'll hold it together.

She silences the nagging voice in the back of her head. *What good is an oceanographer who's afraid of the ocean?*

Mariko is already on the bridge when Petra gets there. Mari nods at her but doesn't say anything, pretends to be immersed in conversation with Marley, when Petra knows that the expression Mari's wearing is her bored face—she's seen it in meetings that run on too long.

Still, no matter. Mari might be sulking but she's not the sort of person to let it get in the way of her work.

If only there were someone she could talk to. If only she could explain to Mari *why* she isn't going, why she sent Adam in her stead. If only she could slip down to the computers, email Aimee. But no. None of these is a viable option.

"Five minutes to load-up," Marley says into the microphone; her voice reverberates across the deck and around the bridge.

He'll be fine, Petra thinks. It's the right decision. Adam will be finishing his dissertation this year and the sub experience will be crucial for his career. But what about Mariko? She pushes this thought away. She had to choose one of them; they can't both go down.

There is a last minute flurry of action below them on the deck. The technical crew surrounds the sub and goes through the final visual check; Adam and Tom squeeze into the sub and try to get comfortable. Marley and Tom test the underwater comm—*can you hear me, I got you, receiving, all good here*—words and crackling stereo filling the bridge. Machinery whirs to

life and the crane begins to lower its cables. Out of the corner of her eye, Petra sees Mari sit up straighter, lean forward toward the monitors. Good. Mari is shifting into academic mode.

Adam sits quietly as Tom shuts the inner hatch. One of the Bartlett's technicians clamps the outside shut, then attaches the winch. Adam waves up to the bridge, and then Marley presses the now-familiar sequence of buttons. The sub is airborne, moving slowly sideways, then lands in the water with a small splash.

Behind her, the radio drones the same weather report from earlier. Low pressure front moving in, but hours from now.

It takes Adam and Tom half an hour to reach the rim, and they begin to descend further. Petra has calmed; Adam seems to be at home in the submarine. Hours of faking sick, however, seem to be coming back to haunt her—or perhaps it was all night spent on deck—her throat is scratchy and sore, and she's blown holes in the tissue clenched in her fist. Donnelley passes her a box of kleenex. "Thanks," she says, surprised.

He looks at her and nods, but doesn't say anything. For that, too, she is grateful.

At two hours, they've reached two thousand meters, the same depth Petra reached—though they're nearly a kilometer north of her dive. Here, judging by the bathymetry, there's a broad ledge, and the sub skates over it, stirring strange creatures: fish that don't seem to have eyes—no need, at this depth—and others with grotesque underbites, and small shrimp that Laura can't identify, that she says she's never seen before. "Adam, can you grab a sample of that?" Laura calls through the underwater comm.

"On it." There is a whirring sound and Adam hoots. "Got it! This isn't so hard."

Mariko crosses and uncrosses her legs and leans back in her chair.

“Petra,” he calls up. “How far do you think this ledge goes?”

Petra peers down at the chart on her lap. “Looks like it could be a kilometer, but it’s hard to say. Next on our to-do list should be an ROV expedition, get a more precise map of this thing. Why don’t you check it out, see if that sounds right?”

“Roger,” Tom says.

Behind them, the radio voice murmurs. *Monday, August sixth. Waves two to four feet, northwest winds five to ten knots. Low pressure front moving rapidly to the east. Wind increasing to twenty-five to thirty knots by Monday evening; waves seven to ten feet; small craft advisory in effect beginning at seventeen hundred hours. Freezing rain possible by midnight.*

“Did you hear that?” Mariko asks.

“Sure did,” Marley says. “Tom, it sounds like that storm that was supposed to hit tomorrow is coming a little early. I’m going to go ahead and recommend that we abort the full dive. You should be fine to finish your current sweep, but then I’d like you to head up.”

“Okay. How long do we have down here?”

“Take another half hour, then head up.”

“Got it.”

Petra pushes her hair out of her eyes, leans over as if to study the chart. Great, a storm. Just what she needs.

It’s not that she’s never been in storms; they’re unavoidable when your specialty is deep ocean geology. Almost every research expedition she’s been on has been hit by at least one. Protocol is standard: all research personnel return to their berths—or gather in a couple of them and play cards, the rocking of the ship too much for board games—and all the ship’s hands shift to on-duty, come up on deck, steer against the swells.

As long as Petra can focus her attention on whatever raucous game of poker or hearts is occurring, the storms are never fun, but they're fine. She watches the others carefully; if they're not worrying, she tells herself she doesn't need to.

It's the storms where she's stuck in her berth with nothing but a book to keep her mind off the fact that the ship could sink at anytime—those are the bad ones.

Once, not long after they were married, she and Aimee went sailing with Aimee's parents. They were anchored up in Paradise Cove when a storm hit. All night long, the boat spun around and around on its anchor line like an endlessly spinning top. *That* was worse than any open-ocean storm Petra has experienced. She couldn't sleep, started to get seasick—rare, for her—and wanted desperately to convince Aimee's parents that she was capable, calm, unflappable. She couldn't wait to get off that boat.

A sound like a shudder, like a scrape, comes through the speaker. "What was that?" Adam's voice sputters through the speakers.

"Tom?" Marley leans into the microphone.

He clears his throat. "Got hung up on something." There is a collective inhalation on the bridge, a gasp of worry and surprise. Then, "It's in my blind spot, I can't see what it is. Adam, go ahead and train the video camera on the sub."

There is a faint whirring sound as Adam pushes the camera control. The image on the screen up on the bridge pans around, until—"Trawler gear," Donnelley says. "God damn it." A large, rusty chain is wrapped around the starboard support beam. It looks like the thing reached out and grabbed on, determined to hold fast. They must've hit the gear just as a current swept the chain around the beam.

"How did that even happen?" Petra asks. "There's nothing around you and you manage

to hit that?” This is exactly the sort of thing she was afraid of. She should be down there, shouldn’t have put Adam in danger. She’s the capable, in-charge one, this is her project, her research trip—

“Blind spot,” Tom repeats.

“Tom?” Adam asks. His voice is thin and strained. “You can get off this thing, right?”

“Should be able to.” Through the camera the researchers on the bridge can see the sub pull starboard, then port. When that doesn’t work, Tom puts the sub in reverse and tries to back out of the trawler gear. The sub sinks, then rises. The chain grows taut, then seems to recoil like a spring, pulling the sub with it.

A dull thud comes through the speakers. “Ow, shit,” Adam says.

“You okay?” Petra calls down. “Are you okay, Adam?” She tries to keep her voice even. Any panic on her part will just worry the others.

“Yeah, I just hit my head.” He groans. “I’m okay.”

They watch for the better part of an hour as Tom tries to free the sub. Part of the trawler gear is buried in the sand, sunk like an anchor. If it were free the sub might be able to make it to the surface, might be able to drag the gear behind it, though it would be a slow trip, and steering would be nearly impossible. They’d have to surface wherever they could, and the Bartlett would come find them. That’s what the GPS beacon on the sub is for, anyway.

But while it’s unclear just how much of the trawler net is buried and how deep, it is becoming increasingly apparent that it’s not going anywhere. If they were at a shallower depth—at the rim of the canyon, say—the Bartlett might be able to send a rescue diver down. But at two thousand meters—not even the world’s best, most accomplished diver can go that far down. If Tom can’t maneuver the sub to untangle it from the trawler chains, they’ll have to try with the

ROV.

“This is bad, isn’t it?” Adam asks an hour after they hit the gear.

Tom doesn’t answer.

“It’s going to be fine,” Marley says into the microphone.

Jolted out of watching Tom trying to free the sub, Petra is suddenly aware that her stomach is churning; the bridge has begun to sway from side to side. She looks out the windows. The waves, once small and gentle, have grown as the wind has increased—just like the weather report said. Behind her, from the speakers, *Small craft advisory, gale warning*. Fuck. “Marley?” she whispers. She doesn’t want Adam to hear. Doesn’t want to panic him—the air. Tom joked about running out of air. That’s a real possibility. Isn’t it?

Marley turns to her.

“I think it’s time to send the ROV down. We need to get them up here.”

Marley nods, then relays the information to Tom.

“I hate to give up, but yes. Please do,” he says.

Marley doesn’t waste a second. She calls the ROV crew up, explains the situation, and within minutes they are on deck, launching the steel cage of the remotely operated submersible and winching it down on its tether. Jack, the ROV pilot, settles in to a chair to Marley’s left. He’ll steer the submersible from up on the bridge.

Unlike the submersible Tom and Adam are in, this one is attached to the Bartlett; should anything go wrong with the ROV, it’s at least easy to pull it back up to the ship. Or, Petra supposes, for the ROV to pull the Bartlett down with it. But that’s ridiculous; if that happened, they would just cut it loose. She reminds herself that there’s always a solution. Even now. This is

why she became a scientist in the first place. Solutions. Answers.

Although the ROV is smaller, it's no faster, and it takes more than two hours for it to reach the ledge. Petra's fingers become sore, then numb, from gripping her chair. Nothing exists apart from the video screen and Tom's now seemingly-endless stream of curses as he keeps trying to maneuver the sub off the trawler gear.

"I have to piss," Adam complains.

"Just hold on," Tom tells him, as the sub moves forward and then snaps back to the trawler gear again. "Unless you want a bottle."

"I'll wait." He's silent for several minutes, and then all at once it seems to hit him that he is stuck, at the bottom of the ocean, in a tiny glass bubble. His breathing grows louder. "How much air do we have?" he asks, panting.

"Eighty hours, give or take. More than enough. But you have to stop that. Or we'll have less. Get it together."

Unsurprisingly, Tom's orders don't calm him and his panting turns to hyperventilation. Donnelley leans over Marley's shoulder. "Adam," he says. "Stay with me. Take a deep breath—one, two, three," he counts, slowly. "Now exhale. One, two, three, four." He repeats the pattern for several minutes, adding an extra beat every few rounds. *I should be doing that*, Petra thinks.

Finally, Adam is taking slower, deeper breaths. "I'm sorry," he says.

"That's okay," Donnelley says. "You're okay."

"Keep trying to work free," Marley says. "But take it easy. We're coming for you."

The storm picks up and the bridge sways back and forth like a pendulum. According to the weather report they're missing the brunt of the storm, but even so, Mariko goes below deck

to try to calm her stomach as waves begin to break over the bow, leaving icy rime that builds up on the Bartlett like a shell. The horizon dips and shifts as they go over waves and crash back down.

Petra hardly notices the weather. She goes through two boxes of tissues; the trash can next to her overflows. This fake cold has become real. She wonders if she's being punished. All she wants is to be home, in her bed, cuddled next to Aimee, under the thick blue duvet Aimee picked out when they moved in together—no. This is real, she has to treat it as real. Adam is in danger, and it is her fault.

“I'm feeling a little claustrophobic,” Adam admits.

Completely understandable, Petra thinks, but she can't tell him that. She has to try something. What did her dad always tell her about when she was scared, overwhelmed? “Do you know who Ernest Shackleton was?”

“I know the name,” he says. “But I can't think of who he was.”

