The Shore We Built

inspired by

ELEANOR WHITLOCK

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Part One: The Narrow Edge

In Wickham Shore, Nell starts her runway clock, teaches her first machines to float, and gets her first close look at the patrons she means to join.

CHAPTER 1

The Thimble

By seven on the first warm Saturday of April, the Thimble already had eleven towels on it, and Nell Varga had a bucket.

She had carried it down Pell Street empty, filled it at the waterline between a striped towel and a child's abandoned sand fort, and set it on dry sand where the early light came flat across the lake. From her jacket pocket she took the puck. It was the size of her fist and the color of an oyster shell left out in the rain, gray with black flecks of basalt fiber, and across its top ran the line where she had brought the hammer down at eleven the night before. The crack had gone a third of the way through. She had heard it give, a dry tick, and had put the puck on her windowsill and gone to bed without looking at it again, because looking felt like cheating.

Now the line was white. Fine threads, finer than hair, had grown across the gap and thickened where they met, so the crack had become a seam, stitched and pressed flat. She rubbed it with her thumb and the threads held. When she lifted the puck to her nose it smelled the way it always smelled when the mycelium was working, of wet stone and the heel of a loaf.

She dropped it in the bucket.

It went under, bobbed up, rolled once to show its seam, and settled with a quarter of itself above the water, rocking in the ripples her hand had made. Nell crouched and timed a full minute on her cuff. Nothing seeped. No bubbles

rose from the healed line, so the air cells under it were still sealed, so the threads had knitted the honeycomb walls inside as well as the skin outside. For three weeks she had been unable to prove that.

"Ha," she said to it.

A man walking a dog along the waterline glanced at her, then at the bucket, saw a rock floating, and kept walking. Wickham Shore had seen a great many odd things in buckets.

* * *

She stood and looked east, as she always did, as if the view might have changed overnight. From the Thimble the shore ran on for nearly four kilometers in a long shallow curve of private lawns and boathouses, with docks reaching out over the water at intervals. There were sixty-one lots, every one leased to an Advance household under the old ordinance, and every one came with its own strip of water's edge. At this hour the docks were nearly all empty. On the Okafor lot a single kayak lay upside down on a rack; far off toward Heron Point a white sailboat rocked at its mooring with its sails furled and nobody aboard. Twelve meters to her left the Halvorsen dock began, running out in silvered planks to a bench and a ladder, and the bench had a gull on it and nothing else.

Behind her, the Thimble ended at the stone footing of the old ferry pier, where the bays of the Maker Commons stood shuttered behind doors painted with faded numbers. From the Halvorsen dock to the pier was sixty meters of sand. She had paced it at nine, at fourteen and again last summer, and it had never come out to anything else.

She did the arithmetic she did every warm weekend. A towel took about two square meters if the person on it was polite. With the lake up in spring, the sand ran perhaps fifteen meters from the waterline to the seawall; call it nine hundred square meters of beach. Allowing for children and coolers and the man who always brought a folding chair the size of a sofa, three hundred people would fit before they were shoulder to shoulder. Wickham had eighteen thousand. By eleven the Thimble would be full, and the families who came at noon would stand at the top of the seawall with towels over their arms, looking for a gap, and then walk out along the pier to sit with their legs over the edge, which was pleasant enough, though it was not a beach.

Up on Shore Road a freight pod went by in its groove, humming the low, steady B-flat that every Brandt Lanes pod in Wickham had hummed since before she was born. Her father said the whole town was tuned to it. At eleven she had tried to print a flute that would play a harmony line under the pods, and the sound it made had sent the neighbors' cat over two fences for the afternoon.

Nell fished the puck out, dried it on her jacket and put it back in her pocket, where it had worn a gray patch in the canvas lining. She tipped the bucket back into the lake. Six more people had arrived while she was busy, and one of them had spread a blanket over the place where she had been crouching.

* * *

Two-thirds of the way up Pell Street stood the Varga house, printed in Wickham's second big run, its walls laid down in ridged layers of ochre that forty years of weather had softened to the color of baked squash. Each layer was a finger's width. As a child Nell had counted them from the step to the eaves, three hundred and eight, and had been disappointed to learn that the printer had not been counting too. The porch faced downhill, and from it you could see the lake over the rooftops as a blue band between the chimney caps.

Her mother would not be in the house. Past the back fence and across the lane lay the Pell Street Allotment: two hundred beds, a greenhouse whose film skin ticked as the sun warmed it, and at the far end, under a pair of old willows, the mushroom shed.

Inside, the shed was dim and close and smelled of damp straw and something faintly sweet, like pears gone soft. Ilse stood between the racks in her sun hat and garden boots, turning a straw bed with a hand fork. She wore the hat indoors and out from April to October, on the principle that taking it off was how you forgot it. The beds hung in clear bags on steel racks, column after column of packed gold straw shot through with white. From slits in the plastic the oyster mushrooms pushed out in gray shelves, ruffled at the edges, the color of a gull's back.

"Morning," Nell said.

"Morning." Ilse turned the fork, and the straw breathed out its sweet smell. "You were out early."

"The Thimble."

"Many?"

"Eleven towels at seven."

Ilse made a small sound that meant she had guessed eight. She worked down the rack, pressing two fingers flat against each bag to judge its moisture, and Nell followed her, because in the shed that was how conversations happened: side by side in the aisle, facing the mushrooms.

At the end of the third rack Ilse stopped beside a gap on the lowest shelf, a clean rectangle in the dust where a bag of spawn had stood.

"I had six of the gray on this shelf," she said. "Last Sunday."

Nell looked at the gap. It was about the size of a brick. On Tuesday evening she had carried the bag home under her jacket. Most of it was now growing through a tray of chopped basalt fiber on her windowsill, and the rest was in the puck in her pocket. In her notes she called the strain Ilse's Gray, which her mother did not know and would have found excessive.

"I'll bring it back," Nell said.

"Bring it back." Ilse laid her fingers on the next bag. "This one's dry. Hand me the mister."

Nell handed her the mister. Her mother misted the bag in slow passes, watched the beads run down into the straw and moved on, and that was the end of it. All week Nell had expected to be asked what the spawn was for, and she had an explanation ready: the cell geometry, the healing times, the six hours for a hairline and the forty for a break clean through. She stood in the aisle with all of it while her mother misted the next bag.

"Your father wants the frog at ten," Ilse said, without turning around.

* * *

The Tin Heron Theater occupied the garage of a printed house on Lantern Row. When Nell was small, the people who lived there had moved to Bray and left the garage to Tomas with a card that said only *For the heron*. He had printed six rows of benches in the same ochre as the walls and built a stage the width of a door. Behind the stage hung a painted backdrop of a cloth lake, blue fading to green, with a felt sun that he re-glued every spring.

When Nell came in, her father was already behind the stage with both arms up. On his right hand Professor Gill swayed on his long jointed neck, a heron of carved pine and gray felt whose beak closed with a wooden clack. On his left,

behind a desk the size of a matchbox, sat Clerk Badger in half-moon spectacles, holding a rubber stamp in one paw.

"Ah," said Clerk Badger, in a voice like a door that needed oiling. "The applicant."

Nell sat on the end of the front bench, took the frog from the hook where it always waited, and slid her hand inside. It was green velvet worn thin at the mouth, with button eyes that had been replaced twice. She had been its voice since she was six.

"I'd like a puddle," the frog said. Her frog voice was hoarse and earnest and came from somewhere at the back of her throat she used for nothing else.

"Form 9-B," said Clerk Badger. "Application for a Puddle, Small." The stamp came down on the matchbox desk. "Location?"

"Next to the pond."

The heron's neck swung round. "I object," said Professor Gill. He spoke in a fruity baritone, very pleased with himself. "Puddles adjoin ponds, and the edge of the pond, as everyone knows, is mine."

"All of it?" said the frog.

"A heron requires frontage."

"Does the puddle touch the pond?" said the badger.

The frog considered this. "Only when it rains."

"Then it's a seasonal puddle. That's 9-C."

"I'll take a 9-C."

"Out of 9-Cs," said the badger. "Very popular this time of year."

"Everything near water is popular," said Professor Gill. "That is what being near water means."

"I don't need much," said the frog. "Only enough to sit in with my feet wet."

"That's how it starts," said the heron darkly. "First the feet."

Tomas lowered both arms, and the puppets bowed to the floor over his wrists. "Too long," he said, in his own voice, which was slower than either of theirs. "The children go at *seasonal*. I watched them last week. Seasonal, and then three of them were looking at the ceiling."

"So cut seasonal."

"Then there's no joke about the 9-C."

"There's barely a joke about the 9-C."

He tilted his head and conceded this. On a string around his neck hung a brass tally counter, the kind with a push button and four little number wheels, and he thumbed it once without clicking, out of habit. "Two hundred and four laughs last Saturday," he said. "Over the four shows."

"Is that good?"

"For a garage?" He set Professor Gill on his stand, where the heron stood looking at the cloth lake with an air of ownership. "Two hundred people laughing is a lot of people laughing, Nellie. Count them sometime. You'll lose your place."

He took the frog's line again from the top and changed *seasonal* to *only on Tuesdays*, which was funnier, and they ran it twice. On the second run Nell put a small croak at the end of *feet wet*, the badger stamped the form so hard the matchbox desk jumped, and Tomas clicked the counter for himself, which he said didn't count and counted anyway.

"Wade by wade," he said, hanging up the badger. "That's how a heron gets anywhere."

She hung the frog on its hook. In her jacket pocket her fingers had found the puck and were turning it over and over, feeling for the seam.

"You smell like bread," her father said.

"Mushrooms."

"Bread," he said, as if that settled it.

* * *

On the windowsill of her room the tray of fiber had furred over white in the night, as thick as frost on a cold car. Nell crouched to check its edges, then sat at the desk with her notes and pulled up the buoyancy figures she had been fighting all week.

"How deep is the lake off the Thimble?" she said.

"About eight meters at the end of the Halvorsen dock," said Mister Biscuit, from the small brass grille in the desk lamp where he had lived since she was nine. Before that he had lived in a stuffed seal. "Deeper as you go out. You have asked me this before."

"I know. I'm checking."

"You first asked me when you were four," he said. "You had named me that morning. You wanted to know whether the lake had a bottom, and if it did, who it belonged to."

"What did you tell me?"

"That it had a bottom, that it was mud, and that you could ask the Lakeshore Office about the rest. You said you would ask them yourself when you were bigger. You also told me it was a hundred meters deep, and when I corrected you, you told me I was wrong."

"I rounded up."

"You have always rounded up."

Nell worked through a column of cell volumes, then sat back. "I was four," she said. "Nobody should be held to a name they chose at four. You could let me rename you."

"There's a form."

"You could fill in the form."

"I can't fill in my own renaming form. That would be a conflict of interest." His voice stayed perfectly level, the faint formality he had kept since the seal, which she had once tried to train out of him and had given up on at twelve. "You would have to request it, and give reasons."

"Reason: nobody takes a tutor called Mister Biscuit seriously."

"Your marks suggest that somebody did."

She did not have an answer to that, and he let the silence sit long enough to make it plain that he knew it. Outside, a delivery pod hummed past at the bottom of the street. The tray on the windowsill gave off its faint smell of bread.

"How long have I got?" she said.

"On the license as it stands, until your twenty-first birthday. If you activate a runway, the landing window extends by six months." He paused for exactly as long as it took to be correct. "From this morning, with a runway: twenty-one months and twenty-three days."

"Twenty-two months."

"Twenty-one months," said Mister Biscuit, "and twenty-three days."

* * *

They ate on the porch because it was warm enough to, which in Wickham in April counted as an occasion. Tomas had grilled the perch from the lake

hatchery's Saturday drop, two fat fillets that came off the bars with the stripes burned into them, and Ilse had brought up a bowl of greens from the allotment: early lettuce, pea shoots, a fistful of sorrel that made Nell's mouth pucker, and a scatter of the gray oysters torn into strips and seared in butter. Below the porch the roofs of Pell Street stepped down toward the water, and between two chimneys the lake had gone the color of a pewter spoon.

"It's a good fish," said Tomas.

"It's the same fish," said Ilse.

"Every week a good one." He lifted the larger piece onto Nell's plate with the spatula and the smaller onto his own, and Ilse watched him do it and passed Nell the bread.

Nell had planned to wait until after dinner and then had decided to wait until the end of dinner, and now the perch was half gone. She set her fork down.

"I'm going to activate my runway," she said. "Tonight. For driftstone."

Her father finished chewing. Her mother laid a strip of oyster on her bread, folded it and ate it.

"Driftstone," said Tomas. "That's the rock."

"It's a composite. Mycelium grown through basalt fiber, printed in cells with air sealed inside. It floats. If it cracks, it heals." She took the puck out of her pocket and put it on the table between the bread and the greens, seam up. "I cracked that last night. With a hammer."

Her father picked it up and turned it under the porch light as carefully as he would a new puppet head. He weighed it in his palm, then held it to his nose. "Bread," he said.

"Ilse's—" She caught herself. "The oyster strain. It does the healing."

"I wondered where my gray went," said Ilse.

"I said I'd bring it back."

"You did."

Tomas set the puck down. He had a way of asking a question as if he had all evening and the answer might be a pleasant surprise. "And what's it for?"

"Shore."

He waited.

"You print it on the water," Nell said. "As much as you want, any shape. Parks, docks. Houses, if you build it big enough. Any town on any lake could have more edge. Wickham could." She pointed down past the chimneys at the

band of water, as if they might not know where it was. "There are three hundred meters of public shore in this whole town. You've seen the Thimble in July."

"I have seen the Thimble in July," Tomas agreed.

"The lake is fine as it is," Ilse said.

"The lake is fine. The edge of it is all taken."

"I've got enough lake."

"You've got a view of it between two chimneys."

"Exactly enough." Ilse tore another strip of bread. "I can see it from the beds. I can walk down to it on a Tuesday when nobody's there. It's there in the morning." She ate the bread. "It's a good lake."

"It's the same lake," said Tomas, and Ilse gave him a look that was nearly a smile, and Nell understood that she had walked into a joke that was older than she was.

"I'm serious," she said.

"We know," her father said. "You've been serious since you were four. You were serious about the flute." He refilled her water glass from the jug, then his own, then held the jug over Ilse's glass until she nodded. "The heron will be furious, you know. Someone making more pond edge. It'll ruin his whole position."

"The heron can apply for a puddle."

"Out of 9-Cs." He drank. "Twenty-two months, Mister Biscuit says?"

"Twenty-one months and twenty-three days."

"That's long enough to build a thing," said Tomas. He said it simply, as he would have said it about a new sketch or a fence, and Nell, who had braced for something harder, found she had nothing ready for that.

Ilse finished her greens. She looked at the puck for a while, at the white seam across its top, and then out at the lake between the chimneys, and said nothing more about it. When the plates were stacked she pulled her boots on at the top of the porch steps and went down the lane toward the allotment, as she sometimes did after dinner in spring, to check the shed before the night came cold.

* * *

At a quarter past eleven, under the kitchen lamp, Nell spread the activation form across the table's display and read the first page three times.

It was shorter than she had expected. Her name, her date of birth, the venture's working title, which she typed as *Driftstone* and then left alone, because anything else sounded like a brochure. The field for intended domain offered a menu that went on for some time; she chose *materials* and then, after a minute, added *marine*. Under her elbow the table was faintly warm from the dishwasher running in the wall.

"Would you like me to read the terms aloud?" said Mister Biscuit, from the kitchen grille over the stove. He did not usually come down to the kitchen. "People often like to hear them."

"Read them."

He read them in the same level voice he had used to teach her fractions. Upon activation of a Civic Runway, the holder would be entitled to assigned laboratory space at a municipal maker facility; to the services of a civic account manager; to priority transit pods within the regional network; to use of the Sovereign Line at any physical queue; to mentor matching through the Advance Tier professional registry; and to an allocation of runway credits, the amount to be set by domain and reviewed quarterly. The runway conferred no voting rights. It conferred no civic capital. It could be activated once.

"Once," Nell said.

"Once in a lifetime. Shall I go on?"

"Go on."

"Activation extends the Youth Growth License of the holder by a landing window of six months beyond the holder's twenty-first birthday. In your case," said Mister Biscuit, "the landing window closes on February second, twenty-ninety. If no qualifying conversion has occurred by that date, the license will close and the holder will retain full Thrive Tier membership, with no penalty and no change in standing." He paused. "That is the end of the terms. There is a paragraph about pod etiquette, but I've summarized it as 'don't put your feet on the seats.'"

She sat looking at the confirm field. It was a plain gray rectangle, the same gray-blue as her cuff. From the porch came the tick of the cooling grill, and from the street, far down, a pod passed with its B-flat. Somewhere above her, through the ceiling, her father was humming the badger's walking music in the bathroom.

"Nell," said Mister Biscuit.

"I'm reading it again."

"You are looking at the confirm field."

"I'm reading the confirm field."

He was quiet. She put her thumb on the rectangle and held it there until the table chimed. Then she pressed her wrist to the reader in the corner of the display, the way she pressed it at the hatchery counter and the library door, and felt the cuff warm briefly against her skin.

The gray-blue went out of it. For a second the band was dark all the way round, a plain black strip, and she thought something had failed. Then a thin line of green came up along both edges, bright as a new pea shoot, and stayed there, outlining the dark middle where the small type of her Thrive record still sat in soft white: her name, her birth year, a lifetime contribution figure she had never once looked at. The green ran around her wrist and met itself at the clasp.

"Congratulations," said Mister Biscuit. "Your civic account manager will be in touch on Monday. He will probably bring a folder."

"How do you know?"

"I have read his profile."

She turned her wrist under the lamp. The outline did not pulse or flicker; it simply stayed green.

The back door opened. Ilse stood in it, still in her garden boots, a smear of straw dust on one knee and the cool of the lane coming in around her. In her hand was a bag of spawn, new, the straw packed tight and already threaded white, with a strip of tape across the top on which she had written *GRAY 4/10* in marker. She crossed the kitchen and set it on the table beside Nell's elbow, next to the display with the green confirmation still glowing on it. She did not look at the screen or at the cuff.

Then she went to the stairs and up them in her boots, one tread at a time, and the bedroom door closed.

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CHAPTER 2

Porch Renewals

"Varga, Nell," the courier said. "Civic Runway, materials and marine. Thumb, please."

He held the reader at the height of her collarbone and waited. Nell had come down the stairs with one boot laced and the other in her hand, and since there was nowhere else to put it she set the boot on the porch rail, where it tipped over and hung by its laces above the hydrangeas. The reader was a gray slab about the size of a playing card. Under her thumb it turned warm, then warmer, and a chip no bigger than a fingernail slid out of a slot in its side. He caught it between two fingers before it could fall.

"That's your lab credential," he said, in the voice of someone who had said it at a great many doors. "Good for the length of the runway and the landing window. If you lose it, call your manager."

His cargo trike stood at the curb with two wheels in the courier lane and one on the printed edge of the walk. A long crate lay strapped in its bed, and a slatted bench folded down from the side of the bed. The satchel across his chest was canvas worn pale at the corners, and the cuff on his left wrist was Thrive gray-blue and showed nothing but the date.

"How does it know it's my thumb," Nell said, "and not a print of my thumb?"

He looked at the reader, then at her. “Warmth. Pulse under the ridges. Then it asks your cuff.”

“What does the cuff say?”

“Yes, mostly.”

“But how does it ask? Over the lane band, or—”

“It’s four centimeters from your wrist. It doesn’t need a lane.” He turned the chip so it caught the light. “On here there’s a key token, the open-water waiver, a line at the Commons supply desk, and a message from your account manager, which he asked me to tell you about in person. Oskar Lindqvist. He’ll come by Wednesday with a folder.”

“Everything’s on the chip.”

“He was very happy about the folder,” the courier said. “I didn’t ask.”

Nell took the chip. It weighed less than a button. Through the open door behind her, Mister Biscuit spoke from the kitchen speaker at the volume he used when he suspected she was pretending not to hear. “Nell, your renaming request is still waiting for a signature on the second page.”

“Later,” she said.

“You said that on Saturday.”

The courier’s eyes went to the doorway and came back, and he didn’t ask. He pulled the satchel around to put the reader away, and when he lifted the flap Nell saw the inside: rows of narrow slots stitched into the canvas, a brass numeral riveted under each, most of them holding a chip.

“Are those in stop order?”

“Forty-one stops on a Monday.”

“Who sets the order?”

“The route. I move two or three when I know somebody won’t be up.” He buckled the flap. “Nobody on Kestrel Lane is up before nine.”

“How long do you get at each one?”

“Ninety seconds.”

“Who decided ninety?”

He had started to turn toward the steps. He stopped, and for the first time something in the way he stood loosened. “Somebody who timed a lot of porches, I’d think. Do you want to know how the trike charges too?”

“Does it charge from the lane?”

“It does. Do you want to know how the lane—”

"Yes."

"I don't know how the lane does it," he said. "I'm Teo. I have to go."

The satchel gave a double chime, and he frowned at the canvas as if it had spoken out of turn. He took the reader out again and read it.

"There's something else at this address," he said. "Varga, Tomas. Tin Heron Theater, Lantern Row. Operating license, small venue, public performance." He scrolled with his thumb. "Lapsed."

"When?"

"April 2085."

A kitchen chair scraped inside. Tomas came to the doorway with Clerk Badger on his left hand. The badger had no spectacles on; a lens had come out of the wire frame on Saturday, and Tomas had spent breakfast gluing it back with a toothpick and a clamp made from a clothes peg. Tomas looked at the courier, the badger looked at the courier, and it was the badger who spoke.

"Lapsed," said Clerk Badger, in his dry, wounded tenor. "I would have been notified."

"You were," Teo said. "Every quarter."

"Every quarter," Tomas said in his own voice, thinking it over. "We do get a great many notices. Most of them are about the delivery lane."

"Has anyone come to close it?" Nell asked.

"Nobody comes to close a puppet theater." Teo tilted the reader so they could both see. The line was amber, with the date in small type beneath it. "It just sits on the list in that color."

By Nell's arithmetic the Tin Heron had played more than six hundred Saturday shows in those three years, four a week, to a garage full of benches, and the cloth lake on the back wall had been repainted twice. No one had asked to see a license. As far as she knew, no one had known there was one.

"Can it be done here?" Tomas said.

"Your daughter's runway puts a courier on the porch," Teo said. "While the courier's on the porch, the address gets the courier. Thumb."

Tomas pressed his right thumb to the slab. The amber line turned green. Still scrolling, Teo said, in exactly the voice he had used for Nell's credential, "There's a witness field. It's optional."

"Optional," said Clerk Badger, as though the word had left a mark.

The badger leaned forward. Teo held out the stylus, and the badger's paw, which was Tomas's three middle fingers in gray felt, closed around it. The writing took a while. Teo held the reader very still. When it was done the field read, in capitals that wandered uphill, C. BADGER, CLERK. WITNESSED AND DEPLORED.

"It accepted that," Nell said.

"It checks that it isn't blank," said Teo.

"Next time," said Clerk Badger, "in triplicate."

Teo put the reader away. He didn't quite laugh. He let out a short breath through his nose and looked over the rooftops at the lake for a moment before he checked his wrist. "That was four minutes," he said. "I'm behind the route."

"You're going down Shore Road," Nell said. "Past the Commons."

"The Commons is my last stop before the turn." He nodded at the crate in the trike's bed. "That's for Bay 9."

"Whose is Bay 9?"

He didn't need the reader for that one. "Varga, N."

She took her second boot off the rail. "Is the bench rated for a passenger?"

"A hundred and twenty kilos and no questions."

"I'll bring my own," Nell said, and went down the steps lacing.

Tomas raised the badger's paw in a stiff farewell. The porch mat at his feet had been printed with the porch, in the same oyster gray, with a heron in low relief that twenty years of boots had worn smooth along its back. Ilse's garden boots were already gone from it. She had left for the Allotment at six, so there had been no breakfast at which she could say anything about the green rim on Nell's cuff, and she hadn't.

* * *

The bench hung so low on the trike's flank that Nell could have trailed her fingers along the curb. In the courier lane, a strip of rough blue paint beside the delivery grooves, Teo rode without hurrying and without stopping. Pods ran down in the grooves at knee height, gray and about as long as a loaf of bread, each one humming a single low note. When two passed in opposite directions the note doubled for a moment and then let go. Pell Street sloped down between ochre houses and oyster-gray ones, their walls ridged in layers she could have counted, and at the bottom it met Shore Road.

The lake was on their left and mostly hidden. Between the road and the water the leased lots ran one after another: clipped hedges, iron gates, a wall of cedar slats, a wall of pale printed stone made to look quarried. The lake showed in slices between them, flat this morning and green-gray, with mist lifting off it in slow sheets. Every gate carried a small enamel plate with a lease number and a year. Nell read them as the trike went by: 2071, 2079, 2066.

Teo braked beside a flight of stone steps that climbed between two box hedges to a terrace. Nell started the timer on her cuff when his boot touched the first step.

A woman stood at the balustrade with a cup in her hand, wearing a bathrobe the color of butter. Her cuff was gold. Behind her a glass door stood open onto a room Nell could see only part of: a long table, a bowl of lemons, a painting of more water.

"Teo," the woman said. "Is it the passport?"

"It is, Mrs. Dunmore. Thumb, please."

She set the cup on the balustrade and pressed. "Peary habitat, in June. My granddaughter's on the greenhouse crew. I've promised to come and look at her lettuces in one-sixth gravity. She says they grow tall and astonished."

"It's good for ten years and the Moon," Teo said. "If you lose it, call your manager."

"Thank you, Teo." She picked up the cup again. "There's coffee. The Dalwood people roast it by hand in a drum. Come up for once."

"Ninety seconds, Mrs. Dunmore."

"One of these days you'll have a Tuesday."

"I have every Tuesday," Teo said, already on his way down.

Mrs. Dunmore lifted her cup toward the bench. "Runway?"

Nell raised her wrist so the green rim showed. "Materials."

"Good," said Mrs. Dunmore, and went in, leaving the glass door open on the lemons.

The cuff read one minute twenty-eight.

They turned inland at the next corner, up Kestrel Lane, where the houses stood shoulder to shoulder with their stoops printed out of the same slurry as their walls. Some were painted and some weren't. A child's bicycle lay on its side on a strip of grass. Teo pulled up at the third house from the corner, and Nell started the timer again.

A boy of about nine was already on the stoop, wearing a coat over pajamas printed with planets. His cuff had the green outline of a youth license. His father stood behind him in the doorway in a cardigan, holding a mug, and the doormat under his bare feet had been printed with the step: a fat fish in relief and the house number, 14.

Teo crouched until his head was level with the boy's. "Pim Achterberg. Youth credential, astronomy masterclass, Calder Polytechnic. Thumb, please."

He pressed both thumbs down, hard.

"One's enough," Teo said, and the chip slid out. "It's good through the end of the course. If you lose it, call your manager."

"I don't have a manager."

"Then call your dad, and he'll call me."

"Thank you, Teo," said Mr. Achterberg. "There's tea in the pot if you want some."

"Ninety seconds, Mr. Achterberg."

Pim held the chip up to his eye as if it might have the sky inside it. Then he looked past Teo at Nell on the bench, at the green rim on her wrist. "You've got one too," he said.

"Mine's for the lake," said Nell.

Pim considered this. "Mine's for up," he said, and went inside to tell somebody.

The cuff read one minute twenty-six. Nell looked at the two numbers side by side. She thought of the bowl of lemons and the fish on the step, and of Teo's sentence about the manager, which he had said both times in the same order, at the same speed, with the same small pause before "manager."

"You said the same thing to both of them," she said when he got back on. "Word for word."

"There's only the one thing to say," Teo said.

At the foot of Kestrel Lane the delivery grooves crossed in a grid, and pods were threading through it in both directions, so the trike stopped and waited. Teo reached into his jacket and took out a notebook the size of his palm, held shut with an elastic band. Its pages were paper, thick and slightly furred at the edges. With a pencil worn down to about the length of a thumb, he drew a door: an arch, a stoop, a fish on the mat, the number 14. It took him maybe twenty seconds. Leaning over, Nell watched the pages flip as he found his place,

and every page held doors: cedar slabs, round printed portals, a green door with a cat flap, a door propped open with a boot, Mrs. Dunmore's glass with a line suggesting lemons.

"Why paper?" she said.

"Nobody audits it."

"Somebody audits the reader?"

"Everything else gets audited," he said. "That's how they know I spent ninety seconds." He snapped the elastic back over the notebook. "This is how I know what the doors looked like."

The pods were still crossing. Nell counted fourteen before the grid began to thin.

"So which tier has the better doormats?"

"Thrive," said Teo.

"You didn't even think about it."

"I've had four years to think about it." He slid the notebook back inside his jacket. "Advance mats are coir from somewhere far away, and somebody brushes them. On Kestrel Lane, the mat comes out of the printer with the step. People put things on them. There's one on Sorrel Street that says GO AWAY in a seven-year-old's letters, and they've never had it reprinted. Yours has a heron."

"So it's sentiment."

"It's taste," Teo said. "Sentiment is when you're wrong about it."

The grid cleared and the trike rolled forward.

* * *

Shore Road bent south once and then straightened. At the bend the lots gave out, and for sixty meters there was nothing between the road and the water but sand: the Thimble, empty on a Monday except for a man throwing a stick into the shallows for a dog that wouldn't go in after it. The tide line was a strip of dark sand with a scribble of weed. On the far side of the sand the Halvorsen dock ran straight out into the lake on tall posts, its decking stained the color of strong tea, with a covered lift at the end. The lift was empty, and its cradle straps hung slack above the water.

"The Halvorsens use it about eleven days a year," Teo said.

"How do you know?"

"Their boat's in the lift when they're using it. I come by twice a week." He said it the way he had said *ninety seconds*, the way a person reads a thermometer. "Mostly August."

Nell turned on the bench to keep the dock in sight after they had passed it. Forty meters of decking, she thought, maybe more. The man on the sand threw the stick again, and the dog watched it land.

The old ferry pier began where the sand ended. It was wider than the dock and much older, built of timber gone silver and squared stone at the landward end, and the Maker Commons had grown along it like a row of beach huts: small sheds and larger ones, each with a painted number on its door and its own weather on its roof. Bay 2 had a wind turbine the size of a parasol. A cloud of steam came off the roof of Bay 5. Somewhere a saw was running, and the air smelled of solder and lake water and, faintly, of somebody's lunch.

Teo stopped at a squat brass panel just past the gate. "Chip," he said.

She held the chip to the panel, and a drawer slid out. In it lay an actual key, brass, as long as her finger, threaded on a cord to a cork float stamped with a 9.

"It's a real key," Nell said.

"The boathouse lock is older than the State. The door was built around it, and nobody wanted to rebuild the door." Teo was already unstrapping the crate. "The float's in case you drop it in the lake."

Bay 9 stood at the far end of the pier, past every other building, where the timber was oldest. It was a boathouse with a shingled roof and a double door on the landward side, its paint long gone to the gray of the wood. The key turned with a sound she felt in her wrist. When she dragged the doors open, cool air came out smelling of wet planks and old rope.

The floor was a horseshoe of planking around a long rectangle of open water. Lake light came up off the slip and moved across the underside of the roof in a slow, wavering net, green and white, so that the rafters seemed to be under water and gently rising. At the far end the slip ran out under a raised gate into the open lake. Someone had left a workbench along one wall, a power pillar with six sockets, and a printed hoist on a ceiling track. A coil of very old rope hung on a nail. Nell walked the full horseshoe, all the way around the water, and when she came back to the doors she still hadn't said anything.

Teo had brought the crate down the pier on a hand dolly. It was a little over two meters long, pale printed board with latches along both sides. He tipped it off onto a pair of trestles by the bench and stood back.

"Do you want to see it opened," Nell said, "or do you have a stop?"

"I have a stop," Teo said, and didn't move.

She undid the latches one at a time and lifted the lid. The foam inside was cut into round nests, six rows of eight, and every nest held a machine about the size of a dinner plate. They were matte gray and slightly domed, each with a capped hopper on top for slurry. Four paddle feet were folded flat against each underside, webbed in some dark flexible material and hinged with pins. In a recess on the flank of each one sat a spool of basalt fiber, black thread wound so tight it showed a dull brown sheen, like the inside of a mussel shell. Along the rim of every machine ran a row of small dark lenses that she guessed were lights.

Twice she counted them. Lifting one out, she found it heavier than it looked, so that she needed both hands, and she turned it over to look at the feet. Its hinge pins were steel; under her thumb the webbing gave and sprang back.

"Forty-eight," she said.

"That's what the manifest says." Teo took the empty dolly by its handle. "If anything's missing, I'm on this route Mondays and Thursdays. The crate goes back with me."

"Thursday," Nell said, still looking at the feet.

"Or Monday." He was already in the doorway, a shape against the brightness of the pier. "Good luck with the lake."

The trike's motor whined, then faded down the pier, then was gone under the sound of the saw.

Nell set the machine on the planks at the edge of the slip, where the water moved in its frame of old timber a hand's width below. She found the wake switch on its rim and pressed it. Amber lights came up one by one around the dome, eight of them, and the four paddle feet unfolded with a series of small, deliberate clicks and stood the thing up on the boards, swaying a little. It turned a few degrees toward the water, as if it had heard it. Then it chirped, a single bright note.

She knew the sound from the manual she'd read at midnight. It meant the battery was low.

"You came uncharged," she said to it. "You're going to have to learn to swim."

It chirped again, because it was still low, and she went to find the cables.

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CHAPTER 3

Forty-Eight Gulls

The first unit went over before it had paddled the length of its own body. It tipped slowly. One paddle foot lifted clear of the water, then a second, until the eight amber lights on its rim were aimed at the rafters of Bay 9 and its belly, ridged and the color of wet slate, faced the square of April sky in the open slip doors. Lake water slopped into the slurry hopper. Somewhere inside the housing a small fan whined, coughed, and quit.

"You're rated," Nell said to it. "Stay up."

She had the rating in writing. On Wednesday Oskar Lindqvist had read the whole inventory aloud to her from his laminated folder, running a finger under each line as though the words might get away from him: forty-eight marsh-trail printers, Calder Parks surplus, amphibious class. Built to lay footpaths across bog and dune, they walked on four broad paddle feet and drew basalt fiber off a spool on their backs, pressing it into a bead of binder as they went. Amphibious, she was learning, meant a unit could cross a puddle so long as the puddle held still.

She had lowered them into the slip eight at a time from the bottom step of the ramp. Each was the size of a dinner plate and as heavy as a skillet, and after the fifth row she had stopped bending at the waist and started squatting. By the time the last eight were in, eleven had capsized. Of the thirty-seven still upright, none went where she sent them. Each one pushed with whichever foot

had last touched something solid, found nothing, and pushed again, so the whole slip began to turn with them: thirty-seven gray disks going round under the boathouse roof, lights blinking out of sequence, paddles slapping the water with a flat wet clap that never settled into a rhythm.

Nell waded in to her thighs in the borrowed waders and began turning the capsized ones over. Water ran out of their hoppers in brown threads. A real gull had landed on the pier rail outside the doors, and it watched her work with one eye and then the other, head tilted, with no apparent intention of helping.

"Look at that," she said to the machines. "That's what you're supposed to be."

Once righted, the eleven joined the circle. She stood among them with the lake at her hips and counted them as they went past her knees, thirty-seven and then forty-eight. That night at the kitchen table she typed up the trial and found she had written *gulls* in every line where she meant *units*. She left it.

* * *

The trays were Ilse's.

Nell had meant to culture the spawn in the boathouse, in plastic tubs on the workbench under a heat lamp. In the first week she lost two tubs to a green mold that came up overnight like felt on a billiard table, and on the Sunday she carried the third tub up Pell Street to the allotment with the lid held down by both thumbs. Her mother was kneeling at the radish rows. Ilse took the lid off, put her nose to the tub, put the lid back on, and pointed with her trowel at the north bench of the greenhouse, where forty empty seed trays stood between the lettuce starts and the tomato seedlings.

"Till the tomatoes go out," Ilse said.

"When's that?"

"When it's warm."

The basalt fiber came on spools from the runway's materials allowance, black and glossy and so fine that a loose strand would hang in the greenhouse air for a full second before it fell. Under the film the light was soft and green and smelled of compost and tomato leaf. Nell sat on an upturned bucket and cut the fiber into finger lengths with Ilse's pruning shears. She tossed the lengths with pasteurized straw from the shed, crumbled the Gray spawn over the top,

and pressed the mix into the trays with the flat of her hand. Then she pulled the film over them and waited, which she had never been good at.

On the third evening Ilse came down the bench with her sun hat pushed back, lifted the film off one corner of a tray, and bent until her nose was nearly in it.

"Fine," Ilse said, and moved to the next. She sniffed, waited, sniffed again. "Fine." Then, at the sixth: "Out."

"It looks the same."

Ilse held the tray out. Nell bent over it. Under the straw smell there was something sour and close, like a dishcloth left in the sink over a weekend.

"Bacteria," Ilse said. "You'll smell it a day before you see it. The green you see first." She took the fifth tray, which she had passed, and held that one out too. "Now this."

That one smelled of raw mushrooms, cool and clean, with something faintly sweet underneath that Nell could not name until Ilse said, "Almond," and then it was plainly almond and nothing else.

"That's what you want," Ilse said.

She did not ask what it was for. Nell had a sentence ready about the slip and the shore, and Ilse had already gone back to the radishes.

By the first week of May, Nell could walk the bench at dusk and sort the trays by smell before she lifted any film, and only the sour ones went to the compost. The good trays had knitted into white bricks that she broke apart by hand, stringy and cool, with the black fiber running through them like pepper in cheese. At Bay 9 she fed the crumble into a paint mixer with the binder and lake water and ran it until the slurry was the color of oatmeal. When she opened the lid the first time, the smell surprised her: warm bread, and under it the clean mineral smell of a quarry face after rain.

She carried a jar of it up to the allotment the next morning. Ilse unscrewed the lid and smelled it the same way she smelled the trays, with her eyes on the middle distance.

"Bread," Ilse said. "And something wet."

"Basalt."

Ilse screwed the lid back on and handed it over. "Keep it out of the sun."

* * *

"The difficulty," said Mister Biscuit, "is that the water will not hold still for you."

"I know the water won't hold still."

"I am stating it for the record. You asked me to keep a record."

The slate leaned against a coffee can on the workbench, its screen showing a plot of the slip's surface that Biscuit had built from a phone propped on the window ledge. Two lines ran across it. The long one, the swell coming in off Lake Marrow through the slip doors, rose and fell every two point three seconds. The short one, the chop that rode on top of the swell, jittered like a seismograph in a busy building.

The problem could be stated in a sentence and solved in no fewer than eleven, and Nell had been at it for a week. A gull that stayed upright could still not print a line on water. The nozzle laid its bead where the nozzle had been a quarter of a second earlier, and by the time the bead touched down the surface had risen or dropped beneath it. What came out was a wavy black scrawl that sank before the binder took hold.

"We tilt the nozzle," she said. "We time the extrusion to the surface. That's all compensation is."

"Agreed. The disagreement is where the gulls learn what the surface is about to do."

"Their feet."

"Their feet," Mister Biscuit said, "learn what the surface did."

The feet were the obvious answer, and she was proud of it. Each paddle foot already carried a pressure plate, put there so the machines could tell firm sand from bog and slow down in the soft places. A gull standing on water could feel every wave as it arrived, four readings a step, forty-eight gulls at once. Biscuit wanted a camera on the slip-door lintel instead, looking down at the whole surface and sending every gull the same model of what was coming.

"A camera can't see under them," she said. "Put forty-eight machines on the water and the chop between them is invisible from above."

"A foot cannot see ahead of itself. It reports the crest when the crest is already lifting it."

"It reports it in four milliseconds."

"And the nozzle must be moving a hundred and sixty milliseconds before that. I can show you the arithmetic."

"Don't show me the arithmetic."

"The form to rename me is still awaiting your second signature," Mister Biscuit said, "if that would help."

She bolted the camera to the lintel that afternoon, mostly so she could prove it wrong. Across the slip she strung a plank of printed foam from two cleats, and she split the swarm: twenty-four gulls on their feet, twenty-four on the camera's model. Each half drew straight lines along the plank while the swell came through the doors and lifted everything. When the binder had set she knelt on the ramp with a steel rule and measured the wobble of every line, one by one, in the slanting light off the water.

On the camera's model, the long swell came out almost perfectly. The lines were straight to within two millimeters along most of their length and went ragged wherever the gulls had bunched together and hidden the water from the lens. The feet were the reverse. They caught the chop cleanly, every small slap of it, but they scalloped on the swell, each crest arriving just a little too late, so the lines bellied along the plank in smooth regular curves.

She sat back on her heels.

"Both," she said. "The camera does the swell. The feet do the chop."

"That is the arrangement I proposed on Tuesday."

"You proposed it in a tone."

"I have one tone. You chose it when you were seven, from a list of four."

"Then I chose wrong."

"You chose Warm Formal," Mister Biscuit said. "You said the others sounded like they wanted something."

* * *

When the blended code went into the swarm, forty-seven gulls drew straight lines along the plank. The forty-eighth drew a gentle arc that left the line and came back toward it and left again, always to the left.

Its number was stenciled in white on the rim beside the third amber light: 17. She lifted it out and put it on the bench. Through the first recalibration she sat with it, zeroing its gyroscope three times and running the self-test, which it passed with a cheerful double chirp. Back on the water it veered left at about four degrees per meter.

For the second try she swapped its rear left foot for one from Twenty-Nine, which tracked like a rail, and swapped Twenty-Nine's foot onto Seventeen. Twenty-Nine went on tracking like a rail. Seventeen drifted left.

On the third try she wiped its firmware and loaded a clean image that Biscuit had built from scratch, line by line, while she watched. It took forty minutes. She put Seventeen back on the water, and it paddled away in a wide, contented curve, its lights blinking in sequence, and fetched up against the slip wall on the left.

"There may be nothing wrong with it," Mister Biscuit said. "In any group of forty-eight, one of them has to be the leftmost."

She watched Seventeen nose along the wall. It moved along the concrete edge at a steady distance, never bumping, never wandering off, and followed the wall's slight bend at the corner without being told.

"You like edges," she said.

The next morning she painted a green stripe on its rim beside the number and wrote a new job into the swarm plan: when the others printed, Seventeen would trim the outside. Every print would have a rim, and the rim would curve, and something that already wanted to curve might as well be the one to make it.

* * *

In the second week of May nothing worked, and it went on not working in a different way every day.

On Monday the slurry printed beautifully onto the water and sank in long gray ribbons, because there was nothing beneath it to hold it up while the binder set. On Tuesday she thickened the binder and the hoppers clogged, all forty-eight of them, one after another over twenty minutes, each signaling with three short chirps and a pause. On Wednesday she thinned it again and a gust came through the slip doors and folded the first layer over on itself like a dropped crepe. On Thursday the charging rack tripped its breaker at four in the morning, nobody was there to reset it, and the swarm woke at eight with less than a third of a charge, so that by nine the bay was full of plaintive chirping. Through all of it Seventeen did its job flawlessly, trimming the edge of shapes that sank before they could have edges.

On Friday she did not go home. At ten that night she was still sitting on the straw bale she had carried down from the allotment to cushion the gulls when

they came out of the water, with her back against the workbench and a gull in her lap. Its hopper was open, and she was scraping set binder out of it with a butter knife, and she was explaining to it what it had done wrong.

"You don't get to stop when it's hard," she told it. "That's not what you're for."

"I could say the same to you."

Her father stood in the doorway with a cloth bundle under one arm. He had come along the pier without a sound, which he could do in his canvas shoes, and in the light from the lake his shadow ran all the way across the floor to the slip.

"Your mother says you're not to sleep here," Tomas said. "I'm here to tell you I passed the message on."

He unwrapped the cloth on the bench. There were two sandwiches on Ilse's brown bread, mushrooms fried in butter with thin slices of pickled radish, still warm. Nell ate one without speaking. Her father pulled a crate over and sat on it, reached past her, and picked up Twenty-Three from the row of gulls on the floor. He turned it to face her and held it up in both hands, like a cake.

"Fourteen hours," said Twenty-Three, in a voice like a dockhand with a cold. "Fourteen hours on the water, no shore leave, and she tells me I'm not what I'm for."

"You clogged," Nell said.

"I was clogged. There's a difference. Ask the union."

"There's no union."

"There's forty-eight of us," said Twenty-Three, "and one of you. You do the arithmetic."

"Put it down, Dad."

"She was going to scrape my insides with a butter knife." The gull swung toward Tomas, aggrieved. "A butter knife. And she calls me Seven."

"I never called you Seven."

"See? Doesn't even know us."

She was laughing by then, quietly at first, and then with her forehead against the edge of the workbench so that the gull in her lap slid sideways and she had to catch it. Tomas set Twenty-Three back in its row, gave its rim a pat as though it had done well, and stood.

"Sleep on the bale, then," he said. "Not the floor. The floor's lake."

He left her the second sandwich. She ate it at midnight, sitting on the ramp with her feet above the water, and slept on the straw under a tarp with the swarm charging in its rack, forty-eight small green lights in rows, the slip slapping against its walls all night.

* * *

When she woke the bay was gray with early light and smelled of almonds.

She lay on the bale and tried to place the smell. It came from the corner of the slip, below the ramp, where on Monday she had tipped two trays that had overgrown, the mycelium so dense and matted that it would not break up for the mixer, meaning to bag them for compost later. She had forgotten them. They had not sunk. Over five days the white had spread out from the trays into a pale skin across the water, as wide as a tabletop, wrinkled like the top of boiled milk, threaded through with black fiber where loose ends had drifted into it. The swell lifted it gently, and it lifted with the swell all of a piece.

On the skin, near its left edge, stood Seventeen.

At some point in the night it must have come off the charger rack, the rack being nearest the slip, and found the water, and drifted left the way it always did. It had walked up onto the mat and stayed there, upright, its feet spread, its amber lights burning low in their sleep sequence, riding the swell like a duck on a pond.

Nell went down the ramp in her socks and knelt at the edge of the water. When she pressed the skin with two fingers, it pushed back and kept its shape. Underneath, where the white met the lake, it was furred and grayish, and when she lifted a corner the threads had gone down into the water and spread there, holding on to each other.

"Biscuit," she said. "Wake up."

"I do not sleep, Nell. I merely refrain from interrupting."

"It's a bog. I made them a bog."

There was a short pause, which she had learned meant he was looking at the camera.

"You made them a bog," Mister Biscuit said. "They were built for bogs."

It took her three weeks to make it on purpose. Into a ring of floating hose she laid a loose felt of basalt fiber and straw, seeded with the Gray, and stretched greenhouse film over it on a frame of bent cane so the mat would grow under

cover. Ilse lent her the cane and asked nothing about it. After six days the mat was a finger thick, and the gulls walked out onto it on their paddle feet as if they had come home, slow and sure, pressure plates reading the soft places. They printed their first layer straight onto the living felt, and the felt grew up into what they printed. She cut a section from a test piece and held it under the magnifier at the bench. The white had climbed right into the bottom row of cells, so there was no longer a line between the mat and the print, and the mat had stopped being a mat at all. It was the floor of the thing. It had been eaten by what it held up, which was the point of it.

* * *

She printed the disk in June, on a still evening, out past the slip mouth where the boathouse's shadow ended and the open lake began.

The mat had grown for a week inside its ring of hose, and she towed it out with the rowboat that went with the bay, tied off with a line to the cleat on the pier piling. Then she sat on the end of the slip ramp with the slate across her knees and sent the swarm out.

Forty-eight gulls went down the ramp and into the water in a line, each one rocking and catching itself as its feet found the lake, and they paddled out in a loose wedge with their amber lights on. The sun was behind Calder, so the whole lake east of the town had gone the color of a copper pot, and the gulls crossed it black against the shine, each with its eight small lights, until they came to the pale ring of the mat and walked up onto it one after another. A low murmur from the hoppers carried across the water, and with it the soft pat of paddle feet on living felt, quieter than water and closer to fingers on a drum skin.

They began at the center and worked outward in a slow spiral, all forty-eight turning together, laying the honeycomb cells in rows. Each cell was a hexagon the width of her palm, its top sealed over a pocket of air. Seventeen stayed on the rim, a little apart, tracing the outside edge round and round with its green stripe catching the light, trimming whatever the others left ragged. The swell lifted the whole spiral and lowered it, and the gulls tilted on their feet and kept their lines, and from the ramp she could see the camera's model and the pressure plates working together, a fraction of a second of correction in every step. As the copper went to rose and the rose to a lavender gray, the light failed on the

water, until the gulls were only their running lights, three hundred and eighty-four amber points moving in a spiral above their reflections. The wind came round and brought her the smell of it: warm bread, wet quarry stone, the cold rope smell of the lake.

They finished in an hour and forty minutes. The swarm walked off the disk in its wedge and paddled home up the ramp in a single file, chirping their charge levels as they came, and climbed into the rack.

Nell waited another hour for the binder, sitting with her knees up, while the lake went dark and the lights came on in the Advance houses along the shore to the east, one window at a time. Then she pulled herself out in the rowboat, hand over hand along the line, and brought it alongside.

The disk was two meters across and a hand's width thick, oyster gray, flecked all over with black, still warm from the binder when she laid her palm on it. Its rim was smooth and gently rounded, a clean continuous curve that no other gull could have made. She stood up in the rowboat with one hand on its gunwale, put one foot on the disk and then her weight, then the other foot, and let go of the boat.

It went down a finger's width under her and stopped.

She stood in the middle of it. Water lapped at the rim and did not come over. When she shifted her weight to one side the disk tilted, a little, and came level again when she straightened. She walked to the rim, all six steps of the way, and back, and the slap of the water against its underside was the same sound the lake made against the Halvorsen dock, a low hollow knock.

On her wrist the cuff hummed.

She looked at it. The green rim had brightened, and a line of text was moving across the band.

RUNWAY MILESTONE LOGGED: FIRST FUNCTIONAL ARTICLE (MATERIALS, MARINE). MENTOR MATCH ISSUED.

Below it, a second message, from Oskar Lindqvist, sent forty seconds later: *Nell!!! The milestone came through on my end. I have printed it. Congratulations. Please see the match.*

She opened the match. The profile photo was small, and she could not make much of it in the dark: close-cropped gray hair, the cord of a pair of reading glasses. Beside it, the badge class sat in a clear pale blue.

Dr. Harriet Osei. Diamond Class. Calder Mercy Tower, Floor 140. Human Medical Council. Specialty: restoration of hand function.

"A surgeon," she said, to the disk, to the dark, to the gulls blinking green in their rack across the water. "Why a surgeon?"

The match note did not say. Under the profile there was a single line in a different typeface, which she took to be a reply that someone had actually typed.

Accepted. Monday, June 28, 11:50 to 12:00. Floor 140, east lobby. Bring the material.

She read it twice, standing on two meters of new shore with the lake moving under her, and then she read the times again, to be sure she had them right. There were ten minutes.

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CHAPTER 4

Ten Minutes on Floor 140

The pod left Wickham station with a long, falling hiss of air, and by the end of the platform Nell had her forehead nearly on the glass.

In nineteen years she had ridden the loop to Calder more times than she could count: school trips, the museum, and once, at eleven, a dentist who turned out to be a machine with a nice voice. She had always sat wherever the door put her. This morning she had stood on the platform and let two pods go until one opened with a window seat on the lake side. The seat was blue. It smelled faintly of lemon and of whoever had sat there before, someone who ate cinnamon.

For the first forty seconds the track ran above ground along the north shore, and the lake came up beside her the way it did from the porch, all at once and too big. Then the pod found its speed. Rooftops went from ochre to a smear of ochre. The leased docks along the shore, each with its boat lift and its flag, stopped being docks and became a row of dashes, and the water behind them lost its waves and boats and color until it was one silver band along the bottom of the window, thinner every second, as if someone were drawing it with a ruler. She tried to find the Thimble in it and could not. At that speed sixty meters of sand was nothing at all.

At the two-minute mark the tunnel took them. Light came in segments after that, a white stripe across her knees and gone, a stripe and gone. It was so regular

that she started counting the stripes, and then stopped, because the counting had begun to feel like the tunnel's idea.

She put her hand in her jacket pocket. The puck was there, oyster gray with black flecks, the seam from the hammer blow healed to a raised line she could find with a thumbnail in the dark. At six that morning she had scrubbed her hands with Ilse's grit soap. The mycelium had stayed under her nails anyway, a gray crescent on each finger, and somewhere around the third scrubbing she had decided that a hand surgeon would have seen worse.

"Calder Central," the pod said. "Nine minutes. Thank you for riding."

"Thank you," Nell said, because Tomas always did.

* * *

Calder Mercy Tower had two hundred and four stories, and from its plaza you could not see the top. The building went up into a white sky until the eye gave up and called the rest cloud. Inside, the lobby was cool and smelled of eucalyptus, and somewhere water ran over stone. Delivery carts the size of suitcases crossed the floor in their own grooves, humming a little higher than the Brandt pods at home. Above the reception arc a long panel scrolled the names of the week's contributors to the tower's new research floors, each with a small thank-you in a different language.

Forty people stood in line for the upper elevator bank. Nell counted them, because she counted things. A man held a sleeping toddler against his shoulder like a sack of flour; two teenagers shared earpieces; an old woman carried a folding stool she had not unfolded, and a man in a gray jumpsuit was eating an orange one segment at a time. The line moved fast. It was still forty people.

When she stepped onto the end of it, her cuff pulsed against her wrist.

A thin light rose out of the floor at her feet and ran forward along the line to a strip of brass set into the stone beside it. Down the middle the brass was worn bright. ROUTING, the cuff said in small green letters. SOVEREIGN LINE. YOUTH GROWTH LICENSE, CIVIC RUNWAY.

"Oh," Nell said. "No, I'm early."

The light stayed where it was.

She walked. Passing forty people along the brass took about twenty steps, and she knew that because she counted those too. The man with the toddler shifted his weight to give her room she did not need. Glancing at her cuff, the

old woman saw the green outline and gave her a small approving nod, the kind people give a child who has won a spelling prize. One of the teenagers looked up, then down. Nobody sighed. Nobody did anything at all. At the end of the brass the elevator doors opened for her with a soft chime, she stepped in, and they closed on forty people who had not minded.

She minded a little. In the empty car, which was paneled in pale wood, she watched the floor numbers climb and tried to work out which part of it she minded. By floor ninety she had narrowed it down to the nod.

* * *

The east lobby of Floor 140 had a window, and that was the first thing she noticed. The floors below were machine floors, sealed and humming. Up here, where the human medical council kept its offices, someone had decided that the people should be able to see out. Calder lay below like a city printed on a tablecloth. Shuttles slid along the VTOL lanes in pairs at eye level. Far off to the north, past the hills, there was a bright line that might have been Lake Marrow, or might have been a road catching the sun.

At 11:50 exactly Nell sat down on a bench. At 11:51 a tall woman came around the corner at a pace just short of running, close-cropped gray hair, reading glasses swinging on a cord against her coat, and said, "Varga?"

"Yes."

"Osei. Walk with me. You brought it?"

"It's in my pocket."

"Good. Keep it there until the elevator." Dr. Osei was already moving, so Nell got up and moved too. The corridor was long and carpeted in a deep green that swallowed their footsteps. Framed photographs of hands lined the walls: a pair on a loom, a pair on a fretboard, an old pair turning a pot on a wheel. "I have a consult on one-thirty-eight at noon. You have the walk down. Talk."

Nell had rehearsed this with Biscuit on the porch eleven times. "It's a composite. Mycelium grown through basalt fiber, printed as honeycomb with sealed air cells, so it floats. The fungus is alive in it. If it cracks, the hyphae grow across the gap and knit it. I want to use it to—"

"Dr. Osei."

A man had stepped out of a side room. He was tall and soft-shouldered, in a cardigan buttoned one hole off, and he held both hands out in front of him, palms up, the way someone shows they have nothing in them.

"Mr. Lindahl," Dr. Osei said, and stopped.

"I didn't know if I'd see you. They said it was the robot today for the follow-up, but I hoped." He turned his right hand over and closed it slowly into a fist, then opened it again. The fourth and fifth fingers went down with the others and came up with the others. "Bach suite in G last night. The whole prelude. First time in six years I've played it without changing the fingering."

"How did the bowing hold up?"

"I played it twice."

"Show me the stretch," she said. He spread his fingers as wide as they would go, and she took his hand in both of hers and pressed along the base of the palm with her thumbs, frowning at it as if it were a paragraph. Nell looked at the photographs, then at her cuff: 11:53.

"Good," Dr. Osei said. "That's good tissue. Thank you for telling me."

"I came to thank *you*."

"And I'm thanking you for the prelude. You did the exercises. Most people don't." She let go of his hand. "Twice a day until September."

He said thank you again, and she said thank you again. Nell had been raised by a man who thanked hyperloop pods, and she recognized a conversation that could go on until one party walked away. She saw, too, that Dr. Osei was not going to be the one who did. Eventually Mr. Lindahl walked away himself, backing down the corridor with his hand still open.

Ten steps further on, a woman in a long woven vest rose from a chair by the elevator bank holding a flat paper parcel.

"I won't keep you," the woman said.

She kept her two minutes. Inside the parcel was a strip of tapestry the width of a book, dense blue and rust in a herringbone that Nell could tell had taken days. It was the first piece off the big loom since her left thumb had been done, the woman said, and the thumb had held the whole way through, and the Bray Weavers' Guild had voted to send it. Dr. Osei turned the strip over to look at the back, where the knots were. She said it was beautiful work and that she would hang it on Floor 140 where the others could see it. She thanked the woman and

the Guild, asked about the thumb's range on cold mornings, and listened to the answer. The elevator came and went. It came again.

"Now," Dr. Osei said, when its doors had closed on the two of them. "The material."

It was 11:56.

* * *

Nell handed over the puck. Dr. Osei weighed it on her palm first, the way Ilse weighed a mushroom block to judge its water, then put on the reading glasses and held the healed seam up to the elevator light.

"Hammer?"

"At eleven at night. About a third of the way through. It was closed by morning."

"Closed or healed?"

"I put it in a bucket and pushed it under. It floated. The seam took load, I put weight on—" Nell stopped. "Closed. I haven't sectioned it."

"Section one." Dr. Osei set both thumbs against the flat face and pressed hard. Nell watched her hands, which were long and dry and very steady, flex the disk until it made a faint creak, like a floorboard. "It moves."

"It's supposed to. The fiber takes tension and the cells take compression, and there's some give, so it doesn't snap."

"How many cycles?"

"Of what?"

"Of that." Another press, another creak. "Lake water. A wave goes under it and it flexes. Then another. How many times can it bend at that seam before the seam lets go?"

"I've done a few hundred by hand."

"The lake does a few hundred before lunch." The doors opened on 138, and she walked out with the puck still in her hand. Nell followed. "Does it remodel?"

"I don't know what that means."

"Bone lays down more bone where it's loaded. Where it isn't loaded, it thins. Does your fungus put more of itself where the cracks keep happening?"

Nell thought about the seam. It had been denser than the rest; she had felt that under her thumbnail. "I think so."

"You think so." In an alcove by a pair of frosted doors stood a steel sink with a long lever tap and a dispenser of something pink. Dr. Osei gave the puck back and washed. It was no rinse. She worked between each finger, around each thumb, and up both wrists with a little brush, as if she were alone and had all day. "Find out. And this: how fast does it cross a crack at ten degrees?"

"Ten—"

"Celsius. How cold is your lake?"

"In summer, on top, twenty-one. Twenty-two."

"And at the bottom?"

Nell had a figure for depth: eight meters, off the Halvorsen dock. Biscuit had told her in April. She had no figure for cold. Every tray of spawn she had ever grown had grown in the greenhouse or the shed, in summer, in a town where people swam in June. Every crack she had ever healed had healed at what she now understood was room temperature, because that was where her room was.

"I don't know," she said.

"Good. Now you know you don't." Dr. Osei shook the water off her hands once and held them under the dryer. "He's not ready."

"Who?"

She nodded at the frosted doors. A small panel beside them read FENWICK, 12:00, and under that, in amber, PREP: 4 MIN.

* * *

Across from the doors was a bench. Dr. Osei sat on it with the plainness of someone who had sat there often, reached into her coat pocket, and took out a sock.

It was half a sock: a cuff and a leg in heathered green wool and the start of a heel, with four steel needles stuck through the live stitches at angles, like the spokes of an umbrella whose fabric had blown away. She found her place without looking, and the needles began to tick.

Nell sat down beside her.

When Dr. Osei sat, a display above the frosted doors had woken, the way the porch light at home woke when Tomas came up the steps. It showed her day, and Nell read it because it was there to be read. Every ten-minute block was full, from 06:40 at the top, COUNCIL CALL, BRAY, down to 20:50, NOTES, after which the screen simply ended at nine. In between were consults listed by

surname and two procedures marked in blue that filled six blocks each. One block read THANK-YOU, CALDER CONSERVATORY BOARD. Another read THANK-YOU, WEAVERS' GUILD (BRAY), with a small check beside it, as if it had already happened, which it had, by the elevator. Nell counted nine blocks that began with THANK-YOU. At 12:20 there was one that said LUNCH. At 11:50 there was one that said VARGA (MENTOR MATCH, RUNWAY). Seeing her own name up there among the surnames, she did not move.

"You count things," Dr. Osei said, without looking up from the heel.

"How do you know?"

"You counted the photographs in the corridor. Your mouth moved." Tick, tick. "How many?"

"Thirty-one."

"Thirty-two. One's behind the door." She turned the work and started a new needle. "Four minutes is a sock heel, if it's going well. Twelve rows. I get a lot of four minutes."

"Who's it for?"

"Me. I've been knitting it since March." She made a sound that was something like a laugh. "Your material. Here's what I see. I fix hands, mostly old ones. A hand is loaded all day. You grip and let go, grip and let go, ten thousand times, and it's fine, because the body repairs as fast as the use wears it down. When the use outruns the repair, I see it. That's my whole practice: use outrunning repair."

Nell held the puck in both hands on her knee.

"Water is a load that never stops," Dr. Osei said. "Your hand rests at night. The lake doesn't. It'll flex that thing every two seconds for as long as it's out there, and every flex goes looking for the weakest seam, and it will find it. I believe you that it heals. What you don't know is whether it heals faster than the lake can find the crack." She finished the needle. "You also don't know how fast it heals when it's cold, and where it counts, the lake is cold. So measure the cold."

The panel by the door turned from amber to green. Dr. Osei slid the sock back into her coat with the needles still in it, stood, and looked at the display. It said 12:01.

"Wait here," she said, and went through the frosted doors.

* * *

Nell waited fourteen minutes. In her head she sectioned the puck with a fine saw and looked at the seam in cross-section, and she could not tell whether what she imagined was what she would find. Quietly, at the volume she used in libraries, she asked Biscuit through her cuff how cold Lake Marrow was at eight meters in April.

"The Calder Parks buoy recorded six point four degrees at that depth on April fifteenth of this year," Biscuit said. "Would you like the series?"

"Yes. No. Later." She sat looking at the number. "Has anyone measured how fast mycelium heals at six point four?"

"In basalt fiber, no one I can find. There is a paper on mycelium packing bricks in cold storage. The bricks were not trying to do anything."

"Neither was I," Nell said, "until about eleven fifty-six."

A cart came by and offered her water. Behind the frosted glass, a shape that was Dr. Osei bent over a shape that was someone's hand.

At 12:15 the doors opened.

"Still here," Dr. Osei said, and glanced up at the wall: LUNCH, 12:20, then RENWICK, 12:30. "Cancel my twelve-twenty." The block went gray and folded itself shut. The blocks below did not move up to fill the space, so a thin stripe of nothing sat in the middle of her day. "That gives us six. I need four for a call. Sit."

"You should eat," Nell said.

"There's a bar in my coat." She did not take it out. "Homework. Write this down."

Nell held up her cuff.

"Healing rate at twenty, ten, eight, six and four. Clean breaks and hairlines, same material, same depth of crack. Ten samples each, or don't bother. Then cycle them: put in a crack, let it heal partway, load it, see whether the healed part holds or reopens. That's your fatigue number. Section your puck. Find out whether it remodels." She ticked each item off on a long finger. "When you have the numbers, they'll tell you how much slower than you the lake has to be. You won't like them."

"Why not?"

"Nobody likes the cold numbers." She took a flat device out of the pocket that did not hold the sock and tapped at it with one thumb. "Calder Polytechnic has a wave basin. Sixty meters. The council keeps two days a year there for a hand-therapy study, and the study finished early." Her thumb moved again. "August twenty-fourth, two days. It's in your name. Bring something bigger than a puck."

Nell's cuff buzzed. CALDER POLYTECHNIC WAVE BASIN, RESERVATION CONFIRMED: VARGA, N. (SPONSOR: OSEI, H., HUMAN MEDICAL COUNCIL).

"I don't know how to thank—"

"Don't. If this works you'll be thanked plenty, and then you'll know how it feels." She put the device away. "The Public Venture round opens in September. Portal, then review, then the pitch evening. The maritime people read it first. They aren't soft, and they'll want the cold numbers and the basin numbers. Have them." She paused. "Your mother grows mushrooms."

"Oyster mushrooms, on straw. How did you—"

"It's in your runway file. 'It's my mother's strain,' you wrote. I liked that." She looked at the display: 12:19. "That's my four. Go home, Varga. Measure the cold."

She was already turning away, already lifting the device to her ear and saying, "Arnaud, it's Harriet, I have four minutes and I wanted to thank you properly for the—" when the frosted doors of the next room slid open. A cart rolled out between them, and Nell lost sight of her.

* * *

The pod home had a window on the lake side, and this time Nell took it without waiting.

Going this way, the tunnel came first. Segments of light crossed her knees, white and gone, white and gone. She held the puck in her lap, turned it over, ran her thumbnail along the seam, and thought about six point four degrees. Her greenhouse trays had grown at twenty-four, and in summer the shed ran warmer than that. A third of the way through, at eleven at night, closed by morning: she had done that at twenty-something degrees, in a bucket on the porch, in April, after the sun had been on the boards all day. Not once had she

put a crack in the cold. It had not occurred to her that the cold was somewhere she would have to go.

The tunnel let them out at the two-minute mark. The lake came up beside her as a silver band and thickened, the way the first lines of a drawing thicken, into water with color in it, boats on it, and docks along its edge, each dock on its own leased length of shore. From the pod, at that speed, the shoreline looked like a ruler laid along the lake and marked off in sixty-one lengths, and once again she could not find the gap where the Thimble was.

Her cuff buzzed twice.

The first message came from someone named Dami Okafor, OFFICE OF DR. H. OSEI: *Next mentor session confirmed. Monday, July 19, 11:50 to 12:00, Floor 140, east lobby. Dr. Osei asks that you bring numbers.* The ten minutes were already in her calendar. She looked at the date and counted: three weeks, twenty-one days of cold.

The second message was a transfer. It arrived with a chime she had not heard before and a thin gold border.

FOUNDERS' NETWORK SUMMER DINNER. NINEFOLD, CALDER CANAL DISTRICT. THURSDAY, JULY 15, 19:30. HOSTED BY THE CALDER CHAPTER. SEAT TRANSFERRED FROM: OSEI, H. (DIAMOND CLASS).

Beneath it, in Dami Okafor's plainer type: *Dr. Osei regrets she cannot attend, as she has not been able to attend the last four. She would like the seat used by someone who will eat the food. You are under no obligation. Dress is as you are.*

Nell read it twice. She looked down at her nails and the gray crescents under them, and then at her cuff, at the thin green outline around its rim, which was the color of a guest.

"Wickham Shore," the pod said. "Nine minutes. Thank you for riding."

She said thank you. On the platform, before the doors had finished closing behind her, she sent a message to her mother: *Can I borrow the seed fridge in the shed.*

The answer came while she was on the stairs. *What for.*

To make it cold, Nell wrote.

It is already cold, Ilse wrote. *That is what it is for.*

Written to order at crispybooks.xyz

CHAPTER 5

The Badge That Dims

There were seeds in the jacket. Nell found them after the pod door had already slid open on the canal and the July air came in, warm and smelling of tar and moving water. In the left pocket was a paper envelope folded twice and labeled in her mother's square capitals, KALE, LACINATO, DO NOT. Do not what, the envelope did not say. She moved it to the inside pocket, transferred the driftstone puck from her trousers to the place where the seeds had been, and stepped out onto the towpath at 19:22.

She had left Pell Street at 19:14. Twice the cuff had offered her the priority pod, the second time with a small chime that seemed to think she was being difficult, and she had taken it because the regular loop would have put her at the canal at 19:41, and the card Harriet had passed on said 19:30 in ink. Eight minutes from her own porch to the Calder Canal District, through a lane that opened ahead of the pod and sealed behind it, under the VTOL shuttles holding in their evening lanes with their bellies lit amber. Now she had eight minutes to stand on a towpath in a borrowed jacket with nothing to do.

The jacket was dark green linen, worn by Ilse to the Bray seed exchange every February and to nothing else Nell could remember. Its sleeves came to her knuckles. It smelled of cedar and potting compost. Ilse had held it out at the front door that afternoon and said, "Pockets," which Nell had taken as a description.

Ninefold had been a grain warehouse when the canal still carried grain, five stories of brown brick with the old loading doors glazed into tall windows. An iron crane arm stuck out over the water, and someone had hung lanterns from its hook. Below it a narrowboat was moored with tomato plants in tubs along its roof. Through the ground-floor windows she could see the kitchen, and in the kitchen there were people: six of them in white, one lifting a pan off an open fire, one bent close over a row of plates, placing something on each with tweezers. Woodsmoke came out of a brick chimney at the back. Nell watched the tweezers for most of her eight minutes. After the dull perfection of printed cooking she had grown up on, it seemed slightly reckless to let a person do it.

At 19:30 she crossed the threshold, an oak sill worn into a shallow dip by a hundred years of feet, and her cuff dimmed.

It did not go out. The bright green outline that had sat on her wrist since April softened until it was the color of a leaf held up against a lamp, a glow she could see only by tilting her arm into shadow. She stopped on the sill. Behind her a man in a white badge said, "Pardon," and went around.

"Ah, there it goes." The host was a woman in a gray apron with a dusting of flour on one forearm. "That's only the house saying you're our guest. Nothing tonight is charged to you, and nobody's going to ask you to vote on anything. Members glow; guests rest. It's an old courtesy."

"Does it come back?"

"The moment you step out the door." The host checked something on the slate in her hand. "Osei's seat, transferred. Table four, by the window. She never comes, so we're glad of you."

Nell turned her wrist over and back. The dimming had been designed by somebody as a kindness, a way of telling a room not to send her the bill, and she stood on the worn sill trying to decide whether a kindness that had to be built into the wiring was better or worse than none. The host waited without hurrying her. In the end Nell said, "Thank you," because that was what she said to everything, and went in.

* * *

The dining room was the warehouse's whole ground floor, open to the beams, with six long oak tables and a smell of smoke and butter and lemon peel. The beams still carried painted numbers from the grain trade. Every badge

in the room glowed: white, white, gold, the clear cold blue of Diamond Class, white again. At table four her card said DR. H. OSEI, struck through, with N. VARGA written underneath in blue ink. On the back, in a small slanted hand, it said Eat everything. H.

The seat to her left was taken by a young woman in a sailing jacket.

Among all the linen and silk the jacket stood out the way Nell's own canvas work coat would have: navy, salt-stiffened at the cuffs, with a strip of reflective tape across the back of one shoulder. Her dark hair was cropped short. She had a stick of something pale and fibrous in the corner of her mouth, which she took out and set beside her bread plate when Nell sat down. Her cuff showed the gray-blue of an ordinary Thrive badge, and it too had dimmed to almost nothing.

"Night-lights," the young woman said, and lifted her wrist an inch off the table. "They seat us together so we can find each other in the dark."

"You're a guest?"

"I'm a Brandt. At the moment that's the same thing." She read Nell's card upside down without appearing to try. "Varga. Driftstone. Materials and marine. You're the fungus girl."

"Mycelium."

"I read your runway page on the loop. Your profile picture is a bucket."

"It's a very good bucket," Nell said.

"Sabine." She did not offer a hand; she picked the stick back up and pointed it at the slate menu propped in front of them. "Nine courses. I've done the arithmetic, and the first one is about a ninth of a radish."

It was a whole radish, as it turned out, cut so that it opened into nine thin petals, set on a square of slate with a coin of salted butter and a pinch of gray salt. The chef brought the first plates out himself, a tall man in wooden clogs with forearms freckled from years over the fire, and he stood at the head of the table and told them that the radishes had been pulled at four that morning in a field outside Bray by a grower named Annet, who sang to them.

"He's going to tell us its name next," Sabine said, too low for the chef.

He did not, quite, but he told them its variety and the soil it grew in. Nell ate hers in two bites. It was the best radish she had ever eaten, peppery and cold and somehow sweet at the center, and she was annoyed to find that it was.

The second course was chilled pea soup in cups that had been thrown on a wheel; she could see the potter's finger-ridges spiraling up the inside as she drank it down. The third was perch. She knew it for Lake Marrow perch at once, by the flake and the faint green taste of the water, and she thought, without meaning to, that her father did it better on the porch with lemon and less talk. She did not say so. Across the table a man with a gold badge was explaining his levy to the woman beside him.

"Oh, it's more of a hobby, really," he said. "Most of it goes into the Bray tidal array, and the rest I give to a choir."

"That's three tonight," Sabine said into her perch. "Last summer a man told me his levy was a passion project. The tidal array is somebody's job. Forty people's jobs. I'd like to see what he does when he isn't relaxing."

The woman beside him, white-badged, said that she thought of her own contribution as a sort of gardening: you put it in and you trusted.

"Four."

"My mother gardens," Nell said. "She'd want to see the beds."

Sabine looked at her properly for the first time, a short, measuring glance, and then went back to her fish. Nell noticed that she ate everything on the plate, including the skin.

* * *

Lucan Brandt arrived during the fourth course, and the room turned toward him the way a field of sunflowers turns toward morning: slowly, then all at once.

Nell heard him before she saw him: a laugh from the door, large and unembarrassed, and then the host saying something and the laugh again. He was a big man in a pale linen suit creased deep at the elbows. He wore no rings and no watch, and the badge on his wrist was a deep violet, the color of plum skin, the only one like it in the room. He did not come straight to his seat. He went down each table, a hand on a shoulder here, a handshake there, and Nell watched him ask a question of every person he stopped beside and then stand still while they answered. People leaned back in their chairs to talk to him. At table two a woman took out her slate and showed him something, and he bent over it for a full minute while his soup was set down at the empty place opposite Nell and slowly stopped steaming.

When he reached table four he put his hand on the back of Sabine's chair, not on her shoulder.

"You're late," Sabine said.

"Bray. They've got a new coil seated at the node and I wanted to hear it." He sat down across from Nell, and the chair took his weight with a creak. "It sounds like a cello with a cold. Who's this?"

"Varga," Sabine said. "Harriet's seat."

"Harriet never comes. She's thanked at every one of these and she never once comes." He said it without complaint, as a fact about the weather. "Lucan Brandt."

"I know," Nell said. "You're under my street."

He laughed so suddenly that the gold-badged man jumped. "I'm under everybody's street. Where?"

"Pell Street. Wickham."

"Wickham. Nine minutes on the loop and the lanes put in in sixty-four. I laid the Pell Street run myself, or I stood beside the machine that laid it, which I'm told counts." He looked at the table in front of her, and Nell realized, too late to do anything about it, that at some point during the radish she had taken the puck out of Ilse's pocket and set it beside her bread plate to have something to hold. "What's that? That isn't a rock."

"It's driftstone."

"What's driftstone?"

So she told him, and he asked questions, and the questions kept coming. What was it made of? What did the fungus eat? What ate the fungus? How much did a cubic meter weigh, dry and wet? Could you print it on a slope? On a swell? Could it hold a bench, a cart, a tram? Who had taught the printers to swim? What did it cost? What did it smell like? He picked the puck up in his big hand, turned it to the lantern light, ran his thumbnail along the oyster-gray surface with its black flecks, and held it to his nose.

"Bread," he said. "Wet stone and bread."

"That's the mycelium."

"Does it float?"

He raised a hand and asked a passing server, very politely, for a bowl of water, and when it came, a wide glazed bowl of the kind they had served the soup in, he set it in the middle of the table and looked at Nell. She dropped the puck

in. It went under, came up, rocked twice and settled, riding low, with its top face just clear of the water. The gold-badged man leaned over to see. So did the gardening woman, and two people from table three, and the server, who stood holding her tray against her hip.

"How did you crack it?" Lucan said. He had found the seam with his thumb before she put it in, a faint pale line where the hammer had gone a third of the way through in April.

"With a hammer. At eleven at night."

"And it healed?"

"A hairline takes about six hours. A clean break takes about forty."

"In what water?"

"Warm," Nell said, and then, because Harriet's card was in front of her: "I'm still measuring the cold."

"Good. Measure it." He lifted the puck out of the bowl and dried it on his own napkin before he handed it back. "How many printers?"

"Forty-eight. I call them gulls."

That set him off again. Gulls, she called them gulls, did they have names, did they argue with her? She admitted that one of them drifted left. He wanted to know how far left; she told him four degrees a meter. He wanted to know whether she had fixed it, and when she said she had given up and given it the rim work instead, he slapped the table so that the soup bowl rang.

"I started the Lanes in a rented garage in Calder South," he said, "with two pods and a router I borrowed and never gave back. Twenty-seven years. Every street in Wickham has my lanes in it now, and nobody's ever seen one. You don't see them. You hear them."

"B-flat," Nell said.

"You can hear it!"

"Everyone in Wickham can hear it. My father uses it to find his pitch for the heron."

"What heron?"

"He runs a puppet theater."

Lucan looked at her for a moment as if she had handed him a second puck. "I'd like to meet a man who tunes a heron to my lanes," he said, and then the fifth course came, a single scallop on a bed of charred leek, and he ate it in one bite and kept talking.

He talked about waterfronts. He had paid for three. There was the river walk at Calder Reach, which had his name on the bottom of a plaque listing eleven donors. There was a sea wall in the south that he had never seen finished. And there was the fusion node at Bray, which was not a waterfront, but which had a cooling pond, and his name on a brass plate bolted to a fence in a field of sheep.

"Sheep walk past it every day," he said. "I'm told they're unmoved." He spread his big hands on the oak. "The children's wing at the Science Museum. That one's good. Children run through it shouting. Then they turn fourteen and stop coming, which is right, that's what fourteen is for. And four thousand sponsorships, which means I'm on four thousand letters in four thousand kitchen drawers." He was smiling, and he did not seem to Nell to be pretending to smile. "All good things. I'd do every one again. But I'd like one waterfront that people walk on every day. Going to work. Walking a dog. Some kid on a scooter. I'd like my name at the entrance, where their shoes go over it."

Beside Nell, Sabine had picked up her licorice root and put it back in the corner of her mouth. She was looking at the window, where the lanterns on the crane hook swung a little over the black canal.

"You have a waterfront," Sabine said.

"I have three hundred and forty meters," Lucan said, "and nobody walks on it but me and the herons." He said it to Nell. "Sabine thinks it's vanity."

"I didn't say anything."

"You think it loudly." He laughed, the big laugh, and the table laughed with him a beat late, and Sabine did not laugh. Nell found that she was watching where Lucan looked, which was at her, and at the bowl, and at the gold-badged man, and at the server, and twice at a point just past his daughter's shoulder. He did not look at Sabine. When he wanted something from her he asked it through Nell: "Sabine would know the weight of basalt fiber per meter, she's the engineer," or "My daughter will tell you I'm wrong about everything."

"Not everything," Sabine said.

The host came down the table and bent to Lucan's ear. Table one was asking for him; the chef wanted him in the kitchen; somebody from the Bray node had come in late and was standing by the door with a slate. He stood up, still chewing, and put his hand flat on the table beside Nell's plate.

"Don't lose that," he said, meaning the puck, and went.

The sixth course and the seventh came and went. Nell could not afterward have said what either was. She was turning the puck under the table, feeling for the seam with her thumbnail the way he had.

* * *

Dessert was burnt-honey custard in a small earthenware pot, with cherries from somewhere on the south shore of Lake Marrow that the server named and Nell forgot. Sabine cracked the burnt top with the back of her spoon, examined it, and then said, without turning her head, "I'm in the autumn round."

Nell put down her own spoon. "The Public Venture round?"

"Is there another one?"

"With what?"

"Lattice." Sabine took the licorice root out and laid it on the saucer. "Modular platforms. Marine-grade steel frames, glass decking, bolt-together cells, three meters on a side. You can build a dock or a plaza or a floor for a house. Helical anchors into the lakebed, screwed in, not dropped. The moorings are the best part. I'll show you the moorings someday, if you're nice to me."

"On Marrow?"

"Where else would I put them?"

Same lake. Same round. The September portal would open in seven weeks, and it would hold two pitches for building floating ground on Lake Marrow, and the domain reviewers would read them one after the other. Nell thought of steel in fresh water through a Wickham winter, of rust bleeding orange down the bolt holes, and felt something settle in her that was very close to relief. She was careful not to let it reach her face.

"Steel's heavy," she said.

"Steel floats if you shape it. It's been floating for about four hundred years." Sabine ate a cherry and set the pit on the rim of the pot. "Your thing has been floating since June. I read the milestone."

"It heals."

"So I gathered. He dried it on his napkin." She said this lightly, scraping the last of the custard from the corners of the pot. "He doesn't dry my things on his napkin."

"Does he know? About Lattice?"

"He knows," Sabine said. "He hasn't asked."

At table one Lucan's laugh went up again, and half the room turned to it.

* * *

The coat check was a narrow room off the entrance with a long brass rail and a man behind the counter who issued no tickets and made no mistakes. Nell had left her canvas work bag with him at the door; he had it in his hands before she reached the counter, and he gave it to her with a small nod, as though they had known each other for years. Through the open front doors she could see Sabine already on the towpath, a navy back with a strip of reflective tape, walking toward the station without looking around.

"Varga." Lucan filled most of the doorway behind her. He had no coat to collect. He had come, it seemed, only to catch her. "Thirty seconds. I'll be quick, because I'm told I'm not."

"All right."

"You're going into the September round."

"Yes."

"I'd like to syndicate you. Whatever the network votes you, I'll put the same in beside it from my own account. A match. Your tranche doubles before the first gull gets wet." He said it the way he had asked about the cubic meter, plainly interested in the number. "One condition, and I'll be honest with you about it, because it's a vain one. The first thing you build, the first piece people walk on, carries the name. At the entrance."

"Which name?"

"Mine," Lucan said. "Brandt."

Out on the towpath the navy back had reached the end of the warehouse wall and turned the corner.