“He was an explorer. He led an expedition to try to cross Antarctica, to be the first one to do it. And his ship—his ship, the *Endurance*, it got trapped in the ice on the way there, and his crew—this was before icebreakers—couldn't free it. They just hung out on it, waiting for the ice to melt, until finally the ship got crushed and they had to abandon it.”

“Uh-huh?”

Petra realizes that she has paused at the most dire part of the story. She rushes to continue. “But they were fine! They floated across the ocean on the ice, until they were close enough to land that they could make it by lifeboat. Adam, they all survived. It was hard, and probably scary sometimes while it was happening, but they were fine. They made it. Just like you're going to. Okay?”

There is a long, long pause from the sub; only the sound of Adam's deep, almost gasping breaths comes through. "Okay," he says finally, between breaths.

Donnelley cuts in. "Adam, what do you see? Tell me what's around you."

"Okay. Um." He clears his throat. "Oh—there—I think that's a—god, that's ugly. Is that a fangtooth?" He trains the video camera on it. The fish is aptly named. It's perhaps six inches long but its teeth are nearly half its size; its eyes bug out creepily.

"Looks like," Don tells him. "What else?"

Adam begins to list the animals circling the sub—anglerfish, viperfish, a few he doesn't recognize but that light up like lightning bugs. Petra wishes she had thought of this, instead of telling her stupid Shackleton story. Why did she think that was a good idea? How did Donnelley even think to do this? She blows her nose. Her head feels clogged and full, and she can't hear much out of her left ear because she's so congested.

"You really ought to go below," Marley tells her. "It's safer." She looks like she'd like to take her own advice.

"No."

Marley doesn't try again.

This is all her fault, Petra thinks, all her fault for sending Adam down, for ignoring the weather reports, ignoring her gut—she should have just insisted they not go. It wasn't safe enough. It was foolish of them—of her—to think it was. Of course the ROV will save them, but it's ludicrous to have put them in this danger in the first place. They should have seen this coming. She should have. This is her *job*, this is what she agreed to do when she signed on as Chief Scientist. What are they doing out here? Why didn't they just send ROV's? Why this insistence, this scientific machismo, on being the First People to Reach the Bottom? What

hubris, to want to see the bottom of the ocean—and for what, bragging rights?

What an ego she must have to think such a thing were possible, or even worthwhile.

Finally, Adam interrupts his cataloguing. “I see it!” he yells. “The ROV, I see it!”

Petra can’t see into the sub now that Adam has trained the video camera on the fish around him, but she can bet that Tom is smiling when he says, “Good eye. See, I told you.”

“Now, the tricky part,” Jack, the ROV pilot, says. He maneuvers the ROV to the starboard side of the submersible. “Ok—I’ve got visual,” he says. “Jesus, this thing is really wrapped around. How did you do this, Tom?”

For the first time in hours, Tom laughs. “Wish I knew.”

One of the ROV’s mechanical arms moves the chain forward and back, wiggling it around and tugging at it. Jack whistles, long and low. “There’s some damage here, Tom. You’re going to want to check this out when you get up top.” The certainty in Jack’s voice—that he is willing to say *when*, not *if* they get up top—is reassuring, though Petra can’t help but wonder how he knows.

Finally, the chain loosens and floats free, sinking to the ocean floor. Petra, Marley, and Donnelley cheer. As they celebrate—Petra grinning, Marley doing a little dance in her seat—Mariko comes up the stairs and enters the bridge, soaked.

“It’s disgusting out there,” she says. “I don’t know how you’ve been up here this whole time without getting sick.” Then she notices that the other scientists are standing, smiling. “Did you get it? Are they free?”

“Got it,” Jack says, clearly pleased with himself.

For a moment Mariko doesn’t react, and then she starts to cry. “Oh thank god,” she says. “Thank god.” She turns to the screen; the ROV’s cameras are now on Adam and Tom, who are

slumped back in their seats, relieved. “Adam, you’re okay,” she tells him.

“Don’t I know it,” he calls back.

By the time the submersible and ROV are two hundred meters beneath the ocean’s surface, the storm is subsiding, though the waves are still swelling around six feet. “I’m a little concerned about that,” Marley says. “Tom, how’s the visibility down there?”

“It’s not as clear as it was on the way down, but it’s okay. I think I can manage it. We’ll just need to do this quickly. How’s the pitching on the deck?”

Marley stands and looks down at the foredeck and the crane. “Could be better, could be worse.” The winch cable swings side to side. “I think I want you to wait it out a little while. Can you guys stay down there a few more hours? How’re you doing?”

Adam makes a small, strangled noise.

“We’re alright,” Tom says.

“Marley,” Petra says. “I think we should bring them up. We don’t know if this storm is going to go away or come back—the weather report’s been pretty inaccurate so far. This could be the best weather we’re going to get.”

“I’m not sure it’s safe,” Marley whispers.

Petra crosses her arms. She just wants this to be *over with*. She wants Adam and Tom out of danger, back on the Bartlett. She wants to be back in Dutch Harbor, on the plane home to California. She is *done*. “The more tired we all get, the less safe this is going to be,” she hisses. “We need to get them up here.”

Marley looks to Donnelley for help. He peers out the window. To the west another row of dark, foreboding clouds is gathering. They could dissipate by the time they reach the Bartlett,

flatten out to a calm grey layer, back to the weather before the storm—or not. Then he watches the winch cable tapping against the crane, clicking and clanging as it hits.

“I hate to say it,” he says slowly, “but this might be the safest window we’re going to get, short of asking them to hang out in the sub for ten more hours.”

“That’s what I mean,” Petra says. “Marley, we need to act now.”

Marley sighs. “Okay. Tom, keep heading up.” She presses a few buttons, then leans back to the microphone. “All submersible hands, on deck for landing.”

It takes the crew four tries to connect the cable to the submersible, but finally the sub is hoisted into the air. Tom and Adam both brace their hands against the sphere’s walls as it sways forward and back in a long arc. As the sub moves toward the Bartlett, Adam’s hands seem to slip against the glass and a heavy thunk comes through the speakers on the bridge.

“Are you guys okay?” Marley asks.

“Adam?” Tom echoes.

“Guys?” Petra asks when no one answers.

“Fuck,” Adam says slowly. “What the hell happened?”

“Adam,” Tom says. “How many fingers.”

“What?”

“Right here. In front of you. How many fingers am I holding up.”

“What?” A pause. “Two. God, my head is killing me. What happened?”

“You knocked it against the side of the sub. Same place as before, probably. You’re okay. Stay with me.”

“Yeah,” Adam says groggily. “Sure.”

The sub touches down and skids a few inches across the deck as the ship pitches across a swell. Petra, Mariko, and Donnelley rush down the stairs as the submersible crew secures the sub and unlocks the hatch, then prepares the winch for the ROV. Slowly, stiffly, Tom and Adam emerge. As soon as Adam is out, Mariko is hugging him. “You’re okay!”

He blinks, then pats her on the back. “Yeah, I’m okay.”

“Jesus.” Tom is crouched by the side of the sub, inspecting the damage. A deep gash is rutted into the starboard support beam and the side of the sub. “That shouldn’t have happened. It shouldn’t be that scratched up.” He stands. “I doubt we’ll be able to do any more dives before this thing gets repaired.”

Music to Petra’s ears. She turns to Adam, who is rubbing the back of his head and leaning on Mariko. “My legs stiffened up,” he explains. “And god, my head hurts. What happened again?”

Petra frowns. “You hit your head on the side of the sub,” she explains. She looks at Donnelley. “Concussion?”

He nods. “Looks like.”

“Let’s get you down to the medic,” she says to Adam. “Come on.” She takes his arm over her shoulder and together they go below deck. From the amount of weight he lets her take, it’s clear that he hit his head pretty hard. “You’ll be okay,” she tells him. “Just need some rest.”

After she drops him off, she leans on the wall outside the door to the ship’s hospital. For the first time all day she breathes easy—the sub is up, they’re okay, and she’ll be heading back to port. No sense in staying out if they can’t dive, and Adam will be needing attention.

But then a swell hits the Bartlett and she loses her balance, knocking into the opposite wall. She catches herself on the railing and rubs her shoulder; hot sparks of pain radiate in her

muscles where she hit the wall. And as the pain subsides, fading into a dull ache, she realizes how lucky Adam and Tom were to escape the sub with just a concussion. She realizes how *stupid* she was to let them dive. This could have been much, much worse—and she would be—is—to blame.

Chapter Six
August 6th-15th, 2011

Petra has half an hour before the scientists' meeting and she'd like nothing more than to spend it hiding in the shower, the only place on this ship that she can reliably assume that no one will barge in to say hello, to ask a question, to see how she's doing or might be doing in a few minutes or hours. She'd like to spend days, even, if she could, under piping hot water feeling the skin on her back turn rosy and then scald, watching the pads of her fingers shrivel up until she looks ancient, deathly. A nice, roasting shower could boil away this nasty, guilty, thrumming feeling. She'd like to disappear, dissolve, turn to vapor.

But on the Bartlett each scientist and crew member is asked to limit showers to five minutes, tops, preferably every other day. Life on a research vessel means always smelling like brine and fish and damp, rusty sea air and scientists are expected to succumb to it and give up any pretense of cleanliness, let alone beauty. So she settles for five minutes of serenity. At least as Chief Scientist she has her own bathroom. And there's hot water, yes, although it's never quite hot enough, always just warm enough to taunt a person, to make her believe that if she just waits a minute, prods the knob as if it might somehow move closer to the "H" painted on the wall despite being turned as far as it will go, the water will reach the right temperature, will be soothing and hot. Yet each time Petra showers, no matter how long she waits and coaxes and begs the water, it never warms enough.

So today she gives in to the lukewarm chill, stands under the shower head with her eyes closed and lets goose bumps rise on her skin in small mountain ranges. She imagines being in her shower at home, the rainfall shower head she and Aimee chose partially for the luxury and partially because it would equally accommodate both of their heights, Aimee six inches shorter

than Petra. She imagines having room enough to extend both her arms. She imagines hot water, steam, Aimee's familiar voice telling her everything is all right. This is a daydream. She can dream anything she likes.

She hasn't even picked up her bar of soap or squeezed the bottle of shampoo before the buzzer on the shower wall sounds, alerting her to the fact that she's used *five whole minutes* of precious, precious salt-free water.

She looks at the bar of soap, then at her feet, at the drain between her toes that is greedily swallowing the water she has thoughtlessly wasted.

She leaves the bar of soap where it sits, turns off the water, and reaches for her towel. She dries off, then spends what feels like five more minutes and as many tissues clearing out her sinuses.

She supposes she deserves this.

Shivering, she stands in the middle of the bathroom, silently rehearsing the meeting she called after dropping Adam off in the ship's hospital. First: ask Tom for an update on the sub. He'll tell her, stoically but with a hint of anger, that the sub is broken, unusable. He might even estimate how much it will cost to fix. She runs her hand through dripping hair, untangling the waves and curls. She doesn't even want to think about the cost. Second: ask the other scientists what work they can do without the sub. Third: hope the answer to number two is absolutely none. Doubtful, though, there's always something to be done, water samples to pull up, numbers to crunch, nets to drop, creatures to catch. Fourth: plan to cut the trip short and head back to Dutch Harbor.