"I'll think about it," Nell said.

"Think hard. I like people who think." He did not seem disappointed; he seemed, if anything, pleased, as if she had passed a test he had not known he was setting. "My pod's at the canal steps. Wickham's on my way. Let me drop you."

"I'll take the loop."

He looked out of the doors toward the corner where his daughter had gone.

"Sabine takes the loop," he said.

* * *

The Canal Street platform sat at the top of a glass stair above the water, a long bright room with benches down the middle and the loop tube running along one side like a clear seam in the night. The cuff had brightened again the moment she stepped off the oak sill, her green outline back at full strength, and on the way up the stair it offered her a priority pod in two minutes. She closed the offer. It offered again, in the tone of someone who suspected she had not understood. She closed it again.

Sabine was on the last bench, her cuff showing plain gray-blue with nothing to dim it, her elbows on her knees. The board said WICKHAM, BRAY, EAST SHORE, 3 MIN. There were four other people on the platform: a man asleep upright, two students sharing a pastry, and a woman with a cello case.

Nell sat down on the same bench, one cushion's width away.

"So we're rivals," Sabine said lightly, looking at the board.

"Yes," Nell said.

The train came in with the long soft rush of displaced air. They got into the same car, which was nearly empty, and sat on the same side, one seat apart, and did not talk. The car smelled of lemon and cinnamon, like every loop car Nell had ridden since she was eleven. Calder slid away behind them, then the river, and then the tube came out of the city onto its elevated run along the north shore of Lake Marrow, and for a while there was only the window.

At night, from the loop, the lake was a great flat blackness on the right, and the shore was a line of light: dock lamps, porch lamps, the white lantern strings on the private piers of the Advance lots, a pale green glow from somebody's boathouse, running away ahead of them at a speed that drew each light out into a short gold scratch before it was gone. Here and there the line broke, and the dark of the water came right up to the tube. Nell counted the breaks without meaning to. Behind her own reflection in the glass she could see Sabine's, chewing licorice root and watching the same lights.

Somewhere past the halfway marker, Sabine said, "How deep is it? Where you're going to put yours."

"Eight meters."

"Says who?"

"Mister Biscuit."

Sabine turned her head. "Who is Mister Biscuit?"

"My tutor," Nell said. "I named him when I was four."

Sabine laughed. It was a short laugh, startled out of her, and a different sound altogether from her father's, and the woman with the cello case looked over and then looked away. Sabine took a second stick of licorice root out of her jacket pocket and held it across the empty seat.

"Mine was called Tutor," she said. "I was a very literal child."

Nell took the licorice root. It tasted like the inside of an old wooden drawer, sweet and faintly bitter, and she chewed it while the shore lights scratched past, and asked what kind of steel.

Written to order at crispybooks.xyz

CHAPTER 6

A Gull for Luck

By the time Nell came through the Allotment gate, the share table had been emptied twice and filled again, and her mother was standing behind it with a crate of runner beans on one hip. The message that morning had said *Share table. Nine. Bring hands.* It was twenty to eleven.

"Twenty-Three ate a spool," Nell said.

Ilse set the crate on the trestle. Without a word she took Nell's right hand by the wrist and turned it palm down, the way she turned a tomato to look for split skin. Under every nail sat a gray crescent of mycelium, packed in so tightly that two scrubbings at the slip that morning had only polished it.

"That's my strain," Ilse said.

"It's grown since you saw it."

"So have the beans."

She let go of the wrist and pushed the crate toward her. Nell took it. She had missed three Thursdays. Since Nell was old enough to carry a watering can with both hands, Thursday had been the garden day: the second Thursday in July had gone to a firmware wipe, the third to a cold run in the seed fridge, and the fourth to falling asleep in the boathouse with a hopper in her lap and waking at two in the morning to Seventeen chirping for its charger.

In late July the Allotment was at the top of its year. All two hundred beds had reached the stage at which nobody could keep up with them. Tomatoes

split on the vine faster than they could be picked, squash leaves stood knee-high and broad enough to shade a cat, and the sunflowers along the greenhouse film had grown past the gutter and were leaning over the path to look at people. The air smelled of crushed tomato leaf, sharp and green, and under that, from the mushroom shed, the cool damp of straw. Bees worked the borage. A sprinkler on the far beds ticked round and round and kept missing the same corner.

The share table was a long printed trestle under a canvas awning, with a board at one end hand-lettered in Ilse's square capitals: TAKE WHAT YOU'LL EAT. LEAVE WHAT YOU WON'T. Nobody had ever fixed a reader to it. Nell laid the beans out in a row beside a heap of cucumbers and a basket of plums with wasps in it, and the beans began to go almost at once.

They went to a man with a pram full of zucchini, which he unloaded before taking one handful of beans, as if the trade had to be fair even though no one was keeping track. Two girls in swimming caps took sugar snaps and ate them walking away, dropping the strings in the path. Mrs. Kaur from the end of Pell Street took one tomato, as she did every Saturday, and held it up to the light before putting it in her coat pocket. A boy left a jar of plum jam labeled JULY with the Y backward. Someone had left a colander with a mended handle; within ten minutes someone else had taken it, and in its place on the cloth lay a bundle of dill tied with a bread tag.

Nell watched the cuffs as they passed: gray-blue, gray-blue, gray-blue, the small type of lifetime numbers too fine to read from where she stood. Her own green outline was the only one that was not solid.

At a quarter past eleven a tall man in a pressed shirt wheeled a bicycle to the gate, leaned it on the post and came up the path carrying a paper bag. His cuff was white. Under the awning he set the bag down, folded the top back so the loaves showed, nodded to Ilse, nodded to Nell, and went back down the path to his bicycle. He took nothing at all.

"Platinum," Nell said.

"Wendell Ames," Ilse said. "Third lot past the Halvorsen dock."

"He didn't take anything."

"He never does."

"Then what's he here for?"

Ilse straightened a stack of cucumbers that did not need straightening. "Bread," she said.

There were three loaves. They were dark rye, from a baker in Old Orchard whose name was stamped on the bag in brown ink, and none of them was the same shape as the others. One leaned. Another had a thumbprint baked into its shoulder where somebody had moved it off the tray too soon. Mrs. Kaur came back for half of the leaning one and tore it at the table, and the crust cracked with a sound Nell could hear from a meter away. A woman with a toddler took the whole of the second loaf. The thumbprint loaf lasted four minutes.

Nell had broken a heel off it for herself before it went. The bread was sour and dense, with caraway, and the crumb was uneven, with a big hole on one side where the dough had trapped air and a tight patch on the other.

"Machines don't leave holes like that," she said.

"No," Ilse said. "They don't."

She left it there, as she left most things. They worked the table until one, when the sun came round the awning and the last cucumbers began to go soft at the ends. As Nell carried the empty crates to the shed, Ilse said behind her, "You'll come to the show."

It wasn't a question. Nell had a print scheduled at four.

"I'll come to the show," she said.

* * *

The Tin Heron's garage door had been rolled up to the ceiling, and the benches ran out onto the drive, which on Saturdays Lantern Row allowed. By two o'clock every bench was full and the overflow children were sitting cross-legged on a tarp at the front, close enough to touch the hem of the cloth lake. Tomas had repainted the backdrop over the winter. The water was a stronger blue now, ruffled with white brushstrokes, and at the right-hand end the reeds stood up tall and brown against a sky the color of an old towel.

Nell took the end of the back bench beside a grandfather who was holding three ice creams for children who had left them with him. From there she could see the top of the puppet booth and the pale crown of her father's head moving behind it.

Professor Gill came up over the reeds slowly, beak first. He was a gray felt heron with a wire neck and one long leg, and over the years he had been patched so often that his chest was a map of slightly different grays.

"I have decided," said Professor Gill, "to purchase the edge."

A girl on the tarp said, "Which edge?"

"All of it," said Gill. "The whole rim of the pond. Every reed and every stone. So that wherever I choose to stand, I shall be standing on mine. And everyone who walks round the pond will be walking round me." He laughed, a deep, rolling laugh that came out of the booth much bigger than the heron, and three of the smallest children laughed back at it out of pure surprise.

Clerk Badger rose at the other end of the booth with a pair of spectacles on a chain and a sheaf of paper in his paws.

"Form 9-B," said Clerk Badger. "Puddle, Small."

"It is a pond."

"Is it a puddle," Badger said, "that is larger than you would like?"

"IT'S A POND," shrieked the tarp.

"Then the gentleman requires 9-C. Seasonal."

"Ponds are not seasonal."

"Everything is seasonal," said Badger, "if you wait."

Gill signed. He bent his long neck and signed with his beak, scratching across the page while Badger read out the clauses in a voice that grew slower and more pleased with each one, and when it was done Gill stood up very tall and spread his wings and owned the whole edge of the pond. Then he lifted his foot to step into the water for a fish.

"Ah," said Badger. "You are leaving your property."

"I am going fishing."

"Departure from a registered edge requires 9-D. In triplicate."

The heron put his foot back down. He tried the other side; Badger was there with another form. Up popped the frog in the middle of the cloth lake, green and round-eyed, and said in a cheerful croak, "Lovely water today!"

The tarp lost its mind. Children screamed with laughter, one of them rolled off the tarp onto the drive, and the grandfather beside Nell nearly dropped an ice cream.

Nell did not laugh. The frog's voice was hers, or a version of hers, pitched a little too high, with the croak arriving half a beat late. Her father was doing the frog. Through the rest of the sketch she watched the heron stand on his edge on one leg with his feathers puffed, unable to step off it, while the frog swam round and round him saying *Lovely, lovely*, and she noticed that Gill's laugh was the laugh of a big man in a linen suit setting a puck in a bowl of water to

watch it float. Twice she caught herself glancing at her cuff for the time. In the booth a small mechanical click sounded each time the children laughed, and she found she was counting the clicks instead of laughing herself.

Afterward, once the benches had emptied and the grandfather had handed back all three ice creams, she went round the side of the booth. Tomas was hanging Gill on his peg by the wire loop at the back of his neck. The brass tally counter hung on a string from the pocket of his apron.

"You went to Ninefold," she said.

"I did not go to Ninefold. You went to Ninefold."

"That's him. Every reed. Everyone walking round. That's Lucan Brandt."

Tomas reached into the booth's shelf and took out a pencil script, soft at the folds. He turned it so she could read the top corner. *Gill & the Edge. 3/86.*

"I wrote it two years ago," he said.

"The laugh is his."

"Gill has had that laugh since he was a sock." He hung Badger beside Gill and tucked the spectacles into the badger's waistcoat. "Two hundred and eleven. Seven more than last week."

"Who did the frog?"

"I did the frog."

"You did it badly."

"I did it the way you would have done it with a cold," Tomas said, and gave the tally counter a last click for himself.

* * *

They ate on the porch at eight, when the heat had gone off the boards. Supper was corn from the Allotment, a bowl of split tomatoes with salt and oil, and green beans that Ilse had kept back from the table, which in Nell's experience was the only thing Ilse ever kept back. Over the rooftops the lake had turned the color of pewter, and the Thimble showed as a thin pale strip between the dark of the Halvorsen dock and the long line of the ferry pier. Even from Pell Street Nell could see people on it, small enough to be grains.

She had a cob in both hands and had been eating it in rows, the way she had as a child, before she put it down.

"Did you never want more?" she said.

Tomas looked up. Ilse went on salting her tomatoes.

"Of what," Ilse said.

"Anything. Lake." Nell pointed with the cob. "That's sixty meters for eighteen thousand people. You could see it from your bed if the Ameses' roof weren't there. You could have a dock."

"I have exactly enough lake," Ilse said.

"You can't have exactly enough of something you can only see the edge of."

"I see the edge of it every morning," Ilse said. "From the porch, at six. Then I go to the garden." She put the salt down. "That's what I want it for."

Nell turned to her father, who was buttering his corn with great attention. "And you?"

"Two hundred and eleven laughs today," Tomas said. "Something like two hundred a week, every week, for seventeen years. That's a large number."

"It's the same number every week."

"So are the Saturdays," Tomas said. "I've never got tired of those either."

Down on the lake a sail turned and caught the last of the light and went white. Somewhere below the porch a delivery pod ran its low B-flat under the street and stopped at the Okafors' and went on. Nell looked at her mother's hands on the table, square and brown, and at her father's apron hanging over the rail with the tally counter still on it, and tried to decide whether what she felt toward the two of them was envy or impatience. Each time she settled on one of them, the other turned up underneath it.

She picked the cob up again and put it down again.

"Lucan Brandt wants to syndicate the pitch," she said. "In September. He'd match the public money."

Tomas whistled softly.

"If the first thing I build has his name on it."

"Ah." Tomas wiped his fingers. "Well, there's precedent. Sandwiches get named after people all the time. The Brandt. Rye, mustard, a very large pickle. You'd want the pickle large."

"Dad."

"A floating sandwich. Your mother could grow the cress."

"It's not a sandwich, it's the first piece of new shore Wickham's had since the ordinance."

"Then it should be a very good sandwich," Tomas said.

Ilse had been looking out at the Thimble. She turned now and looked at Nell for a while, without any expression Nell could use.

"What would you want written on it?" Ilse said.

Nell opened her mouth. The answer she expected to find there wasn't, and neither was any other. *Driftstone* was the material, and *Varga* was her parents' name on a theater license; a plaque with her own name on it was something she had never once pictured, though she had pictured the bench on the platform, the cell pattern, and the color of the water under it a hundred times. Out on the pier the lamps came on, one after another, from the shore end outward.

"I don't know," she said.

Ilse nodded as though that was a reasonable thing to have said, and passed her the beans.

* * *

On the second of August the Allotment closed at seven, and at half past, the string lights went on.

Tomas had hung them that afternoon from the greenhouse frames to the shed roof and across the main path to the share-table awning, warm white bulbs on a brown cord, so that the middle of the garden sat inside a loose tent of light while the far beds went dark around it. Somebody had brought folding chairs. The plot neighbors had come in garden clothes: the Fosse sisters with a bowl of potato salad, Mr. Okafor with his accordion in its case, which he did not open, and Mrs. Kaur, who had brought one tomato and set it on the table in front of Nell with ceremony.

Teo came through the gate at eight. Nell had never seen him without the satchel. He wore a plain blue shirt with the sleeves rolled, and he had left the cargo trike at the gate with its bed empty, which made it look like a trike that had come along out of curiosity. He was carrying a white box with both hands, level, the way people carry things they have been warned about.

"Off shift," he said. "I'm a civilian. Nobody sign anything."

"You didn't have to come."

"Thursday route goes past the bakery bot on Kestrel. It takes custom orders." He put the box on the share table and stood back from it. "I want to say first that I checked the order."

She lifted the lid. The cake was round and white, piped with green, and across the top in confident blue script it said HAPPY 20TH NEILL.

"It had NEL," Teo said. "I asked it to fix it. It added an L."

"In the wrong place."

"In a place." He looked at the cake with real respect. "It confirmed the correction. It was very sure."

Tomas leaned over Nell's shoulder and read it aloud in the voice of Clerk Badger, and Mrs. Kaur laughed so hard she had to sit down. Ilse cut the cake straight through the second L with a garden knife she had wiped on her trousers.

Nell's cuff gave the soft tone it used for a household message.

"Before the candles," said Mister Biscuit from her wrist, in the voice he had used with her since she was seven, "I am obliged to observe an arrangement."

"No," Nell said.

"In 2073 you instructed me that my singing was 'too correct' and constituted 'showing off.' You were five. The instruction has not been rescinded."

"I rescind it."

"Rescinding a standing instruction requires a form," Biscuit said. "You have an unsigned form of mine on file already."

Then he sang. He sang "Happy Birthday" a quarter tone flat, with a long hesitation before the last line, as if he had forgotten her name and was looking it up, and a rising note on *Nell* that cracked. It was very precisely bad. Teo stood holding a plate with his fork halfway to his mouth, and the Fosse sisters joined in on the second line out of pity, and by the end the whole little tent of light was singing, flat, along with Biscuit.

"Twenty years," Biscuit said when it was over. "You asked me once whether the lake had a bottom. I have the date if you'd like it."

"I would not like it."

"I'll keep it," Biscuit said.

Teo ate his cake standing up. Between bites he told her the bakery bot on Kestrel had misspelled his own name on the window of its shop as TOE for most of a year and nobody had filed a correction, because by then the neighborhood liked it. He asked about the basin date, and she told him the twenty-fourth, two days, Calder Polytechnic. He asked how many gulls.

"Two hundred," she said. "The rest came Tuesday. A hundred and fifty-two in a crate the size of a bed."

"Do they all go left?"

"One goes left."

"Only one," Teo said. "That's good odds." He looked down the dark rows past the lights, toward the shed. "I'm on your porch Thursday. Your basin access chip. Try to be on it."

"I'm always on it."

"You're never on it," he said, without any judgment in it at all, and went to help Mr. Okafor fold the chairs.

* * *

Tomas brought the present out last, when the chairs were stacked and the Fosse sisters had gone home with an empty bowl. It was wrapped in a seed sack tied with twine. He set it on the table among the cake plates and stood back with his hands in his apron pocket.

Nell untied the twine. Inside lay a gull.

It was carved from pale wood, linden or lime, she thought, by the fine close grain and the way it had taken the knife, and painted the soft gray-white of the real gulls on the pier with darker wingtips. The body was the size of two hands. Instead of a gull's webbed feet it had paddle feet, four of them, flat leather ovals on jointed wooden legs, and on its back a little wooden hopper with a lid that opened. Its eyes were amber glass beads. Five strings ran from it to a crossbar of planed pine worn smooth at the ends, as if Tomas had been testing it for weeks.

He took the bar from her and walked the gull down the share table, toward the cake.

It went left. It started straight and then, step by step, its course bent; the paddle feet came down a little unevenly and the whole bird swung gently off its line until it was walking toward the plum basket instead.

"Seventeen," Nell said.

"I measured the real one," Tomas said. "On a Thursday, when you weren't there. The left foot's long by a finger's width."

"How did you know what length?"

"I asked Biscuit what four degrees a meter came to on a bird this size."

"I provided the calculation," said Biscuit from her wrist. "I was asked not to tell you."

Tomas held out the crossbar. She took it and walked the gull back along the table, trying to hold it straight, and it drifted left all the same, its long foot coming down a little ahead of the others each time, until it bumped gently against the sugar bowl. Ilse watched from the end of the table with her sun hat in her lap.

"For luck," Tomas said. "In case you need one that knows where it's going."

"It doesn't know where it's going."

"It knows it's going left," Tomas said. "That's more than most people."

* * *

At midnight Bay 9 smelled of wet basalt fiber and bread. The new rack along the north wall was full: a hundred and fifty-two new gulls asleep in their cradles, each with a single amber charging light, beside the original forty-eight. Seventeen sat in its slot at the end with the green stripe on its rim and its rear left foot still the one that had come off Twenty-Nine. In the slip the water lay black and slapped once against the boards whenever something passed far out on the lake.

Nell sat on an upturned crate with her cuff open and wrote to Lucan Brandt.

The first draft explained the material, the second explained her mother, and the third explained Professor Gill. She deleted all three. The fourth said:

Thank you for the offer, and for the dinner. I'm going to pitch without the naming terms. Not on those terms, and not now. I'd still like to show you what it does in cold water. — Nell Varga

She sent it before she could write a fifth.

Then she opened the Public Venture portal. The autumn round was not yet open, but there was a form for declaring an intention to enter it, and the form wanted a venture name, a domain, a list of syndication partners and a preliminary Civic Equity figure. Under *Domain* she chose materials and marine. Under *Syndication partners* she typed *None at this time*. The Civic Equity field offered the template default, and she left it marked *to be declared*, because she had not finished doing that arithmetic yet. At *Venture name* the cursor sat blinking for a long time. She thought about her mother's question

on the porch, about the leaning loaf and the thumbprint in its shoulder, and at last she typed *Driftstone*, since that was what the thing was, and left the rest for later.

PUBLIC VENTURE ROUND, AUTUMN CYCLE. NOTICE OF INTENT RECEIVED.

Inside a minute the cuff chimed again. Oskar Lindqvist, at twelve minutes past midnight, had written: *Received!! This is a beautifully completed notice. I've printed a copy for the folder. — O.L.*

A second chime followed, from a violet address.

Ha. Fair enough. Ask me again when it holds a crowd. — L.B.

She closed the cuff. Above the slip, a crossbeam ran the width of the boathouse, with old iron hooks in it from the ferry days, when they had hung coiled line there to dry. She stood on the crate, looped the crossbar's string over the hook nearest the water, and climbed down.

The gull hung over the slip with its paddle feet a meter above the black water and its amber eyes catching the charging lights of the rack. For a while it hung still. Then a draft came in under the lake doors and the string twisted, and the wooden gull turned slowly on its hook, a quarter turn, and settled facing left.

Written to order at crispybooks.xyz

Part Two: The Runway

In Calder and on the lake, Nell enters the Public Venture round against Sabine Brandt, sees what the shoreline question looks like in public, and builds Shore One through the winter.

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CHAPTER 7

Wave Basin

The gulls went into the water four at a time, down a ramp of grooved aluminum built for launching model hulls, and each one chirped once as its paddle feet touched. After the twelfth row the chirps stopped sounding like separate machines. Two hundred of them made a noise in the long concrete room like rain starting on greenhouse film, and under it ran the filter pumps, and above it, from somewhere in the gallery, a student laughed at a screen.

They had left Wickham at four that morning in six crates on a Brandt Lanes freight pod. Their route had taken them under Pell Street, under Shore Road and then under the river, so that by the time Nell came off the 6:10 loop with a thermos and two cold boxes of slurry, the crates were stacked on the Polytechnic loading dock with their seals unbroken and a note from the freight system thanking her for choosing it. She had not chosen it. Oskar had chosen it, in a message with three exclamation points, after the mentorship credits came through and the swarm went from forty-eight to two hundred in a single afternoon.

Sixty meters of water lay between the wave-maker and the beach. At the south end stood twenty-four hinged steel flaps, painted yellow, each with a brass number, which leaned forward and returned together on hydraulic arms with a sound like a long breath let out through the teeth. A slope of perforated steel plates closed the north end and took each swell as it arrived, gulping it down

with a wet suck. Halfway along, set into the floor behind a line of orange floats, was a square of dark lake clay two meters deep, and the sign on the rail above it read SEDIMENT PIT — BOOK SEPARATELY. Nell had read the sign on the booking page in July and had thought about it for perhaps four seconds. The basin lent four steel deadweight blocks for free, cubes with white rings painted on their tops, and she had asked for those.

"Biscuit," she said. "Swell model."

"Loaded," said Mister Biscuit from her cuff. "Shall I remind you that the lake period was two point three seconds and the basin's will be three?"

"You just did."

"It seemed efficient to combine the reminder and the question."

In the booth above the flaps, the basin technician, a woman named Ines Carvalho, raised a paper cup to show she was ready. The water was twenty degrees by the rail thermometer. Nell had asked for colder in her booking notes and had received, by return message, a polite explanation that the chiller plant was down for service until October, with a link to a form for requesting it anyway. She had written TWENTY, NOT COLD across the top of her test sheet and underlined it twice.

* * *

Ruth Adeyemi-Lund arrived at twenty to ten wearing chest waders, which made a rubbery whisper with every step she took along the concrete. A white cuff showed at the end of her sleeve, and under her arm she carried a notebook with a waxed canvas cover, with a pencil pushed through the spiral. She stopped at the rail and watched the swarm fan out across the basin in its loose spiral, two hundred amber rims riding up and down in the first small swells.

"Varga," she said.

"Yes."

"Adeyemi-Lund. Maritime review. Your file's in my stack for the autumn round, so I came to see whether it floats."

"It floats," Nell said.

"Everything floats in August." Ruth opened the notebook. "What's your fatigue life?"

"I don't know yet."

The pencil moved. Upside down, Nell could not read it, though it looked short.

"Healing time on a hairline?"

"Six hours. Forty on a clean break."

"At what temperature?"

"Twenty-four in the trays. Twenty-one in the lake. I've done a few fridge runs at six, and they don't agree with each other yet." She said it fast, to get it out before anyone else could. "The chiller's down."

"Then you don't have cold data," Ruth said. "And it is. It was down when I booked for June, too." She looked along the basin to the four white-ringed blocks sitting on the floor under three meters of water, each with a polyester line running up to a float. "What are you tying it to?"

"The blocks."

"With?"

"Twelve-millimeter line to printed lugs at the corners."

The pencil moved again. Ruth did not ask anything further, which Nell found worse than another question would have been. Instead she walked down the side of the basin to the beach end and stood in her waders at the foot of the perforated slope, in water to her shins, watching the swells come in and disappear.

Ines called down the number: forty centimeters. On the yellow wall the flaps leaned and returned together. Out in the middle of the basin the swarm rose on the first full swell, two hundred machines lifting at once, and Nell held her breath until they came down again and their running lights still made a spiral.

Printing on the lake had been one thing. Here the swell came regular as a metronome, and the camera model Biscuit had built in May, which read each gull's tilt and corrected its nozzle within two millimeters, had something steady to learn from. Within twenty minutes the first ring of honeycomb lay on the water, cells the width of her palm, oyster gray going darker as the slurry wetted. The smell came up off the basin in the warm air of the lights: wet basalt fiber, and under it bread, the faint sweet yeastiness of Ilse's Gray waking up in a new place. Two students in the gallery leaned over the rail and one said, loud enough to carry, that it smelled like a bakery had fallen in a quarry.

Seventeen did the rim. It always did the rim now, because its drift of four degrees a meter to the left meant that if Nell started it on the outside and gave it

nothing to correct, it would go round and round the edge by itself with a fidelity she could never have programmed into a straight-running unit. Through the morning it circled, green stripe flashing at every crest, and laid the raft's border like a person icing a cake.

At twenty past one the raft was finished: six meters square, a hand's width thick, seven hundred and forty cells, every one sealed. Nell called the swarm off it into a holding pattern near the beach, and Ines dropped the wall to idle while Nell climbed down the service ladder to a basin skiff and clipped a line to each corner lug. Each knot she tied twice. When she climbed back to the rail, Ruth was there again, notebook open, the waders dripping a dark ring onto the concrete.

"Run it," Ruth said.

Ines ran it. At forty centimeters the raft did what Nell had hoped: it lay on the swell and flexed with it, the honeycomb giving a few millimeters at each crest and taking them back at each trough, and it did not slam. She watched the corners. For the first hour there was nothing to see.

In the second hour the hairlines came. She saw the first one through the rail binoculars at five past three, a dark thread no longer than her finger running inward from the northeast lug, and then its twin at the southwest, and by four o'clock every corner had two or three of them fanning out from the lug like the veins of a leaf. Each line opened a little on the crest and closed on the trough. She wrote down the times. The middle of the raft, where nothing held it, had no cracks at all.

"Well," Ruth said, and went to make a call in the corridor.

At six Nell carried the thermal camera to the gallery rail, aimed it down at the raft and fed the image to the big screen over the booth. On the screen the raft was a slab of deep purple on black water, which was what she had expected. The cracks were thin orange threads, half a degree warmer than the composite around them, and that was what she had come here to see: the mycelium working, its slow metabolism showing as heat where it was pushing new growth across the gap. At the northeast corner the threads were brightest. She set the camera to take a frame every two minutes and sat down on the gallery floor with her back against the rail and ate the cheese sandwich Tomas had wrapped in a page of an old script.

Ruth came back at half past seven, out of the waders and in plain gray trousers with a satchel. She stopped at the top of the gallery stairs and looked at the screen for a long time.

"Is that a timelapse?"

"Since six."

"Run it from the start."

Nell ran it. On the screen the orange threads came up out of the purple one by one at each corner, brightened, thickened, and then, between about the sixtieth frame and the ninetieth, began to shorten from their outer ends inward, the way a zip closes. Ruth leaned closer. She asked for it again, and then for the northeast corner alone at double size, and Nell gave her that, and Ruth watched the brightest thread fade to a smudge and then to the same purple as everything else.

"The seam's closed?"

"The hairlines are. I'll check by hand at the skiff."

"Do." Ruth wrote something, longer this time, and then crossed a line out and wrote something else beside it. "What does it smell like when it's healing?"

Nell had not expected that question. "Like bread," she said. "More than usual."

"Huh," Ruth said, and wrote that down too.

* * *

On Wednesday morning Nell sent the swarm out to lay a sealing coat over the healed corners. The raft had sat moored through the night at twenty centimeters, and at eight o'clock, kneeling in the skiff with her thumb on each seam, she had found every hairline from Tuesday closed and smooth and very slightly raised, like a scar on the back of a hand. She wanted a thin skin of fresh slurry over them before the second day's run. The gulls went out in their spiral. Ines brought the wall up to forty. Seventeen took the rim.

It was on its second circuit that she lost track of it. She had been watching the corners through the binoculars, and when she swept back along the edge the green stripe was not where it should have been. She found it eventually ten meters south of the raft, puttering along with its hopper empty and its lights cheerful, angling left, left, left, toward the yellow float line that marked the no-entry zone in front of the flaps.

"Seventeen," she said. "No."

Biscuit said, "It cannot hear you."

"It can hear the recall."

"It received the recall eleven seconds ago. It is, I believe, recalling."

The recall told each gull to turn toward Nell's cuff and come home in a straight line. To Seventeen a straight line was a gentle curve to the left, and Nell was standing on the west rail, and so Seventeen recalled itself in a slow and determined arc straight over the float line into the two meters of water where the swells were born. There it stopped making progress. Each flap leaned forward and shoved it a meter north; each flap returned and the backwash dragged it a meter south. Its amber lights went up and down. It chirped twice: low battery.

The students in the gallery had stopped talking. Ines was leaning out of the booth. Ruth, who had arrived during the sealing coat and was now standing by the beach slope in her waders again, had her notebook open and her pencil still.

"Can you hold the wall?" Nell called.

"I can hold it," Ines called back, "but it'll throw a reflected set down the basin when it stops and hit your raft with about sixty centimeters. Your call."

Nell looked at the raft and then at Seventeen. On the equipment hooks by the flaps hung a pool net with a four-meter aluminum pole and a tag that read FOR DEBRIS. She took it down, walked out along the narrow steel catwalk above the flaps, which hummed under her boots with each stroke, and lay on her stomach on the grating.

"Keep it running," she said.

The first time she reached, the swell took Seventeen out from under the net. The second time she got a rim and lost it. By then she was talking to it the way she had talked to it all through May, in a low, steady voice, the voice of someone reasoning with a cat on a shelf.

"You have four feet," she said. "Three of them are yours. You could go right. You have never once gone right. Don't look at me like that."

"It does not have a face," Biscuit said.

"It knows what I mean."

On the third reach the swell lifted Seventeen into the net as if it had been asked to. She brought it up dripping, amber lights blinking through the mesh, and it chirped once more, low and aggrieved. In the gallery somebody clapped, and then the other student did, and Ines, in the booth, raised her paper cup.

Nell walked back along the catwalk holding the pole level, with Seventeen swinging gently at the end of it. When she got to the beach end, Ruth was writing.

"Is that going in the file?" Nell said.

"It's going in my notes." Ruth didn't look up. "Your file will say you have a unit with a fixed directional bias and no automatic exclusion from hazard zones."

"It has a long foot."

"So I see," Ruth said.

* * *

Sabine's flatbed came through the loading door at nine on Thursday, an autonomous truck with its bed lowered to dock height and four Lattice modules strapped flat on it under blue covers. Nell had stayed. Her freight pod for the gulls wasn't booked until two, and she told herself she was staying for that.

Sabine came in behind the truck in her navy sailing jacket, the reflective tape on one shoulder catching the work lights, a stick of licorice root in the corner of her mouth. Her cuff was the plain gray-blue of a badge at zero. She looked at the basin, then at Nell's raft, which was still moored at the far end with its corners sealed and gray.

"I heard you did six," she said. "I brought six."

"It's eight wide in here," Nell said. "You could have brought eight."

"I could have," said Sabine. "Then I'd have hit the walls."

When the covers came off, the modules were each three meters square: frames of brushed marine steel, the color of a spoon, with welded nodes at every corner and glass decking set into them, thick green-edged panels that made the lights over the basin come down through them in long pale bars. A crane arm swung each one off the truck and into the water, and two Polytechnic students in waders latched them together by hand, four panels to a square, while Sabine stood at the rail and called numbers.

She had booked the sediment pit. Nell watched the drive head come down on its arm and set the first helical anchor into the clay: a steel shaft as thick as a wrist, with two flat spiral plates welded near its tip, turning slowly, going down into the pit the way a corkscrew goes into a cork, while the torque readout on the booth screen climbed and climbed and leveled. Sabine read the number

aloud and the student holding the clipboard checked it against a sheet. There were four of them. Each one went in to the same torque within two percent, and Sabine said "Good" after each, quietly, the way Ilse said it over a tray that smelled right.

From each anchor head a stainless line ran up to a module corner. When the wall came up to forty centimeters, the platform lifted on the swell as one piece, steel and glass flashing together, and settled, and lifted. Nell had expected the glass to look fragile on the water. It looked like the most solid thing in the room. Sabine walked out along the catwalk, stepped down onto the deck during a trough, set a paper cup of tea in the exact center, and stepped back off. For the next twenty minutes the tea rode the basin and did not spill.

Since the first anchor Ruth had been at the rail with her notebook open. Her pencil moved a great deal less than it had on Tuesday, and Nell, who had resolved not to look at it, looked at it anyway.

* * *

Teo came in at eleven through the side door with his satchel across his chest and a credential chip in his hand, looking for Ines. He found her in the booth, and Nell, from the rail, watched him hold the reader out and wait while Ines pressed her cuff to it, and watched him say something that made Ines laugh, and then watched him come down the booth stairs and stop and take in the basin, the steel and glass platform, the gray raft beyond it, and her.

"Operator license," he said, when he got to the rail. "She'd let it run out in June. Thursday's my Calder side." He looked down at the water. "Which is yours?"

"The gray one."

"And the shiny one?"

"Mine," Sabine said, coming up the catwalk. She held out the bag of licorice root to him. He took a stick and turned it over and looked at it, then at her.

"It's a root," she said. "You chew it. It's very bad at being candy."

"Why do you eat it, then?"

"My father hates the smell."

Teo put the stick in his shirt pocket for later. "Did he pay for the truck?"

"The truck is a rental," said Sabine. "I paid for it with my father's money, which I'm told is different from my father paying for it."

"Is it?"

"There's a form," she said, "and it says so."

Teo laughed, a short surprised sound Nell had heard perhaps twice before, and she found she had begun counting the gull crates on the dock again, though she had counted them at eight and there were still six.

"What happens when it breaks?" Teo asked Sabine, and nodded at the glass.

"It doesn't, at this load. At twice this load, a panel cracks and I replace the panel. It's laminated. Nothing falls through."

"Who replaces it?"

"A boat, a crane and a person, about four hours. I've costed it."

"Is that a lot?"

Sabine looked out at the platform for a moment. "It's a number," she said.

Teo turned to Nell. "And yours?"

"It heals," Nell said. "You saw the puck."

"I did. Ines says one of your machines went in the wave thing yesterday and you went in after it with a net."

"I didn't go in. I lay on a catwalk."

"She said you were talking to it."

"It has a long foot," Sabine said, before Nell could. "Everyone knows about the foot."

Teo wrote nothing down. He stood at the rail with his hands on it for a while and watched the steel and the gray raft lift on the same swells and fall at slightly different times, Sabine's a beat after Nell's, and then he checked his cuff, said he had nineteen more stops and a cheesemonger in Old Orchard who complained if he was late, and went out the way he had come in. It had been fifteen minutes. Sabine watched the door close.

"He's funny," she said.

"He's a courier," Nell said, which was true, and which she heard come out sounding like something else.

* * *

Ruth found her after lunch at the beach end, where Nell was crouched in the skiff checking her northeast lug with a torch. She stood at the top of the perforated slope in her waders and waited until Nell looked up.

"Come out a minute," she said.

They walked along the west rail to the far corner, past the flaps, away from the booth and the students and Sabine, who was on the catwalk with her sleeves pushed up arguing pleasantly with a load cell. Ruth stopped by the equipment hooks where the debris net hung, still a little damp.

"I'll say this to you because it's going to be in my review anyway, and you'll take it better here than reading it." She had her notebook shut under her arm. "Your material is extraordinary. I've been in port work for thirty-four years. I have never seen anything crack under load and close itself up on a camera while I stood there drinking coffee. I went home on Tuesday and told my husband about it over dinner and he made me stop."

Nell said nothing. She did not trust anything she would say.

"Your moorings are amateur," Ruth said.

"They held."

"They held a forty-centimeter swell in a concrete box for two days. Your raft cracked at four corners and nowhere else. You know why."

"The lugs."

"The lugs, the lines, the blocks. You took a structure that spreads its load beautifully across seven hundred cells and you pinned it down at four points. Every force on that thing collects where you tie it down. It doesn't matter how well the middle behaves." Ruth glanced back along the basin toward the steel and glass. "Your corners healed because you gave them six hours of polite swell to heal in. Out there you won't always get six hours."

"I'll fix it," Nell said.

"With what?"

"I'll print better lugs. Thicker at the root."

Ruth looked at her for a moment with an expression Nell could not use. "That's one way to start," she said. "Book the pit next time." She tucked the notebook more firmly under her arm, nodded once, and walked back down the rail toward the booth, where Ines was signaling that the maximum run was ready.

* * *

Maximum in the Calder Polytechnic basin was ninety centimeters at four seconds. When it came, the flaps leaned farther than Nell had seen them lean all week, and the sound they made was no longer a breath but a long hollow push,

and the water at the south end stood up in a ridge as wide as the basin and came down the sixty meters toward the beach in a slow green hill. Nell's raft had been unmoored and pulled clear at noon. She watched Sabine's platform meet the first one.

The steel and glass went up the face of the swell and over the crest and down the back. The tea was long gone; Sabine had retrieved it at the first increase. On the booth screen, four lines of load numbers jumped with each swell and fell back, jumped and fell back, and the highest of them, the northeast anchor, peaked at forty-one kilonewtons and did not peak higher. On the floor of the sediment pit, through the clear water when the surface smoothed between crests, the four anchor heads sat in the clay exactly where they had gone in at nine that morning. Nothing about them moved. Swell after swell came down the basin and lifted the deck and pulled on the lines, and the pull went down the lines into the steel shafts and through the spiral plates into two meters of lake clay, and the clay took it.

Nell opened the public test log on her cuff. Every basin run at the Polytechnic posted to it in real time, the way every pitch in the round would post to the portal; her own Tuesday entry sat just below, with the thermal timelapse attached and eleven views already. She scrolled up to Sabine's. Under MOORING SYSTEM was a full specification: shaft diameter, helix plate diameters, plate pitch, spacing between plates, installation torque for each anchor with its tolerance, line material and breaking strength, the clay's shear value from the pit's own sensors.

She opened a new note and named it MOORINGS. She copied the shaft diameter. She copied the plate diameters, both of them. Out on the basin another swell came down and lifted the glass and set it back, and on the booth screen the northeast line climbed to forty-one and fell. She copied the pitch and had her thumb on the torque when Sabine, on the catwalk, laughed at something a student said, a clear carrying laugh that bounced off the concrete and the water.

Nell closed the note. The cuff asked whether she wanted to save changes to MOORINGS. She pressed no, put her hands in the pockets of her canvas jacket, found the puck in the left one, and held it while the platform rode the next swell down the basin toward the beach.

CHAPTER 8

Heron Point

Oskar Lindqvist read the water-rights form aloud, every line of it, including the footer that gave the form's own revision date. When he reached the question about displacement he lowered the folder and looked out through the open end of Bay 9 at the lake.

"Does the applicant intend to displace water," he said, "within the permitted zone or beyond it."

"It floats," Nell said. "Anything that floats displaces water."

"Then the answer is yes."

"The answer is yes for every rowboat in Wickham."

"Rowboats are a different section." Finding the page, he held it up so she could read the heading, MARINE VESSELS (RECREATIONAL, UNPOWERED), and turned back. Each page in the folder had been sealed in clear laminate, gone cloudy at the corners where his thumbs went, and he wrote on the laminate with a red grease pencil clipped to the spine. Afterward, he said, he photographed every page and filed the photograph, so that in a strict sense the pencil was unnecessary. "I like to have something to hold. You are not a vessel. I checked with the Lakeshore Office in August. You're a temporary experimental structure, which is a good category. Very few forms."

"How much water does it want?"

"The form would like a figure."

She worked it out on the whiteboard by the slip while he waited with the pencil uncapped: the largest article she could imagine printing before spring, its thickness, the void fraction of the honeycomb, the depth it would ride at.

"About forty cubic meters," she said. "At the outside."

"In liters."

"Forty thousand."

He wrote the zeros one at a time, with a small pause after each, as though one of them might object. Then he read the guidance underneath, which said that displaced water was to be returned to the lake at the end of the permitted period.

"It never leaves," Nell said. "That's what displacing is."

"I'll put that in the comments." He did, in capitals. "Section six. Will the activity disturb gulls."

Along the back wall two hundred printers sat in their charging cradles, each the size of a dinner plate, paddle feet folded underneath. Twenty-Three had been chirping about a sticky contact since breakfast. Oskar looked at the rack, and then at the lake, where three real gulls stood on a piling with their backs to the wind.

"Which gulls," he said.

"The birds."

"Both are listed in your inventory as gulls. I had to amend the inventory." He showed her the amendment: GULL (MACHINE), SEE ATTACHED. "If I put no, and an inspector comes, and the machines are visibly disturbed—"

"They're machines."