Under no circumstances allow the others to see that the hope of going home is the only thing holding her together.

Dry and clothed, she checks her watch. The ship's bells are still ringing the Bartlett's watch schedule, six-hours on, six-hours off. But right now the bells apply only to the crew. Until they know if they'll be staying, and in what capacity, the scientists are in limbo—no sense in dropping a net or sending down the ROV if they'll just have to pull it right back up.

She still has a few minutes before the meeting, so she stops on the deck between her room and the labs to check on Adam. Presumably he only has a concussion, so it's nothing to worry about. Right? It didn't look like he hit his head that hard, and he wasn't throwing up or particularly irritable. Just disoriented. The damage to the sub is much more problematic; she'll have to explain herself to the university, to the science foundation.

But still. She should have been with him this whole time, shouldn't have left him with the medic alone, woozy, forgetful, even if only for a couple of hours, just long enough, really, to eat and shower.

She pauses with her hand on the door to the ship's hospital. Just behind her breastbone, a squeezing pressure rises and builds like a balloon trying to inflate. It's a familiar, though unpleasant, feeling, the same one she felt years ago when her mother called her and told her in quiet tones that the irritability and confusion that her father had been exhibiting was in fact not just normal aging or stress, but rather that he was losing his mind, had Alzheimer's, early onset, would die of it if heart disease didn't overtake his vast Scandinavian barrel chest first. When she'd put down the phone Petra had felt like every cell in her body was on the verge of explosion, like she needed to *get out* of herself. She'd wanted to scream *no*, to call a doctor for a second opinion, to yell at Isabella Bird, sleeping quietly in a sunbeam under the window, but couldn't, her scientific rationality kicking in first and saying there was *nothing she could do*.

Instead she'd sat at the kitchen table, eyes tracing the pattern of the wood grain until Aimee came home, at which point she delivered the news in a flat, dull tone. It took her days to get the courage up to go and see her father and she hates that fact.

And it's that same feeling, now, as the one that clenched her body in its hands as she and Aimee looked at each other on that stupidly gorgeous Sunday afternoon and realized at the same horrible instant that there was nothing more to be said. And the same as the feeling when she'd gotten rejected from one job, then another, then another, before finally making it through three rounds of interviews for her position at Stanford.

Is it anger? Maybe, for a brief, fleeting second, maybe in the moment that her hand touches the thick metal of the hospital door, a spasm of anger courses through her body, maybe if she extended that moment she could yell, scream, break things. But before she can even recognize it as such the pressure rises and pops, ephemeral, and behind it, a single sob explodes into the air, ricocheting off the steel passageway and vanishing. A brief moment of grief, expressed, and then gone.

She pulls her hand back from the door and walks down the hall to the ladder. She descends, ready for the meeting—ready as she'll ever be.

Everyone, it turns out, is early, ready to debrief and move on. Petra makes it through cloaked in professionalism and determination, hiding behind the occasional tissue or cough when necessary. She has her agenda, she has her questions, she knows what needs to be covered. She has rehearsed. She is prepared. She does not answer when Donnelly asks her how she's doing, does not have anything to offer in that regard. Instead, she moves the meeting forward steadily, relentlessly.

After a long hour of debate, the scientists determine that if Adam's condition will allow, that is, if he does not need to be evacuated, the Bartlett will remain on-site for another week, gathering data through water samples, netting, and the ROV, which is, according to Tom, still in perfect working order. As long as they're out here, and as long as they have the use of the Bartlett, they may as well get as much information as possible.

There is, of course, a chance that Adam *will* need to be evacuated but it is a slight one, they all presume. But Petra volunteers to check, ignoring the surprised looks that she has not checked *already*. Once more, the meeting adjourned, she finds herself at the door to the ship's hospital. This time, she doesn't allow herself to pause. Instead, she turns the knob and opens the door in one swift, smooth gesture and steps inside.

As she enters, she takes stock of the room. The ship's hospital is smaller than its name suggests, with just enough space for a person to move around the single twin bed and the sterilizable table for minor surgery. A few countertops and cabinets line the walls. It is rare for a person to need anything more serious than a few stitches here.

Right now, the room is full and cramped: Adam is sleeping and Mariko sits at the foot of the bed with her back against the wall, her legs laid gingerly across Adam's. The medic, Dora Nash, stands at a counter on the other side of the room, flipping through paperwork and making notes.

Petra worries that she won't last a minute in the room if she looks at Adam. "How is he?" she asks Dora.

"Alright," Dora says, turning to Petra and pushing dark bangs out of her eyes. She's wearing a lab coat over jeans; on her feet, a pair of well-worn clogs. This is one of the first times Petra has ever spoken to Dora—they've been introduced, yes, and occasionally been in the mess

or the lounge at the same time, but their schedules have rarely overlapped and Petra's never had need for a medic while on the Bartlett—and she is reassured by how doctorly Dora looks. “He's got a concussion. Plus he's exhausted—stressed from so much time in the submersible, I believe.”

Petra feels herself flinch.

Dora either doesn't notice or pretends not to. She continues, “He threw up once, not long after you dropped him off, but now he seems to be doing better. I'm letting him sleep but I've gotta wake him up every hour or so to make sure he's not getting worse.”

Petra nods. Good. There are steps to be taken here and that is, in its own way, reassuring. “Is he going to need an evac?” She is torn between being hopeful and hating herself for being hopeful, and the question comes out strangely, with a break, a crack, in the work *evac*. She wants to go home. She wants to be off this goddamned ship. She wants to be on dry land, in her own apartment, in her own bed, but she also knows that if Adam needs an evac things are not good. Not even remotely.

Dora looks at the clipboard of papers on the counter, then back at Petra. “Unless he gets worse—I mean more disoriented, or starts throwing up again—we can take care of him here. Right now it seems to just be a minor concussion; nothing to do but rest.” She crosses her arms. “He won't be up for much work in the next week or two.”

What does Dora think of her? That the minute Adam is awake she'd put him back to work? Petra knows she has a reputation as a workhorse but she's not stupid, and she's not cruel. “Of course,” she says, a little sharply. “Is there anything else I can do to help out?” she adds, hoping to soften her tone, though this, too, comes out strangely stubbornly. She sniffs, trying not to need to blow her nose. She is so *tired* of being sick.

Dora shakes her head. “It’s just a matter of waiting, really. But Mari’s been helpful. Speaking of—” She turns to Mari. “Can you check in?”

“Sure.” Mari touches Adam’s knee gently. “Adam,” she croons. “Adam, I need you to wake up.”

Adam’s eyes flutter open. “What? Why?”

“We have to check your memory. Do you remember the thing?”

He groans. “Turtle. Can I go back to sleep now?”

Mariko prods him gently in the ribs when he closes his eyes. “What kind?”

“Loggerhead sea turtle.” He pauses, opens his eyes, and smiles at Mariko. “*Caretta caretta*.”

“Good work.” Mari touches his knee gently. “If he can remember it, he’s okay,” she explains to Petra.

“How’s your head feel?” Dora asks Adam as she wraps a blood pressure cuff around his arm and begins to inflate it.

“Hurts,” he says groggily. He’s almost fallen back asleep.

Dora deflates the cuff, then makes a few notes on her clipboard. She pulls the velcro apart and places the cuff back on the counter behind her. “More, or less?”

“Huh?” He touches the spot where he hit his head. “Less, I guess.”

When he’s moved his fingers out of the way, Dora palpates his scalp. “You’re gonna have a nice little bump,” she jokes. “But this looks okay. You can go back to sleep.”

Petra can’t help it any longer; she pulls a well-worn tissue from her pocket and blows her nose embarrassingly loudly. “Sorry,” she says. “Getting over a cold.”

Dora passes her a box of tissues. “Why haven’t you seen me for this?” she asks, not

bothering to hide the accusation in her voice.

Petra takes the tissues and shrugs. “It’s just a cold.”

While she blows her nose once more, Dora rummages around in the cabinet behind her. “Here,” she says, handing her a box of Sudafed. “This should help.”

As Petra puts the box in her jacket pocket, Adam seems to notice her for the first time. “Hi,” he says, raising his hand slightly to wave.

Petra swallows a hard lump of nervousness. “Hey, Adam. How’re you doing?”

“M’okay.” He touches his head and smiles a bit goofily. “Hit my head.”

“Yeah, I know,” she whispers. She knows she should say something else, something reassuring, supportive, but all she can think of is “You should get some rest.”

“Yeah.” He closes his eyes, and within a minute, is out again.

Petra watches as Mari laces the fingers of her right hand through Adam’s. She wonders if that comforts Adam, if, now that he’s asleep, he even knows Mari is there. She wonders if this is new. If she should say anything. If Adam would mind, were he awake.

In the good days, she and Aimee would come home from work, open a bottle of wine, and cuddle on the sofa to watch TV or talk, Isabella Bird curled up beside them. That was where, when Aimee had thrown out her back, Petra had read to her from whatever she’d wanted—one night, all the more exciting scenes from John Le Carré and Agatha Christie novels, another night, short stories by Gabriel Garcia Marquez that Petra had found weird and unsettling, and on another, recipes from a cookbook until both of their stomachs were growling so loudly that Isabella Bird growled right back and Petra finally gave up and ordered takeout. It was also where, when Petra was hit with a week straight of tension headaches with only a month to go on her dissertation, Aimee had rubbed her head, sung softly to her, brought her cups of tea.

So of course Mari's hand is a comfort to Adam.

Perhaps she should go down to the galley and return with cups of tea for everyone. Maybe she should bring books to read to him. But she's beginning to feel claustrophobic in this tiny medical room. There's not enough air, not enough space, and she just doesn't know what to do with herself. Should she offer to help? Should she offer to get out of the way? Adam is her student but not her friend, and she doesn't want to make Mariko feel uncomfortable. Doesn't want to embarrass her by acknowledging that holding his hand is probably the best thing she could possibly be doing for him right now but it also feels like the sort of thing that ought to be congratulated, encouraged. She doesn't want Mariko to forget this. Doesn't want her to feel it's somehow insignificant.

"Are you okay?" Mari asks.

"What?"

"You just look a little...shaky."

Petra looks down. It's true, her fingers are trembling, just slightly, faintly. She puts them in her pockets. "Too much coffee, not enough food," she lies. "I'm fine."

Mari's eyebrows briefly knit together.

"What about you? How're you feeling?" Petra asks before Mari can press the issue.

"He's okay," Mariko says, glancing at Adam. "So I guess I am too."

This could make things difficult in the lab. This could make things complicated.

But now is not the time to worry about these things. She should let Mari be, let her find comfort in whatever she needs to. Someone on this ship should be comforted.

"Good," Petra says, finally. "Let me know if you need anything, okay?"

"Sure."

“We will,” Dora says.

Once Petra is back in the passageway she leans against the wall, slides down until she’s sitting on the floor. Only then does she pull both hands out of her pockets, rest her elbows on her knees, and watch herself shake.