"Twenty-Three files complaints," Oskar said. "You copied me on one."

She had, at two in the morning, as a joke. He wrote BIRDS: NO. MACHINES: ACCUSTOMED and moved on to the zone itself, a rectangle off the end of the pier eighty meters by fifty, its corners to be marked with buoys in one of three approved colors. Asked for her preference, she said yellow.

"Yellow is what I would have chosen," Oskar said. "One note from the Lakeshore Office. Your northeast corner sits forty meters off the Halvorsen lease line. Mr. Halvorsen has been notified as a courtesy. You don't need his consent; the Office wanted you to know he was told."

"Did he say anything?"

Oskar turned the folder so she could see the reply, which was the word Fine followed by a period. "I find that very clear."

On Thursday the permit was approved. Teo brought the chip to the porch on Pell Street at ten past nine and she signed for it with her thumb, and by afternoon a Brandt Lanes pod had come down the groove on Shore Road and out along the pier with four yellow buoys stacked in it like cups, humming its low B-flat. She spent the evening in a borrowed dinghy, dropping their weights at the corners of a piece of lake that was, for the next eighteen months, hers to break things on.

* * *

The portal gave her nine sections and a counter in the corner that said the round closed in eleven days, four hours.

"This is the fourteenth summary," Mister Biscuit said from the cuff.

"I know what number it is."

"You deleted the twelfth before you finished its first sentence. I counted it anyway."

She was at the bench with the lamp pulled down low and her boots hooked on the rung of the stool, and below her the slip was black and slapping softly at the pilings. Two hundred words, the summary had to be. So far every version had turned out to be either a materials paper or a description of the lake, and the reviewers, Biscuit had pointed out, already had the lake.

She wrote: *Driftstone is a buoyant composite of oyster mycelium grown through basalt fiber, printed in place on open water by a swarm of small machines. Cracks close in six to forty hours at lake-summer temperatures. Its purpose is new shore.* Then she stopped.

"That is one hundred and seventy-four words short," Biscuit said.

"Then the other sections get them."

The technical section went faster, because it was mostly numbers she had already measured: the two-meter disk in June, the six-meter raft at the basin, the thermal timelapse with its frame every two minutes, the hairlines closing between frame sixty and frame ninety. Under Risks she wrote: *healing rate unmeasured below twenty degrees; basin chiller unavailable until October.* Under Moorings she wrote: *printed corner lugs, thickened following basin trials.*

"There is an unsaved note in your files titled MOORINGS," Biscuit said. "Created August twenty-sixth. Shall I attach it?"

"No."

"It contains a specification for helical anchors by S. Brandt, which is a matter of public—"

"I know what it contains."

"Very well." Biscuit paused for the length of a breath, a habit he had kept since she chose his tone at seven. "Thickened by how much?"

"Twice."

"Twice what they were."

"Twice," Nell said, and went on to section eight.

Section eight was the Civic Equity clause. The template had filled it in already: a box with 3 in it, highlighted, and a line beneath that read *Default share of automated output returned to Thrive baseline or youth credit pool.* She selected the three and typed a one and a five.

"The template default is three," Biscuit said.

"I saw."

"Most first ventures in materials declare three. A few declare four. In the marine domain the highest declaration this year has been six, by a desalination group in Bray."

"Now it's fifteen."

"Fifteen percent of output to public commons." Biscuit read it back without inflection, as he had once read back her spelling words. "Would you like to give a rationale? The field is optional."

With the cursor blinking in the empty field, she thought about the Thimble at seven in the morning in April, eleven towels on the sand. She thought about the plaque her mother had asked about and the blank she still had where the answer should go. Then she typed 60, and nothing else.

"The reviewers may not know what sixty refers to," Biscuit said.

"They can come and look."

Forty minutes later, while she was rewriting the ask, a message came in with its sender's address glowing violet at the top of the cuff.

Heard you filed intent. Come see the water from my side before you file the rest. Thursday the 30th, four o'clock. I'll send a pod. —L.B.

She wrote back that she would ride.

* * *

On the last day of September the lake held the summer's heat better than the air did, and when she came down Shore Road on her bicycle at a quarter past three the Thimble was full to the waterline. She slowed without meaning to. From the Halvorsen dock, its lift raised and dry, to the foot of the pier, towels lay edge to edge, striped and plain and one printed with a cartoon perch, and where there was no room for a towel people sat on their bags. Children worked the shallows in a ragged line that moved in and out with each small wave. Someone had set a folding chair in the water up to its seat and was sitting in it reading. Over everyone's heads two teenagers threw a ball back and forth and mostly missed. Out of habit she began counting towels by fours, and she had reached a hundred and sixty when the road bent and the hedge of the first lease took the beach away.

East of the Thimble, Shore Road ran between hedges and gates. Every lot had its plate set into a gatepost, 2071, 2079, 2066, numbers she had been reading since she could read, and through the gaps came glimpses of lawn running down to private water: a dock, a boat under a fitted cover, a lift raised over nothing. Beyond the last lease stood a stand of birches, and there the pavement turned to crushed shell. A cedar gate slid aside by itself as her cuff came within reach.

The house lay low along the point, long rather than tall, so that she saw the lake through it before she saw the house. Its cedar walls had gone silver under the eaves, and between them ran glass from floor to roof, and the water on the far side threw moving light up onto the ceilings. Nothing about it was printed. Looking for layer ridges out of habit, she found instead a seam where two boards met at a miter so exact that she put her thumb on it. Before she had leaned her bicycle against anything, a man in a gray sweater had opened the door and taken the bicycle from her, as if he received bicycles every day, and told her Mr. Brandt was in the long room.

Lucan was not in the long room. He came in from the terrace with his sleeves pushed up and his linen jacket over one shoulder, filling the doorway, and asked her how far it was from Pell Street, how long it had taken, whether she'd come along the shore or by the back road, and what she rode.

"A Commons bike," she said. "Number four hundred and something."

"Good bikes. Very good bikes. I tried to buy the design once and they told me it was public." His laugh was loud enough that the man in the sweater, already halfway down the hall, did not turn around; he must have been used to it. "Marit's made something. Walk first. I like walking people through. It's the only time I see the place."

The house went on longer than it looked from the drive. Every room they entered brought its lights up as they came in and let them down behind them, and after a while she began to listen for the faint tick the ceilings made when they did it. One room held a dining table cut from a single plank of walnut, with eighteen chairs pushed square to it and not a dent in any cushion. In another stood a billiard table whose felt had been brushed in one direction and left. There was a library with one reading chair turned to the lake and a blanket folded on its arm, and a guest wing of four rooms, each bed made with the corners tucked. He called one room the morning room and said he used it in the mornings, when he remembered.

"Ottilie Strand drew it," he said, resting a hand on a door frame. "Every hinge. She wouldn't let a printer near the site. I told her I'd made my whole life out of printers, and she said that was why." This still seemed to delight him.

Marit came out of the kitchen with flour to her elbows, carrying a board of rye crisps, smoked whitefish and a dish of sour cherries, and told him the cherries were the last from the Holm orchard and he should eat them today. He thanked her by name and asked about her daughter's exam, and he listened to the whole answer, which took some time. When she had gone back he set the board on a side table in a room neither of them sat down in, and they ate standing up, looking at the water.

"Here," he said, when the cherries were half gone. "This is the one I wanted you to see."

The room was small and held nothing but a wall. Pale cedar planks ran across it from floor to ceiling, and into the upper third someone had cut, by hand, plain capitals filled with something dark.

FUSION NODE, BRAY — UNIT THREE — 2075

CALDER SCIENCE MUSEUM — CHILDREN'S WING — 2080

YOUTH GROWTH LICENSE SPONSORSHIPS — 4,000 — 2071 TO PRESENT

Below those ran a dozen smaller lines: a lane spur to the island at Holm, the roof of a seed library, clinic shuttles in Marrow North. Below the smaller lines, two-thirds of the wall was bare planed cedar with the grain showing.

He stood in front of the second line. "Have you been?"

"When I was twelve. With school."

"There's a wave tank. Two meters long, with a paddle at one end the children push. I went in on a Tuesday in March and watched a boy make waves for forty minutes. He kept trying to make one big enough to go over the far end." He laughed again, more quietly in the small room. "My name's on the lintel. Small. You'd have to look up, and nobody looks up in a children's museum."

"I didn't."

"Of course you didn't. You were looking at the tank." It plainly pleased him.

She read the third line again. "Four thousand."

"And some. The clerks won't tell me which children. That's the rule, and it's right; I'd only go and stare at them." His eyes went to her cuff and its green outline. "Your runway credits came out of the youth pool."

"Everyone's do."

"So some piece of what you're building is up on that line, and I'm not allowed to know which piece." He seemed to like this, the way some people like a crossword clue they can't get. "What would you guess? A gull? Two?"

"Twenty-Three's charging contact," Nell said. "The sticky one."

"I'll take it." He meant it.

"Why's the bottom blank?"

"Room," he said, and that was all he said about it.

* * *

They went out through the terrace. His lawn ran down to the water along the whole three hundred and forty meters of the frontage, cut short and very green, and nobody was on it. From the middle of it the dock went straight out on cedar pilings, so far that its end sat in darker water. For a while their footsteps on the boards were the only sound. Then, under the lawn behind them, a pod went by on its way up to the house, and she heard the faint low B-flat she had heard under every street of her life.

"We tuned that," Lucan said. He had stopped to listen too. "The first motor I ever built whined at a B natural and I couldn't stand it, so I took it down half a step. Everyone's been listening to my bad ear for twenty-seven years."

"My father tuned a heron to it."

"The puppet!" He had remembered from Ninefold. "To the lanes?"

"Professor Gill's squeak. So he'd sound right in Wickham."

That delighted him as much as the hinges had. He walked on with his hands in his pockets.

"Calder South," he said. "A garage I rented from a man who kept bees on the roof. One borrowed printer and a groove I cut myself down the alley, forty meters, from my door to the bakery on the corner. The first pod was the size of a shoebox. It carried one loaf at a time to a woman three doors along who couldn't stand the bakery queue, and the baker paid me in bread. I ate bread for a year."

"Now it's every street."

"Every street in four hundred towns. You had something off a lane this week."

She counted: Ilse's straw bales, a basalt spool for the gulls, four yellow buoys. "Three things."

"And you never once thought about me while you got them. Nor should you. Nobody thanks a floor." He looked down at the boards. "That's what a lane is for. It's right that I'm not in it; I'd only be in the way." Then he stopped walking. "I'd like one place, though. Somewhere people walk every day, on purpose, for the pleasure of it, and read the name, and think: oh. Him."

Halfway out, the dock widened into a square with a bench and a roof of cedar shakes. Screwed to the post beside the bench, under glass gone milky at the edges, were three photographs. In the first, a girl of about ten sat at the end of this same dock in a jacket too big for her, its sleeves rolled four times, with a tape measure unspooled straight down into the water. In the next she lay on her stomach writing on the boards in chalk. In the third she held up a boat made of two tin cans and a slat, photographed afloat, sitting low and badly crooked, and she was laughing at it.

"Sabine," Lucan said, though Nell had known. "She measured the depth at every piling and wrote it on the boards. The rain took it off in a week, so she

did it again." He touched the glass over the chalk. "Eight point two at the end. She was right. I had it checked."

"She's a good engineer," Nell said.

"She is." He did not sit down on the bench. "She hasn't come out this summer."

Out on the lake a sailboat was tacking toward Calder, its sail going slack and filling. Nell watched it come about twice before she spoke.

"She's in the round."

"I know. I've read Lattice. Twice." He laughed, though not loudly. "Her anchors are beautiful. I've recused myself from the marine ballots, and she'll think that's about her. She'll be right." He looked at the bench. "She used to sit there chewing that licorice root. I can't stand the smell of it. I'd like to smell it out here again."

The note called MOORINGS was still sitting unsaved in her files. She did not mention it.

They walked the rest of the way out. At the end of the dock the water was a deep green-brown, and she could follow the pilings down until they blurred. Lucan turned around with his back to the lake.

"Here's what I'd do," he said. "Whatever the round gives you, I put the same in beside it. A full match. No conditions on the engineering; I wouldn't know what to ask. And the first shore you grow off this town carries my name."

Instead of answering, she turned and looked back the way they had come, west along the shore. From the end of his dock the whole north edge of Wickham lay in a long curve: his empty lawn, then the hedged lots one after another with their private docks sticking out at intervals, then, far off, between the Halvorsen dock and the gray line of the old ferry pier, a pale chip of sand flecked with color. She held her arm straight out and raised her thumb, and the Thimble vanished behind it, towels and children and the man in his chair in the water, all of it. Lucan's frontage alone ran nearly six times its length.

She lowered her arm. "What would it say?"

"BRANDT," he said, at once. "Just that. Big enough to read from a pod going over."

He had known the answer for years. Probably he had known it in the garage, with the bees on the roof. Her mother had asked her the same question in July, and she still had nothing to put on the plaque.

"I'm filing tonight," she said. "The portal closes at midnight."

"I know when it closes." He laughed, and it carried out over the water. "Take the rest of the cherries. They don't keep."

* * *

At 11:43 she had been looking at the syndication field for a quarter of an hour. It sat below the ask in a gray box with a dropdown: *None at this time*, or a list of registered syndicates, or *Pending*, with a space to name the partner. Lucan's was in the list. He had registered it at 17:40, after she left Heron Point, and where the match ceiling should have shown a number it said FULL.

The cherries were in a paper bag beside the keyboard, nearly gone, and the stones made a row along the edge of the lamp's circle. She ate one more and put the stone at the end of the row.

Then she selected *None at this time*. Scrolling back up, she checked the fifteen, and the sixty under it with no explanation, and the word *twice* in the moorings line, and left all of them as they were. Before she submitted, she wrote to the violet address: *Filed without a syndicate. The cold-water demo stands, in my test zone, any day after the first frost. Thank you for the cherries.*

At 11:58 she pressed submit.

"Submission received," Mister Biscuit said. "Twenty-three fifty-eight and nine seconds, September thirtieth, twenty eighty-eight. Logged."

"With time to spare."

"One hundred and eleven seconds." He paused for his breath. "When you were four you asked me to log the time you went to bed, so you could prove you had stayed up. Twenty-one oh four. I have that one as well."

"Delete it."

"That requires a form."

She left the lamp on and did not go home. Each gull on the rack had eight amber lights around its rim, and while charging they came on one at a time, clockwise, as the cell filled, so the back wall was a grid of two hundred broken rings in different stages of closing. Some were nearly whole. A few had two lights showing, or one. Out past the slip, at the corners of her eighty meters by fifty, the four yellow buoys blinked slowly in the dark, not quite together. She watched the rings close until only Twenty-Three's was still open, three lights

short, then two. At twenty past midnight its last light came on, and it gave the small rising chirp that meant full.

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CHAPTER 9

Distributed Diligence

The mycologist's comment came in at twenty past one in the morning, while Nell sat at the kitchen table on Pell Street eating dry cereal from the box. The screen was propped against the fruit bowl, and the reply count on Driftstone had just passed a hundred and forty. The new comment had a clear blue edge and a tag in small capitals: DIAMOND CLASS · MYCOLOGY AND FUNGAL MATERIALS · DOMAIN WEIGHT ×3.6.

"Read it," Nell said.

"You can read," said Mister Biscuit, from the cuff.

"Read it anyway."

He read it in Warm Formal, at the pace he had used for bedtime stories when she was five. "Dr. Benedikt Auer, Bray. 'The strain is the best thing in this submission. Gray oyster lines with this vigor on straw are rare outside private collections, and the colonization photographs show a run rate I would not have predicted on basalt. Whoever selected and kept this culture knows straw. I would like to know its provenance.' End of comment."

Nell typed *My mother keeps it in a shed*, deleted it, and typed *The strain is maintained at the Pell Street Allotment, Wickham Shore.* She took out *maintained*, put it back, posted the reply, ate another handful of cereal and scrolled up.

The portal had opened review ten days earlier, and the comments since then ran back in a long column of colored edges: white for Platinum, clear blue for Diamond, now and then a gold one. Every comment had a weight. Outside the reviewer's field it read ×1.0, so a Platinum logistics planner who thought the gulls' charging cycle "looked like a bottleneck" counted exactly as much as a Platinum dentist who wrote only *Love the smell description.* Inside the reviewer's field the number went up, and with it the comment's position, because the portal ranked by weight and not by time.

That ranking was why Ruth Adeyemi-Lund's comment had stayed pinned near the top since the first morning. PLATINUM · PORT ENGINEERING · ×3.2. *Corner moorings are inadequate for a body of the proposed area in open-lake conditions. See my basin notes, August. Healing data are warm-water only. R. A-L.*

Under it, at intervals of a day or so, three others had followed. A harbor master from Calder Reach, ×2.9, wrote that a printed lug at a corner was a stress concentrator by definition and that the applicant should distribute the load or expect to lose a corner. A naval architect in Bray, ×2.4, attached a page of rough arithmetic and finished it: *The submission does not say what the lug holds. I would like to know before I vote.* The third, ×3.1, from a woman whose profile said only RETIRED, LOCKS AND WEIRS, read in full: *+1, Adeyemi-Lund. Moorings.*

At ten past two Nell answered all four at once: *Lugs reinforced twice since basin trials. Revised geometry in Appendix C.* She read it over. It was true, and it took up much less of the screen than the arithmetic from Bray.

"You have answered the same point four times in one reply," said Mister Biscuit.

"I've answered it once."

"In 2073 you told me that if four people say the same thing, it is probably a rule."

"I was five."

"You were five and a quarter," said Mister Biscuit. "It was about bedtime."

The gold comment had been waiting since the evening, and she had left it for last. GRAND ARCHITECT · CIVIC FINANCE · ×2.2. Paulus Vey, Calder.

Fifteen percent of output to public commons, against a template default of three. I have read your revenue model twice. It works at fifteen, narrowly. Did you

mean it to work narrowly? I ask because pledges made at nineteen are sometimes made to be admired. That is not a criticism. I made one.

She was twenty now, and nearly corrected him. She wrote *I am twenty* and deleted it. She wrote a paragraph about the Thimble, the sixty meters of sand and the eighteen thousand people, deleted it, and wrote a shorter one about deflationary goods. She deleted that too. A delivery pod went by under Pell Street, and somewhere in the house a printed wall ticked as it cooled. At twenty to five she typed *I meant it to work narrowly*, posted it, and added nothing.

By the time the window over the sink had turned gray, the count stood at three hundred and twelve. Ilse came downstairs at six in her garden boots and stopped at the table. She looked at the cereal box and then at the screen, where Dr. Auer's comment was still open.

"Someone in Bray says whoever keeps the strain knows straw," Nell said.

"Who's in Bray."

"A mycologist. Diamond."

Ilse took her sun hat off the hook. "Then he knows straw too," she said, and went out to the Allotment.

* * *

Founders' Hall had been a granary for a hundred years before anyone founded anything in it, and it still smelled faintly of it, a dry, sweet smell of old chaff coming out of the oak. Under the eaves the beams were as thick as a person, black with age and pegged instead of nailed. The grain hoist still hung from the ridge, a wooden pulley wheel with a basket on a rope tied off to a cleat by the stage. On the stone floor below, rows of benches faced a low platform. A loft ran round three sides, with more benches behind a timber rail. The loft was the gallery, and on the night of the materials and marine pitches it was full by seven.

Two lines had formed at the door. The longer one went to the loft stairs: people from Calder and Wickham and Bray in work jackets and good coats. Alongside it ran a brass strip set into the paving, a hand's width across and worn bright down the middle, and the members on the floor list stepped onto it and walked in without slowing. Nobody in the long line looked at them. A man near the front was explaining to his daughter how the old hoist worked.

"Sixty-two people," said Tomas, who had counted. "Sixty-three. The girl with the hoist question just turned round."

"You're on the strip," Ilse told Nell.

Nell looked down. The cuff had routed her before she had noticed: PRESENTER · SOVEREIGN LINE. Her feet were on brass and her parents' were on stone, half a meter apart.

"We're early," said Ilse. "Go on."

Inside the threshold the cuff dimmed. Its green outline sank to a soft glow, the color of a lit window seen from a long way off, and stayed like that. Nell had seen it do the same at Ninefold and had expected it this time, and she still turned her wrist over to look.

The presenters' bench was at the side of the stage, under the hoist. Sabine Brandt was already sitting at the end of it in her navy sailing jacket, a twist of licorice root at the corner of her mouth, with a tablet on her knee showing a column of figures. Her own cuff glowed exactly as dimly as Nell's.

"Varga," Sabine said.

"Brandt."

"Eleven pitches tonight. I'm third. You're seventh." Sabine moved the licorice to the other side. "I asked to go before you."

"Why?"

"Because you'll do something with that puck, and nobody will remember the numbers after."

In the front row, a big man in a pale linen suit was turning round to wave at somebody in the gallery. His cuff burned a deep violet, the only one that color in the room. Lucan Brandt saw Nell and gave her a wave as well. It was just as warm and just as large as the one he had given the gallery.

* * *

Sabine was good. Nell had expected that and minded it anyway.

She stood without notes and gave the hall four slides and the numbers that went with them: cost per square meter of deck, installed; tonnes of marine steel per module; anchor torque within two percent across all four helicals in the Polytechnic sediment pit; peak load at the northeast anchor, forty-one kilonewtons in a ninety-centimeter swell at four seconds; four hours to swap a module out. She did not round anything. When a Platinum in the third row

asked about glass loading under snow, she gave him a figure in kilopascals and the name of the standard it came from. The gallery laughed when she said that her first queue had been at a pharmacy at eighteen and that she had stood at the wrong end of it for nine minutes. It was the only joke she told.

"There's one thing I can't give you," Sabine said at the end, "and I'd rather say it now than have you find it in Appendix F. Maintenance. Marine steel in fresh water with an ice season fatigues at the welds and corrodes at the joints. I have six months of data. You'd want six years. My model carries a maintenance line I believe, but I wrote it, and I'm telling you I don't know it. Long-term maintenance cost is an open question."

She sat down. In the front row Lucan stood up to clap, a broad slow sound, and kept standing until the applause had gone all the way round the loft and come back.

"Four laughs," Tomas said afterward, when Nell looked for him in the gallery. "One of them was mine."

* * *

When Nell's turn came, she had a hammer.

It had come from her father's workbench at the Tin Heron. Its handle was worn pale where Tomas held it, and a little dried glue from a heron's neck was stuck to the head. She set two pucks on the lectern. One was whole, oyster gray with black flecks, about the size of a saucer. The other had a seam across it, a thin line slightly paler than the rest, like a scar on a knuckle.

"I broke this one on Tuesday night at eight o'clock," she said, and held up the seamed puck. "It's been healing for forty-eight hours. That's this one." She put the seamed one down and picked up the whole one. "And this is now."

She struck it once on the edge of the lectern. The crack went straight through, the sound a damp, flat tock, and the puck came apart into two halves in her hands. In the light from the hanging lamps the broken faces looked darker than the skin, and threaded all through the basalt fiber were fine white strands of mycelium, already standing up from the break like the nap on velvet. The smell reached the first rows before she had said anything else. It was wet stone and new bread, and a woman in the second row leaned forward without meaning to.

"Hold the halves together," Nell said. "Not too tight. You'll feel it grip a little. Then pass them on."

She gave one half to the end of the front row and the other to the row behind, and the seamed puck to a man at the aisle. Then she went back to the lectern and began on the honeycomb cells and the sealed voids, the healing figures, six hours for a hairline and forty for a clean break, the gulls and their slurry hoppers. She had rehearsed it eleven times on the slip in Bay 9 with Twenty-Three as audience. Twenty-Three had complained about its charge twice and otherwise listened well.

She kept losing the hall, and it took her a minute to see why. People were not looking at her. They were looking at their hands. Down the rows the two halves of the broken puck were going from person to person, and each person pressed them together and held them up close, and some of them sniffed the seam the way you check whether milk has turned. A Platinum with white hair kept the seamed puck for a long moment, turning it under the lamp, running his thumbnail along the healed line, before he let it go on. Up in the loft, someone called down.

Tomas had stood up at the rail. "Send it here," he said. "We've a basket."

A woman at the end of the third row untied the hoist rope from its cleat, and the basket came down, and someone put the healed puck into it, and the hoist creaked as the basket went up again past the black beams into the gallery. Hands came over the rail. The puck went down the loft benches. Nell watched it reach her mother. Ilse held it in both hands, turned it once and smelled it, and then passed it to the next person without any change Nell could see.

Nell got to the end of her slides. Across the floor, the two halves of the fresh puck had come back together in someone's lap, and for a second there was no sound at all in the hall except the hoist rope swinging against its cleat.

Then the applause came. It started in the gallery and came down over the rail like weather.

The first question came from the floor while it was still going, and it came from Ruth Adeyemi-Lund. She stood in the fourth row, in a waxed jacket instead of waders, with a paper notebook open on her forearm, and she waited for quiet. She did not have long to wait.

"Lovely material," Ruth said. "Ninety centimeters of swell at four seconds. A Class Three gives you that off the Thimble in an April northeasterly. What's the peak load on your windward mooring?"

"The lugs have been reinforced twice since the basin," Nell said. "The revised geometry is in Appendix C."

"I've read Appendix C. Number."

"I haven't run it at that period." The hall was very quiet. "But the load doesn't stay at the corner. The deck flexes, the cells spread it across the honeycomb, and if anything cracks under it, it heals. That's the whole point of the material."

"I asked about the mooring."

"The mooring is a printed lug. It's the same material."

"Then it heals in forty hours," Ruth said. "A Class Three blows for about eleven."

Somebody in the gallery coughed. Nell could feel the dim cuff against her wrist bone, and she could see the hammer on the lectern with the glue on its head.

"The moorings won't be the problem," Nell said. "I'll print them thicker."

Ruth wrote something in her notebook, closed it on the pencil, and sat down. The next question was about the gulls' battery chemistry, and Nell answered it perfectly. She could not have said afterward what she had told him.

* * *

Harriet Osei had been at the back the whole time. Nell had seen her when she picked up the hammer: a tall figure by the doors with close gray hair and reading glasses on a cord, a coat over her arm, and in the coat pocket a lump of green that would be the sock. Harriet had stood there through the crack, the basket and the hoist. Then she had looked at her cuff, and by the time Ruth stood up the space by the doors was empty.

When Nell came back to the presenters' bench, there was a card on her seat. It was white and heavy, folded once, with nothing printed on it, and inside in blue ink in a small firm hand:

Measure the cold. H.

Nell folded it and put it in the pocket of her canvas jacket, with the hammer.

"You passed it to the gallery," Sabine said, without looking up from her tablet. "That's cheating."

"You told them about the welds."

"That's different. That's honest." Sabine bit off the end of the licorice. "She'll vote."

"Ruth?"

"Ruth's three-point-two. Ruth is the vote."

In the front row Lucan was on his feet again, clapping, for Nell this time, broad and slow, exactly as long as he had clapped for his daughter. Nell had looked up the ballot rules in August. He was recused from marine ballots, and he would not spend a single credit on either of them, and he clapped as if he had a hundred to give.

* * *

The tally ran for seventy-two hours from the close of the pitch evening, across the whole network, and on Sunday night it had three hours left. Nell and Teo watched it on the big screen in Bay 9 with the slip door rolled open. The lake breathed against the concrete below them, and the two hundred gulls sat on their charging rack, each with its ring of eight amber lights. Out past the buoys, Wickham Shore's lit windows came down to the water and stopped.

Teo had come straight from the hyperloop with a paper bag of Ilse's mushroom bread, which she had handed him on the Pell Street porch as he passed. He was sitting on an upturned slurry tub with his satchel still across his chest. On the screen, two curves climbed side by side against a gray grid.

"Which one's you?" Teo said.

"The green one."

"They're both green."

"The darker green."

He tore off a piece of bread and looked at the curves. Lattice was ahead, and had been since Friday. The lines were not counting people. Each one was the running sum of every vote, and a vote cost what it cost: one vote on a project, one credit; two votes, four; three, nine. A member could pour a whole ballot into one pitch and get ten votes for a hundred credits, or spread the same hundred over ten pitches at three votes apiece and have nine credits left over.

Below the curves, a figure in small type showed how many members had spent anything at all. For Lattice it read 2,906. For Driftstone it read 2,871.

"That's close," Teo said.

"That's people. The curve's votes."

"What's the difference?"

"Somebody can like you a lot or a lot of people can like you a bit," Nell said. "It counts the second one more."

The darker line ticked up a step, larger than the others.

"A member has just placed nine votes on Driftstone," said Mister Biscuit, from the cuff. "Domain weight ×2.9. That is eighty-one credits."

"Who does that?" Teo said.

"Someone who likes her," said Mister Biscuit, "or someone who does not like Lattice."

"The harbor master," Nell said. "From Calder Reach. He's the only twenty-nine."

"I am not permitted to identify individual ballots," said Mister Biscuit. "You are permitted to guess."

The step on the darker curve sat there for a while. Then the lighter one went up by a step of its own, and then by two smaller ones. Teo ate his bread. Out on the lake the buoy lights blinked yellow at the edges of the test zone, eighty meters by fifty, which Halvorsen had agreed to with one word, *Fine.*

"Three-point-two hasn't voted," Nell said.

"Ruth?"

"You can see who's voted. You can't see how."

"So you know she's still thinking."

"Or she voted at six on Friday and the portal's slow."

"Is it?"

"No," said Nell.

He wiped his fingers on his trousers and took his paper notebook out of the satchel, and drew for a while in pencil without saying what. She did not look. It was a quarter to nine. Twenty-Three, on the end of the rack, chirped twice to say it was low, which it was not, and Nell told it so, and it chirped again.

"Why does it do that?" Teo said.

"It wants to be on the bottom row of the rack. The bottom row charges first."

"Does it?"

"No. They all charge at the same rate. I've told it."

"Doorstep logic," Teo said. "Everybody thinks the other side of the door's faster."

At nine the curves stopped moving. The screen held them for a second. Then it cleared, and two blocks of text came up in their place.

> LATTICE (S. BRANDT) · MATERIALS AND MARINE FUNDED · FULL PILOT TRANCHE

> DRIFTSTONE (N. VARGA) · MATERIALS AND MARINE FUNDED · TRANCHE ONE (CONDITIONAL): STORM CERTIFICATION Release covers one (1) prototype deck. Release of tranche two is contingent on the prototype surviving a Class III lake storm event in open water under observation by the certifying reviewer. Certifying reviewer: ADEYEMI-LUND, R.

Nell read it twice, and then read the line about one prototype a third time, because one was a smaller number than she had planned for. Underneath was a breakdown of the tranche, in a column of figures she would go through properly tomorrow and could already see were enough for slurry, spool and spawn for a deck of about twenty meters by twelve, and nothing like enough for anything after.

Her cuff chimed with a message. It was from Sabine, who must have been watching somewhere in Calder: *Congratulations. S.* There was nothing after the S.

"Well," Teo said.

"It's a yes," Nell said. She found she had stood up, and sat down again on the edge of the slip with her boots over the water. "It's a yes that sounds like a maybe."

Teo put the notebook back in his satchel and buckled the strap. "That's how all my doorsteps sound," he said. "Mrs. Dunmore's had a yes on the Moon for six years."

The lake slapped once against the concrete under her. The gulls' amber rings were going out one by one as they reached full, and in the slip the water had

begun to smell the way it did at night in late October, cold and mineral, with the bread from the bag under it. She thought of a card in the pocket of her jacket with three words on it, and did not take it out.

Instead she pulled the whiteboard round from behind the rack. She uncapped the black marker and drew a rectangle, long side to the lake. Down one long side she wrote *20 m* and down the short side *12*, and at the top, after a moment, *SHORE ONE*. Along the west edge she drew a bench, because a deck that people could not sit on was a raft. At each of the four corners she drew a lug, and drew each one again, thicker, over the first, until the four corners were the darkest marks on the board. Then she started on the cells.

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CHAPTER 10

Thursday Route

The parcel box on the back of Teo's trike had a padded lid. Nell sat on it with her boots braced on the axle housing and the satchel across her knees, passing chips forward whenever he held out his hand. By the ninth stop she had learned the pockets. Credential chips rode in the front, in elastic loops numbered in grease pencil; soft parcels went in the deep pocket behind; renewals, the most common thing on a Thursday, went in the side pocket with the brass snap, which stuck in the cold.

It was cold. In the second week of November Wickham had turned gray-brown: the allotment beds were mulched, and the Thimble was empty except for a man in a waxed coat throwing a stick for a dog that would not go in after it. According to the Calder Parks buoy, the lake off the Halvorsen dock had dropped to eight point one degrees. Nell knew the figure because she had asked for it twice a day. For seven days she had broken a puck every morning and put it in Ilse's seed fridge at six degrees, between the lettuce seed and a jar labeled CHIVES, NOT FOR SOUP, and every morning she had taken out the previous day's puck and looked at it under the shed lamp. On a warm tray a hairline closed in six hours. In the fridge it had taken nineteen. The clean break from Friday had not closed at all. Ruth Adeyemi-Lund's Class Three blow lasted about eleven hours, and Nell had written that number inside the

fridge door in wax pencil. Ilse had found it there and written underneath, *Who is Ruth.*

On Monday Teo had found her on the porch steps at seven with the fridge puck in her hand. He had said, "Thursday. Full route. You can carry the satchel," and gone back down the steps before she could tell him she was busy.

"Ines's operator license lapsed in June," she said now, as the trike rolled up the freight ramp at Wickham station and the cargo car's floor clamps took its wheels.

"It did."

"Does yours ever?"

"Once. August." He reached back for the satchel and checked the snap. "I left it on my own step and signed for it."

"Was it fast?"

"Ninety seconds," Teo said. "I'm very good."

* * *

Calder took the middle of the day. Under the loop's arch the trike came out onto the canal towpaths, then went up through the lake districts on the south shore, where the printed terraces stood five and six stories high and the delivery grooves in the streets hummed the same low note they hummed under Pell Street. Nell handed forward a Mars transit renewal for a woman in a white cuff, then a masterclass chip for a boy of about eleven, whose door opened before the trike had stopped. A husband and wife both came out to sign for a single passport and argued about which of them should hold it. Teo noted each one on the reader and, now and then, something in the paper notebook. After thirty-one stops Nell no longer took the chips out of the loops to read them first.

Old Orchard came at four. The district had been laid out around trees that were already old when the streets went in, so the houses stood among them at odd angles: apple, pear, a walnut with a trunk as wide as a doorway. Most of the houses were human-architected, brick and pale timber and wide glass, each one plainly the opinion of a particular person. Leaves lay in the gutters in a brown paste. In one garden a few pears still hung, gone dark and soft, and nobody had picked them.

"Osei," Teo said, and slowed.

Nell had been to Floor 140 four times. She had never seen where Harriet slept. The house was long and low, with a stone step and a slate roof, and its front room had a window as wide as the Tin Heron's garage door. Teo took a square parcel from the deep pocket. It was soft, wrapped in brown cloth and tied with wool, and its label read BRAY WEAVERS' GUILD — WITH THANKS.

"She gets one of these most weeks," he said. "Not always Bray."

He went up the step. Nell came after him with the satchel, because carrying it was her job, and stopped at the edge of the window.

Harriet was asleep in a green wing chair, her head tipped against the wing and her reading glasses resting on her chest at the end of their cord. One hand lay open on the chair arm. Beside it, on the upholstery, was the sock. Its green heel had been turned, and since June the foot had grown about two fingers' length, the needles crossed through the last row. A single cup stood on the side table on a folded cloth. Her coat was over another chair with one sleeve trailing. The room behind her was long and paneled in some pale wood, lined with books, and at the far end stood a grand piano under a fitted gray dust cover. The cover was clean along its edges, but a soft layer of dust lay on its flat top where the window light reached it, the kind that settles on something nobody lifts. Through a doorway Nell could see a kitchen counter, entirely bare, and a fruit bowl with nothing in it.

Dami Okafor had moved Nell's November session twice: first to the twenty-second, then to *pending*. Nell had a question ready for it. She had written it in the margin of the fridge log, under the nineteen hours.

Teo set the parcel in the box beside the door and touched the reader to its label. The reader blinked green, and the bell did not ring.

"Doesn't it ring?" Nell said quietly.

"Only if I let it."

He stood for a moment on the step with the reader at his side. He wasn't looking in the window. He was looking at the door, which was oak, with an iron latch and a mail slot nobody had used in years, its flap painted shut. Then he went back down the step. Nell stayed long enough to see Harriet's open hand twitch once on the chair arm and lie still again. Then she followed him.

They were three streets on before either of them spoke.

"She was on at four this morning," Teo said. "Thursdays she is."

* * *

Gus Ferreira's porch was not on the reader. Teo turned the trike into Weir Street in the Lowmarket district anyway and stopped in front of an ochre printed house. Its layers were the same finger-width as the ones on Pell Street, and its porch was hung from end to end with birdhouses.

They hung from the eaves on chains and stood in ranks along the railing, and there were more on the steps waiting for paint. Some had tin roofs, some shingles cut from cedar no wider than a thumbnail. One had a ridged roof printed in oyster gray, exactly like the houses around it, and Nell went over to look at it before anyone had introduced her. The porch smelled of cedar shavings and linseed oil. A man sat at a bench under the window with a coping saw, cutting a coin-sized hole in a panel he held steady with his knee.

"You're not a stop," Teo said.

"I know," Gus said. "You stop anyway." He blew dust out of the hole. "Who's this?"

"Nell Varga. Wickham. She's on a runway."

"In what?"

"Shore," Nell said.

Gus put the saw down. His cuff was Thrive gray-blue, the same color Ilse wore. Along its lower edge, in type so small that Nell had to stop herself leaning closer, ran a line: LIFETIME CONTRIBUTION, then a figure long enough that she began counting its commas and lost her place.

"What kind of shore?"

She took the puck out of her pocket, as she always did. He turned it over in his fingers, which were cracked at the knuckles and black with oil along one side, smelled it, frowned, and smelled it again.

"Bread," he said.

"It's a mushroom."

"I didn't say it was bad bread." He gave the puck back and looked at the oyster-gray birdhouse she had been studying. "That one's for wrens. They take anything with a door this size. Starlings can't get in, which the starlings consider a great injustice." He lifted it off the railing and held it out. "Take it."

"I can't..."

"You can. I made fourteen this week. I'm running out of railing."

She took it. It weighed almost nothing. The joints were dovetailed, cut so cleanly that she ran her thumb along one and couldn't find the line, and the floor had a hole drilled in each corner for drainage. She thought she would have printed the roof thicker, then decided Gus had probably thought the same and chosen otherwise. She had questions about the drainage and about the dovetails, and she asked neither. She turned the birdhouse in her hands and looked at its little round door.

Teo leaned on the railing. "Why'd you step back?"

Gus looked up at him. "Eighteen months you've been stopping here. You've never asked me that."

"She wasn't going to."

Gus looked at Nell. She was examining the drainage holes.

"I'd built what I wanted to build," Gus said. "After that I was mostly attending things." He picked up the saw. "Also the ceremony had cake. I hadn't been to anything with cake in about six years. Founders' Hall stood up and clapped and I stood there in a borrowed tie thinking I should have done it sooner." He set the blade back in the hole. "They let you keep the number. I didn't know they would. It's very small, though. You'd need good eyes."

"I've got good eyes," Nell said.

"I saw you counting," Gus said. "You got to the second comma."

* * *

Teo ate lunch at whatever hour the route allowed. That Thursday it was twenty to five, on a bench beside the Lowmarket canal, under the approach lane for the Calder Central shuttle pad. The lane was marked by small blue beacons on masts along the water. Every ninety seconds a shuttle came down it, white-bellied, its rotors making a long soft sound like breath drawn through teeth, and the shadow ran down the canal ahead of it and over their knees. The sun was low enough that the shadows came long, and they reached the bench a full second before the sound did.

Teo had a pear and a cheese roll. Nell had mushroom bread from the Allotment shed, the loaf Ilse baked on Wednesdays from the trimmings, and she gave him half because he looked at it.

"You've got fourteen months," he said.

"Fourteen months and nineteen days."

"Did Biscuit tell you that this morning?"

"Biscuit tells me every morning. I asked him to stop and he said stopping required a form." She tore a crust off. "In spring Ruth puts my deck in a Class Three blow. If it can't heal faster than the lake breaks it, tranche two doesn't release. If tranche two doesn't release I don't have a venture, and if I don't have a venture there's no Graduation Event, and in February the year after next I hand back the bay key on its little cork float and go home and..." She stopped. A shuttle went over. "And measure the cold in the fridge with the chives."

Teo ate his pear down to the core and put the core in a paper bag he kept for cores.

"Did you ever want one?" Nell said. "A runway?"

"I was offered one. Urban design. I was nineteen."

"Offered."

"Mentor match, studio space at the Polytechnic, the whole letter. A woman from the Calder planning board came to my mother's kitchen to tell me in person." He folded the top of the bag over twice. "I said no thank you."

"Why?"

"I like doorsteps."

She waited. Another shuttle came down the lane, then another. Teo wiped his fingers on his trousers and took the paper notebook from his jacket. It had a black cover rubbed gray at the corners and an elastic band that had been replaced with a length of green garden twine. He opened it to the day's page and began to draw from memory: an oak door with an iron latch, the painted-shut mail slot, the stone step, and a square parcel tied with wool sitting in the box beside it. He drew the parcel last. He didn't draw the window.