Over the final week of the Bartlett’s expedition Petra burrows into her scientist self. She does little but process data, drink coffee, and force herself not to think. She wears headphones in the main lab, though they play nothing, function only as earplugs, and she takes them off only when another scientist, Donnelley or Laura or Lars, or one of their graduate students, appears at her shoulder to ask a question. When she forgets to bring tissues to the lab and yet turns out not to need them, she realizes her cold has cleared up. She goes to the mess during meal times and occasionally offers a story, yes, so that no one notices that she is falling into herself, but for the most part she stays silent as Lars describes the ice drifts on the shores of the Baltic sea near Stockholm, where he grew up, and as Laura tells them about the ridiculous things she and the other scientists had to do when she crossed the Arctic circle for the first time as a postdoc—the spray-down with frigid seawater, the vaguely insulting nicknames they were all given, the crawling through two days worth of ship’s trash, all awful at the time but entertaining in retrospect. Petra makes sure to laugh along with the others, but in her lap, below the table, she shreds napkins into confetti, then compresses these scraps into tiny, sweaty, shedding wads. She flees to the comfort of the lab the moment she can find an excuse to do so. When her colleagues ask, she tries not to blame her long hours on the fact that she no longer has graduate assistants.

When she can’t stand the lab anymore she does laps around the main deck, ignoring the light, misty rain that has settled in. At least now the sea is calm, waves only a few feet high,

gently rocking the Bartlett. She watches graduate students drop nets to collect species and observes as they pull up the CTDs, the clusters of sensors they send down daily to measure depth, salinity, and temperature, all in order to get a better sense of what is in these waters and how the canyon functions as an ecosystem. She leans against the gunwales and watches the occasional whale explore the instrumentation that the Bartlett sends down. On one of their first cruises together, she told Donnelley that she was concerned about this behavior. The CTDs send out tiny sonar beeps to measure the distance from surface to bottom, and she worried the sound was hurting the whales, or at least bothering them. But Donnelley explained that the exploratory sounds that the instruments send out sound to the whales like a conversation ripe for eavesdropping—like gossip a few rows back on a crowded bus. These sounds are nothing like the pulses used for seismic testing, for finding oil, which rupture whales' eardrums, send them suiciding, beaching themselves to escape the airguns' noise. The CTDs are safe. Just chatter.

And Petra believes him. The whales that approach the Bartlett and its research gear seem curious, almost playful. They send up plumes of steam that she knows would reek like a salty gym locker if she were closer; they smack the water's surface with their tails. She knows not to ascribe emotions to these animals, but still it is a comfort to think that the whales, at least, are enjoying themselves.

When she feels herself begin to flash back to watching Adam panic on the main lab's monitors, she sends herself back in again, to her research. To what is known. She checks in on Adam once a day and he's improving, but with each visit her guilt ramps up until she can hardly stand to be in the room with him for more than a minute or two.

Only once does she allow herself to stand in front of the sub, to look at it. She crosses her arms to keep from shaking and pulls her softshell close around her. Stares straight into its

headlights as if into the eyes of a beast, tells herself she *will not be afraid*. It is just a piece of machinery. It is just a thing.

When her shoulders fall back into place from where they had been hunched up around her neck, protective, she allows herself to look at the rest of the submersible and that is when she sees the deep, angry gouge in its frame.

She does not look at it again.

Finally, after a week that never seems to end, she finds herself at the Dutch Harbor airport, nestled into a small prop plane. The plane is just big enough to fit all the scientists. The left side of the cabin is arranged with a single seat to a row, each occupied by a professor—rank here correlates to space, to a chair that is alone, simultaneously a window seat and an aisle seat. Petra is in the front row and has ample leg room, fortunate, since usually her knees knock up against the seat in front of her. Across the aisle, on the plane's right, there are two seats to a row; these are for the graduate students. Across from her sit Adam and Mariko.

From here, they'll fly to Anchorage, then board a larger jet south to San Francisco. Home.

It's possible that once, maybe more, her father flew out of this very airport. She knows it wasn't often that he flew home from Alaska; usually his shore leaves occurred when the icebreaker he was stationed on came south to Seattle, its home port, her home then. But she has a vague, faint memory of meeting him at the airport, excited yet apprehensive to see him, her papa who back then she hardly knew beyond the pictures hanging in the living room and propped up on her mother's vanity. She just barely recalls being lifted into the air and swung around by pale, warm hands, of nuzzling her face into the scratchy wool of his pea coat.

It is, of course, entirely possible that this is a memory of another time, when she was older, when she knew him better. When he wasn't frightening and unknown. And of course it is entirely possible that this memory never happened, that here on this tiny airplane, taxiing toward the runway, she is desperate for something, anything, to cling to. Desperate for a memory of being lifted aloft, held, secured.

Across the aisle, Mariko and Adam work on a crossword puzzle together. Although Adam is far taller, dwarfs Mari, really, he leans on her and she accepts his weight, his head against hers. He still loses his balance occasionally, still sleeps more than he is awake. Petra will be surprised if he isn't asleep within minutes of takeoff.

She tightens her seatbelt as the propellers accelerate and the plane roars down the runway. They bump into the air and her stomach drops, a function of gravitational force, she knows, not nerves. Once aloft, the plane banks sharply and through the window she can see the Bering Sea stretched out in front of her. Somewhere, far north of here, the Zhemchug Canyon beckons for her to return.

She didn't know she had been holding her breath but she exhales the force of what feels like eons of air held inside her. The Zhemchug beckons, but she leans into the faded, squished cushioning of the headrest, not sure if, and how, she'll be able to return.

And Yet

Human Error

Air France Flight 447 disappeared from the radio waves on its way from Rio de Janeiro to Paris before crashing into the Atlantic Ocean in the early hours of June 1st, 2009. With no survivors and, at first, no trace of where it had dived into the ocean, it was days before any potential rescue ships reached the wreckage.

The black boxes—two of them, the flight data recorder and the cockpit voice recorder—lay at the bottom of the ocean until they were found in May 2011. It took a remotely operated submarine to lift them to the surface.

In those two years experts speculated that the crash had been due to ice buildup in the pitot tubes, small pieces of metal that measure pressure and airspeed.

But it turns out that the crash had as much to do with human error as anything else. While the senior pilot was taking a nap, the two co-pilots consistently messed up. When the autopilot disengaged, they pushed the nose of the airplane higher in an attempt to climb; instead this slowed the plane. They ignored all the stall alarms resounding through the cockpit.

The issue, it turns out, is that the co-pilots were reacting to the situation in opposite ways and the plane had no way to signal this, to allow one to fly and the other to stand back.

In the final, fatal error, when the senior pilot returned to the cockpit he didn't take over the controls, only tried to tell the others how to fix it. It was then that the airplane hit the water.

Unlikely Survival

In 1971, LANSA Flight 508, en route from Lima to Iquitos, Peru, was hit by lightning. The plane

had been at cruising altitude, roughly 21,000 feet—more than three miles above sea level—when lighting hit the fuel tank on the right wing. The plane fell to bits. Disintegrated. Exploded.

Ninety-one people died.

But ninety-two people had been aboard. Still strapped to her seat, one girl, Juliane Koepcke, seventeen years old, fell down, past the clouds, past the exploded bodies surrounding her. She would have hit terminal velocity, would have been going more than 120 miles per hour, would have felt, at that point, like she was plummeting on a cushion of air. She crashed into the Amazon rainforest, *through* the rainforest, into the trees and survived. She survived the nine days afterward wandering through the rainforest before she found help.

She's not the only one to have survived such a fall: in 1972, JAT stewardess Vesna Vulović survived 27 days in a coma after falling 33,000 feet inside a portion of the exploded Flight 367.

Biology

Rabies is a neurotropic virus: that is, it's not blood-borne, but rather enters the body by way of the central nervous system, effectively circumventing the body's usual immune system response in the bloodstream. It starts at the location of the bite, of course, creeps its way along the peripheral nervous system, then upward along the spinal cord, finally depositing itself in the brain. From here it spreads to other organs, most notably the salivary glands—thus the frothing of the mouth that we're so familiar with.

This all takes time, and as the rabies virus spreads through the nervous system it is asymptomatic, undetectable. On average, it takes a few weeks before it becomes abundantly clear that the host is infected. But—*but!* There is always a but!—it can, in some cases, take up to

five years.

You could forget you'd ever been bitten by an animal by the time anyone realizes you have rabies.

And have I mentioned that yes, there is a vaccine, but for it to work, you need to receive it *after* you've been bitten, and, on that note, you must receive it within a few days of the bite. Just relying on pre-exposure medication won't help. Won't do a thing.

By the time you realize you have rabies? Well, it's been nice knowing you.

Mid-Air

September 1976 was a bad month: a collision between two flights in Anapa, Russia, 64 dead; and a day later, one in Zagreb, Croatia, 177 dead.

On Sunday, March 27, 1977, two Boeing 747s collided on the runway of Tenerife North Airport. 583 people were killed.

349 people were killed in 1996 when Saudi Arabian Airlines Flight 763 and Kazakhstan Airlines Flight 1907 collided at 14,500 feet.

154 passengers aboard a Boeing 737 died when it collided with an Embraer Legacy over the Amazon in 2006. On the plus side, all seven aboard the Embraer survived.

Sometimes from the window seat—always the window seat, for the illusion of control—you can see other flights pass by, their contrails like ribbons extending out behind them. Up in an airplane it's nearly impossible to tell how close or far away something is; scale is hopelessly distorted. Someone once told me you could plummet a hundred feet in an airplane at cruising altitude and never notice. I'm not sure I believe that. I think I'd feel that.

Here, Kitty Kitty

I lived and studied in Bali for four months in 2010. For the first week we lived in Karangasem, a small town on the eastern side of the island. We were staying with a high-caste family and the compound of houses and temples seemed to stretch forever, so far that I got lost once or twice, always blaming the jet lag.

I should point out that between 2008 and 2010 nearly 80 people died from rabies in Bali.

We ate outside and there was a cat who wandered in several times a day, yowling and yelling at us, begging to be petted. It was thin, too thin, and we couldn't help but offer it our extra fried rice.

I was on the other side of the world with a group of people I didn't know and was already pretty sure I didn't like, and here was this cat begging to be loved. So of course I petted it. And if memory serves correctly, there was one point where the cat got frustrated with the fact that I was petting it, not feeding it, and it bit me lightly on the wrist.

It probably wasn't a big deal.

I have another two years until I can be sure.

Dream #1

I'm in the cabin of a plane, buckled in, awaiting takeoff. I recall a recent statistic about the likelihood of collisions on airport runways, am reminded by some small detail—a shift in wind, a cough around me—that this is the most dangerous time.

A shift in focus—now I see things from the pilot's point of view, suddenly aware that I must steer away, quickly now, from the parade of planes careening toward us.

Then I am no longer steering, no longer able to. Instead, an exterior shot of dozens of

pilotless translucent airplanes like ghosts accelerating past us in the opposite direction, the tips of their wings just barely flinching out of reach through the misty night.