Nell watched the pencil. Then she watched the canal, which had begun to take on the orange of the sky at the far end, while the near water was still gray.

* * *

Sabine lived above a chandlery on Reach Street, in a walk-up whose stairs were steep and painted the blue of a ship's deck. Her pilot permit was the last chip in the front pocket, number forty-four in grease pencil, and Teo let Nell carry it up.

The door opened before they had knocked twice. Sabine wore a gray sweater with the sleeves pushed up. Her cuff was gray-blue and plain, with nothing in small type.

"Brandt, S.," Teo said. "Public Venture office. Lattice pilot permit, Calder Reach mooring field."

"That's me." Sabine took the chip and held her thumb to the reader. Then she looked past him at Nell, and at the birdhouse under Nell's arm. "Varga."

"Brandt."

"Is that for me?"

"No."

"Shame," Sabine said. "I'd have known where to put it."

The flat was one room and a kitchenette, and it was full of anchor. A helical shaft as thick as a wrist lay across the table on newspaper, the steel of its flighting cut into a clean spiral, a ring of rust starting at the weld. Shackles filled a fruit bowl. The umbrella stand held three more shafts, shorter, each tagged with a paper label and a torque figure in red ink. A coil of mooring line took up half the sofa. On the wall above it, pinned with drawing pins, were load diagrams for a four-module platform, the northeast corner circled twice. The room smelled of licorice and cutting oil, with something else under them that Nell recognized after a moment as the cold mineral smell of the lake. Through the window the cranes of Calder Reach stood against the evening with their lights coming on.

Nell knew that diagram. She had copied its numbers into a note on her cuff in August and had not saved the note, though she had not deleted it either.

"Congratulations on the pilot," Nell said.

"Thank you. Congratulations on yours."

"Mine's conditional."

"Everybody's is conditional. Yours says so in writing." Sabine shrugged. "When's your blow?"

"April. Ruth's booked it."

"Ruth would." Sabine was watching where Nell was looking, which was at the helical shaft. "You can touch it. It doesn't mind."

Nell moved the birdhouse to her other arm. "It's rusting at the weld."

Sabine said nothing for a moment. She turned the permit chip over in her fingers.

"Lake water," she said. "It does that." She looked at Teo. "Is that all I'm getting?"

"That's all I had in your name."

"Then thank you for climbing the stairs." To Nell she said, "Good luck with the cold."

Nell hadn't told her anything about the cold. She said, "Good luck with the weld," and Sabine smiled at that and shut the door.

On the stairs, Teo said, "You were very warm."

"I was polite."

"That's what I said."

* * *

The Calder lake wall ran for two kilometers along the south shore. It was granite, older than the State, with iron mooring rings set into it at intervals for boats nobody had tied there in decades. Teo parked the trike at the wall's eastern end and they sat on the coping stones. The sun had gone down behind the towers. Over the lake the sky still held a band of orange that went to rose and then to a blue the color of Harriet's cuff, and the water copied each band and slid them together in the small chop. Behind them, Calder Mercy Tower was lighting itself floor by floor from the bottom up, as it did every evening. Nell didn't turn to count. Floor 140 would be lit by now, and the chair in Old Orchard would be empty or still occupied, and she would not find out which.

The birdhouse sat on the stone between them. On the far side of it Teo had put his hand flat on the granite to lean back. The gap between his fingers and the birdhouse's floor was about a hand's width; Nell knew because she had measured it with her eyes without meaning to, the way she measured everything. She left the birdhouse where it was. Teo left his hand where it was. A gull, a real one, came down along the wall and looked at them both, decided they had no bread, and went on.

"Your fingers are cold," he said.

"They've been in a seed fridge for a week."

"Seven mornings."

"Eight. I did one on Sunday as well."

He nodded at the lake. From here the north shore was a low dark line, and along it Wickham's lights had come on in their thin band, the Maker Commons pier picked out at one end in white work lamps.

"The Lakeshore Council's open session is in December," he said. "The ninth. Shoreline review."

"It's continued," Nell said. "It's always continued. Tomas does a sketch about it every year."

"The speakers' list went up on the Lakeshore Office board on Tuesday. I read the boards." He took his hand off the granite and put it in his jacket pocket. "Varga, Ilse. Pell Street Allotment. Three minutes."

Nell looked at him. He was watching the lake.

"She didn't tell you," Teo said. It wasn't a question.

She picked up the birdhouse and held it in her lap with both hands. Across the water she found the white lamps of the pier and moved her eyes left along the shore from there, past the dark sixty meters of the Thimble and up the slope where Pell Street would be, looking for the Allotment. It had no lights of its own, and she could only place it by the houses around it.

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CHAPTER 11

Year Forty-One

"Shoreline Allocation Review, Year Forty-One," Imogen Sato read from the slate in front of her, and then, after a pause long enough for the room to supply it, "Continued."

High in the benches a man said "Again," not unkindly, and the people around him laughed.

Wickham Town Hall had been printed in the same year as the Varga house, from the same ochre slurry, and its walls rose in ridged layers that the evening lamps picked out like the grain of a cut log. Benches curved down in nine tiers to a floor no bigger than the Allotment greenhouse, where five chairs stood behind a long table of pale ash. A coffee urn ticked on a side table. Everyone had come in from the cold with wool on, so the room smelled of wet sleeves and coffee and, faintly, of the beeswax the custodian used on the ash.

Nell sat on the seventh tier beside her father. Below them on the speakers' bench, third from the aisle, her mother sat in her garden boots and a brown knitted hat with her hands folded on her knee. Ilse's name was fourth on the screen above the council table: VARGA, ILSE — PELL STREET ALLOTMENT — 3:00.

At supper they had talked about leeks. Ilse had said the late ones were bolting, and Nell had said that was a shame, and Tomas had asked whether a

bolted leek could be taught a better attitude. None of them had mentioned the screen.

"She practiced," Tomas said quietly, without looking at Nell. "On the leeks."

"Did they like it?"

"They're very hard to read."

Sato called the first speaker. The chair of the Lakeshore Council was a small woman in a gray-blue cuff who wore her reading glasses pushed up into her hair and took them down only to read names. To her left sat a councillor in a white cuff who kept a paper cup of coffee steaming at his elbow and never drank it; to her right, a young councillor with an Emerald band who wrote with a stylus and shook it whenever it skipped. The other two sat at the ends with their hands flat on the ash. On the lectern a ring of white light waited to drain itself.

Dagny Holm, for the Wickham Dawn Swimmers, wore a towel around her neck over her coat, which drew a murmur of approval. She said the club had seventy members, that they met at the Thimble at seven every morning from May to October, and that on the third Saturday of July they had counted four hundred and twelve people on sixty meters of sand.

"Two of our members stood in the water all afternoon," she said, "because there was nowhere to put a towel down. They did not mind the water. They minded that it was a choice between that and going home." She asked whether one or two leased lots might revert to public use in July and August, by agreement, as a trial. She had a list of lots whose docks she had never seen used. She did not read it out. She said she would leave it with the clerk, and she did, crossing the floor to hand a folded sheet to the young man at the side table, who received it with both hands.

After her a boy of about sixteen asked if a swimming lane could be roped out to the yellow buoys, so the club could do distance without turning every forty strokes. The yellow buoys marked Nell's test zone. She wrote *rope lane?* on the back of her hand with the pen she kept for that purpose, under an older note that said *lugs 2x*.

Anders Halvorsen came down the aisle from the second tier at a pace that suggested he had once walked a great many bridge decks and did not intend to be hurried on a staircase. The cuff on his wrist was Platinum white. He set both hands on the lectern before the light started.

"Lot twenty-two," he said. "First lot east of the Thimble. The dock with the lift."

Several people turned, because everyone knew the dock with the lift.

"I bid in 2072. Sealed contribution bid, six other households in it, twenty-five years. Mine was the highest. The figure goes into the Lakeshore Fund every January. The Fund rakes the Thimble, pays for the water buoys, keeps the pier lamps on, and pays for half of the pier's piling work last spring." He glanced at Sato. "I'm told I'm allowed to be proud of that, and I am. I built bridges for thirty-one years. I like paying for piling."

A few people clapped, briefly and sincerely, and stopped.

"This summer I counted," Halvorsen said. "Days I actually used the dock. Eleven. Ten of them in August, one in June when my granddaughter visited and fell asleep on it." He let that sit. "The rest of the year it is a very expensive place for gulls to stand. The birds, I mean." He looked up at the seventh tier, and Nell had the uncomfortable sense that he had looked straight at her. "I don't have a proposal. The ordinance asks leaseholders to speak in review, and what I have is the number eleven. I thought you should have it too."

He went back up the stairs at the same pace. The councillor in the white cuff wrote something down, the first thing he had written all evening.

The fisherman was called Edvin Rask, and he began by apologizing that he was no good at rooms. He had fished perch off the old ferry pier for thirty years, since before it was the Maker Commons, and he wanted to say one thing.

"East of the pier there's weed," he said. "Down about two meters. That's where the perch go in May. Whatever anybody does with the shore, whoever's turn it is, don't do it on top of the weed. Fish don't bid." He seemed to think that was the end, and then remembered something. "And keep the pier lamps. You can see a lot from the end of that pier at night." Then he sat, and someone near him patted his shoulder.

None of it was loud. Sato thanked each speaker by name and gave a time to the clerk, and the clerk read it back, and the screen moved down one line. The urn ticked. Children on the top tier had started a game with a paper cup. At one point the young councillor's stylus failed entirely and she borrowed a pen from the man in the white cuff, and the whole room watched the transaction with interest.

"Ilse Varga," Sato said. "Pell Street Allotment."

* * *

In twenty years Nell had heard her mother address a group of more than four people exactly once, at the summer share table, to say that whoever was taking the rye before the old men got there should stop. She watched Ilse walk to the lectern now, take off the brown hat, put it on the lectern beside the ring of light, and wait for the light to begin.

"I keep the Allotment on Pell Street," Ilse said. "Two hundred beds. Forty-three are held by children, or by families for their children. In October I asked the children a question while they were pulling squash. I asked who had ever sat at the end of a dock with their feet over the water."

The ring of light had lost a sliver.

"Nine," Ilse said. "Of forty-three. The others have stood at the end of the pier. The pier has a rail, and a rail is for leaning. A dock is for sitting. You sit with your feet over the water and nobody asks you to move along, and you look down, and you can't see the bottom." She picked up her hat. "I don't want more lake. I have enough lake. I'm asking if a child could have a turn."

She put the hat back on and walked to the speakers' bench.

"Thank you, Ms. Varga," Sato said. "You have ninety seconds remaining."

"Keep them," Ilse said, sitting down.

Somebody in the fourth tier laughed, and then the applause came, warmer than it had been for anyone, and Ilse looked at her boots until it stopped. On the screen the clerk entered *1:30* beside her name.

Tomas had not clapped. He had his hands clasped between his knees, and he was smiling at the floor of the hall with what Nell would have called, on anyone else, pride, and on her father was the face he wore after a Saturday show when the benches had been full.

"You knew," Nell said.

"Since September. She asked me to time her."

"How long did it take, at home?"

"Two minutes forty. She cut the part about the perch."

Sato was asking whether anyone not on the speakers' list wished to address the item. That was the custom, Nell knew from the agenda's small print: one minute, open floor. Two people in the lower tiers looked at each other and decided against it. Nell stood. She could not afterward have said what she meant

to do when she did it, only that she was on the stairs and her father had said "Nell" in a tone of mild inquiry, and then she was on the floor of the hall, and the ash table was much longer seen from in front.

"Name, for the record," Sato said.

"Nell Varga. Pell Street. Bay 9, the Maker Commons." She heard how that sounded and kept going. The ring of light began to drain. "The shore is four point two kilometers. Three point nine of it is leased, sixty-one lots, and the public part is three hundred meters, and sixty of that is the Thimble, and everybody tonight has been talking about how to divide it. Who gets which part, and when. Which is—" She lost the sentence. On the back of her hand, where she had hoped there might be something useful, it said *rope lane?* and *lugs 2x*. "Sorry. I'm building shore. Growing it. It's a material, it floats, it's printed on the water by machines and it heals itself when it cracks, and you could make a dock out of it, or a deck, or a—a park. Out past where the lots end. So instead of cutting the edge thinner you'd have more edge."

Somebody on the upper tiers said "Huh," in a tone of honest interest.

"It's real," Nell said. "It's not real yet at size. I have a prototype going in. The test zone's approved, the Lakeshore Office approved it, not this—I mean you didn't, the Office did. There's a storm test in April." The light was nearly gone. "It's oyster mushroom and basalt. My mother grows the mushroom."

Ilse, on the speakers' bench, did not turn around.

The ring of light closed. Nell had meant to say something about the cost per square meter, and about Mr. Rask's weed, which she could avoid by keeping to deeper water, and she had said none of it. She turned to go.

"Madam Chair," said Anders Halvorsen from the second tier. "A question for the young woman, if the floor allows."

"Briefly, Mr. Halvorsen."

He did not stand. "Your test zone," he said to Nell. "Northeast corner sits forty meters off my lease line. I signed off on it. Suppose you grow your dock there, and in August a child from your mother's allotment sits on the end of it with her feet in the lake. Whose edge is she sitting on? Mine, because it's off my frontage? Yours, because you printed it? Or the town's?"

The room had gone quiet in an attentive, comfortable way, the way it went at the Tin Heron when Professor Gill was about to fall off something.

Nell had an answer about mooring tolerances and an answer about the Civic Equity clause. She looked at Halvorsen's white cuff and at the long ash table and at Sato, who had taken her glasses down out of her hair.

"I don't know," Nell said.

"Neither does the ordinance," Halvorsen said. "It defines shoreline as the line where water meets land. It doesn't say what to do when the land moves. Madam Chair, I'd like the question entered."

"Entered," said Sato. She dictated it slowly, and the clerk typed it onto the screen under the swimmers' count and Mr. Rask's weed: QUESTION (HALVORSEN): WHETHER A MOORED FLOATING STRUCTURE CONSTITUTES SHORELINE UNDER THE 2047 ORDINANCE, AND IF SO, WHOSE. "Thank you, Ms. Varga."

Going back up, Nell counted the stairs, which was something to do. There were forty-two. At the seventh tier she sat, and her father passed her a handkerchief for no reason she could identify, and she held it.

It was then that she saw Sabine Brandt in the back row, under the high windows, in her navy sailing jacket with the strip of reflective tape on one shoulder. She had a slate balanced on one knee and was writing on it with her head down. As Nell watched, Sabine reached the end of a line, looked up at the screen where the clerk's capitals still glowed, copied something, and went on writing. She did not look at Nell at all.

* * *

The council discussed the item for eleven minutes. The man in the white cuff asked the clerk to append the swimmers' count and Mr. Halvorsen's eleven days to the review file. The young Emerald councillor asked whether the Lakeshore Office could prepare a note on floating structures for spring, and the clerk said it could. One of the councillors at the end said he would like to visit the weed beds with Mr. Rask, and Mr. Rask said from his seat that May was best, and the councillor said he would put it in his calendar, and did, while everyone waited.

"I'll entertain a motion," Sato said, "to continue the item to the spring session."

It was moved. It was seconded. The five hands went up together, and the clerk typed CONTINUED in the margin, and that was year forty-one.

People stood and found their coats. On the stairs below, Dagny Holm took the towel off her neck and folded it and said "See you in April" to the boy who wanted the rope lane, cheerfully, as if April were a beach they had both booked. Mr. Rask was shaking hands with the councillor who wanted to see his weed. The children on the top tier had flattened their paper cup and were trying to make it stand up again.

"That's all?" Nell said.

"That's the review," Tomas said, getting into his coat one arm at a time. "Next year it'll be forty-two."

"Nobody decided anything."

"They decided April."

"Dad."

"They wrote down Halvorsen's question," Tomas said. "Twenty years from now some lawyer is going to look that up and see your name next to it." He considered. "Badger would have filed it in triplicate."

She went down the stairs against the people coming up and found the clerk packing his slate into a canvas bag. He was perhaps twenty-five and had a very neat beard.

"What happens to it now?" she said. "The question."

"It's on the file," the clerk said. "It'll be on the agenda in spring, under the review, and the Office will have a note on it."

"And then?"

"Then it'll be discussed." He saw her face and added, helpfully, "It's not closed. That's what continued means. It's still open."

Ilse was waiting at the foot of the stairs with her hat back on. She looked at Nell for a moment from under the knitted brim.

"You talked too fast," she said.

"You talked too short."

"I said it." Ilse buttoned her coat to the collar. "Your father's walking me home. You've got somebody waiting." She tipped her head toward the doors, where Sabine stood with her slate under her arm, looking out at the dark.

* * *

They went down Shore Road toward the water without discussing it. The delivery lanes hummed beneath the frost, and a Brandt Lanes pod passed them

at knee height in its groove, its little lamp throwing a moving smear of yellow onto the white rime at the edges of the lane. Sabine watched it go by.

"Your father didn't come," Nell said.

"His office filed a written statement. Four pages." Sabine kept her eyes on the pod. "It says he supports continued review."

At the bottom of the road the Thimble opened out between the black bulk of the Halvorsen dock and the lamps of the pier. The rake lines from the last grooming of the season had frozen hard into ridges, and the sand crunched under their boots like stale sugar. Along the waterline a skin of ice had formed, a hand wide, gray where it lay on sand and black where it lay on water, and it ticked faintly as the lake moved underneath it. Halvorsen's lift was raised and wrapped in canvas for winter, and a row of ordinary gulls, the birds, stood along the top of it with their feathers puffed out.

"I came to understand the site," Sabine said, as if Nell had asked. "Every platform I put on the water is going to sit off somebody's frontage. Calder Reach, here, anywhere. I wanted to hear what it sounds like in a room when people talk about it." She tapped the slate under her arm. "Nobody shouted. I had money on somebody shouting."

"Who'd you bet?"

"Myself." She walked to the edge of the ice and pressed it with the toe of her boot until it cracked in a long, clean line. "Your mother's good."

"I didn't know she was going to speak until last month. Someone told me."

"You didn't ask her?"

"We talked about leeks."

Sabine laughed, one short breath of it that clouded in the air. The cuff on her wrist showed its plain gray-blue under the pier lamps, with no rim and no class color, and Nell found that she had been looking at it, and that Sabine had noticed her looking.

"March twenty-first, 2084," Sabine said. "My eighteenth birthday. I was racing in a spring regatta that weekend, and I get seasick, which nobody believes, so I went to the pharmacy on Canal Street for patches. I'd been in that pharmacy a hundred times. You walk in, you walk down the brass, somebody hands you what you came for." She took the licorice root out of her mouth and looked at it. "My cuff had gone over at midnight. I knew that. I'd watched it go. I just hadn't thought about what it meant for a pharmacy. I walked in and

the brass didn't do anything, and there was a line, and I went and stood at the counter end of it, because I'd never seen a line from the inside and I assumed that was where you stood."

"Oh no."

"An old man tapped me on the shoulder. Very polite. He said, 'Young lady, the end is outside, by the post box.' It went out the door and around the corner. I didn't know where it ended. I'd never been at the end of anything." She put the root back. "Forty minutes. The patches didn't work, either."

"The end's usually where people are facing away from you," Nell said. "That's how you find it."

"I know that now."

They walked as far as the pier, where the sand stopped against the old ferry pilings and the lamps on the rail made cones of light over the water. Out past the pier, beyond the last lamp, Nell's yellow buoys sat in their rectangle, eighty meters by fifty, each one with a dusting of frost on its cap. The lake beyond them was very black. On the Calder Parks buoy that morning it had read six point two degrees, below the eight at which Ilse's Gray slowed to a third of its pace, and Nell had spent the afternoon in Bay 9 measuring heat-mat draw while two hundred gulls sat charging in the rack.

"When I get it back," Sabine said, "the standing. Emerald, whatever. I want to know where it came from. I want to be able to point at the thing." She did not look at Heron Point, which lay east beyond the leased lots with one window lit, but Nell did. "Everyone at Ninefold knows whose daughter I am. That's a different thing."

"You've got Lattice."

"I've got a funded pilot and a maintenance number I don't like." Sabine said it lightly and went on before Nell could answer. "How are you mooring yours?"

"Corner lugs," Nell said. "Thicker. Twice the section."

Sabine chewed the root and looked out at the buoys for a while and said nothing about corner lugs.

"When's yours go in?" Nell said.

"March. Calder Reach, off the old grain quay. Four modules." She turned. "You're April."

"Ruth booked the blow for April."

"Squall season," Sabine said. "Good. You'll find out."

It began to snow while they were standing there. The first flakes came down out of the dark above the lamps, large and slow and far apart, and Nell watched one fall the whole height of a lamp cone and land on the black water inside the ice and vanish without a mark. Then there were more of them, enough to hear, a fine whispering hiss on the ice skin along the shore, and the air smelled of cold stone and the faint iron of the pier rail. On the Thimble behind them the frozen rake ridges began to fill in white from the top down. The gulls on Halvorsen's lift tucked their heads. Beyond the pier the yellow buoys went pale one by one, and past them the lake kept taking the snow and showing nothing, eight meters deep and then deeper, all the way across to where the lights of Calder made a low orange line on the far shore.

"First snow," Sabine said. "On the water, anyway."

"It doesn't settle."

"Not yet." She pulled off her right glove with her teeth and held out her hand.

Nell looked at it. It was a sailor's hand, with a hard ridge of callus across the palm below the fingers where rope had run, and a chip of blue anti-fouling paint in one nail that had survived some amount of scrubbing. Nell took off her own glove. Her nails had their usual gray crescents of mycelium, which no amount of scrubbing reached, and her palm was rough in different places, at the thumb and the side of the first finger, from the gulls' spool latches.

They shook. Sabine's grip was dry and short and strong, and when Nell went to let go Sabine held on a moment longer, long enough to look at the gray under Nell's nails, and Nell let her look.

"March," Sabine said.

"April."

Sabine put her glove back on and went up the beach toward Shore Road, her boots breaking the new white over the ridges, and the reflective strip on her shoulder caught each lamp as she passed under it until the road bent and took her out of sight. Nell stayed at the pier. She put her bare hand in her jacket pocket and found the puck there, cold through, and held it while the snow came down on sixty meters of sand and on the buoys and on the dark water past them where, so far, there was nothing to stand on at all.

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CHAPTER 12

Winter Printing

At thirty-one hours the crack was still open.

Nell held the coupon under the work lamp and turned it so the light ran along the break. It was a slab of driftstone the size of her palm, four cells across, which she had snapped over the edge of the bench on Tuesday morning and lowered on a string through the hole she kept chopped in the slip ice. On Tuesday the two faces had met along a clean jagged line of oyster gray. By Wednesday afternoon both faces had furred white, and threads had crept out a few millimeters from each side and stopped, leaving a gap she could have slid a fingernail into. Water ran out of the cells and onto her boots. On the scale it showed forty grams heavier than when it went in.

"Biscuit."

"Thirty-one hours and six minutes," Mister Biscuit said from the cuff. "Water at the string, three point eight degrees. On the present curve, closure in a little over five days, provided the cells do not fill first."

"They're filling."

"I had noticed the scale."

Above the bench, between the gull wiring diagrams and a printout of tranche one's terms, she had pinned the card from pitch night. *Measure the cold. H.* She had measured it. Six degrees in Ilse's seed fridge had given nineteen hours for a hairline. In the first week of January the lake had given her four

degrees and twenty hours, then three point nine and twenty-two, and then the clean breaks, which had not closed at all before the cells drank enough to sink. Each coupon told her the same thing: below eight degrees Ilse's Gray worked at a third of its summer speed. Ruth's Class Three blow, booked for April, would last about eleven hours, and no storm was going to wait five days for a crack to close.

She dropped the coupon into the bin by the door, where fourteen others lay in a damp gray heap, each labeled in grease pencil with a date and a temperature.

The door opened while she was still writing the label. Ilse came in with a thermos under one arm and her garden boots crusted with frozen mud. She set the thermos on the bench and looked at the bin before she looked at Nell.

"Barley," Ilse said, meaning the thermos. She picked a coupon off the top of the heap and smelled it. "This one's sour."

"It's cold."

"In January those are the same thing." Ilse put the coupon back where it had been, label up. She walked to the edge of the slip and looked down at the hole in the ice. "What does the lake do in January?"

"Freezes at the edges. The Commons runs a bubbler along the pier so the channel stays open."

"And what do I do in January?"

Nell knew the answer, and she didn't want to give it. The Allotment's long greenhouse had stood under new film since the autumn reskinning. Inside it the propagation benches held their seed trays over black rubber heat mats, which hummed faintly and smelled of warm dust, and Ilse would not sow so much as a radish outdoors between October and April.

"That's for seedlings," Nell said.

"So's this." Ilse unscrewed the thermos lid and poured barley soup into it. "Six rolls of film left over from the reskin, in the shed behind the compost bays. The bench mats too, the old ones. They still heat."

"The deck's two hundred and forty square meters. Six rolls won't come close."

"Six rolls are what's in my shed," Ilse said. "I didn't say they were all there was." She held out the soup and waited until Nell took it.

* * *

At eight the next morning Bay 9 filled up with people carrying rolls of plastic on their shoulders.

Mrs. Kaur came first, pushing a handcart stacked with heat mats rolled like rugs and tied with garden twine. Behind her were two men from the rye-bread end of the share table, a woman Nell knew only as the person who grew forty kinds of squash, and Wendell Ames with his white cuff, who carried a roll under each arm and set them down without a word. Ilse came last with a bundle of bent conduit hoops, the kind the Allotment pushed into its beds in October to hold frost cloth.

"Where do you want the ribs?" Mrs. Kaur said.

Nell had not yet worked out where she wanted anything. She stood in the middle of the bay with her tablet and its drawing of a long, low tunnel, which had existed since midnight. Around her eleven people were waiting.

"Along the slip," she said. "Then out along the channel. Twenty-six meters, one every meter and a half. The mats go on the cured deck as it grows, film over the hoops, and we keep it closed so the heat stays under."

"So a cold frame," the squash woman said. "On water."

"A cold frame on water."

They pushed the conduit into brackets Nell printed that morning and clamped to the pier rail, and the hoops arched out over the channel, a row of pale ribs against the gray ice. When the film went over them it was milky and stiff with cold, and it crackled as it unrolled. By two in the afternoon a tunnel ran from the mouth of the slip out along the open water. Inside, under the mats, the air began to warm, and Bay 9 took on a smell Nell had never had in it before: the greenhouse's sweet rot of compost and wet straw, which the mats had carried in from years under seed trays, mixed with the mineral smell of basalt fiber soaking in the slip.

She cracked a fresh coupon that evening, laid it on a mat under the film, and set Biscuit to watch the thermometer clipped beside it.

"Fourteen degrees at the surface," Biscuit reported at midnight. At nine the next morning he said, "Closed. Nine hours and twelve minutes."

Nell examined the seam under the lamp. It was a thin white line, already silvering at the edges. She thought about writing to Ilse and then about how to word it, and in the end she sent a photograph with no caption. Ilse answered

an hour later with a photograph of her own: the empty shelf in the shed where the film had been.

* * *

Three hundred gulls printed Shore One that winter.

The extra hundred had come out of the tranche, and they had arrived in a Brandt Lanes freight pod with a note from Oskar Lindqvist enclosed in a laminated sleeve: *Congratulations on your expanded swarm! Please find attached form 14-M (Machine Registry, Marine).* At night they slept in charging racks along the back wall of the bay, two thousand four hundred amber lights burning in long rows. By day they went down the ramp into the slip in waves of fifty, paddled out under the film, and worked their way along the channel, laying honeycomb from their slurry hoppers and drawing basalt from their spools. The deck grew out from the slip a meter or so a day, and the tunnel was always slightly ahead of it.

Under the film the light was white and even, and the water in the channel steamed where it met the warm edge of the new cells. Gulls passed back and forth in their lanes, each with its small chirp and the soft slap of its paddle feet. Nell walked the deck behind them on the cured cells, a flashlight in her teeth and a probe thermometer in her hand, testing the cell walls as she went.

She had given Seventeen the north rim.

In May she had fought its drift for three tries, foot swap and firmware wipe, and since then had only fished it out of trouble with a pool net in Calder. On the north rim the deck faced open water. Running west along that edge, Seventeen leaned south, inward, over the work and away from the lake, and the rim it laid was the truest edge on the deck.

"You're not cured," she told it one morning when it chirped low. "I want that understood. You're deployed."

Seventeen chirped twice and turned left toward the ramp and its charger.

From the next rack, Twenty-Three lodged its fourth complaint of the week about the temperature in the slip. Biscuit filed it with the other three.

* * *

At first the volunteers came because Ilse had told them to, and after that they came because they wanted to.

Two of Teo's friends, couriers from the Calder depot, began showing up on Sundays, their only day off the routes. One was a woman named Mirela with a voice that carried across the bay, and the other was a tall quiet man called Dov who could unroll film without a single crease. Teo came when he could. He spent his time on the pier rail with his notebook, sketching the tunnel from different angles, and once Nell found him asleep against a stack of heat mats with the pencil still in his hand. She put her jacket over his knees and went back to work.

The Allotment children came after school, eight or ten at a time, because the bay was warm and three hundred machines were walking on water inside it. They clustered at the open doorway, where the gulls went down the ramp, and edged closer each afternoon, and they asked questions faster than Nell could answer them. Did the gulls have names? Did they eat? Why did that one keep going sideways? Could you ride one? She had a deck to build and a tranche to account for. By the second week she was answering most of the questions with a single word.

Tomas fixed it on a Saturday, as he fixed most things, with a saw.

He arrived with a cargo trailer behind his bicycle and spent the morning in the doorway building something out of scrap planks and a length of red curtain from the Tin Heron's prop loft. It was a proscenium: two uprights, a crossbeam painted with the same cloth-lake waves as the theater's backdrop, and a low bench across the front. He fitted it inside the doorframe so that anyone sitting on the bench looked through the painted arch at the slip, the ramp and the steaming mouth of the tunnel beyond.

On top of the crossbeam he set the carved gull with the long left foot, which had hung over the slip since August. It faced left.

"There," Tomas said, sitting down on the bench to test it. "Now they're an audience."

The children settled on the bench and watched the gulls go down the ramp through the arch, and they stayed seated in a way they had never stayed standing. Tomas did the voices. Each gull that went into the water got a line from Professor Gill, who considered the whole enterprise a scandalous expansion of the pond's edge and had views on it. When Seventeen came back up the ramp crooked, Clerk Badger demanded to know whether it had filed form 9-B.

"Puddle, Small," the oldest Kaur girl said.

"This is not a small puddle, madam," said the Badger. "This is a lake. There is a separate form for lakes. I have never seen it. No one has seen it."

Nell, kneeling by the ramp with a spool in her lap, heard the laugh go along the bench, and heard her father counting it under his breath.

* * *

On the second Saturday in February Harriet Osei walked into Bay 9 at ten in the morning, took off her coat, and said, "I have an hour."

In the eight months Nell had known her she had never had more than ten minutes, most of them standing, and once twelve because a patient was late. Nell had sent the invitation without expecting a reply, the way she might have invited the lake.

Harriet hung her coat on a gull rack. The sock was in its pocket; a green cuff of wool showed at the top, with the needles crossed through it. She came to the bench in a gray sweater with her reading glasses on their cord and looked at the coupons, the film, the drawings on the wall and the card she had written. Her cuff, clear blue, chimed. A moment later it chimed again.

"Excuse me," Harriet said, and held the cuff up and read from it. "Mrs. Aalto of Bray thanks me for her thumb. A choir in Lowmarket thanks me for their accompanist's left hand." It chimed a third time. "That one is a cellist I haven't met yet. He's thanking me in advance." She tapped the edge of the band and held it there until the light went to a dull glass color. "Now. Show me what you're tying."

On the back bench Dov and Mirela were splicing mooring lines, basalt fiber braided into a cable as thick as two fingers, which would run from the corner lugs on Shore One to anchor blocks on the lake floor. They had been at it for a week, and they were slow.

Harriet picked up a loose end and turned it in her hands. She separated the strands, studied them through the lower half of her glasses, laid them back together, and then began to tie. Her fingers moved quickly and without fuss: a throw, a second throw through the same loop, a pull, then a square throw on top that locked it. She tied six of them down the length of the splice before Nell had worked out what the first one was.

"Surgeon's knot," Harriet said. "The extra throw holds the tension while you tie the second. Otherwise it slips while you're busy." She passed the cable to Mirela. "Try it."

Mirela tried, and it slipped. Harriet put her hands over Mirela's and moved them through it once, then again, and then took her hands away, and on the third try the knot held. Dov, watching, tied one without being shown.

For the next half hour Harriet sat at the back bench and taught knots. She did not take the sock out of her pocket. When the children arrived at eleven, early because someone had told them about the tall doctor, she taught the Kaur girls a square knot on a length of garden twine, and she made the younger Kaur girl tie it over and over until she could do it without looking.

Seventeen came up the ramp at half past ten, listing badly, with a smear of slurry on its rim and one paddle foot trailing a strand of fiber. It went past the charger, bumped the wall on its left, reversed, and bumped the wall again.

Harriet laughed, a short loud sound Nell had never heard from her. "What is wrong with that one?"

"Rear left foot came off another unit. It drifts. I tried everything, and then I gave it the north rim."

"And?"

"It's the best rim on the deck."

Harriet watched Seventeen find its charger on the third try and settle in with a chirp. She shook her head, still smiling, and turned back to the cables.

Near the end of the hour she walked out along the cured deck under the film, ducking a little beneath the hoops, while Nell followed with the flashlight. At the northeast corner a finished mooring lug stood up from the rim, a thick printed horn of driftstone with an eye through it, and the first spliced cable had been run through the eye and made fast with a test knot. Harriet crouched beside it. She took the cable in both hands and pulled, firmly, once, and then followed it with her eyes from the slack length in the water up to where it passed through the lug and bent around the driftstone.

"Tendons don't fail in the middle," she said. "They fail where they attach."

Nell nodded. "The lugs are twice the thickness they were at the basin. Ruth said the corners were amateur, so I doubled them and ran the cell walls radially into the deck behind them. They spread the load across thirty cells now instead of eight."

"Good," Harriet said, and stood, and looked at her watch. "Four minutes."

They walked back along the deck. In the bay she put on her coat, and Nell saw her hand go into the pocket, touch the needles and come out empty. At the door, between the painted uprights of Tomas's proscenium, she stopped and looked back at the slip and the steaming tunnel and the rows of amber lights in the racks.

"This is the best hour I've had since August," Harriet said. She touched her cuff, and it chimed immediately, then chimed again. She was out on the pier and walking toward the shuttle lane before the third.

Nell went back to the corner lug with the probe thermometer and checked the cell walls behind it: fourteen degrees, cured, solid. She wrote the reading in the log and moved on along the rim.

* * *

In the second week of March, Lattice went into the water off Heron Point.

Nell watched from the end of the Maker Commons pier with Teo's field glasses, which he had left in Bay 9 on Thursday and not come back for. The morning was cold and bright, and the ice had pulled back from the shore. Away to the east, past the sixty-one lots and their docks, Heron Point stood out into the lake, a dark line of cedar with a long dock running from it. Four modules lay alongside the dock, each three meters square, steel framed and glass decked, and in the low sun the glass flashed white each time the swell lifted it.

A workboat had them on a towline. As Nell watched, the line came taut and the modules moved off the dock one after another, linked at their corners, and swung south toward the far shore and Calder Reach and the old grain quay. Even at that distance they shone. The steel had been finished to a pale silver that held the sky, and the glass turned blue, then white, then blue again as they rode the swell.

There were people on the end of Lucan's dock. One of them was large and in pale clothes, and one was small in a dark jacket and stood a little apart. At that range she could not tell which way either was facing.

Her cuff buzzed. *S.*: a photograph taken from the workboat's stern, the four modules in a row on the water behind it, and beneath it a single line. *Your turn in a fortnight.*

Nell looked at the modules through the glasses until they were small, then at her own tunnel of milky film running out along the pier beside her, its hoops sagging slightly at the far end where the last mat had gone on Thursday. She wrote *They look good* and deleted it, and wrote *Clean launch* and sent that.

* * *

On the last Thursday of March they took the film off.

They started at four, when the light was turning. Ilse stood on the pier calling instructions, and her garden volunteers took the film down hoop by hoop and rolled it as it came, because Ilse wanted every square meter of it back. Mirela and Dov pulled the conduit and stacked it. The heat mats came up off the deck in long black strips, still warm, and went onto the handcart. As each section was uncovered the deck underneath came into the open air, oyster gray with black flecks, ribbed with the faint rows of the gulls' passes, and the smell of it rose off the channel, wet stone and mushroom bread, strong enough that people on the pier remarked on it.

Shore One was twenty meters long and twelve wide. Its rim stood two hands high around the edge; along the north side the rim was perfectly straight. At the east end, where the deck met open water, the gulls had printed a bench the width of the deck, a long low seat with a back to it, grown out of the same honeycomb as everything else, and the last of the film came off it at a quarter to six.

Word had gone around. Nell had told no one but Teo, and Teo, it appeared, had told his whole route. When she looked up from the last mooring check the pier was lined with people from the Bay 9 doorway to the far end: allotment people and Commons people, the Dawn Swimmers in their wool hats, Edvin Rask with a thermos, and Anders Halvorsen near the rail with his hands in his coat pockets. Children sat on Tomas's bench in the doorway and children sat along the pier's edge with their legs hanging over the water. Nell counted, as she always did, and stopped at two hundred and sixty because more were still coming along Shore Road.

"Now?" Biscuit said quietly.

"Now."

She sent the command, and three hundred gulls came down the ramp.

They went into the water in a long amber line, fifty and fifty and fifty, slapping and chirping, and spread out across the channel and around the deck. By then the sun was down behind the town, and the lake had gone the color of slate, with a paler band of sky above the far shore at Calder. The gulls circled Shore One in two rings, one going each way, eight lights on every rim, two thousand four hundred points of amber turning slowly around the gray deck on the dark water. Their chirps came over the water in waves. The children on the pier went quiet, and then one of them began to count the lights out loud and gave up at forty.

Seventeen was in the outer ring, a little out of true, drifting inward a degree at a time until it was almost touching the north rim it had built, and then correcting, and then drifting again.

Volunteers in the Commons rowboats took the bow lines, and Teo and Dov walked the stern lines along the pier, and Shore One slid out of the channel toward the end of the pier, slowly, the two rings of gulls moving with it. It came alongside the last pier ladder and stopped, and the lines were made fast.

Ilse was beside the ladder. Tomas stood next to her with the carved gull in both hands, having taken it down from the crossbeam at some point without Nell seeing. Neither of them said anything. Ilse moved half a step aside so that the top of the ladder was clear.

Nell climbed down three rungs, put one boot on the deck, and then the other. Shore One dipped by a finger's width and came back up under her. She walked out across it, past the place where the slip had ended and the channel had begun, over the seams between one week's printing and the next, which she could feel through her soles and could no longer see, to the bench at the east end, with the amber rings turning on either side of her and the smell of wet basalt and bread rising around her in the cold, and she sat down on it facing the open lake.

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Part Three: Storm Season

Shore One sinks, the Civic Failure Ledger records it without penalty, Nell and Sabine become partners, Lucan gets his name on terms, and Shore Two holds.

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CHAPTER 13

Shore One

Pim Achterberg's line went tight on the third morning, and the whole deck heard about it. He was standing at the south rim with his heels against the printed lip Nell had added after the children's first afternoon, a hand line wound on a cork, and when the cork began to jump in his fist he shouted for somebody to look, so that forty people looked. The perch that came up was the length of a spoon, yellow and barred, and it hung from the line turning in the sun while three smaller children crowded in to decide whether it was real.

"Put it back," a girl said.

"I am putting it back," Pim said. "I'm showing it first."

He lay down on his stomach on the honeycomb to do it, lowering the fish to the water by hand. Nell, who was supposed to be reading the strain gauge at the east corner, watched instead. The deck took his weight without comment. It took everyone's weight that way: a slow lift and settle under the feet on the lake's short period, a hollow tock from the sealed cells when a swell slapped them from below, and under both a smell she had stopped noticing in the slip and noticed again out here in the open, sharpened by the cold.

Shore One had been open for four days under test conditions. Oskar had written the conditions on a laminated card and zip-tied it to the pier railing at the head of the gangway: TRIAL STRUCTURE. OCCUPANCY 60. DAYLIGHT HOURS. PLEASE DO NOT JUMP. Beneath it was a brass counter

he had found somewhere and screwed to the post, and beneath the counter a strip of brass set into the pier planks, because a queue had formed on the first morning and Oskar had looked up the ordinance and found that a physical queue at a public structure required a Sovereign Line whether or not anybody used it. He had been very happy about the strip. Nobody had stood on it yet.

At ten Ilse came down the gangway with a crate of pots on her hip. She had asked no one, and nobody stopped her. Along the lake side of the bench she set them in a row, thyme and chives and two kinds of mint in terra-cotta still dark from the greenhouse, and at the end a small rosemary in a pot with a chip out of the rim.

"They'll get cold," Nell said.

"They're from the cold frame. They know." Ilse turned the rosemary so its better side faced the pier. "People keep sitting on a bench with nothing on it. It looks like a waiting room."

"It's a test structure."

"Then it's a test," Ilse said, and went back up the gangway to the Allotment, where it was Saturday and there was bread to sort.

A little after eleven a woman with a fiddle and a long gray coat arrived and opened her case at the west end of the deck. She had not come for money; nobody had carried money in Nell's lifetime. She wanted paper. People wrote requests on the backs of seed packets and pier tickets and dropped them in the case, and she played whatever she drew without looking at it first, reels mostly, once a lullaby that two of the fishing children's mothers sang along with, once a song from a cartoon Nell half remembered about a tugboat. When the wind came off the water it took the high notes away toward Halvorsen's dock and brought them back thinner.

On the bench, as he had every afternoon since Wednesday, sat Wendell Ames with a paper book. His cuff was white. He had a lease three lots east of the Thimble with its own dock, and on the second afternoon Nell had asked him whether there was something wrong with it.

"Nothing," he had said. "It's a very good dock."

"But you're here."

"From here I can see it," Ames said, and turned a page.

At noon Nell walked up the gangway and out to the end of the pier and counted the Thimble the way she had counted it all her life. Nobody brought

towels in April, so she counted coats spread on the sand and people on the seawall steps. There had been ninety-three at ten. Now there were thirty-eight, and a line of twenty-four along the pier rail, and the sand between the Halvorsen dock and the pier was printed with footprints that mostly pointed one way.

* * *

Lucan Brandt came on Sunday afternoon, alone, in a linen suit the color of oat milk. Nell saw him from the deck when he reached the head of the gangway, and saw him look down at the brass strip as if it had said his name, and step onto it. The queue let him through with the mild interest people showed a violet cuff. At the post he stopped. The counter read sixty.

"It's at capacity," Oskar told him. He had come down that morning to watch the brass strip be used and was standing beside it with his folder held to his chest. "The line gives you the front. It doesn't give you sixty-one."

"Of course not," Lucan said, delighted, and waited at the top of the gangway for four minutes until a family with a stroller came up. Then he sat down on the pier planks, took off his shoes and socks, rolled the socks into the shoes, and came down barefoot with the shoes in one hand.

"You can feel it better," he said to Nell, before she had asked. "Can I jump?"

"Please don't."

"I won't. I wanted to know if I could." He walked the long axis slowly, heel and toe, his feet pale on the oyster gray, and stopped at the north rim where the printing was finest. On the edge cells the honeycomb showed through the surface skin like the grain in a board, each one about the width of a palm, black basalt flecks catching the light. He crouched and laid his hand flat. "It gives. Just a little."

"It moves with the swell."

"That's not what I mean. It gives under my hand. Like a mattress, almost. What's in the cells?"

"Air."

"Just air?"

"Sealed. About eighty percent of the volume."

"And the rest is mushroom." He laughed, a big laugh that turned the fiddler's head. "My delivery lanes run on eleven thousand machines and they've never once made me laugh. What happens when it cracks?"

"It closes. Slower now. The water's six degrees." She heard herself explaining it to him the way she would have explained it to Ruth, and stopped. "Hairlines are taking about a day."

"And you sit there watching it close."

"The camera does."

"But you watch the camera." He stood, knees cracking, and looked back along the deck at the children on the south rim, the herbs, Ames with his book. "How many people would it hold if it were the length of my dock?"

"Depends on the width."

"Make it generous."

"A few thousand, standing."

"A few thousand," Lucan said. He seemed to try the number in his mouth. Then, without lowering his voice, "My match is still on the portal. Full. You know the terms, and they haven't changed, and I won't pretend that's because I've forgotten them."

"I know."

"It should already have a name, this. Something people say to each other. Meet me at the something at four. You've had six months."

"It has a name," Nell said. "It's called Shore One."

"That's an inventory number."

"It's the first one."

He laughed again, more quietly, and looked at her with the openness she had noticed at Ninefold and still did not know what to do with. "Have you been out to hers?" he said. "Sabine's. At the Reach."

"Not yet."

"Tell me what it's like when you do."

"You could go."

"I've seen the feed. It's a very handsome feed." He picked up his shoes. "I'll give someone my place," he said, and went up the gangway barefoot, and at the top a boy with a fishing line went down past him, and the counter went back to sixty.

* * *

On Tuesday Ruth Adeyemi-Lund came in waders, which made sense to nobody until she got to the first corner and lay down on her stomach at the rim with her shoulders over the water. She had a viewing bucket with a glass bottom and a pair of calipers on a lanyard, and she put the bucket in the lake and her face in the bucket and stayed there long enough that a gull on the pier rail lost interest in her.

"Twice," she said, from inside the bucket.

"Twice what?"

"You thickened the lugs twice. I can see the second layer. Different fleck pattern." She came up, wrote something in the waxed notebook propped on the deck beside her, and reached down to put the calipers across the lug at the waterline. "What's the line?"

"Basalt fiber, braided, twenty millimeters. Rated to sixty kilonewtons."

"Down to what?"

"Deadweights. Eight tonnes each, on the clay. One per corner."

Ruth wrote that. At each corner, southwest first, the same order Nell would have chosen, she lay down, looked, measured, pulled on the line by hand as far as she could reach it, and wrote. Around her the visitors stepped carefully. At the third corner one of the fishing children lay down beside her and put his own face in the water without a bucket and came up blowing, and Ruth said "Cold?" and he said "Yes," and she wrote that down too, or appeared to.

At the end she sat back on her heels at the east bench. Ames moved his book so she could rest her notebook on the slats.

"Water temperature," Ruth said.

"Six point two at the buoy this morning."

"So a third of your warm rate."

"About that. Under the old heat mats along the edge it's better."

"I saw the mats." She closed the notebook on her pencil. "They'll hold in a Class Two."

The busker had stopped between pieces, and the deck was quiet enough that Nell could hear the cells take the swell, tock, and a breath, and tock.

"The board asked for a Three," Nell said.

"Certification requires a Three," Ruth said. She stood, a little stiff in the waders, and looked out past the yellow buoys toward the open lake, where the water was the clear brown-green it went in spring with the sun on it. "Nice bench," she said, and went up.

* * *

Mister Biscuit woke her at six on the seventeenth, which he did not do unless asked.

"You asked," he said, when she said so. "In February. You said, wake me if the weather service ever puts a squall line inside a week. I have the instruction verbatim if you would like it."

"Just the forecast."

"A squall line is forecast for the twenty-second, arriving over Lake Marrow late morning. Sustained winds fifty-eight to sixty-three kilometers an hour, gusts to eighty-five, from the northeast, veering north. Duration approximately eleven hours." He paused. "The Class Three threshold is sixty sustained."

"I know what the threshold is."

"You did ask me to say it, in February. You said, say it even if I tell you not to."

She lay on her back and looked at the ceiling, where the printed layers of her room ran in their ridges, three hundred and eight of them, and listened to the Lanes pods hum their low note under Pell Street. At seven her cuff lit with the board's message, which was shorter than Biscuit's: CERTIFICATION BOARD, MARINE. EVENT 2089-04-22 CONFIRMED AS CLASS III TEST EVENT FOR DRIFTSTONE (VARGA, N.). OBSERVER: ADEYEMI-LUND, R. PROTOCOL M-3 (UNMANNED) APPLIES.

Oskar arrived at Bay 9 before she did. He had the laminated folder open on the workbench to a page with tabs and was reading it to the gull racks.

"Protocol M-3," he said, when she came in. "Structure to be cleared of persons and cordoned no later than twenty-four hours before the event window. No person inside the buoy line from cordon to all-clear. All autonomous units docked. Instrument feeds live to the observer. The observer may attend in person from a designated position." He looked up. "Ruth has designated the observation room. She's asked for a kettle. I've put in the form."

"There's a kettle in the observation room."

"She's asked for a second kettle." He turned the page. "It says autonomous units. I checked whether that includes the gulls, and it does, but I wanted to ask whether they'd prefer to hear it from you."

"They'd prefer not to hear it at all," Nell said.

She brought them in that afternoon, though there were four days still to go, because if she waited she would find reasons to keep a dozen out for edge work. Three hundred gulls came across the test zone in their long loose formation, amber lights on, paddle feet dimpling the water, and filed up the slip ramp into Bay 9 one by one, and on the racks their rings went from amber to the slow pulse that meant charging. The bay filled with the small sounds of them: spools ticking as they wound tight, latches clicking, a chirp here and there from a unit that wanted attention it was not going to get. When the last one was in she stood at the slip with the doors open and looked out at Shore One, sitting off the pier ladder in the low sun with the herbs along its bench and nobody fishing from it for the first time in a week, and then she closed the doors.

* * *

Lattice sat off the old grain quay at Calder Reach, four modules in a square, each three meters on a side, steel frames under glass decks, in water that smelled of diesel from somewhere upriver and of cut timber from the yard behind the quay. On the nineteenth, with the light flat and the wind still nothing, Nell took the loop down and walked the quay until she found it, and Sabine was already standing on the glass at the near corner with a wire brush in one hand and a strip of licorice root in her teeth.

"Your turn was a fortnight ago," Sabine said.

"I've been busy."

"I know. I watched the feed. Someone's dog was on it." She took the root out of her mouth and pointed with it at the gangplank. "Come on, then. It's not going to sink."

The glass was thicker than it looked from the quay and faintly green at the edges. Through it Nell could see the steel frame below, the cross-members, and between them the brown water of the Reach. At the seams where the modules joined there were small orange blooms on the steel, each the size of a fingernail, and Sabine had been working on one with the brush. A grinder lay on a rag

beside her, and a logbook with columns, and in the columns, in Sabine's hand, hours and minutes.

"Spring," Sabine said, seeing her look. "Everything blooms."

"How many hours?"

"Enough to put in a book." She crouched at the northeast corner, where a padeye stood up from the frame with a shackle through it and a chain going straight down into the water. "Here. You'll want to see this."

"I didn't ask."

"No. You copied it." Sabine said it lightly and did not look up. She had a tablet in her jacket and was already scrolling. "It's on the portal. I published it so people would copy it. You got the shaft diameter and the plate diameters and the pitch, and you didn't get the torque curve because that's on page eleven, and nobody reads page eleven." She turned the tablet around. "That's the install. Diver's camera."

On the screen a gray-green murk resolved into a steel shaft as thick as a wrist going down into lake clay at an angle, the helix plate already buried, a gloved hand on the drive head. A trace ran along the bottom of the frame and climbed in steps as the shaft went in.

"Every anchor gets a curve," Sabine said. "If the clay's soft somewhere you see it on the curve before you ever load it. Four of these and they came in within two percent of each other. That's not me being good. That's the clay off this quay being very boring." She swiped. "That's the spare. In the yard shed. If you want to see one in the air."

"I'm on deadweights."

"I know."

"They're what everybody uses."

"They are." Sabine put the root back in her mouth and chewed. "Blocks are fine. I'm not telling you anything. I'm showing you the tablet."

Nell looked at the trace climbing its steps. "Ruth says mine'll hold in a Two."

"Ruth said mine would be beautiful until it cost me money." Sabine glanced along the seam at the orange blooms and back at Nell. "She was right about both. I'm taking notes."

"You don't get a storm."

"No. They gave me money and no weather." Sabine stood and brushed her knees. "You get the weather. I'd rather have the weather, honestly. Then at least you know."

Nell did not say that she knew already, because she had said it to herself enough times on the loop that it had stopped sounding like anything. She took the tablet and watched the install again, the shaft going down, the hand on the head, the trace rising. When she gave it back Sabine sent her the file without being asked, and Nell's cuff buzzed against her wrist with it, and neither of them mentioned that.

"Tell your father it's handsome," Nell said at the gangplank.

Sabine bit off the end of the root and studied the boards under her feet. "Tell him yourself," she said. "He listens to you."

* * *

The night before the cordon was clear and cold, and the stars over Lake Marrow came out all at once after the last light went off the water, more of them than you could see from Pell Street because the pier lamps went to low at ten. Teo had come down from his last Calder stop with a thermos and two pears in his satchel among the empty chip sleeves, and he climbed down the gangway in the dark without asking whether it was allowed, which it was, until morning.

They sat on the bench. The herbs were still there; Ilse was coming for them at eight. The deck lifted under them on the swell and settled, and the cells took the water, tock, and the air around them smelled of mint because Teo had sat down on a sprig.

"The fiddler left a request in the case," he said. "Somebody wrote 'something for the platform.' She didn't play it because she didn't know what it meant."

"Neither do I."

"I think they meant this." He poured tea into the thermos lid and gave it to her. "Nine months, is it?"

She had not told him. She turned her wrist, and the cuff woke at the movement and showed her what it always showed when she looked at it now without asking it anything: 9 MONTHS 13 DAYS, in small type, under the green outline.

"It counts down by itself," she said. "I turned that off in January. It turned itself back on."

"Probably a form."

"Probably a form."

"And if Friday goes well."

"Then I get the second tranche and build a bigger one and sell the surplus and land at Emerald before February." She heard how fast she said it. "If Friday goes well."

"And if it doesn't."

She drank the tea. It was strong and slightly sweet, and the lid was warm, and she held it in both hands. Over the Halvorsen dock a VTOL shuttle crossed on its lane with its running lights blinking, too high to hear.

"Then I've got nine months," she said.

Teo did not answer that. He ate a pear. After a while he said that his satchel had been eleven chips lighter than usual tonight because of a sorting error in Calder, and that he had spent the last hour of his route delivering apologies instead of credentials, and that people took apologies on their porches with the same face they took credentials, and he had found that interesting and wanted to tell someone. She laughed. He did not usually make her laugh by trying, and he had not been trying.

Between them, on the slats, his hand lay palm down, a finger's width from hers. She noticed it the way she noticed the swell, as something that was happening whether or not she looked at it. He did not move it. She did not move hers. The cells took the water under them, and the stars stood over the lake in their thousands, and out beyond the yellow buoys the open water was black and very flat.

"Ruth's bringing a second kettle," Nell said.

"Good," said Teo. "It'll be a long day."

* * *

They cleared it on the twenty-first. Ilse took the herbs back in her crate, rosemary last. Oskar unscrewed the counter and put the laminated card in his folder. Ames came down at nine to collect a bookmark he had left in the slats and went up again without his book, and at noon Nell walked the deck one last time with the strain gauges and the thermal camera and checked every feed

against the screen in the observation room, and then they strung red-and-white tape across the head of the gangway and across the pier ladder and along the pier rail above the buoy line, and Oskar read Protocol M-3 aloud to the tape.

She slept in Bay 9 that night among the charging racks, in the sleeping bag she kept under the bench, and woke at five to a sound she did not know.

It was the tape. Out at the head of the gangway the wind had come up in the dark and was working at it, a flat urgent snapping like a sail that had lost its sheet. She pulled on her jacket and went out onto the pier, and the boards were damp, and the air had changed: it was colder and had a mineral smell in it, iron and wet clay, that came from far out on the lake. Above the gangway the tape stood straight out toward the town. While she watched, it tore at the knot on the rail post and went, a long red-and-white ribbon lifting over the Thimble and the dark houses on Pell Street until she lost it.

Below her Shore One rode on its four lines with its empty bench, rising and settling, faster now. Past it, past the yellow buoys, the lake was losing its color. In the gray before sunrise it had been brown and silver; now it was going to slate, all of it at once, from the far shore inward, the whole surface roughening and darkening as the wind found it, and the first whitecaps began to show in rows far out, coming on from the northeast.

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CHAPTER 14

Class Three

Ruth Adeyemi-Lund took the chair nearest the window before anyone offered her one. She set her waxed notebook on her knee, uncapped a pencil with her teeth, and asked which of the gauges sat closest to the northeast lug.

"NE-1 through NE-8," Nell said. "The ring around the anchor plate. NE-3 is on the underside."

"Put it where I can see it."

It was ten to six, and the observation room at the Maker Commons smelled of wet coats and the coffee Teo had carried up the pier in a cardboard tray with one cup missing. Through the long window the test zone was four yellow buoys leaning south. Inside them Shore One lay on gray water, with rain crossing it in sheets that came out of the northeast and went on past the Thimble toward the roofs of the town. Nobody stood on the pier past the third bollard. At five, Oskar had walked the cordon tape with a flashlight and his folder, reading Protocol M-3 aloud to the rain, and he had come back with the laminate beaded and his hood full of water.

Three screens ran along the sill. The strain array was on the left: sixty-four small squares laid out in the shape of the deck, twenty meters by twelve, each square green with a number in it, eight of them crowded around each corner. The middle screen carried the thermal feed from the mast on the pier roof, where the lake came through violet-black and the deck lay across it in a cool,

even blue. On the right was the drone, a tethered Calder Parks unit holding forty meters up with its lamp off. It showed the deck from above, the rim, the four lines dropping into the water at the corners, and the bench at the east end with rain jumping off its seat.

Nell dragged NE-3 to the top of the array and enlarged it. It read green, and under it the load cell on the northeast line read twenty-two kilonewtons. Ruth wrote both numbers down.

"Rated sixty," Oskar said, mostly to himself, and turned a page in the folder to find where it said so.

The swell was coming through at about three seconds by then, longer than the lake's usual two point three, and on the drone feed the deck rode it with a slow give that Nell could see only by watching the bench, which rose and settled a beat after the rim. She had felt that give through her boots for three weeks. From up here it looked like nothing at all.

At ten past six a thread showed on the thermal feed.

It crossed the north rim two meters in from the corner, darker than the blue around it, where lake water at six degrees had got into the wall. As the swell lifted that edge the thread widened; at the trough it shut again and nearly vanished. Nell counted three crests and saw it open on each. Teo, who had been leaning against the door frame, came and stood behind her chair.

"That's a crack," he said.

"That's a crack."

"Is it a good crack?"

She did not answer. Over the next eleven minutes the line on the thermal image grew a fringe of white along both sides, a few pixels at first, then a soft band, as the mycelium in the walls woke up and worked and its small heat rose through the cold lake to the camera on the mast. The white crept along the line from its ends toward the middle. By 6:31 the thread was a pale seam lying across the rim with no dark left in it, sealed in about twenty minutes, though in water this cold the knit behind the seal would take most of a day.

Oskar clapped. He did it alone for two claps and then looked around, and Teo joined him, and Ruth set her pencil down long enough to put her palms together twice, and Nell found she was standing up with no memory of having decided to. On her cuff, in Warm Formal, Mister Biscuit said that the lake at the

Calder Parks buoy was six point one degrees and that the mycelium appeared to have been informed.

Teo took his grease pencil out of his jacket and made one short stroke on the window glass in the bottom corner, where it would not block the view.

"You can't write on that," Oskar said.

"It's a grease pencil."

Oskar looked at the stroke, then at his folder, and finally decided, by his face, that Protocol M-3 had nothing to say on the subject.

* * *

By nine there were fourteen strokes on the glass. Most of the cracks came at the rim, a few in the open field of the deck where the honeycomb flexed hardest across its short span. Each one opened dark, breathed with the swell for a while, and then took the white. The array mostly stayed green. Two field gauges went amber in a gust and came back. A message arrived from the gull rack in Bay 9 below them, where three hundred machines sat in rows with their amber lights dimmed to standby; Twenty-Three wished to report that the slip doors were rattling and that it had not been consulted about the weather.

"Tell it the weather wasn't consulted either," Nell said.

"I have told it," Biscuit said. "It has asked me to log its objection."

She let him log it.

Ruth asked for NE-3 every ten minutes, in exactly those words, and Nell read it to her. The northeast line went to thirty-one kilonewtons, then thirty-six. Rain came and went. Through the window, past the buoys, the lake had turned from gray to a dull green-brown, streaked white wherever the wind broke the crests, and the Halvorsen dock stood out of it to the east with its lift folded up against the posts. Nell ate half of a pear that Teo put in front of her and left the other half on the sill, where it turned brown slowly and nobody moved it.

At 11:40 the anemometer on the pier roof held sixty kilometers an hour sustained for ten minutes, then a minute more. Oskar watched the digits with his pen raised the whole time. When they turned over he wrote in the folder, stood, announced to the room that the event was confirmed at Class Three as of 11:40, sat down, and wrote that he had announced it.

"Eleven hours from here," Ruth said.

"About eleven," Nell said.

"About." Ruth wrote something and underlined it.

By noon there were thirty-one strokes on the glass in two neat bundles of fifteen and one over. Teo had begun crossing every fifth stroke. On the thermal feed the deck had stopped looking even; it was a field of blue laced with pale seams, every one of them closed, so that the whole rectangle looked as though someone had embroidered it in white thread, though Nell, who had grown that thread in her mother's seed trays, did not think of it as embroidery. She thought of the smell of a good tray in the greenhouse, which was almonds, and of the forty hours a clean break took to knit in summer against the twenty a hairline took in the cold, and of the fact that none of these were clean breaks. They were hairlines. Hairlines were what she had built it for.

* * *

Her parents came at four with soup.

Ilse had the jars wrapped in a striped tea towel and carried them up the observation room stairs in both arms, with her sun hat pushed back on its string and her garden boots leaving wet half-moons on each step. Tomas came behind her with a paper bag of rye and a folded blanket. There were five jars, which was one each for everyone in the room, and Nell saw her mother count heads at the door and set the jars down in a row on the console without comment.

"Leek," Tomas said. "I told your mother it was a poor word for today."

"He's been saying it since the gate," Ilse said.

Ruth accepted a jar and said thank you and put it on the floor by her chair. Oskar unscrewed his at once and burned his mouth and said it was very good. Teo held his in both hands for the warmth. Tomas opened one for Nell, set the lid on top of it loosely, and held it out, and when she didn't take it he kept it on his own knee.

Ilse went straight to the middle screen. Under her hat brim she studied the thermal feed for a long time, the blue field and its white seams, and then the drone, where the deck was riding a swell that had grown long and heavy, its crests nearly a meter high now and breaking at the tops.

"That's it working," she said, and pointed at a seam with one soil-dark finger without touching the screen.

"That's it working."

Ilse nodded and took the stool by the door, as though she meant to be out of the way.

The light went early under the cloud. At half past five Teo turned on the drone's lamp, and the deck jumped out of the dark in a white oval, gray and flecked and streaming, the bench at its east end throwing a long shadow that swung with each crest. The tether held the drone lower now, at twenty meters, because the gusts at forty had pushed it off station. Everything Nell watched came to her slightly foreshortened and tilting.

The wind built through six and seven. Sustained went to sixty-two and stayed there, and the gusts came in at seventy-five, eighty, and once eighty-seven, which was more than the forecast had promised and which made Oskar look for a box in the folder where he could write it. The waves were coming through at nearly four seconds and a hand's breadth over a meter, and on the drone feed Shore One no longer rode them so much as worked through them: the rim lifting, the field arching, the bench end coming up late and coming down hard, spray going off the windward edge in flat sheets that the lamp turned silver.

At 18:52 NE-6 went amber, followed a minute later by NE-3.

"Read me NE-3," Ruth said.

Nell read it to her. The northeast line said forty-seven kilonewtons, then fifty-one on a gust, then forty-four as the gust passed.

On the thermal image the field cracks were still closing, still blooming white, still doing what the puck had done in a bucket on the Thimble a year before. The northeast corner was different. A crack had opened at the lug, on the underside where NE-3 was printed into the wall, and Nell watched it go dark on a crest and narrow in the trough and go dark again. Along its edges the white started. A fringe of a few pixels formed on each side; the next crest came and the crack opened wider than before, and the fringe broke apart into specks and scattered across the dark, and in the trough the specks began to gather again. Every four seconds the white started, and every four seconds the lake opened the crack and took it away.

The other corners were doing it too, more slowly. The southeast held to amber. The northwest flickered.

"Biscuit," Nell said. "Run a calibration check on NE-3."

"NE-3 is calibrated," Biscuit said. "It agrees with NE-2 and NE-4 within half a percent."

"Run it again."

He ran it again and told her the same thing in the same words, which he had never done before. She opened her files on the cuff and went down them with her thumb, past the coupon logs and the slurry ratios and the form 14-M Oskar had made her fill in for the gull order, looking for a note she had made at the Calder Polytechnic basin in August. She found it: MOORINGS, a shaft diameter, two plate diameters and a pitch, and nothing after, where she had stopped copying. She closed the files.

NE-3 went red at 19:14. NE-1 and NE-5 went red at 19:20, then the rest of the ring around the northeast plate, until there was a small red cluster in one corner of the array with amber bleeding into the squares beside it. The northeast line read fifty-four, then fifty-eight on a gust, then fifty-two. The line had been rated to sixty. Nell watched the line's number and kept her eyes on it the way she had watched the first thread that morning, as if the line were the thing that mattered.

At some point she noticed that Ruth had stopped asking for NE-3. The pencil lay across the open notebook, and Ruth was sitting forward with her forearms on her knees, looking past the screens at the window, at the lamp's white oval out on the dark water, with no expression Nell could read. It had been twenty minutes, perhaps more. Nell read the number aloud anyway, and Ruth nodded without writing it down.

Tomas was holding the soup on his knee with both hands. The jar had stopped steaming some time ago.

* * *

The northeast corner came up on a crest at 20:14 and did not come back down with the trough.

Nell saw it on the drone feed first: the corner lifting, the lamp catching the underside of the rim for an instant; the line on the load cell went from fifty-eight to nine to zero in the space of one wave. On the thermal image there was a dark wedge where the lug had been. In the drone's light the corner of the deck was a ragged notch the size of a door, its broken honeycomb showing as a row of open gray cells with the water already slopping into them, and somewhere below it, she knew, the anchor plate she had thickened twice was hanging from

a line that ran straight down to eight tonnes of block on the clay, with nothing attached to it.

Nobody in the room said anything. Teo had a grease stroke half made on the glass and did not finish it.

Shore One swung. Without its northeast corner it pivoted on the other three lines, and the wind took the free end and walked it round toward the southwest until the long side of the deck lay broadside to the waves. The northwest and southeast lines jumped on the load cells, forty, fifty-five, sixty-one, and the red on the array spread out of the corner and ran along both edges. On the next crest the deck arched along its whole length for the first time all day. On the thermal feed a dark line ran from the torn corner diagonally into the field, another beside it, faster than the camera could refresh, a black fork spreading through the blue.

Behind it, at once, came the white. Every crack bloomed. The mycelium found each one within minutes, as it had found the first one at ten past six, and the deck on the thermal screen went bright with seams the way a tray went bright in the greenhouse on the third day, until the blue was more white than blue. Nell had never seen so much of it. The cracks came faster than the white could close them; the waves came every four seconds and broke the seams open across their middles before the white could reach from either side; and still the white kept starting, on every line, in every wall.

She did not sit down. Ilse got up from the stool by the door and came and stood next to her chair, and when Nell still didn't sit, Ilse pushed the chair gently against the backs of her knees until she did, and then pulled the stool over and sat on it beside her with her hat in her lap.

The freeboard went first. On the drone feed the rim had stood a hand's width out of the troughs all day; by nine it stood three fingers out, then two, as the broken cells along the diagonal took on water and lost their air. The deck sagged where it was heaviest. At 21:05 the long diagonal opened all the way through and did not close, and Shore One became two pieces with a black gap of lake between them that widened on every crest.

Teo moved at some point. He knelt by her chair with his reader held where she could see it, and on it was a different lake: floodlights on an old grain quay at Calder Reach, across the water and south, where the same wind was coming through at fifty-nine sustained. In the hard white light, four glass-decked steel

modules, each three meters square, were rocking on the swell, tipping and recovering, tipping and recovering, water going over the glass and sliding off. In the corner of the feed Sabine's public telemetry showed the load on her northeast anchor at forty-six kilonewtons. On the next gust it read forty-nine, then forty-six again, then forty-six. The line of numbers beneath it was nearly flat.

Nell watched it for a long time. Teo did not take the reader away, and he did not say anything, and when his knees began to hurt he sat on the floor and kept holding it up.

By ten the two pieces of Shore One were five. The thermal screen was a scatter of pale islands on black, each one rimmed in white where the mycelium was working along its broken edges, each one smaller and lower in the water than it had been the last time she looked. The array was a mess of red and amber with whole regions blank where the gauges had lost their link. Oskar had stopped writing. His pen was resting on the folder over a printed box, and he left it there.

At 22:48 the east end tore loose whole.

It was the bench section, four meters by three, where the gulls had printed the seat and its back out of the same honeycomb in a single night in March while a row of children watched through the film. The section broke along a line of cracks that had already bloomed and not closed, and when it came free it rode up higher than anything else on the screen, because its cells had taken almost no water, and the bench stood on it upright and gray in the drone's light with the rain bouncing off the seat.

"The bench," Ilse said.

It drifted south. The wind had veered north in the last hour, and it pushed the section out of the buoys and toward the shore, sliding out of the lamp's white oval into the dark at the edge of the frame. The drone tracked it until the tether stopped it; after that there was only black water at the edge of the picture and the last of the deck behind.

The rest went down slowly.

A section waterlogged until its rim was level with the troughs, then below them, then it was a gray shape under the lamp's glare with waves going over it. Soon the lamp lit only water. The gauges that still had their links kept reporting through the hydrophone on the pier, slower now, one reading every few

seconds, and as each section settled the squares on the array lost their red and turned green, because nothing was bending them anymore. Under the strain figures the depth column began to fill: seven point nine, eight point zero, eight point two. Nell watched the squares go green one at a time.

At 23:16 the last square turned green, reading eight point one meters.

Tomas still had the soup. He had held it on his knee for seven hours, and he had not set it down when the corner went or when the deck broke in two or when the bench drifted out of the light. He put the cold jar into Nell's hands, lid on, and folded her fingers around it with his, and kept his hands there for a moment, and took them away.

"You don't have to," he said.

She didn't. She held it.

Ruth closed her notebook at half past eleven. She stood, put on her coat, and buttoned it to the neck, and she looked at the window for a while, at the grease strokes in the bottom corner in their crossed bundles of five.

"How many?" she said.

Teo counted. He did it twice, touching each bundle without smudging it. "A hundred and ninety-eight."

"Each one closed?"

"Each one I marked," Teo said. "I stopped marking at ten past eight."

Ruth nodded. "Write it down somewhere that isn't glass," she said, and picked up her untouched jar from beside the chair, and thanked Ilse for the soup, and went down the stairs.

The wind eased after one. Oskar slept upright in his chair with the folder held against his chest. Tomas spread the blanket over Ilse's knees and then over Nell's when Ilse moved it there, and sat on the floor against the wall with his eyes closed, though Nell did not think he was asleep. Teo stayed by the window. She sat with the jar of cold leek soup until the rain stopped hitting the glass.

* * *

At dawn the lake was flat and brown.

She went down the pier stairs with the jar still in her jacket pocket, past the cordon tape lying slack and wet on the planks, past the third bollard, and stood at the end of the pier where the ladder went down. Inside the yellow buoys there was nothing on the water. The surface was the color of strong tea, churned up

from the clay, and so still she could see the buoys reflected in it upside down. A gull, a real one, sat on the nearest buoy and did not move.

She walked to the Thimble along the shore path because it was quicker than going round.

The sand was cold and packed hard by the rain and covered from the pier to the dock with what the lake had brought in overnight: weed, sticks, a child's plastic spade, a long rope of foam along the tide line, and driftstone. It lay in pieces up and down the sixty meters, some as big as her hand and some as big as a table, oyster gray with black flecks, wet, the honeycomb showing in the broken edges, cells open, cells sealed. The smell came to her before she reached the first piece, wet stone and bread, which was the smell of the greenhouse in February, the smell of the slip under the film, the smell of her own hands.

The bench section had grounded against the Halvorsen dock. It lay tilted on the sand with one edge under the first dock post and its upper edge resting against the planking, and the bench stood on it at a slant with its seat facing the town and lake water still running off its back in a thin sheet. The dock's lift was folded up as it had been all winter. There was nobody on the dock, and nobody on the sand. In April the Dawn Swimmers did not come.

Nell walked the tide line. She was not looking for anything in particular, and then she was. Near the middle of the beach, half buried where a wave had set it down, was a fragment the size of her two hands together: three cells and part of a fourth, one edge raw where it had broken free in the night, black flecks bright in the broken surface. Across the middle wall, from top to bottom, ran a crack that had gone right through.

She picked it up and turned it to the light coming up behind the town.

The crack was closed. Along its whole length the two sides of the wall were knit together with a fine gray-white mat, soft as felt when she ran her thumbnail along it, fuzzed at the edges where the threads had crossed and kept going into the stone on the other side. It was cold and wet and it smelled of bread. She put her thumb on the seam and pressed down hard, harder than she would have pressed on the puck, with her other hand under the fragment, and the seam held.

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CHAPTER 15

The Civic Failure Ledger

Twice that morning Nell asked Mister Biscuit for the form to give back a Civic Runway, and twice he told her there was no such form, so by the time Oskar Lindqvist came along the pier she had started writing the letter herself.

He had not been home. He was wearing the same gray jacket as in the observation room, and his folder, laminated even along the spine, now had a brown ring on it from somebody's soup jar. At the bay door he stopped and knocked on the frame, although the door stood open and Nell was looking straight at him.

"Good morning," he said. "Is this convenient?"

"Is it about the runway?"

"Partly. Mostly it's the entry." He crossed to the workbench, swept a space among the spool caps with the side of his hand and opened the folder at a red tab. "I've drafted it. You're entitled to review the wording before it goes to the ledger office. Most people don't. You're entitled, though."

A line of type ran under the State seal: CFL-2089-0412. Beneath it was DRIFTSTONE (VARGA, N.), WICKHAM SHORE. PROTOTYPE DECK "SHORE ONE," 20 M BY 12 M. LOST UNDER OBSERVED CLASS III TEST, 2089-04-22. FULL TELEMETRY RELEASED.

"Four hundred and twelve," Nell said.

"This year. It's been a busy spring. There was a vineyard in Bray."

He turned the page carefully, as if it might bruise. The second sheet held three boxes, each filled in with his small upright capitals. STANDING: UNAFFECTED. PUBLIC VENTURE TRANCHE ONE: CLOSED, RECONCILED. CIVIC RUNWAY: ACTIVE; ELIGIBLE FOR SUBSEQUENT ROUNDS.

"That's wrong," Nell said.

Oskar read the page again with his finger under each word and then looked up. "Which part?"

"Unaffected. I put the tranche on the bottom of the lake."

"The tranche bought a prototype deck and an observed storm test. You built the deck, and you ran the test." He set one fingertip on CLOSED, as if squaring it. "If you hadn't built it, there'd be a different form. That one is quite unpleasant. I've only filed it once."

"What happens on that one?"

"The credits go back. There's a meeting."

"I'd rather have the meeting."

Oskar gave this the same seriousness he gave everything. "There isn't a box for that," he said.

Under the canvas cuff of her jacket, the band on her wrist still showed its green outline. She had checked it on the shore at dawn, again on the walk back along the sand, and twice since, and each time she had expected to find it gray. When she asked Biscuit for the runway count, he said nine months and ten days in the voice he used for the lake temperature.

"Ledger hour is Friday at noon," Oskar said, closing the folder. "Founders' Hall. It's customary to attend, but it isn't required. Nothing in here is required."

"Then why is it laminated?"

He looked past her at the slip, where water slapped the boards and a few gray flakes still turned in the eddy by the ladder. "Things get wet," he said.

* * *

Iron hooks still hung from the oak beams where the hoists used to be. At noon on Friday the twenty-ninth, light fell through the high windows in long dusty bars across two hundred or so people on the benches, most of them eating lunch out of paper. Nell sat near the back between Oskar and her father. Tomas

had brought rye and a jar of pickled beans, and he passed the beans down the row until a woman in a white cuff took three and passed them back.

The reader stood at a plain lectern under the biggest beam. She was a gray-haired woman in a gray cardigan with a Platinum cuff, and before each entry she pressed a brass key set into the lectern. Its soft clack reached all the way to the doors.

"CFL-2089-0377," she read. "Red Furrow. Perchlorate-reducing soil consortium, Jezero Station agricultural annex, Mars. Consortium failed to establish in regolith at station temperatures after four years and nine field trials. Lead, Okonkwo-Hale, T. Full genomes and field data released."

The entry lit the wall behind her, and a small counter beneath it began to turn. The hall applauded. Then the team lead appeared on the wall, recorded eleven minutes earlier because of the distance: a woman in a station fleece standing in front of a row of empty trays. She bowed, and Founders' Hall clapped for the bow, which she would see in another eleven minutes. When the clapping stopped, the counter under Red Furrow read 1,206.

"Who's downloading it?" Nell said.

"Everyone who's going to try the next one," said Oskar.

Second came the vineyard in Bray, a frost-mesh canopy that had held for two winters and torn in the third. Third was a paving compound meant to absorb road noise that had absorbed rain instead. Each got its applause, and each counter turned.

"CFL-2089-0398. Lowmarket to Calder Reach cross-river feeder link. Sponsor, Valk, I., Grand Architect." The reader looked up over her glasses. "Ridership over three years at nine percent of projection. Corridor and pads returned to the general lanes. Ridership models released."

A woman stood up near the front. She was small and gray-haired, her cuff was gold, and she was holding a sandwich, which she raised slightly to the room and did not put down. The applause went on longer than it had for the soil, and Nell could not decide whether it was for the link or the sandwich.

"I read about that one," Tomas said quietly. "She paid for most of it herself."

"Then what are they clapping for?"

"She told them how it went wrong. In some detail. There were charts."

The fifth entry was a fish ladder. Then the key clacked again and the reader went on: "CFL-2089-0412. Driftstone. Varga, N., Wickham Shore. Prototype

floating deck, grown composite, twenty meters by twelve. Lost under observed Class Three storm test on the twenty-second of April. Observer, Adeyemi-Lund, R. Observer's note: The healing record should be read alongside the structural record. Full telemetry released."

The applause came from every direction at once. Tomas clapped with his hands raised near his chin, the way he did at the end of his own shows when the benches were slow to start. Somebody behind Nell said, "That's the mushroom one," and somebody else said, "Good." Across the aisle a man was already tilting his cuff out of the window light, and after a moment she saw that he was looking at her strain array, sixty-four squares of green, amber and red. He was scrolling through her worst night over lunch.

She looked at her own wrist. The outline was green and steady. It did not dim, flicker or narrow. It was the same plain light it had been on the porch the night she switched it on.

The key clacked. "CFL-2089-0415," said the reader, and the hall turned to a school in Bray that had tried to teach violin through vibrations in the floor, and clapped for that too.

* * *

Nell stayed in Bay 9 after that.

Teo messaged on Saturday, Monday and Tuesday. One was a picture of the Thimble with nobody on it, one was a picture of a green door with a brass fish for a knocker, and one said only *Thursday?* Her mother wrote *Soup on the porch* and the next day *Soup on the porch is now soup in the fridge.* Sabine sent *Read 0412. — S.* Lucan Brandt sent something long that began *My dear Nell* and that she did not open. Harriet's came late on Tuesday: *Twenty minutes. Thursday 12:40. H.* Nell answered none of them.

The three hundred gulls waited in their racks with their amber rings lit and their hoppers empty. On the hour, every hour, Twenty-Three logged a line to the bench screen: UNIT 23: IDLE 61 H. REQUEST TASK. Then IDLE 62 H. Then IDLE 63 H. Nell scraped hoppers that were already clean and recoiled lines she had coiled the day before. She slept on the cot under the window and ate the rye Tomas had left on Friday until it was too hard to bite, and then she soaked it in the slip water and ate it anyway, which tasted of lake.

On Wednesday night the racks ran a float calibration she had scheduled in March and forgotten to cancel. One after another the gulls slid down the ramp into the slip, idled for sixty seconds and climbed back up. Seventeen went last. It sat on the black water with its eight lights on, drifting left at four degrees a meter as it always had, past the ladder and the foot of the ramp toward the slip door, which she had left open a hand's width for air. Its rim bumped the frame. It turned, found the gap and went through.

From the cot, she watched its ring of lights move out onto the dark lake, small and bending left, until she could no longer tell it from the porch lights on the far shore. The recall was one word to her cuff, and she did not say it.

* * *

At seven on Thursday the salvage barge came across from Calder: a flat orange hull with a crane folded along its back and two yellow submersibles in cradles on deck. It anchored over the place where the north buoy had been. Nell watched from the end of the pier with her jacket zipped to the chin. On the sand beyond the Halvorsen dock lay the bench section, the four meters by three that had come ashore by itself. Somebody, probably Halvorsen, had dragged it above the waterline and propped one corner on a log so it would drain.

The release feed was public, and she had it open on her cuff. As the first submersible went down, a depth figure ticked up in the corner: 3.0, 5.6, 7.4, and at 8.1 it stopped. The readout went grainy and brown, and a lamp came on over a slope of gray she knew. Cell walls, silt in the corners of the honeycomb, a frond of weed lying flat across the surface.

She had been four, on the porch, holding a spoon. She remembered the spoon better than the question, which she had asked Biscuit because the lake in the evening looked as if it went down a long way. He had told her yes, it had a bottom. She had asked how he knew. He said someone had measured it. She had asked who.

"You asked whether, if it didn't have one, things would just keep going down," Biscuit said now, quietly, from her wrist. "I told you the deepest part was off the north shore and that I would show you the chart. You said you would rather see it."

"Did I?"

"You were four. You see a great deal of things at four."

On the feed, lift bags opened like orange pillows under the slab's edge. The surface over the barge began to boil, and the larger half of Shore One came up into the morning streaming water from every cell, its underside furred green and brown, the torn northeast line hanging from one corner in a frayed brush of basalt fiber. The crane swung it over the barge deck. Even from the pier she could smell it once the wind came round: lake mud first, then wet stone, and under both of them, faintly, the bread smell of Ilse's Gray.

Later the barge came alongside the pier to take a line. A woman in an orange coat leaned over the rail with something under one arm.

"This yours? It was nosing round the north buoy at six this morning. Going in circles. Always to the left."