Sly Fox

In high school, or was it middle school, one of my classmates was cornered at the bus stop and bitten by a fox. Foxes are naturally skittish, shy creatures and his parents worried it had been rabid, so this boy missed several days of school while he got a full dose of Human Rabies Immunoglobulin injected at the wound, plus more in another muscle, followed by Imovax, the rabies vaccine, injected in his deltoid at 0, 3, 7, and 14 days following the bite.

This is all information I've looked up recently. At the time it hardly even registered with me that it had happened—there were rumors, of course, about the thousands of shots he needed to get, the ones in his quad or his ass, about where he'd been when it happened, about how it had happened, but it was swallowed up by all the other adolescent drama of the day.

Even though there was, right in front of me, an example of rabies as entirely likely, it never even occurred to me to be afraid.

New York to DC on a Prop Jet

I fly from Casablanca to New York without a problem—some nerves, sure, but I have my headphones and my computer and I do alright. On long flights like these the plane evens out after takeoff and there's not much turning, not much turbulence, and you can almost forget you're not on the ground.

The flight from New York back to Washington, DC is another story entirely: on a cloudy night it's impossible to know which way is up. How do I know the instruments aren't broken,

that each shudder of turbulence isn't the plane about to flip over, to drop out of the sky all too slowly? How do I know we aren't already crashing? For all I know we could be just meters from the ground. I hyperventilate, I push my face against the window like if I just get closer to it I'll be able to tell where we are, like if I push hard enough I'll be outside the plane, flying on my own, floating to the ground—with each bump I close my eyes, grip the armrests, press every inch of my back into my seat, before leaning forward again and returning to the window. Eyes open, to the window, eyes closed, sit back in the seat, again, again, again, repeat. My mother stares at me like I'm insane, this child of hers having a full-bore panic attack over a figment of her imagination.

Practical Presents

Among my Christmas gifts from my girlfriend: a small level, so I can always know the plane's upright.

We contemplate whether the liquid encasing the bubbles counts toward the 3-ounce limit.

Parasitism

A parasite is most simply defined as an organism that derives benefit from living in or on another organism—the host—at a cost to the host. It is not an absurd leap to say that a pregnant woman is carrying a parasite.

When I shared this logic with my girlfriend, she told her sister, who was, at the time, pregnant.

It was several months before I saw her—the sister—but I entered the house fully expecting to have a breast pump, or worse, thrown at my head.

Take 1 or 2 tablets by mouth 30 to 60 minutes before flight

Directions:

First get through security; make your way to the gate. Go to the bathroom. Buy a bottle of water. Find a too-small seat at the gate. Swallow one Ativan. Ignore the fact that it is little more than a placebo.

If anxiety persists—and don't kid yourself, it will—take a second pill. But wait until you're on the plane; do it right; do it the way you've always done it; the safety's in the ritual.

Side effects:

Of one pill: No relief of anxiety. Some fatigue.

Of two: Still no relief of anxiety. Short-term memory loss. This will help you forget the panic later, will help you convince yourself to get on the next plane. This also makes watching movies far more fun.

Morning Sickness

I am no stranger to the upset stomach.

More often than not when I'm anxious, a faint queasy pressure builds just beneath my ribcage, threatening to end in more than just bland discomfort.

Often it occurs to me, if briefly, that I might be pregnant. Nausea in the morning? Morning sickness. Nausea in the evening? Well, does morning sickness always have to happen in the morning?

This is, of course, ridiculous. I stopped taking the pill years ago, true, but that was for a very good reason: I had started dating my girlfriend.

The Long Haul

Nine months, also known as forty weeks, also known as 280 days. Pregnancy takes a long time.

Nine months where your body is not your own, where you don't know what you're going to get.

Will your baby be a psychopath? Who knows! Wait nine months and maybe you'll find out.

Self Defense

After a night of dancing a new friend insists that if I am going to be walking home alone I have to take her can of mace.

After much protesting I take it and allow her to show me how to take the safety off. I joke that I'm more likely to chuck it at someone than spray it successfully. I have never carried a weapon in the city, have told my girlfriend, who was raised in farm country, where they do these things, that the moment she brings a gun into the apartment I am moving out.

I walk home at twice my normal clip, increasingly aware of the shadows stretching out beneath hazy yellow sodium street lamps and of the clomp of my and strangers' shoes against the sidewalk. Do I imagine that my heart rate is elevated? Is it only because I'm walking quickly?

If I have to admit it, though, I feel as much trepidation at the question of what it would take for me to actually spray this thing at someone, of what it would feel like. How can a tiny canister in a pale pink pleather case do any damage?

What If Someone Gets In

A tendency, on my part, to forget whether I've locked the door, despite knowing, for near-fact, that I have, despite the memory of turning the key nestled into the muscles of my hand.

I live on the third floor of a house; to get into my apartment I have to go through my landlord's backyard and up two outdoor flights of stairs. Even if someone were to break into the house below, it's unlikely they'd even realize I was up here. Still, I have gotten all the way to the front yard and forced myself to run back up the stairs, just to test the doorknob, just to be sure.

The Bus is One of the Filthiest Places Imaginable

I've gotten into the habit of washing my hands as soon as I get to the office and as soon as I get home. Who knows who was sitting in my seat on the bus before I got there? Who knows what horrible diseases they had? Testing of the BART trains in the San Francisco area showed evidence of fecal matter, mold, and MRSA; in 2010 BART police received 245 complaints of urinating and/or defecating on the trains. The other day my seat on the bus in Seattle reeked of urine.

Right now the women's bathroom near my office is out of soap. I try to ignore it as long as I can before finally bolting up the stairs to find another sink.

One Ritual, Quit

I used to look under the bed each night before I got in it, just to be sure, just to know that in the ten minutes or ten hours I'd been home beforehand, no one had crept in and was lying in wait to catch me off guard.

We broke me of it, my girlfriend and I—each night before bed I'd ask her if it was okay, if we were safe, and she said yes, so there was no need to check the dark gap between mattress and floor. Besides, between the two of us *someone* would have noticed the sneaky figure making his way to the bed; if we hadn't, he (always he) must not exist.

When we went back to long distance, during my last year of college, sheer stubbornness kept me from starting up again.

Well, that and a whole lot of junk stored under my twin extra long. There was no way anyone could have fit there among my clothes and sleeping bag and two different expedition backpacks.

Writing as Therapy

Does writing the compulsions down make them go away? If I realize that all of these steps are just random lists tattooed on my mind, will that laser them off?

All I'll say here is that lately I've been stopping in the bathroom *on the way* to my office, so that bus germs don't get anywhere near my desk.

Dream #2

In "In the Cemetery Where Al Jolson is Buried," Amy Hempel's narrator describes a dream "where we buckle in and the plane moves down the runway. It takes off at thirty-five miles an hour, and then we're airborne, skimming the tree tops. Still, we arrive in New York on time. It is so pleasant."

I've had that dream. It is always terrifying. Do you know how much shit there is to hit at tree-top level?

Common

When you live on the West Coast and your family is on the East Coast, constant flying is inevitable, unless you want to (a) become a hermit or (b) spend half your life on a train, chugging

all-too-slowly across the country. I have counted, and in the last two years I've flown no fewer than twenty-one times. I have been on planes for 3.8% of the days of the past year. Most of them have been from Seattle, my home now, to Washington, DC, where my parents live. But I have also flown to and from Miami, Los Angeles, Philadelphia, Salt Lake City, and Paris.

In contrast, in the past two years I have had, as far as I know, exactly zero direct encounters with rabies. Well, there was the story in the news about the guy from Maryland who got rabies from an organ transplant and died, which had me paranoid for days. I grew up in Maryland.

Yet thinking of either of these things is enough to make me nauseous, enough to make me start to shake.

Now You Can Worry, Too

One sign of impending death by rabies is a sore throat.

Early Death

A list, for your perusal, of those I have known who have died recently:

August 8, 2010: My grandfather, Frank Loops, age 94. Died from—from what? Old age, dementia, heart failure, at that age it's hard to say.

April 4, 2011: A family friend, practically an uncle, Bob Greenbaum. Age 72. Died within a month of his diagnosis of Creutzfeldt-Jakob disease, which is, more or less, Mad Cow.

October 8, 2011: My uncle Sandy, age 61, of a massive heart attack. My father's younger brother. I hadn't seen him in years. He was in a coma for a week before they finally took him off life support.

August 26, 2012: My grandmother, Marian Loops, age 89, less than a month before her ninetieth birthday. Died in her sleep after several strokes. She was, by far, my favorite grandparent.

I'm 24 years old, no heart trouble, frequent exercise, and, as far as I know, no genetic predispositions to holes spontaneously forming in my brain. And yet.

And yet.

Inheritance

I think it is safe to say that I am the craziest member of my family.

Not crazy-fun. Crazy-insane.

Center of the Universe

Depending on who you ask, the odds of dying in a plane crash lie somewhere between one in eleven million and one in twenty-nine million (unless you fly on one of the thirty shittiest airlines in the world, in which case your odds jump to more than one in two million).

Yet every flight I'm on feels like it has to be that one. Is that anxiety, or just an astounding case of egotism?

Enough Already

When I was nineteen and a sophomore in college I ceased to function. I'd taken on too much: classes, a literary magazine, the outing club, lighting two plays, all to keep myself from having to

think about how unhappy I was, how little I felt I fit in, how disgusted with myself I was. I freaked out, dropped half of my commitments—including the show that was opening in two days—and stayed in bed for days, weeks, crying my eyes out, panicking, not sleeping. I don't think I saw anyone other than my therapist and my girlfriend. Time stopped functioning normally, as it does when you haven't slept more than an hour a night in weeks.

I don't remember much of it. There's a months-long gap in my journal. Just thinking about it is too much, too close to reliving it, to bringing that anxiety back. When I ask my girlfriend what happened then, how I acted, the choking anxiety begins to return. Like an elephant sitting on me, as I described in a rare journal entry in February of 2009.

Moving Away

Each time in my life that the anxiety has gotten too bad—when it's started taking over my life, when I've started always feeling like my chest is a rubber band stretched too tight and thrumming after someone's pulled it and released—I have, invariably, decided that it's the place I'm living, that I need a change. That suburbia wasn't working so I needed to go backpacking for a while. That even backpacking wasn't working, so I needed to go to college in the mountains, in the middle of nowhere. That living in the mountains wasn't helping, was actually making things worse, so I needed to move to the other side of the world for a while. That the other side of the world wasn't any better, was actually pretty bad, so I needed to move back to the mountains. That finally I was ready to be free from these mountains, so I moved to the West Coast.

It was always the location that was the problem. It had to be.

But sometime around Indonesia I realized that it wasn't possible that I simply had the worst luck in habitat choice. Sometime around Indonesia I realized it was probably me.

But now, the anxiety ramping back up as I take on more work than I can handle, as I stand on the verge of no more school—because an MFA is a terminal degree, you know, and once you're done you're thrown into the fabled “real world”—as I approach that all-time anxious low, or is it high, I dream of moving to California. Provincetown. Back to the mountains—undoubtedly a terrible idea, but there it is. On the good days I'm well aware I love Seattle; I tell everyone back home how perfect it is for me.