Nell took Seventeen. Its amber ring was down to one light, and it chirped twice in her hands, the low-charge chirp.

"I know," she told it. "I know."

* * *

"I moved a lunch," Harriet said at 12:40, without getting up from her desk. "Sit. You've got mud on your sleeve."

Her office on Floor 140 was smaller than Nell had pictured, with one window that framed Calder Reach and a slice of the lake. Reading glasses hung on a cord against Harriet's sweater. She didn't ask how Nell was. She turned the wall screen toward the chair and opened an entry.

CFL-2069-0063. TENDON-GLIDE SLEEVE, FLEXOR. OSEI, H. FAILED BENCH TRIALS. FULL DESIGN AND TEST DATA RELEASED. Below that, in smaller type: CITED BY 40.

"Twenty years ago," Harriet said. "Four years of my life. It was meant to let a tendon glide in a sheath that had stopped letting it. Violinists, mostly, and a few potters. The sleeve was beautiful. In every rig it ran like silk for a month."

"And then?"

"Then it pulled loose at the anchor. Every rig, every time." She tapped the desk with one long finger. "Tendons almost never give in the middle. They give where they go into bone. Soft goes into hard, and all the load comes to that one place. I knew that. Everyone knows it. I made the anchor stronger, and it pulled out faster."

Nell looked at the forty. "And they clapped."

"They clapped. A man stood up afterward and shook my hand and said he'd use my glide data. I wanted somebody to tell me it had been stupid." She took off her glasses. "Nobody did. I went back down to the ward and did three hands that afternoon, and I was rude to a nurse, and I had to apologize on Monday."

"It should have cost you something."

"It cost me four years. It cost you a deck and most of a winter." Harriet leaned back. "You keep wanting the ledger to be a court. It's how the State tells you it expected you to try. That's all it is. They paid for an attempt and got one, and now they want the data, and they'd like you to have lunch."

"Was it stupid? Yours?"

"Parts." Harriet nearly smiled. "The glide was good. Three of those forty work. I put one of them in a cellist on Tuesdays."

Dami Okafor put his head round the door. "Two minutes."

"Go home," Harriet said to Nell, standing up. "Your mother rang Dami twice this week. She asked whether I knew where you were sleeping. I said I assumed it was somewhere damp."

* * *

On Saturday the Allotment had straw bales set in a horseshoe by the share table, and the children's beds were trampled at the edges where forty-odd children had arrived early. Nell came in the back way and stood in the doorway of the mushroom shed, among the hanging bags of Gray in their dim, mushroom-smelling dark. From there she could see everything.

Tomas had stretched a sheet of blue cloth between two bean poles, and two children held its lower corners. The first thing he did was teach them to make waves: small ones, then middle ones, then, he said, "the kind your mother tells you to stop making." Above the cloth a dozen paper gulls hung from a wooden crossbar on threads, so that a tilt of his hand moved them as a flock. Each had a dot of yellow paint on its rim.

Professor Gill came out from behind the cloth, long-necked and disapproving.

"The edge of this lake," said the Professor, "has been mine since before your parents were eggs."

"Some of them were," said a boy on the front bale.

"Ignore him," said Clerk Badger, appearing with a clipboard. "Form 9-B. Puddle, Small. The Professor has filed it in error. This is a lake."

The gulls went to work. Tomas tilted the bar and they dipped together over a paper deck that floated on the cloth, adding a scrap here and a scrap there, chirping in his gull voice, which was a high squeak that made the youngest children shriek. Then he reached down and lifted a square of tin sheet and shook it, and it made thunder. The two children at the corners understood what was wanted and shook the cloth until it heaved. The gulls tumbled on their threads. Through a slit in the cloth, Tomas pulled the paper deck down out of sight.

The horseshoe went quiet. A girl in the second row said, "Oh."

From the shed doorway Nell watched her father let the silence run for longer than she would have. Then Clerk Badger rose again with his clipboard.

"Form 9-D," said Badger. "Storm, Large. Concluded."

"Where did their island go?" said the girl.

"Bottom of the lake," said the frog, popping up at the end of the bar, in a voice that was not quite Nell's and not quite anyone's. It was too deep in the throat. Tomas had never got the frog right. "It's eight meters. I've been. Very muddy."

"Then what do they do now?" said the girl.

The crossbar tilted. The gulls lifted together off the cloth and turned in the air in a slow loop, and, one at a time, chirping, they started again: a scrap here, a scrap there, on the bare blue water. The children cheered so loudly that a pigeon went up off the greenhouse roof. Professor Gill put his long head in his wings, and Badger made a note on the clipboard.

Ilse was beside her in the shed doorway. Nell had not heard her come in.

"He wrote it Tuesday," Ilse said. "He made me listen to the thunder eleven times."

"Did they sink in the first draft too?"

"Yes." Ilse took a pair of gloves off a nail and pulled them on. "Your April trays in the greenhouse need turning. I'm not turning them."

* * *

Nell turned the trays at dusk. They smelled of almond, every one. Then she walked back to Bay 9, plugged Seventeen into the end of the rack and finally opened her own entry on the bench screen.

The release package ran to forty files. She skipped the summary and opened the raw array: sixty-four strain squares laid over the outline of Shore One, with the thermal layer on top and the clock at the bottom, starting at ten to six on the morning of the twenty-second. She let it run at sixty times speed.

Cracks showed on the thermal layer as thin dark lines where cold lake water pushed into the cells, and healing showed as the dark going pale and then white as the mycelium closed over it. At 6:10 the first one opened near the bench and had closed by 6:31. Then they came faster, all over the deck: two, five, a cluster along the west edge where the swell came in at an angle. Each one went dark, then pale, then white. She paused at nine o'clock and counted fourteen, the number of Teo's grease strokes on the glass at that hour, and all fourteen had closed or were closing.

At the bottom of the screen the crack log gave the total: 206 logged before 20:14. In the next column, closed before the northeast lug let go, the figure was 198.

She filtered for the eight.

They lay at the four corners, every one within a meter and a half of a mooring lug. None were anywhere else. She opened the northeast corner by itself and slowed it down, and watched the seam beside the lug open on a swell, go pale, start to whiten, and open again on the next swell before it could finish. Open, pale, open. The counter beside it said it had reopened a hundred and thirteen times before 20:14, when the lug let go. The other three corners showed the same pattern, only slower. The southwest lug had reopened thirty-one times.

Everywhere the deck could bend, it had healed. It had failed only at the four places where she had bolted it rigidly to the bottom of the lake, and she had made those lugs thicker twice since August, on purpose, because Ruth had told her they were amateur.

"Soft goes into hard," Harriet had said, "and all the load comes to that one place."

Nell sat back on the stool. Down the rack, Seventeen's single amber light became two, then three as it charged, and Twenty-Three logged that it had now been idle for a hundred and fifty-six hours.

She opened her notes and scrolled down past the cold-water tables and the cell counts to a file she had never saved properly, one that had lived in her drafts since the afternoon at the wave basin in August. The title was MOORINGS. The first line was a name she had typed in capitals without asking: S. BRANDT, HELICAL ANCHOR SPECIFICATION. Under it, four numbers she had copied and then stopped. She opened Sabine's public file beside it: four anchors, torque within two percent, and a northeast anchor that had held at forty-six kilonewtons in the same storm, eleven kilometers south, off the old grain quay at Calder Reach.

This time she read it all the way to the end.

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CHAPTER 16

Syndicate

Nell had the saw two-thirds of the way through the bench section when the blade crossed an old seam and its note dropped. Healed growth ran whiter and denser than the first printing, and it cut more slowly, giving off a warm smell like the back step of a bakery. She let the blade find its speed again. When the coupon came free in her glove it was the size of a brick and gray as the deck had been, and a white line ran across one face where the deck had cracked in the storm and closed before it went down.

"That one healed," somebody said behind her.

Sabine Brandt was sitting on the empty crate beside the charging rack, the long one the first forty-eight gulls had arrived in, with a tablet across her knees, chewing licorice root. Nell had not heard her come in. Every morning the slip door stood open to the lake for the calibration laps, and the light came in low and gray across the ramp.

"It's Saturday," Nell said. "It's seven in the morning."

"Ten past. Your door was open."

"For the gulls."

"I knocked on the other one first. Your machine said you were busy." Sabine tipped her head toward the rack, where Twenty-Three's ring showed one amber light and the word IDLE. "It also said it has been idle for three hundred and thirteen hours and would like that noted."

"It's been noted." Nell lowered the coupon into the cold tank beside the other two and wrote 3 on the lid in grease pencil. Sabine's message had come the day after the ledger hour, between Lucan's and Harriet's, and it had said, in full, *Read 0412. — S.* Nell had read it several times and not answered.

"You can say it," Nell said. "Lattice held."

"Lattice held." Sabine stood and brought the tablet over, stepping around a coil of basalt line. "Forty-six kilonewtons at the northeast anchor and not a millimeter of creep. I'd like that on my wall someday. The anchors are the best thing I've ever made." She turned the screen toward Nell. "This is the next best thing I've made."

It was a close photograph of a steel joint. The weld bead lay gray and rippled where two members met, and along the toe of the bead, where the weld metal thinned into the plate, a line of rust-colored powder had gathered in a crack finer than a hair.

"Magnetic particle," Sabine said. "You dust it on and run a field through the joint, and the powder piles up wherever the steel has opened. Ninety-six weld nodes across four modules. At the April inspection I had four like that. After your storm I had twenty-two." She swiped. In the next picture, the glass deck had been lifted off its frame, and around each bolt where the stainless frame met the carbon-steel member there was a ring of small pits like a pricked crust. "Two metals in water make a battery. I knew that. I insulated them, and the insulation is fine. The bolts aren't."

"Freshwater, though."

"Freshwater slows it down. It doesn't stop it." She swiped again, and the screen showed two lines on a grid. The lower one ran flat across the bottom, labeled CIVIC EQUITY 3%. The upper one began below it, climbed, crossed it a little past the middle, and kept climbing. "That's maintenance per module per year, against what the platform returns to the commons. They cross at month fourteen. After month fourteen, every module I float costs the baseline more to keep up than it gives back, and it never comes back under."

Nell held the tablet with both hands. Somewhere behind her a gull finished its lap and bumped the bottom of the ramp, chirped once, and turned for another.

"You'd be swapping modules forever," she said.

"Every five weeks per module. Four hours a swap, crew of three, one barge. That's the number I gave the hall, and it's still a good number, and I'd be standing on a barge saying it until I was fifty." Sabine took the tablet back. "I'm winding Lattice down. Full data release. It goes into the ledger like yours did."

"I'm sorry," Nell said, and heard how small it was.

"Don't be. It's a good entry. Someone will want to know exactly how a weld toe cracks at three-second swell." Sabine put the licorice root back in her mouth and spoke around it. "I want to syndicate behind driftstone. My anchors under your deck. My money as the match against the public tranche, so the round doesn't have to carry it alone. You print, I hold it down."

From the rack, Twenty-Three said, "Idle," to no one in particular.

Nell turned and went down the ramp.

* * *

At its foot the slip was ankle-deep over printed grip ridges, and twelve gulls were running the morning calibration in a long oval, their amber rims bright against the gray water. Nell waded in with the recall wand and began bringing them in by twos. Sabine followed her down without being asked, in deck boots that were not meant for it, and stood in the water with her jacket sleeves pushed up. A gull nosed her ankle, turned away and came back to try again.

"It's mine," Nell said.

"I know it's yours."

"It's my mother's strain. I grew the first trays in her greenhouse. I printed every cell on that deck, three hundred machines and me, all winter."

"I was there for some of the winter. I watched you do it."

"You watched from Heron Point."

"I watched from Heron Point," Sabine said, "with a telescope my father bought for watching his own dock, so yes." She stepped aside to let Fifty-Two past. "And then the deck went down because the lugs pulled out, and the lugs pulled out because Ruth called them amateur in the basin last August and you didn't book the pit."

Nell recalled two more and set them on the ramp. Their paddle feet kept turning for a moment in the air.

"So I fix the lugs," she said.

"With what?" Sabine said. "You copied my spec into a file the same afternoon. I watched you do that too. You were very quick about it. Then you didn't open it for nine months."

"I opened it last Saturday."

"And?"

The honest answer was that Nell had read the whole specification twice, at dusk, with the strain data still up on the other screen, and had understood that a helical anchor torqued within two percent was a thing she could not print, could not grow, and could not teach a gull to set into eight meters of lake clay. She had closed the file and gone to sleep in the bay with her jacket for a pillow.

"It's good," she said.

"It's very good." Sabine bent and picked up a gull that had wedged itself against her boot, turned it over, looked at its feet, and set it down facing the right way. "Do you know what everyone said to me after the basin? After the swell, after forty-one kilonewtons, after two percent? Ines in the booth said, 'Lovely steel, your father must be pleased.' A man from the harbor board asked whether the glass was the same glass they used at Heron Point. Somebody at pitch night asked me who my structural engineer was. I was my structural engineer."

"People asked me whether my mother minded about the mushrooms."

"That's charming. That's a story. Nobody minds that you're the girl with the clever mushroom." Sabine straightened. "They mind that I'm the heir with the nice platform."

"At least your platform's still floating," Nell said.

She had meant it to be dry, and it came out otherwise. The gulls circled. Out past the slip door, the lake was flat and pale all the way to the far shore, and the yellow buoys of the test zone sat in their rectangle with nothing between them.

"They clapped at the ledger hour," Nell said. "Two hundred and six cracks, a hundred and ninety-eight of them closed, and the whole hall clapped. The counter went up. A man in the back row stood. And then everyone went out for lunch, and the deck was still on the bottom of the lake, and I was still the one with the material that heals and nothing to tie it to."

Sabine said nothing for a while. A gull bumped her ankle, then Nell's, then hers again.

"I wanted to do it alone," Nell said, and then, because that sounded like the start of something she did not intend to finish, she held up the recall wand and

brought in the last four at once. They lined up on the ramp like dinner plates on a drying rack.

"I have to be at the share table at nine," she said. "I told my mother I would."

"Then I'm coming to the share table."

"It's for people with beds."

"I'll bring something." Sabine looked down at herself, at the wet boots and the jacket and her empty hands. "I'll find something to bring."

* * *

She brought a sack of licorice root, which was what she had in her bag, and set it on the end of the trestle between Mrs. Kaur's seedlings and the rye loaves. Ilse looked at it, and at the gray cuff on Sabine's wrist, plain and unrimmed, and at Nell's wet trouser legs, and handed Sabine a bunch of radishes with the soil still on them.

"Wash them in the trough," Ilse said. "The water's from the roof."

The Allotment smelled of turned earth and the first cut of chives. Children were weeding the children's beds with more enthusiasm than accuracy, and Wendell Ames, who took nothing from the share table and never had, was walking the rows with his hands behind his back reading the bed labels. At the far end of the trestle Tomas sat on an upturned crate with a bench leg between his knees and a sanding block in his hand, wearing the big red ear defenders from the theater workshop.

"I'm not here," he said loudly as they came up. "I'm sanding."

"He's been sanding that leg since seven," Ilse said.

"It's a very long leg."

Sabine washed the radishes and came back with them dripping, and Ilse tore a rye loaf into three pieces and put the butter crock between them and sat down on the bench as though the matter were settled, though nobody had said what the matter was. Nell ate a radish. It was cold from the trough and so sharp it cleared her head.

"We're going to write it down," Sabine said. "Before either of us changes her mind."

"There's paper in the shed," Ilse said.

The paper in the shed was the Allotment's planting forms, which Ilse had printed on actual paper because the children liked to draw on the backs. Nell

brought out a stack and the carpenter's pencil Ilse used for tray labels, and turned the top sheet over. On the front, in Ilse's square capitals, it said BED 114 — BEANS, RUNNER — DO NOT WATER LEAVES. On the back someone had drawn a horse with six legs.

Nell wrote along the top, above the horse: TERMS.

"Name first," Sabine said. "Not Brandt anything."

"Not Varga anything."

"Driftstone's the material. You can't call a company after its glue."

"It isn't glue."

"I know it isn't glue."

At the end of the table Tomas lifted one cup of the ear defenders an inch, appeared to listen, and lowered it again.

Ilse was looking past them down the slope of Pell Street, where between two ridged ochre roofs a slice of the lake showed, pale and flat. "Whose lake is it," she said, not quite as a question.

"Marrow," Nell said.

Sabine took the pencil out of Nell's hand and wrote LAKE MARROW SHORE WORKS under TERMS, then looked at it, crossed out LAKE, and handed the pencil back.

"Marrow Shore Works," Nell said aloud, to hear it. It sounded like a place that already existed, a shed on a quay with a sign. She wrote *1.* underneath and then, before she could think about it, *Varga 60 / Brandt 40.*

Sabine looked at the line for a long moment and did not say anything at all. She ate a piece of bread. Out in the beds a child was explaining to another child, at length, that worms had five hearts.

Nell crossed out 60 and wrote 50 above it, and crossed out 40 and wrote 50 above that, and the pencil was soft enough that the new numbers came out darker than the old ones.

"Equal partners," Sabine said.

"Equal partners."

"Two. Civic Equity." Sabine pulled the paper toward her. "You declared fifteen. The template's three. I'd like to see fifteen run against a maintenance line before I sign it."

"There isn't a maintenance line. It heals."

"There's always a maintenance line. Show me yours."

So Nell showed her, on the back of BED 115 — SQUASH, WINTER, using the strain numbers she knew by heart: a hundred and ninety-eight of two hundred and six cracks closed under storm load at six degrees, the cost of a heat mat and a roll of film for the cold months, the cost of slurry for patching what the mycelium could not reach. Sabine checked her arithmetic twice, the second time by redoing it from the other end, and then sat back.

"Fifteen holds," she said. "Fifteen holds with room." She tapped the pencil against the squash. "Lattice couldn't afford three."

"Write fifteen, then."

Sabine wrote *2. Civic Equity held at 15% of output to public commons,* in small exact letters, and underlined *held.*

"Three," she said. "My capital goes in as the syndicate match. Registered as a deployment. And it counts toward my standing." She wrote it out. Then she looked up. "I want that line on the paper."

"It counts anyway. That's the rule. You deploy, you pay the levy, it counts."

"I know the rule."

"Then why does it need writing?"

The bench leg at the end of the table had gone quiet. Tomas was holding the sanding block still and studying the grain with great attention.

"Because I want to have asked for it," Sabine said. "I've had a gray cuff for five years. My father's is violet. When I walk into a room people look at mine and then they look at the door to see if he's coming in behind me. I'm not going to sit at your mother's table and pretend I'm doing this for the lake." She put the pencil down. "I like the lake. The badge matters to me. That's the line."

Nell picked up a radish and turned it over. A thread of root hung from it with a crumb of soil at the end.

"I wanted to do the whole thing by myself," she said. "I filed at two minutes to midnight so I wouldn't have to take a match from anybody. I'd rather the deck had gone down with my name on it alone than stayed up with two." She ate the radish. "That's not on the paper."

"No," Sabine said. "It doesn't need to be."

Neither of them said anything after that. Ilse buttered another piece of bread, looked at it, and handed it to Sabine.

Tomas lifted both cups of the ear defenders and settled them around his neck. "Did anyone apologize?" he said. "I'd hate to have missed it."

"No," Ilse said.

"Good. It saves paper." He went back to the leg.

"Four," Nell said, and wrote it before Sabine could reach for the pencil. *4. First build in Wickham public, open to all, no patron name.*

Sabine read it upside down. Her mouth moved around the licorice root, and for a moment Nell thought she was going to say something about her father. Instead she said, "Fine," and then, "Yes. Write it in pen when we file."

They signed it with the carpenter's pencil, one under the other, on the back of BED 114. Ilse took the sheet, looked at both signatures and then at the six-legged horse, and handed it back to Nell.

"The beans want watering," she said. "Not on the leaves."

* * *

Oskar Lindqvist came to Bay 9 on Monday at nine with his laminated folder under his arm and an expression Nell had last seen on him when the water-rights form came back approved. He laid the folder open on the bench beside the cold tank and turned it to face them.

"Form 31-S," he said. "Syndication, Equal Partnership, Resubmission With Prior Review. There is a box," and he touched it with one finger as though it might be warm, "for citing a ledger entry. I have never filled in this box. Nobody in my office has filled in this box for a venture they managed."

"Is that good?" Sabine said.

"It's in the template," Oskar said. "It's always been in the template." He gave them each a pen.

Nell copied the four terms off the planting form onto the screen in the order they had written them. Sabine entered the match. Under PRIOR LEDGER ENTRIES, Nell typed CFL-2089-0412, and Sabine, after a moment, typed the number the Hall had assigned her on Friday morning, CFL-2089-0457. When Oskar asked whether either of them wished to declare a patron name for any structure, they both said no at once, and he ticked the box with visible satisfaction.

The summer round's review ran eleven days. It was shorter than the autumn's because most of the reviewers had read Driftstone before. Nell read the comments at night in the bay with the rack ticking behind her.

Ruth Adeyemi-Lund, ×3.2, wrote: *CFL-2089-0412 contains the best cold-water self-repair data I have seen on any floating structure. 198 of 206 fractures closed under Class III load at 6.1 °C. The material was not the failure. The moorings were. This syndicate addresses the moorings with a proven anchor (see CFL-2089-0457, anchor performance section, 46 kN, no creep). The connection between deck and anchor remains unproven. Certification condition stands, observed by me.*

Dr. Benedikt Auer, Diamond, ×3.6, wrote three lines about the healing rate in the northeast quadrant compared with the southwest, and ended: *Strain provenance answered in the public record. Thank you.*

The harbor master at Calder Reach, ×2.9, wrote: *Read both entries side by side. Steel holds, cells heal. Sensible.*

Paulus Vey, ×2.2, wrote only: *Fifteen held. Noted.*

Below the entry number on Driftstone's portal page, a small counter Nell had not looked at since the ledger hour read CITED BY 9.

On Friday they went to Founders' Hall together at noon and sat on the oak benches under the beams while the reader worked down the week's entries. Lattice came fourth. The reader read the summary in full, the ninety-six nodes, the twenty-two cracked weld toes, the pitting at the bolts, the month-fourteen crossing, and then the last line Sabine had written for it, *Anchor design released without restriction*. The hall applauded. Sabine sat with her hands flat on her knees and watched the counter beside the lectern climb, and did not move until it stopped.

The network vote opened that evening for seventy-two hours. By the next afternoon the tally had crossed the funding line, but the window stayed open for the full three days, as it always did, so that anyone who had not yet read the entries had time to read them.

* * *

On Monday evening Nell was in the slip with Sabine, ankle-deep, running a laboring gull through foot-pressure trials, when her cuff chimed and Sabine's chimed half a second after it.

MARROW SHORE WORKS — SUMMER ROUND — FUNDED, the screen said. TRANCHE ONE RELEASED: ONE PROTOTYPE DECK. SYNDICATE MATCH REGISTERED: BRANDT, S. TRANCHE TWO

CONDITIONAL: CLASS III STORM CERTIFICATION, OBSERVER ADEYEMI-LUND, R.

Sabine held her wrist up to the light from the slip door. Under the gray-blue band, in the small type a Thrive cuff used for lifetime figures, a new line had appeared: DEPLOYED (SYNDICATE): MARROW SHORE WORKS. The band itself had not changed color. She looked at it a while longer than Nell had expected and then lowered her arm.

"It's a line," she said.

"It's a line," Nell said.

Biscuit spoke from the bench. "Eight months and twenty-one days remain on your license," he said, in Warm Formal. "I mention it only because you asked me last week to stop mentioning it, and I find I can't."

Out on the water the calibration oval was still running, twelve amber rims in a loop. One of them broke from it, as one of them always did, and came across the slip on a long slow curve to port, four degrees to the meter. It had a green stripe on its rim and a rear left foot that had once belonged to Twenty-Nine. It came straight past Nell's legs, adjusted for nothing, and bumped into Sabine's ankle, and stayed there with its paddles churning against her boot.

Sabine looked down at it.

"Seventeen," Nell said.

"It voted against us," Sabine said. "Somebody always does. That's the dissenting vote."

Nell started to laugh and found she couldn't stop, and Sabine was laughing too, with the licorice root in her hand and her boots full of lake water. Seventeen went on pushing at her ankle, steady and patient, as if it had somewhere further left to go.

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CHAPTER 17

Lucan's Name

The gate at Heron Point said Sabine's name before either of them had touched it.

"Welcome home, Sabine," it said, from somewhere inside the left post, in a voice pitched for a child who had once needed a gate to be friendly. It was cedar on brass hinges, wide enough for a delivery pod, and it did not open. "It has been three hundred and sixty-one days."

Sabine took the licorice root out of her mouth. "It counts."

"Everything here counts," Nell said.

"The gate counts. The dock counts depth. Marit counts the spoons, but that's a separate system." She put the root back and looked down the gravel drive toward the house, where the cedar had gone silver on the weather side and stayed honey-colored under the eaves. In March the Lattice modules had gone out from the long dock on a Brandt Lanes barge. Sabine had stood on the barge for the whole loading and not come ashore; she had told Nell this at the share table, as one figure among several, between the weld-toe count and the price of zinc.

"Shall I let your father know you've arrived?" the gate asked.

"He knows. He's been at the kitchen window since we came off Shore Road."

Nell looked. Beyond the lawn, behind one of the tall panes, something pale moved and then stopped moving, as a person does who has decided he would rather be caught standing still.

The gate opened. Its hinges made no sound at all, which Nell found she disliked, though she could not have said why. They walked down the gravel together, Nell in her canvas jacket with the driftstone puck knocking against her hip, Sabine with her hands in her jacket pockets, the drive crunching under their boots in two different rhythms. Cut grass and lake and something baking reached them on the June wind. Below the lawn the long dock ran out into Lake Marrow, three hundred and forty meters of frontage on either side of it, the water so flat that the dock and its reflection made one long gray stitch.

Lucan came down the front steps to meet them. He wore a linen suit the color of oatmeal and no shoes, and he stopped on the bottom step, so that for once he was not much taller than his daughter.

"You came," he said.

"Nell came," Sabine said. "I'm syndicated."

His laugh went out across the lawn and came back off the boathouse. "Then I'll take what the syndicate sends." He turned to Nell with his hand out. "How is the one that goes left? Seventeen. Is it still going left?"

"Four degrees a meter," Nell said.

"You never fixed it."

"I gave it the rims."

"You gave it the rims." He held on to her hand a moment longer than a handshake needed, as if the answer had pleased him and he wanted to keep hold of it. "Come in. Marit has made something cold and she'll be offended if it gets warm."

* * *

The Allocation Room faced the lake. Its long wall held the cut capitals Nell had seen in September, filled dark in pale cedar, each with its place and year: the fusion node in Bray, the children's wing at the Calder Science Museum, four thousand youth sponsorships from 2071 to the present. Below the last of them the planed cedar ran bare to the floor. It had been empty in September too. Nell had assumed then that it was waiting for something, and she still did not know what.

Across the table lay a roll of paper. Marit set down three bowls of cucumber soup and a board of dark rye on the end that wasn't covered, looked at the paper, looked at Lucan, and left without comment.

"Hold that end," Lucan said, and Nell held it while he walked the roll down the table. It kept going. When he reached the far edge he stood holding the other end against the wood with both palms, four meters away, grinning at her over the drawing.

It was Calder Reach. Nell knew it from the lake wall, where she had stood with Teo in November at dusk; the public wall ended at a chain-link fence, and on the other side of the fence the Reach began: two kilometers of old quay, sheet piling and concrete, the grain silos with their rows of round mouths, the rusted gantry rails running nowhere, the canal mouth, the old grain quay where Sabine's four modules still rode on their anchors. Someone had drawn all of it in pencil, by hand, at one to five hundred: every bollard and ladder, the stains on the silos, a heron standing on a mooring post. Along the length of the quay wall ran a band of soft gray shading, twelve meters wide at scale, with small honeycomb cells sketched in at intervals so that the eye knew what it was made of.

At the near end, where the fence was now, someone had lettered in square architect's capitals: BRANDT WATERFRONT.

"Ottilie drew it," Lucan said. "She did the house. I asked her to put the name on so you'd know exactly what I was asking for. I didn't want to slide it in at the end."

Sabine had not sat down. She was reading the drawing from the canal mouth backward, chewing the root.

"Twelve meters by two kilometers," she said. "Twenty-four thousand square meters. Shore One was two hundred and forty."

"A hundred of them," Lucan said. "I like a round number."

"Shore One sank."

"I know it did. I've read the ledger entry three times." He let go of his end and the paper curled up toward the drawing of the silos. He came back along the table, flattening it as he went. "Oh-four-one-two. The northeast lug reopened a hundred and thirteen times before it let go. Is that right? A hundred and thirteen?"

"That's right," Nell said.

"What does that look like? On the array. Does it flicker, or does it just stay red?"

She told him. She hadn't meant to; she had come to listen and be careful. But he wanted to know whether the mycelium knitted the lug from the inside out or from the surface in, and whether it knitted faster the second time, and she found herself with the puck out of her pocket, turning it under the window light to show him the seam from April of last year, so faint now that he had to put his face close to find it. He asked whether the gulls could print a lug three times as thick, and she said they could print anything; the trouble was what the lug was tied to. Sabine, still standing, said, "Which is where I come in," and he said, "Yes, I'd gathered," and looked at his daughter for a moment longer than he needed to.

"The harbor board has had the Reach on its list for nine years," he said. "The wall's sound. The silos are listed, they can't come down and nobody wants them down. It's fenced because there's nothing to stand on except concrete with a three-meter drop into eight meters of water. I have this year's levy to place. I'd put it here. The board reviews it, the network reviews it, Ruth Adeyemi-Lund looks at every mooring. I don't vote on any of it, I'm recused from marine and I'll stay recused. And nothing moves until Ruth signs your certification. If she doesn't sign, I don't either."

"It would be the largest commission the venture has," Nell said.

"It would be the largest commission anybody's had for mushrooms." He smiled at the drawing. "That's the offer. My name on it, where people walk."

Sabine took the root out of her mouth.

"You couldn't syndicate my round," she said, "so you're syndicating my partner."

"I'm commissioning a promenade."

"With your name on it."

"With my name on it. I'm told it's also yours."

"I didn't choose it."

"Neither did I, and I've done all right with it." He spread his hands over the silos. "Sabine. There's a fence there now."

"Everyone at Founders' Hall is going to read *Brandt Waterfront* and think —"

"They'll think there's a waterfront," Lucan said. "In Calder Reach. Where there is currently a fence."

"They'll think I'm your project."

"You're not my project. You've made that very clear for three hundred and sixty-one days. The gate has the figure."

Nell stood up.

"I'm going to look at your dock," she said.

"Look at all of it," said Lucan, without taking his eyes off his daughter. "Count the planks. Ottilie chose them."

* * *

The dock was cedar like the house, its boards fitted so close that she could not get a fingernail between them. She walked out to the end. It took a long time, and the lake on either side of her was so clear that she could see the shadows of the dock's pilings lying across the stones on the bottom, and then the stones went green and then dark and then she could not see them at all. On the last plank, in white marker gone almost the color of the wood, someone had written *8.2*. She crouched and touched it. The marker had sunk into the grain and would not come off.

The glass doors of the Allocation Room stood open behind her, and the lake was still, and Lucan's voice carried.

"—eleven months, and the only way I knew you were alive was the portal—"

"—you could have called—"

"I read every filing you made. Every one. The torque curve on page eleven, I read it on a shuttle and I made the man next to me look at it—"

Sabine said something Nell didn't catch. There was a pause long enough for a pod to run its low B-flat somewhere under the lawn and fade toward the gate.

"What did you think I was doing up here?" Lucan said. "I couldn't vote on marine. I could read."

After that their voices dropped below the distance. Nell heard his laugh once, short, and after a while hers, shorter.

She sat down on the end of the dock with her boots over the water. From here she could see the whole east wall of the house, the Allocation Room glass with the plaque wall shining through it, the cut letters catching the afternoon. A fusion node in Bray. She had never been to Bray. She did not know anyone

who had been to the fusion node in Bray, though she supposed the people in Bray had heat in winter and did not think about where it came from, which was what a fusion node was for. The children's wing at the science museum: she had been there at twelve on a school trip and had spent an hour at a tank where you could make a wave with a lever, and she had not looked at the name over the door. Four thousand sponsorships. Four thousand children holding licenses like hers, each one opened with a little of Lucan Brandt's levy in it, and not one of them had been told.

And under every street in Wickham the Lanes ran, carrying soup and spawn and seed trays, humming the note he had tuned them to, and everybody in town called them the Lanes and nobody said the other word.

She thought of Tomas counting two hundred and eleven laughs and calling it a large number. She thought of Ilse on the porch in July asking what Nell would want written on the plaque, and of her own answer, which had been nothing, because she had not had one. Lucan had a wall full of answers and a stretch of bare cedar at the bottom.

He had paid for thousands of things, and what he wanted was for people to walk along the water and know that he had paid for it. Nell sat with that for some time, turning the puck in her pocket.

Then she began to count on her fingers, which was how she thought best when no machine was listening.

* * *

When she came back up the lawn they were both standing at the table, on opposite sides of the drawing, and neither of them had touched the soup.

Nell looked at Sabine first.

"Can I say terms?"

"You've been out there twenty minutes with your lips moving," Sabine said. "Say them."

"Four things." Nell put her hand flat on the paper, over the canal mouth. "Your name goes on the Calder promenade. All two kilometers, at the end where the fence is now. As big as you like."

"I like big," Lucan said.

"The fifteen percent stays where it is. The Civic Equity output goes to public commons, and none of it goes to the Reach. You pay for the promenade. The commons share doesn't."

Lucan did not answer at once. He looked down the length of the drawing, from the fence to the canal mouth, and for a while the only sound in the room was the far end of the paper creaking as it tried to curl.

"Then the levy carries all of it," he said. "Build and upkeep, every year, the whole two kilometers. Nothing of yours underneath to share the load." He tapped the quay wall once with a finger. "That comes to more than the Bray node did."

Nobody said anything. His eyes went past them to the plaque wall, to the planed cedar running bare below the last line, and stayed there.

"Agreed," he said.

"The first commons in Wickham gets built by volunteers. They build it from the fifteen percent, and they name it. Not me, not Sabine, not you."

Lucan's eyebrows went up. "Which volunteers?"

"I don't know yet."

"What if they name it something terrible?"

"Then it's terrible, and they named it."

"What if they name it after me?"

"They won't," Sabine said.

"They might. People are unpredictable." But he was smiling at the silos, not at either of them. "And the fourth?"

"Marrow Shore Works keeps the process. The harbor board pays us a license for the promenade, build and upkeep, and every credit of the license fee goes into the swarm until it's big enough."

"Twelve hundred gulls," Sabine said. "That's big enough for now. After that we talk about it."

"Twelve hundred." Lucan looked at Nell. "Will they all go left?"

"One of them will."

He walked down the table to the far end of the drawing, where the canal mouth and the old grain quay were, and stood looking at the four small squares Ottilie had drawn there, each with a helical anchor sketched in beneath it in faint line.

"Sabine," he said. "Do you mind? My name on your work."

Sabine took a moment. She folded her arms over the sailing jacket.

"It's Nell's work," she said. "And mine."

"I know." He kept his eyes on the anchors. "I know it is. You had enough to sit on for forty years and be gray the whole time, and plenty of people do, and nobody would have said a word to your face. You went and put it under somebody else's deck instead." He cleared his throat. "I'm proud of that. I wanted to say it in front of somebody so you couldn't pretend I hadn't."

Sabine looked at the plaque wall.

"Put it up there," she said. "There's a line free."

"Don't think I haven't thought about it."

"Don't," she said, but not hard, and she sat down at last and picked up a spoon and tasted the soup. "It's warm," she said to nobody. "Marit's going to be furious."

* * *

Oskar came by priority pod in twenty-two minutes. Nell watched it from the window: a pale capsule nosing through the gate, the gate saying something to it, the hatch rising, and Oskar Lindqvist climbing out with his laminated folder held in front of him in both hands, the way a person carries a cake.

He was in the Allocation Room before Marit could announce him. He looked at the drawing. He looked at the plaque wall. He looked at Lucan's bare feet and decided, visibly, not to have an opinion about them.

"A named infrastructure sponsorship," he said, "with a Civic Equity rider, a license-fee dedication, and a volunteer naming clause." He opened the folder. "I've only ever seen the template. Form 31-N. I printed it at the Commons and laminated the cover sheet." He laid the cover sheet on the table beside the silos. It was still faintly warm.

"Is there a carbon?" Lucan asked.

"There's no carbon, sir. It's on your cuff." Oskar took out three more pages. "But I like to have something to file."

He read every clause aloud. Nobody hurried him. When he reached the line Nell had dictated on the dock, he read it twice, slowly, the second time with something close to reverence: "FIRST PUBLIC COMMONS IN WICKHAM SHORE TO BE CONSTRUCTED BY VOLUNTEERS FROM CIVIC EQUITY OUTPUT AND NAMED BY THEM." And when he

reached the condition, he looked up at each of them in turn. "EFFECTIVE ON CLASS III CERTIFICATION OF MARROW SHORE WORKS DECK, OBSERVED BY ADEYEMI-LUND, R. If there's no certification there's no sponsorship. You understand that."

"I wrote it," Lucan said.

"I have to ask, sir."

They tapped cuffs to the reader in Oskar's folder: violet, gray, the green outline. Then he held out a pen for his paper copy. Lucan's signature took up most of its line and part of the next one. Sabine's was small and exact. Nell wrote her name the way she wrote it on seed trays, in capitals, and got a fleck of mycelium on the page from her thumb, and Oskar regarded the fleck for a moment and decided it was part of the record.

He signed the witness line last. "Witnessed," he said, and closed the folder, and stood holding it against his chest. "I'm going to remember this one."

* * *

Sabine stayed. Marit had set two places in the kitchen without being asked, and when Nell said goodbye at the door Sabine was standing at the stove looking at a pot as if it might be an engineering problem, and Lucan was asking her how she had chosen the zinc for the bolts, and she was telling him.

Oskar offered Nell a seat in the pod. She said she would walk.

Shore Road ran west from Heron Point along the backs of the leased lots, and by the time she reached the first gate the sun had gone down behind Wickham and left the lake the color of a pewter plate. The lease plates went by at the gates, brass on posts: 2066, 2071, 2079. Down the middle of the road the delivery grooves were warm under her boots, and every so often a pod went by beneath her feet, the hum coming up through the soles first and then into the air, low B-flat, carrying somebody's dinner or somebody's spawn to somebody's step. Ahead, where Shore Road met the town, a pod nosed up out of the groove at a printed house with an ochre door, opened its little hatch, and set a box on the mat. The box sat in the porch light, and the pod went back down into the Lanes, which was all anybody ever called them.

She had named Mister Biscuit at four, for reasons she no longer had access to, and the form to rename him was still sitting on the second page of her inbox, unsigned. Ilse's Gray had been named by Nell in a tray log, because it was gray

and it was Ilse's. Marrow Shore Works had been named at the share table on the back of a planting form, after the lake, because neither of them would put her own name on it first. Shore One had been called that because it was the first one, and it lay now in two pieces, one on the slip at Bay 9 and one in eight point one meters of water, with its name in the ledger. She tried to think who had named the Thimble, and could not. Some joke from before the ordinance, she supposed, that somebody had found funny enough to say twice, until a clerk had written it down.

Where Shore Road came down to the water she stepped off the warm grooves onto the sand.

The Thimble was empty. The Halvorsen dock stood at its east end with the lift folded up, waiting for August; at the west end the old ferry pier stood on its pilings, the lights of the Maker Commons on in a few of the bays. Nell walked from the dock to the pier along the waterline, counting. Eighty-one steps. She turned around and walked back and got eighty-three, because the sand was softer going east.

Sixty meters. Two kilometers was thirty-three of them, and a bit left over.

She took off her boots and stood with her toes at the edge of the water. It was colder than the air, still well short of summer, and it came up over her feet and went back, came up and went back, moving the sand a little each time. Out past the place where the yellow buoys had been, the lake was dark, and Calder showed on the far shore as a low line of lights, and somewhere along that line, past the end of the public wall, was a fence, with a heron standing on a post beyond it. Behind her another pod went down Shore Road under the street, humming its one note, on its way to somebody's door.

Written to order at crispybooks.xyz

CHAPTER 18

Shore Two

On the second chime Harriet answered. Behind her voice a train was braking, a long falling sigh with a platform announcement folded inside it.

"Four minutes," she said. "Then Bray. Go."

On the wall of Bay 9 Nell had the strain plot from Shore One's last evening: sixty-four squares, with the northeast corner a smear of red she had looked at so often it no longer read as a color. She had rehearsed the question for most of an hour, and it came out shorter than rehearsed.

"In February, on the deck, you said something about tendons. When you were looking at the lugs. I wasn't listening."

"No," Harriet said. "You were counting gulls."

"What did you say?"

Needles clicked twice before the answer, a sound Nell knew from Floor 140. "I said tendons fail where they attach. Your lugs were fingertips with the tendon glued on. A flexor tendon runs from the forearm to the last bone of the finger, and the whole way it slides in a sheath. Five pulleys hold it to the bone, little rings of tissue. When you make a fist, every pulley takes some of the pull."

"And if one fails?"

"Bowstringing. The tendon lifts off the bone and the finger loses power. In my practice it comes from worn pulleys in old hands, and I rebuild a few a

month." A door chimed somewhere near her. "Your northeast lug reopened a hundred and thirteen times. That's one pulley carrying a whole hand."