But on the bad days, when even making dinner is too stressful for me to handle—oh, dear, there's no escaping it. Nothing closer than Europe will do. Europe will make this all better.

Contagious

At a party my senior year of college I stood in a circle of friends in the kitchen and watched a spider crawl across the floor.

My friend Hannah stood stock still, warily eyeing the spider as it switched directions away from me toward her. I'm afraid of spiders, she said, and someone stepped in front of it to divert it.

I'm okay with it if it's just there on the floor, she explained, but if it touches me I won't sleep for days. I'll do laps around my room checking for spiders. I'll have nightmares, night terrors, I'll wake up screaming, convinced I'm covered in them.

Spiders aren't in my top three fears, probably aren't even in my top ten, if I cared to list them that far. I don't like them, certainly don't want them crawling on me, but the thought of them hardly makes me hyperventilate. I've been known to remove them from my apartment with an empty glass and a piece of paper, lifting them to the safety of outdoors.

Yet I've remembered Hannah's description of them ever since, and I have to admit it's at least given me pause, just a little bit.

If you really want to know, I check the bed each night to make sure no arachnids lurk, waiting to bite.

False Alarm

I've only ever had one real pregnancy scare. I was eighteen and my boyfriend and I had started having sex a few months earlier. He was my first; I had done a pretty good job up 'til then of listening to all the warnings I'd been told in health class and sex ed, about how I'd get piles and piles of STDs and babies and everyone would hate me and call me a slut. I'd gotten on the pill because my period had been coming every two weeks; the "you won't get pregnant" thing was a nice side effect.

I was on vacation in Vermont with his family, halfway into the white row of pills, the placebo row, the one where you're supposed to get your period, and it still hadn't come.

I freaked out. I would have to get an abortion. How did people get abortions? Where did they go? Would I have to tell my mother? What would she say? Would she kill me? She would kill me.

At that very moment something might have been growing inside me.

At that very moment I might have been two people.

I kept it to myself until finally, out on a run with my boyfriend I blurted it out, told him the news. He was so much calmer than me, asked *Are you sure*, and *Shouldn't we wait and see*, and, well, he was right—only hours later I started bleeding.

Rationale

A friend suggests that there may be a connection between my fear of pregnancy and my predilection for women. I push back against this, of course. I date women for the same reason I date men: because I am attracted to them. I am with my girlfriend because I love her, not because she is some magical charm against gestation.

But I have to admit that it is a nice perk.

Dream #3

I walk through a spiderweb and flail, asking a nearby person for help picking off the two or three spiders that have landed on me.

Minutes or hours later I realize I must have missed one. My entire shoulder and stomach are covered in lentil-sized baby spiders, plastered thickly together like armor. I do not rest until each one is removed and squished.

Just Let It Go

I had a conversation with one of my brothers once where he told me he, too, had once been scared of flying.

It was when I was 18 or 19, he said, but who knows, I just seemed to get over it.

If only it were that easy.

Plenty of Time

What do people think about in the time between realizing the plane is crashing and the moment of hitting the ground?

In a car crash, at least, there's only the split second—if that—where you see it coming. But in a plane crash—you have all the time in the world.

Soothsayer

For a while I was writing a novel in which one of the main characters ran away from home at age 18, and later became a fortune teller as a way to pay the bills. She had no business being a fortune teller.

And yet—I liked the idea that someone who should have no sense of the future, someone who effectively *had* no future, having left every opportunity she had behind her in a small town in Montana—I liked the idea that she could make up what was going to happen and people would listen. That they were *convinced*. Because there's something soothing about a stranger telling you in a strong, reassuring voice, that everything is going to be okay. Or even that everything *isn't* going to be okay—because then at least you know what's coming.

Old Enough to Take Care of Yourself

Last year, or was it the year before, I asked my dad if he wanted me to call when I was on my way home from a night out with my oldest brother—because he'd always wanted me to call, always wanted to pick me up, when I was coming home late on the Metro, alone—and he gave me a strange, surprised look. If you want to, he said. But there's no need.

Perhaps that is officially the point where my own anxiety surpassed my parents'.

Problematic Self-Perception

A while back, when I was in college, if memory serves, I insisted to my oldest brother that I

really was quite a laid back person.

His response?

He laughed, said *You are the least laid back person I have ever met.*

Education Is the Answer

The theory that all it will take is flying lessons—if I know how it works it won't be scary.

But that, too, the very thought of it, nearly sends me into panic attacks. Would physics really work if I tried to dip the nose down, to get out of a stall?

No Future #1

The anarchist kids at the coffee collective I go to sometimes scrawl “no future” on walls, on bathroom doors. They talk about it in gleeful tones, with excitement, with—anticipation.

How is that idea not terrifying, not so implacably unknown that it feels vast, too vast, to even consider? Are they alive in this new futureless future? Does it matter to them?

Or is it like those “No Fear” t-shirts that people wore when I was a kid, the words scrawled in graffiti-font, preempting any questions—no fear of *what?* Of *whom?* Did anyone who wore those shirts even think to ask?

Did they hate themselves when they felt an inkling of fear somewhere in the back of their heads?

Colonization

The cells of microorganisms outnumber human cells in your body, my body, by ten to one.

When you're pregnant I'm sure that ratio changes, but I can't say that I find that alternative appealing.

No Future #2

Or is it as simple as the recognition that by not having children, by categorically refusing to get pregnant, I am, as I am so often reminded by people doubtful of my decision (or rather, nondecision), simply refusing to plan for the future, refusing to look beyond this moment of my life?

Transference

I tell a friend I wish I were afraid of sharks instead of flying, instead of rabies, instead of pregnancy.

But you're never near sharks, she says.

Exactly.

It's not that I want to not be anxious, to not be afraid—or rather, that's a fight I gave up on a long time ago.

It's just that I want to live. I want to live as someone who can fly through the night to a country plagued by rabies. It's that I want my body to be mine.

But Let's Be Honest

Have I ever *not* been anxious?

Would I even know what to do without it? Would I even know who I was?

Inextricable

Juliane Koepcke, who fell from a plane into the Amazon yet somehow survived, grew up, got married, got tenure, lived a normal life.

But I can't help but imagine her flinching at every stray noise, cringing each time someone says the word *flight*, waking from dreams of alarming, death-defying falls.

Because once you've lived that, how would you let go?

Taking Flight

Sometimes when it's sunny I sit on my porch, letting my skin warm in a way it forgets is possible in the long rainy winter in Seattle, and watch the planes taking off. The airport is eleven miles south of my apartment as the crow—or rather, I suppose, the jet—flies, and on days when the wind is in the right direction, jets fly over my place every few minutes. If 747s were like glass-bottomed boats, passengers could press their faces to the airplane's belly and see me looking up.

I imagine you're thinking that each plane flying overhead would send me into a panic attack, a fit of worry, at least a little bit of nail biting. And some days yes, it's true, I do hear the distant rumble of the approaching jet and feel my mouth get dry, my chest tight.

But lately I've been watching the planes floating through the brilliant, cloudless blue of the Seattle summer sky and I feel myself drawn to them, wishing I were peering down at the city and heading far away, to California, to Connecticut, to Europe, to Vietnam. Anywhere.

Does this mean that I am getting better?

Or is it just that once more, ever inevitably, I am ready to escape?

A Satisfying View

*Yes, my brothers,
I know this is a view which satisfies you
for you have worked so intently to create it.*
- W. S. Rendra, "Twilight View"

Word of Mouth

Our island, our Bali, is an island of rivers and gorges: the rivers flow from the mountains down to the ocean, carving deep ravines we navigate to get our water, to flood the fields and quench our thirst and wash the daily filth from our clothes. News from Bali sweeps down from Gunung Batur, from the temples perched atop the volcano, and flows past us in whispers and roars. Often it floats by unnoticed. Other times it catches in an eddy or a rice field, turning into gossip for us all to smell and hear until it's time for the field to be drained and for the news to trickle down to the next village, the next field. It returns up the mountain in rain clouds and prayers, transforms, and makes its way once more.

News from beyond, from Java, Sumatra, Lombok, comes in from the sea and is borne into the village markets on the backs of travelers and foreigners.

Sometimes what we hear is true: at the markets we hear about statues a neighboring village has put in their main intersection to decorate and bless the road, about another village's transition to a new headman, about good harvests, drought; we hear news of our newborn government from the capital, the date of the next election, the latest policy Sukarno has enacted to make life in this new Indonesia peaceful. But more often by the time news reaches us it's shifted into something unrecognizable, the way a storm changes shape on its way across the land.

So of course we didn't believe it when Nyoman and Wayan, home from their work at a

hotel by the ocean, said that Sukarno's generals had been killed at Lubang Buaya, in Java. They brought news like this sometimes, surreal, impossible. We worried that their time at the hotel, an hour's walk from our village, was corrupting them, making them less Balinese, but we knew they were paid well, knew our island was changing, that the hotels were important, inevitable. But still, we doubted what they told us.

But that's what they're all saying, they insisted as we gathered round them, as we guided them to the open platform of the bale banjar, the building in the village center where we conducted all our business, where we came together at night to play music and tell stories.

Pak Yudi hurried down the dirt road to his family's compound and returned with his radio. He placed it in the center of the bale banjar and we surrounded it, so many of us crowding round that we were pressed up against the columns that held up the roof, that we spilled down the steps to the grass around the platform, each of us straining to hear. Sukarno is still alive, the announcer told us, despite the communists' attempts to kill him. But he has ceded power to keep the country safe.

We looked at each other, confused. What did the communists have to do with anything?

Nevertheless! the announcer cried atop a swell of patriotic music, The governor of Bali has declared that we are still loyal to Sukarno!

A murmur moved through us as we tried to understand the news, as each of us added new questions to the confusion. How could Sukarno, president for life, cede power? Why did the governor need to reaffirm our loyalty? Why would the communists want to kill our president, who by his own words had embraced them? Some of us were communists, members of the Partai Komunis Indonesia, and we would never want to harm Sukarno. We weren't political. We were farmers, most of us. Jakarta was so far away; it hardly concerned us. Our worries were close to

home: Would we have enough food for our families? When would it be our turn for the controlled floods that made it possible to grow our rice? Whom would our children marry? In all that, politics hardly crossed our minds.

Pak Yudi was still fiddling with the radio—wasn't he PKI? We'd never bothered to keep track. We thought perhaps Pak Gde was, too, and here he came, bicycling up the road waving a newspaper at us.

Have you read the news? he called. Of course we hadn't; so few of us could read in those days. He leaned his bicycle up against the platform of the bale banjar and opened the newspaper. It was more of the same: communists tried to take over the government, shot the generals, threw them in a well to rot.

Ngurah, the schoolteacher, shook his head. This is nonsense, he said. The government is making it up.

We wanted to believe him but each day the newspapers and radio announcers insisted it was true. Over the next month whispers traveled along the rivers that people in Java were being killed. The government, or perhaps it was the army, or perhaps someone else entirely, was blaming the communists, rounding up the women of Gerwani, the women's wing of the PKI.

The details Pak Gde read to us as we huddled out of a rainstorm were different, even more gruesome, though we hadn't thought it possible. The generals, we learned, had been tortured. They had been raped by the women of Gerwani. Then they had been castrated, all before being thrown in the well.

Pak Yudi interrupted Pak Gde. It can't be true, he said, just yesterday the papers quoted Sukarno—he said the PKI hadn't been involved, that there was no sign the generals were tortured.

But what about the other papers? we asked. They all say it happened, they all say it was the communists.

And anyway, we said. Wasn't Pak Yudi a communist? Wouldn't he side with them no matter what?

It just can't be true, he said, picking at the edge of the sarong.

Still, some of us weren't sure. They wouldn't do that, said Bu Ayu, scratching at her Gerwani tattoo, and we wondered who she was talking about. Gerwani? The army? The communists? How could she know? And we were noticing these things more, the tattoos and clothing that marked people's loyalties. But they were our friends, our family; we had known them all our lives, and our community, our livelihoods, depended on them. We cooperated. We always had.

But we didn't know what to think. We knew not to trust the government but we also knew better than to question it. But when Bu Ayu asked again, Why would they? we had to admit we didn't know.

Some Grievances

Dewa barely contributed his share of food and offerings to the last three temple festivals. His wife sat idle, hardly ever taking the time to weave palm leaves together into ceremonial baskets or to buy flowers to fill them, hardly ever leaving the finished offerings at their compound's entrance as we were taught, and certainly never taking them to the village temple.

Pak Yudi rarely shared his radio, claiming the batteries were too expensive—but we heard staticky voices trickling out of his bedroom each night, even when it played nothing more than what he'd been listening to all day.

Bu Ayu railed on and on about how we treated our wives, about how our daughters should be allowed to go to school, when she knew very well we needed them at home. She always came to the bale banjar to discuss village business even though she was a woman. She said because her husband had married into *her* family, because she was higher caste than him, it was her right. But her husband should have come; he should never have let her make such decisions for her.

Rai promised Nyoman she would marry him but put the wedding off for months, finally marrying Budi instead. Although Nyoman was too *halus* to show it, we knew she had broken his heart.

Putu was always demanding special treatment, more time to speak at meetings at the bale banjar, extra food at temple festivals, all because his father was our headman. We respected his father, of course, looked to him to solve our problems, moderate our disputes. But Putu wasn't the headman; he was no different from the rest of us.

Pak Agus was from Java and although he was a professor at the new university, and although he went on and on about the importance of education, he was forever using low Balinese instead of higher forms, forever insulting those above him in caste.

Pande always had bits of rice and onion stuck in his teeth and spat when he talked.

Surya neglected her family's laundry and the scent of unwashed clothes followed them through the village like a hungry mongrel.

Kari talked too loud.

Pak Gde was always flirting with Wayan's wife.

Wayan's wife was always flirting back.

You know, don't you? These were all just little things. Any village has its problems.

And the most important thing, always, was to be truly Balinese, to be smooth, to be *halus*, to hold our tongues.

High Tide

We tucked our gossip into corners, dropping our volume and taking care to ensure that no onlookers were around to witness, only telling what we'd heard to our closest friends. Our teasing at the market became gentler, especially with people we didn't know as well, those from the other side of the market, in higher or lower castes than us—if we weren't sure about the woman selling fruit or the girl with mounds of dried salted fish spread out before her we might still ask if she really thought that was a fair price, but we didn't comment on her general cheapness, didn't tease her for being short, or fat, or explain to her in detail how those things might affect her bargaining skills.

Wayan and Nyoman brought newspaper clippings back from the hotels and Ngurah read the reports of killings and riots in central Java, explained to us that the violence was real and it was spreading east. We wondered if it was only a matter of time before the violence crossed the Bali Strait to us. We wondered who we would point to if necessary. We all had neighbors we didn't like, and at night before we slept, surrounded by the rare silence in the village, we deliberated whether our lives would be better with them gone.

If we were thinking it, we knew, they might be too. So we stayed quiet. We didn't want anything to be thrown in our faces later if what the papers were saying was true. And we knew that we would shame our families, shame *ourselves*, if anyone knew we were even considering such things, so we swallowed these thoughts, tried to let them go.

Weeks after the first reports Pak Agus returned from the university paler than the Westerners who came through the village from time to time, marveling at our arts and dabbing at their dripping foreheads with already-soaked handkerchiefs. We had never, in the three years he'd lived among us, seen him so upset. He was the only one of us who had been to university in Java and for that, despite his foreignness, despite the fact that he was hardly even Hindu, we respected him. As he trudged down the road toward his home, we diverted him to the bale banjar, ushered him up the steps, did not even wait for him to remove his shoes. Professor, we asked, What happened? What's wrong?

Not Professor, he told us, burying his head in his hands like a child. I've been fired. They fired most of us, and wouldn't let us leave before we gave them the names of other PKI members.

We glanced around, tried to remember which, if any, of us were PKI. A few of us hid trembling hands in the folds of our sarongs but the younger ones, the optimists, said, They only want to know. If they wanted to kill anyone they would be here already.

For the first time the possibility seemed real.

The professor looked at his briefcase, which he was still clutching to his chest as if it might bring his job back. I hope so, he said finally. He pushed his way through us and walked away alone to tell his family the news. When he was gone, we tried to change the subject, to talk about the coming rain, to tease the children. We knew better than to dwell on this.

Further Complaints

Years ago, after the Japanese left and the Dutch were gone too, once we were finally independent, we tried to redistribute the land, to put things back the way they'd been years

before. But Pande refused to give back what the Japanese had given him. Even though it had been our land, had been Wayan's family's, had been Dewa's. It was his, he said, by right. He had grown up with this land, he said, so how could it not be his?

And it was rumored that Pak Agus had chests of money hidden in his bedroom that he'd brought over with him from Java, treasures that he'd taken from his family's temple. We never saw a single bit of it, not even when a torrential rainstorm moved through the year before and ruined the ocean-facing wall of the village temple for the dead.

At the last temple festival Bu Ayu went into a trance, took the form of the goddess Durga, and spit in the face of her husband, all the men around her, even her son, barely five years old. Not until the face of each surrounding man was soaked in saliva did she return to herself, remembering none of it, or at least claiming not to.

We all, even those of us who were too young to remember, even those who had not been born yet, knew the story of how Pak Gde's grandfather had killed Putu's, and how that debt had never been repaid.

Combustion

The fighting came to Bali. Villages to our north quarreled about whose fields should be flooded first—even though there was an order to it, there always had been—and these quarrels escalated into arguments about loyalties. We heard, even, that neighbors were killing one another.

But people in other villages were different, less refined. We knew that. We were calmer. We knew how to bury our disputes, how to stay *halus* and calm and even-keeled.

But still we woke one night to the acrid smell of burning thatch. The air was thick and those of us who lived closest to the smoke could hardly breathe. At first we panicked, thinking

the volcanoes were erupting.

But when we ran out into the street we saw Pak Agus's compound in flames, the fire climbing from room to room, building to building, crawling up the roofs. Some of us ran to the wells for water, others to the river. Our containers were too small to help. None of us could get close enough.

Agus's family clustered around him. His wife, Javanese too, held their daughter tightly as she sobbed. His daughter's arms were empty. We all knew she had a baby, Agus's first grandchild. We'd seen her cradling it, playing with it, had teased it and helped care for it ourselves. Some of us had even been there when the baby was born. We knew then why she was crying so hard in public.

Pak Agus was quiet but stared at each of us in turn, his eyes full of accusations.

We knew. It had been a hot night, silent but for a few frogs croaking in the fields, mosquitos buzzing past our ears. No lightning strike, no rumble of an army truck.

But these things happened, we told ourselves. Our roofs were made from dried and woven thatch. These things happened. Sometimes homes burned down, and no one was to blame.

Loyalties

The army came to our friends' doors and told them they could sign papers renouncing their PKI membership in exchange for a complete pardon. There could be no neutrality, they said, stiff-backed and brawny in their Western-style uniforms. Either you were against the PKI or you were a traitor.

We watched Pak Agus as he signed outside his half-charred home, his eyes still weary with grief, and we flinched at his silence.

The few who refused to sign were arrested and we watched the trucks pull away with young men handcuffed in the back. None returned.

When the army had left we gathered in the streets, mourned and keened for those who had been taken, cried together for as long as we could stand.

But the army came back with news: Gerwani women had been selling themselves to soldiers in exchange for weapons, then killing them as soon as they'd been handed guns and knives. At first this sounded ridiculous but then Putu reminded us of the way Bu Ayu was always grabbing power, was always insisting we let her speak, that she was right. We went to her house in search of the truth. We looked under the beds and in the pots and pans for guns. We marched out to the garden and searched for signs that it had been dug up to hide weapons. All the while Bu Ayu berated us, asking if we had no shame. We asked the same of her.

We began to joke that she was a witch, that she was bringing pestilence down on us. Some of us weren't sure if we were joking.

A crowd—among them Pak Agus, Pak Yudi, Pak Gde, Dewa, Surya, and Budi—had trailed behind us the whole way over, quietly imploring us to stop. We did our best to ignore them; we needed to know the truth. Then maybe we would understand what to do.

Anyway, someone else said. The communists are all atheists. They couldn't possibly have magic.

We wondered how you could be Balinese and not believe in the Gods.

That night Bu Ayu's family compound burned to the ground. We stayed in bed and listened to the flames, clapped our hands over our ears to block out the cries of children trapped under thatched roofs. None of us went to the wells for water to put it out. We knew if we did, our houses would be next.

Quotas

Then the army came at night with lists. They entered home after home, emerged with those they claimed were members of the PKI. They told us that they were building a better Bali.

If we fought the army, told them their lists were wrong, told them we didn't care who was what party, sheltered those they wanted, what would stop them from taking us, too?

Pak Agus' son was one of the first to go. They took him in the middle of the night and we didn't realize he was gone until the morning, he had gone so quietly. The next morning we came across Ngurah and the headman quarreling shamelessly in the street. The headman was yelling that of *course* Agus's son was PKI and of *course* the PKI were vermin, were nothing but rot in our village. Ngurah's arms were crossed in front of his chest and he spoke quietly, urgently, asking how the headman could say such things when he knew the communists were no different from the rest of us.

Ngurah never lost his temper and so had won the argument, but the headman's words stayed in our minds like dirt wedged under our fingernails.

And after his son was taken, Pak Agus stopped speaking entirely. For days he was jumpy, flinching at the slightest sound, the wind through the palm trees, the pound of women's pestles grinding spices, the crow of the early morning roosters. He watched the roads as if waiting for the trucks to come back for him. But after a week he no longer seemed to see the road, didn't seem to remember that it led anywhere, not even to his once-beloved university. He resigned himself to the knowledge that it was only a matter of time. He wandered around as if possessed. Not even the balian could help him. Not even the balian was willing to try.

He had been in his trance for days when Yudi's screams pierced the dark night air. He cried out for us to help him, told the soldiers he was innocent, that they had the wrong person —

maybe it was Yuda they wanted, there was a Yuda in the next village over, he said. We stood by the road and watched them take him away. In the morning we refused to mention it. We talked to Yudi's wife as if Yudi was just out in the fields.

There were others like Yudi who went screaming, crying, begging for us to help them; we knew they weren't PKI, they told us, we knew! But their disgrace, their coarseness, their cries told us that even if we weren't sure how to feel about the communists, that they were, somehow, still at fault.

We didn't know what happened to them. We heard stories, yes, of course we did, there were always stories, people forced to dig their own graves before they were shot, others killing their own family members to spare them torture at the army's hands. But these stories couldn't possibly be true. You wouldn't have believed them either.

And anyway, we told each other, in low whispers over pots of boiling water, in murmurs over the pounding of rain in the fields, the army had their reason. Everyone who was taken was guilty, at least of something.

But Ngurah. He wasn't a communist.

We didn't notice when he was taken, not until our children started bothering us as we worked, asking where he had gone, why he hadn't come to school that day to teach them, whether he was sick.

Was he sick? We went to his compound to find out but it was empty—not even his parents remained. We couldn't believe it. Maybe he had left of his own accord, maybe he had gone elsewhere, maybe—but no one did that in those days.

We lied to our children at first, told them Ngurah had gone to the capital, to the university, had moved his family with him. But then the children asked why he had abandoned

them, when he would be coming back.

And we realized then that he *had* abandoned them, had abandoned us, must have done so long ago. He'd been teaching our children, caring for them, but what, exactly, had he taught them? We'd thought he was on our side, but clearly, we were wrong.

We had to protect our children from the likes of Ngurah—and we worried, now, that by sitting in his classroom they'd been implicated, that they would be next.

What was our side? No one was willing to ask, no one knew *when* it had happened, when we had started thinking of people as communists or not communists. We told ourselves that we were all neighbors, that we were all innocent, but when the army came to take people they deemed incendiary, we nodded and told ourselves, well, yes, it made sense, well, yes, perhaps they had been against the good of the island, the country.

But we hated the way our stomachs felt heavy and thick when we walked past Ngurah's house, past the schoolyard.

But the army must have known something we didn't.

Floods

Militias formed all over the island. They swarmed the village, holding meetings at the bale banjar and telling us that it was our patriotic duty to take sides. They repeated the news we'd been hearing for so long but they brought evidence that the communists truly were anti-Balinese: posters declaring the caste system corrupt, pamphlets encouraging atheism. And there was more! The PKI wasn't just planning a coup, they said. They were planning to kill anyone who wasn't a communist, not just in Java, but here too. They would murder anyone who got in their way and anyone who refused to help their revolution.

We had no choice.

We held a meeting. A few of us were still uncertain. Dewa asked how we could be sure, how we knew that there was something wrong with the communists; only weeks ago we hadn't even known who was what party! But Nyoman listed off the facts, one at a time, one for each finger until his fists had opened into hands.

And behind him, Putu stood, arms crossed. Because his father was the headman, Putu was one of the strongest of us all; he had always had plenty to eat. He looked at each of us in turn and we knew that we had to nod, had to admit that we needed to protect ourselves, that this was getting out of hand.

We organized ourselves. We went from house to house at night. Militias brought lists to us, and when they ran out of names, they told us numbers. We didn't know who else it could be but we named people anyway, people who had betrayed us in the past or who refused to share their land or their food, people who had insulted us, people who we'd always wished would just move away.

We named Bu Ayu, Pak Gde, and then stayed home as they and their families were herded out.

This was our chance to build a better Bali.

Putu declared Ketut Reti a communist. We knew it wasn't true, we'd *seen* Ketut Reti before the last election, wearing Nationalist Party colors, but we also knew that Putu had had his eye on Reti's wife for months. We said nothing, not even when Putu visited Reti's compound days later, not even when Reti's wife shook and wailed for days.

Don't you see? We were at war. We *were* the army. We were defending our homeland from those who would betray us—who *had* betrayed us. The village was our home; our souls

were planted in the soil by our doors and if we left, even to go to the next village over for the market, we felt ourselves tugged home, our bodies begging not to leave. So we had to protect that. We did what we needed to do.

And it wasn't easy, of course it wasn't easy. On the worst nights we swore we heard things, the ghosts of people who were gone but had not been properly mourned. The wind on our faces at night was too cold. Each birdcall, each footstep, each stray wisp of smoke was a sign that we weren't on the right side anymore, that we had been betrayed. So we gathered closer together, played gamelan louder, joked into the night, kept each other company

The trucks stopped coming. We were ordered to take care of things ourselves, told that the army was needed elsewhere, that we would have to step up and do our part. We worked together, used whatever we could. None of us wanted to be responsible for any person's death.

We felt closer to each other than we had in years.

Every day we thought it should be over, that we had found them all, but we knew if we only looked harder we would uncover more communists, more traitors. Some of us followed Putu to the next village. When we arrived they eyed us warily but we told them we were on their side, told them our plan. They agreed.

We went home and rounded up our remaining communists—amazed, but then, that there had clearly been so many hiding like vermin in our gardens—and brought them back to the neighboring village. Some of them were our cousins, our siblings. We hated knowing that our own relatives were traitors. We didn't like to think that we were sending them to die. But the nationalists from the next village brought their communists to us, and in our fields we killed them. We didn't like to admit it, but it was easier killing people we didn't know.

And although we were reluctant to say it—we had killed our cousins! Our brothers!—all

this was strangely satisfying. We all had disputes running back generations. We all had quarrels.

Questions

Without the army, would we have done this? How were we so eager to point to our friends, our neighbors? Why did no one ever point to us?

What would we tell our children, our grandchildren? Would we need to tell them anything? Would they understand that we were doing what we had to do?

When would everything return to normal?

You have to understand that we hardly slept in those days. None of us could. None of us was willing to, for fear that we'd be next.

Silence

One humid, heavy morning, we woke and realized that the communists were gone and our duty was fulfilled. The war was over, and we had won. Those we hadn't killed were in prison. A few relatives of PKI members remained in the village, but we avoided them.

We gathered in the temple, held a festival, played gamelan and coaxed the shadow puppeteer to put on a show. We celebrated into the night, repelling all the demons and ghosts.

We rebuilt. We redistributed the land we had seized, rewarding those who helped most. We replanted the rice, harvested it. We listened for news. We waited for the rivers to return to their normal color, for the eerie blood-red tinge to fade away.

We waited to forget, but we wondered if it was really over. Each round of gamelan we played together in the bale banjar seemed too short, the resetting of the patterns each instrument wove together coming too soon, each gong and gangsa and drum piling on top of one another,

crying out for more attention than we could give. We had always loved the chaos of our music but now we flinched when the wrong note was hit. We kept waiting for the final gong to reverberate through our chests like an earthquake, to tell us it was finished, that this wasn't just a lull before the cycle continued. But we didn't hear one.

We held our breath.

Notes on Sources

All three pieces of this thesis required a significant amount of research, much of which took the form of informal, and ultimately fairly undocumentable, poking around on Google and the internet. However, I feel that I would be remiss not to point to the sources that have been most crucial for me while researching the novel, essay, and story contained here.

*For **What is Known**:* First and foremost, Professor Rick Keil and Professor Allan Devol at the University of Washington and Professor Gail Scowcroft at the University of Rhode Island were all kind enough to take the time to discuss their research and experiences with me. I am especially grateful to Professor Devol, who told me stories about his circle crossings and travels in the Arctic, and also took me on a tour of the R/V Thompson, the University of Washington's 274-foot research vessel, on which the R/V Bartlett is (very) loosely based.

In terms of texts, much of my research about the Bering Sea comes from *Tectonic History of the Bering Sea and the Evolution of Tertiary Strike-Slip Basins of the Bering Shelf* (1991), by Dan M. Worrall, and *The Bering Sea Ecosystem* (1996), edited by the National Research Council. I also relied heavily on "Giant submarine canyons: Is size any clue to their importance in the rock record?" (2003), by William R. Normark and Paul R. Carlson; "Geologic History of the Continental Margin of North America in the Bering Sea" (1967), by David W. Scholl, Edwin C. Buffington, and David M. Hopkins; "Development of large submarine canyons in the Bering Sea, as indicated by morphologic, seismic, and sedimentologic characteristics" (1988), by Paul R. Carlson and Herman A. Karl; and "The Structure and Origin of the Large Submarine Canyons of the Bering Sea" (1968), by David W. Scholl, Edwin C. Buffington, David M. Hopkins, and

Tau Rho Alpha.

The NPR interview with Robert Ballard, Jill Pruetz, and Michael Nichols, “In Digital Age, What’s Left for Modern Explorers” (2011) is what sent me off in this direction in the first place, and articles and videos about Michelle Ridgway’s Greenpeace-sponsored dives into the Zhemchug have also been inspirational.

*For **And Yet**:* The majority of the information about Air France Flight 447 came from the *Popular Mechanics* article “What Really Happened Aboard Air France Flight 447” (2011), by Jeff Wise. Other information about plane crashes came primarily from the Federal Aviation Administration website, Wikipedia, and planecrashinfo.com, which is a boon to those of us who are obsessed with flight safety. Information about rabies is drawn primarily from the Centers for Disease Control and Prevention website. Information about the BART trains in San Francisco is from the *New York Times* article “On BART Trains, the Seats Are Taken (by Bacteria)” (2011) by Zusha Elinson.

*For **A Satisfying View**:* This story largely draws on my experiences living in Bali in Spring 2010; I lived with a host family in Bedulu, a small town not far from the tourist center of Ubud. My host family never mentioned the killings of 1965-66 but I did learn, once I was back in the U.S., that survivors of the killings in Bedulu had erected a memorial to their families that the relatives of perpetrators avoided. Particularly since most Balinese people I met were unwilling to mention the events of 1965-66, I am grateful to Dr. Ni Wayan Pasek Aryati (Ary) and her husband, Dr. Tom Hunter, for teaching me about the political and social context; I am especially grateful to Ary for being willing to discuss her experiences growing up in a small village in

Tabanan, Bali, not long after the killings.

I also relied on several texts for political and cultural background information, particularly Geoffrey Robinson's *The Dark Side of Paradise: Political Violence in Bali* (1995) and "The Post-Coup Massacre in Bali" (1996). Robert Cribb's essay "Problems in the Indonesian Killings of 1965-1966" (2002) helped me wade through the various conflicting versions of what happened in Bali after the coup, and Megan Brankley's Williams College thesis "When a Patron Falls: Contesting the History of 1965 in Post-Suharto Indonesia" (2008) helped clarify for me what I had observed while living in Bedulu. Unni Wikan's book "Managing Turbulent Hearts: A Balinese Formula for Living" (1990) clarified Balinese communications styles and the ever-present concept of *halus* (smoothness).

Finally, two stories by Balinese writers, "When People Become Numbers" ("Pada Saat Manusia Menjadi Nomor-Nomor"), by Putu Arya Tirtawiry, and "Kalanaga," by Triyanto Triwikromo (both translated by Dr. Tom Hunter), helped me get a better sense of how Balinese individuals experienced the killings of 1965-66 and how they view them in retrospect.

All inaccuracies in the novel, essay, and story in this thesis are, of course, my own fault, and should not be attributed to the sources described above.