"You read the ledger."

"Everyone reads the ledger. Mine's cited forty times; I can stand to read yours." The needles started again. "The sleeve I built in sixty-nine glued the glide surface down. That's why it failed. Let it slide, Varga. Soft goes into hard along a length. Spread it."

"How long a length?"

"That's engineering. I'm a surgeon. Bray," Harriet said, and the line closed at three minutes fifty.

* * *

Sabine arrived at nine that night with a roll of drawings under one arm and licorice root in her teeth. By eleven the whiteboard was full; by one in the morning they had wiped it twice.

What they kept looked, Nell thought, like the underside of a leaf. Cables of basalt fiber, braided and grown through with a thin skin of Ilse's Gray so they stayed flexible, ran diagonally beneath the deck in printed channels. Every meter and a half a driftstone ring held each cable against the hull, and every ring was one of Harriet's pulleys. There were sixteen cables, and they crossed one another so that a pull from any anchor travelled the whole span before it reached the far side. Their ends went down through the water to eight of Sabine's helical anchors, two to a side, screwed into the clay at eight meters.

"Tendons," Nell said, and wrote the word at the top of the board.

"Cables," Sabine said, and wrote that under it.

"They slide in sheaths. They're tendons."

"I'm not telling Ruth Adeyemi-Lund we've moored a platform with anatomy." Sabine took the marker back and drew a fat arrow at a ring. "Your cables will saw through your sheaths. Eleven hours of storm, three-second swell, that's thirteen thousand strokes per ring. You'll have sawdust."

"Then the sheath heals."

"In six hours."

"Six hours for a hairline. Abrasion is a hairline over and over."

"That," Sabine said, "is not a sentence an engineer says out loud."

They settled it the way they settled most things that summer, with a coupon and a motor. Nell printed a ring, threaded a length of cable through it, and hung the rig in a tank of lake water; Sabine wired an old Lattice winch to drag the cable back and forth at three-second intervals and set a camera on it. At forty hours the cable had worn a groove a millimeter deep. At seventy the groove was shallower. When Nell cut the ring open on the bench at the end of the week, the inside of the channel was lined with a dense, glossy layer of mycelium, white and slick as the inside of a shell, thicker where the cable had rubbed hardest.

Sabine held the half-ring up to the work lamp for a long time.

"It's laying down a bearing surface," she said. "Where it's hurt. It's building the sheath it needs."

"I know."

"You didn't know. You're making that face because you didn't know."

"I hoped," Nell said, and Sabine wrote CABLES (TENDONS) on the board, which by the standards of that partnership was a full surrender.

* * *

Sabine's syndicate match cleared in the first week of July, and they spent every credit of it on the swarm against a Reach license that would pay them back only if Ruth signed. The gulls came by Brandt Lanes freight pod in crates of a hundred, nine crates on a Tuesday and three more on Wednesday, until Bay 9 had nowhere left to put a foot. They were stacked on the slip rails and under the workbench, and a row stood across the doorway so that Nell had to step over them to get to the kettle. Twenty-Three, wedged between two new crates, logged a complaint about its neighbors every forty minutes.

Oskar Lindqvist came down the pier on Thursday morning with his laminated folder held against his chest.

"Form 22-K," he said. "Reassignment of contiguous bays to a single venture. The Commons is giving you seven, eight and ten." He opened the folder on top of a crate. "Seven used to be the kayak repair shop. They've moved to Bay 2, they asked me to tell you there's a radio in the ceiling they could never get down. Eight's empty. Ten has a woman who builds harps, and she's been reassigned to Bay 12, which has better light, and she would like you to know she's thrilled."

"You asked her?"

"I asked everyone," Oskar said. "It's on the form. Box nine, Consent of Displaced Parties." He turned the page to show her three signatures and a drawing of a harp.

By Saturday the partitions between the four bays had been unbolted and rolled back on their old ferry tracks, and the pier held one long room with four slip doors open to the lake. Twelve hundred gulls charged on racks along the walls, eight amber lights apiece. At night, coming back from the house with a thermos, Nell could see the whole length of the pier glowing from Pell Street, as though somebody had laid a strip of lit honey along the waterline. Somewhere in the ceiling of Bay 7, faintly, the kayak shop's radio was playing accordion music, and nobody could find the switch.

* * *

Teo's trike stopped outside a green door on Kestrel Lane, and he leaned the reader against the handlebar before he reached for the satchel.

"You're coming to the door with me," he said.

"I'm not a courier."

"You're the reason for the question."

Nell had been riding the Thursday route since the gulls arrived, ostensibly because the Calder half of it ran past the Polytechnic and she needed sheath samples from the basin store. Teo had not believed this and had not said so. At each stop he delivered the chip, waited out the ninety seconds while the cuff read, and then said, in the same flat voice he used for passport renewals, "Saturday at the old ferry pier, nine o'clock. They're printing a dock that floats. Bring gloves if you have them. There's lunch." Then he wrote something small in the paper notebook beside his sketch of the door.

The woman at the green door had flour to the elbows. She looked at Nell's canvas jacket and at the green rim on her cuff.

"The one that sank," she said.

"Yes," Nell said.

"I watched it on the feed. My son cried when the bench came off." She wiped her hands on her apron. "What do you need doing?"

"Spool loading," Nell said. "Slurry mixing. Laying heat mats. It's mostly carrying things."

"I'm good at carrying things," the woman said, and Teo wrote a tick.

On Weir Street, Gus Ferreira put down a chisel and a half-built wren house and listened to the whole speech before he asked whether the dock had a drawing. Nell showed him the cable layout on her cuff. He studied it with his reading glasses pushed up on his forehead and the cuff held at arm's length, the way people hold a photograph of a house they used to live in.

"Who did your ring spacing?"

"A hand surgeon," Nell said.

"Of course she did." He handed the cuff back. "I'll bring my own clamps. Yours will be terrible."

At the end of the route, on the Calder lake wall, Teo turned the notebook around so she could see the page. Thirty-four doors were sketched in pencil, with their knockers, their numbers, a boot on one step and a cat on another. Nineteen had ticks.

"Nobody audits paper," he said. "So nobody can tell me nineteen is a bad number."

"It's a good number."

"It's a Thursday number. Monday's route has more porches."

* * *

Twelve people came the first Saturday, and forty the third. By the end of July it was sixty or seventy most weeks, and once, after a clip of the gull swarm crossing at dusk went around Wickham's message boards, it was ninety-one, and Oskar had to file a supplementary form for the Commons toilets.

None of them were engineers. There was the flour woman, whose name was Agathe and who could lift a full slurry tub off the floor with a kind of contemptuous ease, and there were Mirela and Dov from the Calder courier depot. Mrs. Kaur came with her squash-growing gloves and her opinions on mulch. A retired loom repairer from Lowmarket took one look at the basalt spools and rethreaded every jammed feeder in Bay 8 before ten in the morning. Pim Achterberg came with his father, and Gus came with his clamps, which were not terrible. They were people who liked making things and had not, until Teo knocked, been offered this particular thing to make.

In the second week Nell caught herself unloading a spool a volunteer had just loaded, checking the tension with her thumb and loading it again. It had been fine. Teo was standing in the doorway of Bay 9 with a crate of sandwiches,

saying nothing, and she put the spool back on the rack and went to help Agathe with the tubs.

At noon Tomas set a painted crate on its side at the end of the pier and knelt behind it. The volunteers sat on the planks with their lunches and their feet over the water.

"Order," said Clerk Badger, rising over the edge of the crate in his little waistcoat. "It has come to my attention that twelve hundred machines are taking a lunch break without a lunch break form."

"They're charging," Nell called from the rail.

"Charging what? Who authorized the charges?" The badger produced a scrap of paper. "Form 9-B is for puddles. Form 9-C is seasonal. There is no form for a gull eating electricity in a boathouse. I shall have to invent one, and I shall hate every minute of it."

Mrs. Kaur laughed so hard she dropped her pickle in the lake. Afterward, packing the badger into his box, Tomas told Nell the count: forty-one laughs at one lunch, which by Tin Heron standards was a full Saturday matinee.

"From people who came to carry tubs," he said. "That's a wonderful audience. They don't know they're an audience until it's over."

* * *

On the second of August the deck was half there: a fifteen-meter crescent of oyster gray riding in the test zone off the end of the pier, cells still steaming faintly where the gulls had laid them that morning, cables trailing from the open edge into the water like loose threads from a hem. Teo came out to it in a borrowed rowboat with a cake box on his knees.

He had stood over the bakery bot, he said, through the whole of the icing. The cake read HAPPY 21ST NELL in blue, with every letter in the right place, and Nell turned the box around twice to make sure.

"It tried for two Ls," Teo said. "I caught it."

Sabine cut the cake on the deck with her multitool, and Agathe and the loom repairer and Pim got the biggest pieces. Mister Biscuit asked, through Nell's cuff, whether she would like him to sing this year, and she said no, and he said that was a relief to everyone. A Brandt Lanes pod arrived at the pier mid-afternoon with a small padded envelope addressed to N. VARGA, BAY 9 OR WHEREVER SHE IS NOW, in handwriting that slanted hard to the right.

Inside was one sock, in heathered green wool with a gray heel. It was finished, with the toe grafted shut, and when Nell pulled it on over her hand it went past her wrist. There was a card.

Seventeen months of four-minute gaps. Happy birthday. H.

"Where's the other one?" Sabine said.

"She hasn't had the gaps yet."

"That's a terrible present. One sock."

"It's a whole sock," Nell said, and kept her hand inside it while she checked the cable tension on the north side, because the deck was cold that afternoon and the wool was warm, until Teo pointed out that she was getting slurry on it.

* * *

Shore Two reached thirty meters by thirty in the last week of September. Square, the board had said, so the load cases would be clean; square, Sabine had insisted, so Ruth would have nothing to call amateur. Nell had wanted rounded corners and been outvoted, one to one, which in a partnership of two settled nothing and meant they argued about it until the gulls had printed the corners square anyway.

They argued about everything. Ring spacing went from a meter and a half to a meter twenty at the corners, where the loads turned. They argued over the buoy color, about whether a deck needed a name before it was certified, and whether Sabine's licorice root was a hygiene problem near the slurry. When Nell wanted to rename the cables back to tendons in the official filing, Sabine took twelve minutes to agree and said afterward it was out of pity.

Seventeen did the rim. Nell had stopped correcting its drift in the spring; now she set it at the inside edge of the perimeter each morning and let it wander left at its four degrees per meter, and by the end of each pass it had laid a perfect curve of edge cells exactly where a rim needed them, with the green stripe on its own rim catching the light. The other eleven hundred and ninety-nine gulls filled the interior in long amber spirals. In the late afternoons, when the swarm came home across the water, it crossed the test zone in a slow orange ribbon that turned at the pier and poured itself back through four slip doors, chirping. Volunteers stayed past five to watch it. On those evenings the air off the slips smelled of wet basalt fiber and warm bread, and the whole pier hummed in the low register of twelve hundred chargers.

Ilse came on the last Sunday of September with a handcart of sedges in pots. She had asked for planters, in her fashion: a slip of paper left on the bench in Bay 9 that said *Edge. Thirty cm deep. Drainage.* Nell had printed forty of them into the south rim. Ilse knelt on the deck in her garden boots and set the sedges in one at a time, firming the soil with her knuckles.

"They'll get lake spray," Nell said.

"They grow at the edge of lakes."

"In a storm they'll get more than spray."

"Sedges hold banks," Ilse said. She pressed the soil around the last one and sat back on her heels and looked along the row of green, forty clumps on a line of oyster gray, with the open water beyond them. "They'll hold a planter."

* * *

Biscuit woke her at four in the morning on the eleventh of October with a forecast, in the Warm Formal voice he had been using since she was seven.

"A deep low is crossing from the northwest," he said. "Sustained winds of sixty to sixty-six kilometers per hour on Lake Marrow from late afternoon on the thirteenth, gusts to ninety, approximately eleven hours. I thought you would prefer to know before the board told you."

The board told her at seven: EVENT 2089-10-13 CONFIRMED AS CLASS III. CERTIFICATION OBSERVER ADEYEMI-LUND, R. PROTOCOL M-3 IN EFFECT.

The swarm came in that afternoon in a single pass. Sabine went out with a dive crew on the twelfth and checked the torque on all eight anchors, and they read within two percent of one another, as they had in the basin and at Calder Reach. Oskar ran the cordon tape across the pier at eleven in the morning of the twelfth with his folder under his arm, reading Protocol M-3 aloud to nobody in particular, and nobody was aboard when the tape went up, or after.

At ten to four on the thirteenth the observation room looked as it had in April. Rain hit the long window sideways. The thermal feed ran on the left screen and the strain array on the right, now a hundred and forty-four squares, all green; the drone held station at fifty meters over the zone. Ruth sat at the end of the table in her waders with the waxed notebook open, and Oskar was beside her with the folder. Teo had a grease pencil and a clean stretch of glass.

At four, Ilse and Tomas came up the stairs with two jars of leek soup wrapped in a towel.

"Same soup," Tomas said, setting the jars down. "I'm told by the soup it expects a different result."

Sabine had a chair now, between Nell and the strain screen, a bag of licorice root, and a second screen of her own with the eight anchor loads in a column. She held one of the jars in both hands and did not drink it.

"Water's eleven point four at the buoy," Nell said.

"Warmer than April," Ruth said, and wrote it down.

* * *

The first crack showed at 5:47, a white hairline across a cell on the northwest quarter, and closed at 6:29. Teo made a stroke on the glass and, when it closed, crossed the stroke through. By nine there were thirty strokes, twenty-six of them crossed.

The anchors climbed through the evening, all of them together. That was what Nell kept looking at on Sabine's screen: no single number running away from the rest, eight numbers moving like the keys of a chord pressed at once. At eight o'clock they read between nineteen and twenty-three kilonewtons. On the thermal feed the cables showed as faint warm lines under the deck, and when a swell lifted the north edge she could watch the lines lengthen on that side and shorten on the other, sliding through their rings. The glide sensors counted it: twenty centimeters, thirty, thirty-eight at the corners.

"It's walking," Ilse said, at ten, looking at the drone image. The whole deck had moved south a little, and west a little, and settled.

"It's allowed to walk," Sabine said. "Up to two meters. That's the travel in the sheaths."

"Is that in the filing?"

"Page four," Ruth said, without looking up.

Sustained wind crossed sixty at 10:52, and Oskar wrote in the folder and said, "Confirmed Class Three, ten fifty-two," in the voice he used for good news, which was the same voice he used for everything. Gusts climbed past eighty. The strain array began to turn amber along the windward rim, first at the corners and then in a band two squares deep down the whole north side.

Nell counted them. At midnight there were twenty-two amber squares and a hundred and twenty-two green.

"Northeast," Ruth said, at 1:10.

"Thirty-one," Sabine said. "Northwest thirty-three. Southeast twenty-nine."

"Highest?"

"West-two, thirty-four."

Ruth wrote. The storm peaked at 1:26 with a gust of ninety-one kilometers per hour that bent the anemometer mast on the pier roof, and on the drone image the north edge of Shore Two lifted a full meter on a swell and dropped. Every cable on the thermal feed shifted at once, a quick brightening along sixteen lines. On the strain screen thirty-one squares were amber.

None of them was red.

Teo was drawing strokes as fast as he could cross them. At two in the morning the glass held a hundred and eighty-eight marks, and Tomas got up and rinsed the soup jars in the little sink and came back and sat down again without saying anything. Ilse had her hands folded on the table. Sabine had eaten most of the licorice root. At 3:40 the anchor loads began to come down, all eight together, the way they had gone up.

Nell fell asleep at some point after five, sitting up, with Harriet's sock in her jacket pocket and her hand on it.

* * *

The rain had stopped when Ilse shook her shoulder. Gray light lay flat on the lake. The strain array showed a hundred and thirty-nine green squares and five amber ones still fading on the north rim, and on the thermal feed nine cracks were glowing faintly as the mycelium worked on them. Teo was asleep with his head on his folded arms and the grease pencil still in his fist. The glass in front of him held three hundred and six strokes; two hundred and ninety-seven were crossed through.

Shore Two sat in the test zone a meter and forty centimeters southwest of where it had started, square, gray, wet, with its sedges flattened along the south rim and every planter still full of soil.

Ruth was already on the stairs.

They went down the pier in a line with Oskar's tape pulled back, and the dive crew's launch took Ruth, Nell and Sabine out across the chop. Ruth climbed onto the deck first, by the ladder Nell had printed into the west rim in July. She walked to the middle in her waders without hurrying and stood there while the deck rose on a swell and settled. She looked along the north rim, where the newest healed seams showed white in the gray. Then she lifted one boot and brought it down on the deck, hard, and the other, and the sound came back from the honeycomb dull and whole.

She took a sheet of paper out of the back of the waxed notebook. It was a printed certificate with a space at the bottom, and she signed it on her knee in pencil, dated it 2089-10-14, and held it out.

"Class Three," she said. "Certified. I'll want the cable glide logs by Friday."

Nell took the paper. It was damp at one corner already.

On the pier, Oskar had his folder open on the railing and his cuff raised, and they could hear him over the water reading something aloud to Teo, who had come down with his hair flat on one side. Nell's own cuff chimed against her wrist.

TRANCHE TWO RELEASED IN FULL: MARROW SHORE WORKS (VARGA, N.; BRANDT, S.).

"Three months and nineteen days remain on your license," Biscuit said, in the Warm Formal voice. "I mention it only for completeness."

Sabine sat down on the wet deck with her legs out in front of her. After a moment Nell sat beside her, the certificate on her knee, and the deck lifted them both on a long, easy swell and set them down again.

"Rounded corners," Nell said, "on the next one."

"No," said Sabine, and took the last stick of licorice root out of her pocket and broke it in half.

Written to order at crispybooks.xyz

Part Four: New Shore

Harriet steps back to teach, Nell graduates at Emerald Class, casts her first quadratic vote, and walks her parents onto the commons the volunteers built.

CHAPTER 19

Stepping Back

Nell was lying on her stomach on the northeast corner of Shore Two, one arm down the cable sheath to the elbow and a steel rule in her fingers, when Teo rang the trike bell twice from the pier.

"Glide," she said to her cuff. "Northeast, cable three. Thirty-one centimeters from the mark. Write it down before I forget I said it."

"Written," said Mister Biscuit. "You have also asked me to remember that the sheath smells of almonds. I am not certain where to file that."

"File it under good."

When she climbed the pier ladder, Teo had the satchel open on the seat of the trike and was holding an envelope by its edges. The envelope was paper, cream, the flap tucked in instead of sealed, and it had her name on it in a slanted hand she knew from the back of a dinner card.

"No chip," she said.

"She asked for paper. There's a box on the form for it. Nobody ticks it." He made a mark in his notebook beside a drawing of the pier gate, which he must have done some other Thursday, because the gate in it still had its old latch. "Three of these went out from the Calder office this week. One went to a porch in Bray with a cello case leaning by the door."

The card inside read: *Founders' Hall. Tuesday the fifteenth, ten o'clock. Gallery, left side, front row. Bring nothing. H.*

"Whose ceremony is it?"

"It doesn't say."

"You've seen the sorting list."

"I've seen the envelopes," Teo said. "They're all the same color."

She turned the card over. There was nothing on the back, which was unlike Harriet, who had once written *Eat everything* on the back of a place card and had once written *Measure the cold* twice. Somebody on the human medical council was being honored, Nell decided, or Harriet was going up to Grand Architect, which the network would call overdue and Harriet would call an hour lost from a Tuesday. Mr. Lindahl's porch in Bray would have a cello case on it if he had a friend who played.

"She's getting gold," Nell said.

Teo closed the satchel. "Tuesday's not my day," he said, "or I'd have taken you."

* * *

Founders' Hall smelled of oak and wet wool. It had rained in Calder from six until half past nine, and three hundred coats had come in damp and were giving the rain back to the beams. A queue of nine people stood at the door beside the brass strip of the Sovereign Line, and Nell stood in it, because she had come forty minutes early and it seemed a strange thing to be in a hurry about.

The gallery ran along the left wall, where the granary had once had a loading floor. Its front row had been kept for people the ushers greeted by name. Nell's seat had a slip of paper on it with VARGA, N. in the same slanted hand. To her right sat a man with a cello case between his knees; to her left, a woman in a hand-knotted shawl whose fingers were broad at the ends and seamed with fine white lines from a lifetime of thread. Further along she saw Mr. Lindahl, who had played a Bach suite on Floor 140 the summer before last, and who nodded to her as if they had met yesterday.

Down on the floor the badges were mixed. She could pick out deep violet near the front, and a good deal of white and clear blue, with the gray-blue of Thrive spread through all of it, more than she had ever seen at a ledger hour. Lucan Brandt sat in the third row in an oatmeal linen suit, his violet cuff resting on his knee. Two seats beyond him an old woman in garden boots had brought a thermos.

At ten the reader came to the lectern. She was the same woman who read the Civic Failure Ledger on Fridays, in the same gray cardigan, and the hall went quiet for her in the same way.

"A stepping back," she said, and paused, and turned a page. "Osei, Harriet."

Harriet came in from the side door. She wore her long coat, and her reading glasses hung on their cord, and one pocket sat lower than the other because there was a sock in it. She stood beside the lectern with her hands folded in front of her, which Nell had never seen her do, because Harriet's hands were usually holding something.

Nell looked at the card in her own lap. *Bring nothing.*

"Diamond Class," the reader said. "Human Medical Council, Calder Mercy Tower, Floor 140. Thirty-one years of practice in restoration of hand function." She read the way she read the ledger: without hurry and without leaving anything out. "Hands restored: eleven thousand two hundred and six. Of these, by occupation as recorded: musicians, two thousand and forty. Weavers, knitters and textile workers, one thousand six hundred and twelve. Carpenters, joiners and luthiers, nine hundred and three. Potters, four hundred and eighty. Children with congenital conditions of the hand, two thousand two hundred and seventeen. Other occupations, listed in the record."

Somebody in the gallery laughed softly at *other occupations*, and the reader waited for it.

"Contribution, lifetime, four million one hundred and ten thousand. Directed: the Osei Clinic for the Hand, Floor 140, sole sponsor. Youth Growth License sponsorships, six hundred and twelve. Public Venture reviews in the domain of medicine, one thousand and nine. Civic Failure Ledger, one entry, CFL-2069-0063, tendon-glide sleeve. Cited by forty."

Applause had started at the ledger number. It was polite at first and grew quickly.

"Dr. Osei has elected to step back to the Thrive Tier, effective on her signature, to teach." The reader turned the page around on the lectern and offered a pen. "Her lifetime record remains on her badge."

Harriet put on her reading glasses and signed. Then she held out her left wrist, and the reader touched it with a small brass reader of her own, and the clear blue of the Diamond cuff went pale. For a moment it was no color at all. Then it filled slowly from the clasp outward with the ordinary gray-blue

of every porch on Pell Street. On the hall screen behind the lectern her public profile showed a line of small type under the new color, the kind of type Nell had seen on Mrs. Kaur's cuff at the share table, giving a lifetime figure nobody at the share table had ever read aloud.

The hall stood up. Nell stood because everyone around her stood. The man with the cello case got up so fast he had to catch the case. In the third row Lucan was on his feet and his laugh went up into the beams, a big pleased sound with no joke anywhere in it. He was clapping with his hands above his head.

At the front of the gallery the woman in the shawl did not clap. She raised her right hand, palm out, fingers spread, and held it there. Mr. Lindahl raised his. Down the row, in twos and threes, hands went up: a man with a violinist's callus on the side of his jaw, a girl of about twelve whose small fingers were all straight, a broad old hand with a joiner's thumb. Across the hall, people on the floor who were not in the gallery turned to look up at the hands before going back to clapping louder.

Nell glanced at her cuff, partly to have something to do. The applause had started at 10:14. It was still going at 10:17. At 10:19 Harriet lifted one of her own hands, a short motion as if she were telling a patient to stop flexing, and the hall gave her another half minute anyway.

Nell put her palms together and found that she did not know what to do with them. Clapping did not seem to be enough, and holding up a hand was for people whose hands Harriet had mended. Hers had mycelium under the nails and a callus from the gull-spool latch, and Harriet had only ever looked at them to say *wash*. She clapped. Then she stopped, because her clapping was out of time with the cellist's. She began again and kept time with him.

"You're the driftstone one," the cellist said under the noise. "She talks about you."

"What does she say?"

He thought about it. "That you argue with the machines."

Nell could think of no reply that fit. On the floor below, a Platinum couple were holding each other's arm and beaming up at the lectern, and a boy in Thrive gray-blue was standing on his chair to see, and every face she looked at had found its proper expression easily. She tried to borrow one and could not settle on it. Harriet had spent seventeen months answering questions about tendons and cold water so that Nell could climb into this hall to stay, and now

Harriet was walking out of it by the floor, cheered for going. Nell's own cuff still had its thin green outline. She put her hand over it.

At the lectern Harriet leaned toward the reader's microphone.

"Thank you," she said. "Bay 4, Wickham Maker Commons. Tuesdays and Thursdays from the first of December. It's free. Bring your hands."

She stepped back from the microphone. It took the hall a moment to realize she had finished, and when it did, it laughed and clapped again.

* * *

When it was over Harriet came out by the ordinary door. A brass strip ran along the doorframe beside the queue, and a steward gestured her toward it out of habit, and she shook her head and waited behind a man fastening his coat. Nell watched her stand there. It took eleven seconds.

Lucan reached the pavement before either of them. He took Harriet's hand in both of his and held it rather than shaking it.

"What are you going to do with a Wednesday?" he said.

"Find out."

"I've got four thousand questions about that, and you'll answer none of them." He turned to Nell. "And you. How's your glide?"

"Thirty-one centimeters on the northeast. It was thirty-eight in the storm."

"Good. Is it good? It's good." He nodded at the number as if it had told him something. "Sabine's at the Reach. She said to tell you the second crescent's level. She said to tell you, specifically, that it's level and you'll ask anyway." His pod had come down the lane and was waiting at the curb with its door open. He looked at it for a moment before he got in, and through the window Nell saw him raise a hand to Harriet, palm out, the way the weavers had.

The pod went. Harriet stood on the wet pavement with the rain smell coming up off the stones and looked at her cuff, then at the sky, then at Nell.

"I have an afternoon," she said. "I don't think I've said that sentence in this century. Where do people go?"

"Wickham," Nell said. "People in Wickham go to the lake."

* * *

They took the ordinary loop from Calder Central. At the platform Harriet's cuff offered her a priority pod in gray letters, out of some setting nobody had

cleared, and she touched DECLINE, and the platform screen told her the next car was in two minutes. She watched the countdown all the way to zero as if it were a performance.

The car was half full. A boy across the aisle was doing fractions with his tutor in an undertone, and his tutor was telling him, in a voice like a patient librarian, that he had done this one correctly on Saturday. Harriet sat by the window. Nell sat beside her.

Leaving Calder the tube ran above ground for forty seconds before it went under the hills, and at speed the window became a long smear of color: the copper roofs of the canal warehouses, the gray of the lake wall, a strip of water the dull silver of a spoon, all running together into bands that held still while everything inside them moved. Then they were underground, and the window went black, and the faint green emergency strip along the floor showed their two reflections, and the car made the long falling hiss Nell had heard since she was eleven.

Harriet's hand went into her coat pocket and came out with the sock. It was new: blue wool, the cuff done, four needles in the first rows of the leg. She knitted three stitches. On the fourth she stopped with the needle halfway through the loop and looked at it.

"Four minutes," Nell said. "It's nine to Wickham."

"I know how long it is." Harriet finished the stitch, because a stitch left halfway would drop, and then she pushed the needles into the ball and put it all back in her pocket. She rested her hands on her knees and looked at the black window. Nell looked at it too, because she could think of no better place to look.

* * *

From the Wickham platform they walked down to the Maker Commons and out along the pier, where Shore Two sat in the test zone among its yellow buoys with the November light flat on it, gray on gray, and then they turned east onto the sand.

The Thimble was nearly empty. The Dawn Swimmers had stopped at the end of October; two children were building something out of wet sand and a broken crate slat, and a man with a dog threw a stick into the lake and waited for the dog to make up its mind. Sixty meters of sand took about ninety steps

at Harriet's pace. At the Halvorsen dock the boat lift stood raised and empty, its cradle beaded with rain.

"Eleven days a year," Nell said. "He uses it eleven days a year."

"I know. He said so in public. It was on the feed." Harriet put her hand on the dock rail as they passed. "I liked him for it."

Past the dock the sand ended, and they went up the steps to Shore Road. From there the lake showed only in gaps: a hedge, a gate, a slot of water between two printed garden walls, another gate. The lease plates on the gateposts gave years in brass: 2066, 2071, 2079. Under their feet, in the grooves of the lane, a Brandt pod hummed by toward town with a parcel, a low B-flat she had stopped hearing years ago and could hear again now because Harriet tipped her head at it.

"What's that note?"

"B-flat. My dad tunes Professor Gill to it."

"Professor Gill?"

"A heron. Puppet. He wants the whole edge of the pond."

Harriet looked over a gate at a lawn running down to a private jetty, at an empty bench at the end of it with a cover on.

"I had one of those," she said. "Not on the water. Old Orchard. You've seen it."

"You were asleep."

"I usually was." She walked on a few steps. "It's a beautiful house. I don't say that to be modest about it. Ottilie Strand's partner drew it, and every window looks at a tree. The piano is a Bösendorfer that a man in Bray restored over two winters. I bought it in seventy-one. I've had the cover off it eleven times."

"You counted."

"I count everything. So do you." She pushed her hands into her coat pockets and found the sock and left it there. "People thank me in lifts. In the corridor on 140, in the canteen, in the queue I'm never in. A woman thanked me in the lavatory at the Calder Science Museum and then apologized for the location and thanked me again. I don't mind it. I want to be clear about that. It's a good thing, being thanked. There's a sign on 140 with my name in brushed steel, and I walk past it at ten to six every morning and it is always cleaner than I am."

"Is that bad?"

"No. Brushed steel is meant to be clean." She almost smiled. "The Sovereign Line. I haven't stood in a queue since I was thirty-eight, Nell. This morning there were nine people in front of me at the Hall door. I counted their coats. One of them had a moth hole on the shoulder and had darned it in a different blue. I'd have missed that."

The road bent away from the water around a stand of birches. Leaves lay along the gutter grooves in wet yellow drifts, and a delivery pod had parted them neatly down the middle as it passed. Nell waited. In close to two years she had learned that Harriet said things in four-minute pieces, and that if the piece ended you waited for the next.

"I tried to remember my last slow morning," Harriet said. "On the loop, just now. Before I took the sock out. A morning with nothing booked. I got to a Sunday and then remembered it was a Sunday at a conference in Bray and I'd stayed in the hotel room with the curtains shut reading case notes because the hotel was nice and I thought I ought to use it. Before that I couldn't find one. I'm sure there were some. I don't remember them, which comes to the same thing."

"Your calendar's in ten-minute blocks."

"It was." She glanced at her cuff, which was gray-blue and showed nothing booked. "It isn't now."

* * *

Past the last town lot, the road ran along the top of a long grass bank, and the lake opened out below them all at once: wide, pewter-colored, with a line of rain still walking across the far side toward Bray. Heron Point stood out on its arm of land at the end of the bank, cedar and glass, its long dock running into the water like a ruler someone had laid there to measure the lake.

"What will you teach?" Nell said. "On Tuesdays."

"The Hand." Harriet said it as if it were already printed on a door. "Anatomy and making. Anyone. You don't need a license or a badge, and no form, though Oskar has given me a form." She took a laminated sheet out of her other pocket. It had a corner bent and the number 4-T on it. "He was so happy. He brought two copies in case I spilled something on the first."

"What do you make?"

"First a hand. We'll print one, life size, with every tendon in a sheath you can see through, so you can pull a cable and watch a finger close. Then we pull it apart and see what happens to the finger when a pulley goes. You saw what happens."

"The northeast lug," Nell said.

"It lost its sheath," Harriet said. "Same as a finger." She folded the form and put it away. "Then we make something with our own. Knitting. Carving. Your father could come in and do a puppet, if he'd let me ask him. A puppet is a hand inside a hand. I've been wanting to say that to someone for a year."

"He'll put it in a show."

"Good. Twelve people have signed up. Three of them are under fifteen. One of them is Gus Ferreira, who told me he will build a birdhouse whatever I say and wants to know the bones of his thumb while he does it."

"You know Gus?"

"I know everybody's hands," Harriet said. "I didn't know his name. He came to 140 nine years ago with a trigger thumb and told me he'd stepped back and I'd be next. I thought he was being rude." She stopped walking. "He was being rude. He was also right."

* * *

The Heron Point gate was cedar on brass hinges, and when they came within two meters of it, a voice from the post said, "Good afternoon. Mr. Brandt is not at home. Shall I let the house know you called?"

"No, thank you," Harriet said. "We're turning round."

"Of course," said the gate. "The dock is open to visitors in the Thrive Tier on the first Saturday of the month."

Harriet laughed out loud, the short surprised laugh Nell had heard once before, in Bay 9 over Seventeen.

They stood at the gate for a while without going in. The long dock ran out from behind the house, and a white marker number was still on the last plank. Nell could not read it at this distance, though she knew it said eight point two because Sabine had written it there. Gulls of the ordinary kind sat on the pilings with their backs to the wind.

"Do you regret it?" Nell said. "The climb."

Harriet didn't answer at once. She looked at the house, which was as beautiful as Lucan's always was, and empty that afternoon.

"No," she said. "I'd do it again. Every year of it. The hands are real, Nell. Eleven thousand two hundred and six people can play or weave or hold a chisel who couldn't before, and I'd need a hundred years at a Thrive pace to do that. I liked it. I liked being good at it in front of people." She put her palm flat on the cedar of the gate, which was cold and beaded with the morning's rain. "And I'm done."

Nell waited for her to choose one. Harriet took her hand off the gate, wiped it on her coat, and started back along the bank without choosing.

They walked some way in silence. Behind them the wet line of rain over Bray reached the far shore and stopped, or seemed to.

"When you go up," Harriet said, "and you will, because I read Ruth's certificate and Ruth doesn't sign things twice for fun, write your Saturdays down first. Before anyone gives you a calendar. Write down what you keep."

"I don't have a calendar."

"You will. It arrives on its own. It's very well designed."

Nell put her hand in her jacket pocket and closed it around the driftstone puck, which had a white seam across it from a hammer in April of last year. She thought about Saturdays. In the morning there was the share table at the Allotment, where she had missed three Thursdays one summer and Ilse had counted every one, and Mrs. Kaur's tomatoes. In the afternoon there was the Tin Heron with the benches full and her father counting laughs. On every day of the week there was the slip at dusk, and the gulls coming in on their amber lights, and Seventeen coming in wide on the left. She did not know which of those an Emerald calendar would leave alone if she didn't write it down. She did not know what she would write in the space where an hour went if somebody offered to pay her in thanks for it. She did not say any of it, and Harriet did not ask.

"Where will you live?" Nell said instead.

"Old Orchard, for now. It's twenty minutes on the loop. I've decided I like the loop." Harriet glanced at her. "I'm going to have the piano tuned. A man came round once and said it held its pitch beautifully because nobody played it. I'm going to ruin that."

* * *

By the time they came back down onto the Thimble the light had gone the color of weak tea and the man with the dog had left. The children's sand-and-slat thing was still standing, and somebody had stuck a feather in the top of it. The lake had flattened out the way it did at the end of a November afternoon, and off the pier Shore Two lay in its buoys with the low sun across it, and the cable sheaths along its rim were wet and dark.

Nell unlocked the pier gate with the brass key on its cork float. The gangway ran from the ladder platform out to the deck's west edge on two floats, and it moved under them the way it always moved, a little behind their steps. Then they were on driftstone. Up close it smelled of bread, because the mycelium was alive in it and the afternoon had been mild enough for it to work.

Harriet walked to the middle. She looked down at the honeycomb pattern showing faintly through the surface coat, the cells the width of a palm, and at the sedge in Ilse's planters along the south rim, gone brown for winter. Then she bent and unlaced her shoes.

They were good shoes, black leather, polished at some point by somebody who was not Harriet. She set them side by side. Then she took off her socks, which did not match. One was plain and gray and bought. The other was green with a gray heel, uneven in the leg, the kind of sock that had been knitted in four-minute gaps by somebody who kept losing count of her rows. She tucked them into the shoes and stood up on the bare deck.

"Cold," she said.

"It's eight degrees at the buoy."

"I didn't ask." She stood with her feet a little apart and her hands loose at her sides. The deck lifted on a long swell, settled, lifted. At the corners the cables slid a few centimeters in their sheaths and slid back, and Nell heard, under the water slap, the small sound the sheaths made, a sound she had a log for.

Nell sat on the edge of a planter and waited for Harriet to say something.

Harriet said nothing. She looked at the lake. At one point she turned her head to the west, where the sun was going down orange behind Calder in a band so narrow it looked drawn with a rule, and then she turned it back. Her hand went into the coat pocket where the sock was, and Nell watched it, and the hand stayed in the pocket, resting on the wool, and did not take anything out.

In Bay 9, behind them, the charging racks came on for the evening, and three rows of amber rings lit one after another as the gulls woke up and asked for power. A chirp came across the water, two chirps, from a unit that was low. It would be Twenty-Three, complaining. Nell knew she could go and check it. She knew there was a glide reading to take on the southwest cables before dark and a note to Ruth she had half written, and that Sabine would want to hear the crescent was level even though she had already said it was. She did none of them. The deck lifted.

Her cuff said 16:41 when Harriet's hand went into her pocket. It said 16:46 when a heron came down on the far buoy, the real kind, gray, standing on one leg the way Professor Gill never could because his left leg was a dowel. Harriet looked at the heron. The heron looked at the water. Neither of them moved. At 16:49 the last of the orange went out behind Calder and the lake turned the color of the deck.

At 16:51 Harriet was still standing on the driftstone with her bare feet and her hand in her pocket, not knitting, not asking, not counting anything. Nell looked at her cuff to mark the ten minutes and then took her hand away from it and stopped looking.

Written to order at crispybooks.xyz

CHAPTER 20

Draft One

The laminate had fogged on the walk in from the pier gate, and Oskar Lindqvist was polishing it against his coat when Nell came up the slip with a coupon in each hand. Four faint lines still crossed the floor where the walls of Bays 7, 8, 9 and 10 had stood before Form 22-K took them down, and Oskar was standing exactly on the line between 8 and 9, which as far as Nell knew nobody else in Wickham had noticed was there.

"You're early," she said.

"I'm on time. The building is late." He held the folder out flat in both hands. "This came by board courier at eight. I asked to bring it down myself, and they let me sign for it."

She set the coupons on the bench beside the heat mat. Each had a hairline from the night before that should have closed by now and hadn't quite, because the slip water read five point nine and the film over the north end had a tear she had not yet patched. After wiping her hands on her jacket, she took the folder.

The letter inside was printed in the plain capitals the State used for anything it meant to keep. GRADUATION BOARD, CALDER. VARGA, N. SCHEDULED: QUARTERLY GRADUATION EVENT, FOUNDERS' HALL, 2090-01-20, 10:00. Beneath that, in a column, came the basis: founding partner, Marrow Shore Works; funded, Public Venture, tranches one and two; certified, Class III, 2089-10-14, Adeyemi-Lund, R.; revenue, license fees,

Calder Reach Promenade, first quarter. On the last line it said PROJECTED CONTRIBUTION CLASS: EMERALD.

"The Reach paid its first quarter on Monday," Oskar said. "The levy calculator ran overnight. I watched it."

"You watched it."

"It took four hours. There's a little bar that fills up." He leaned over and touched the bottom line without quite touching it. "Most founders cross on the second quarter, or the third. You crossed on the first."

"Half of it's Sabine's."

"Half of it is Sabine's, and her half is in her manager's folder, which I'm told is thicker than mine." He seemed pleased about that rather than sorry. "Yours is enough on its own."

Nell read the date again. Her license closed on the second of February, and she counted from the twentieth of January without wanting to.

"Thirteen days," she said.

"I asked for the first available slot. The April event would have been after."

"After."

"After." He took a second sheet from behind the letter. "There will be forms. Most of them I can do. This one wants to know how your name is pronounced, for the reader. I put 'as written.'"

"That's right."

"I thought so. I've heard your father say it." He closed the folder around the letter, gave it to her, and stepped off the line between the bays as though he had finished a small ceremony of his own. At the door he turned. "Congratulations is the word, I think. I don't usually get to be the one who says it."

When he had gone she sat on an upturned gull crate with the folder on her knees. Through the slip door the lake was flat and gray, and in the racks behind her the charging rings went around in amber. Eventually she put the folder down, picked up the nearer coupon, and pressed her thumbnail into the hairline to feel how far the mycelium had come.

* * *

Late in the morning she opened a blank note on the bench screen.

"New file," she said.

"Title?" said Mister Biscuit.

"Later."

The first thing she typed was *I will live on Pell Street.* She looked at it for a while and added *for now*, because the alternative was to write a promise she didn't know she could keep, and her mother would have caught it.

Next she wrote *I will not use the Sovereign Line.* Then she thought of the pod at 19:22 in July, nineteen minutes saved on the way to a dinner table where she had needed every one of them, and of Harriet's calendar in ten-minute blocks, and she drew a line through the sentence and wrote underneath it, *Sovereign Line only when the time is genuinely short.* After a moment she added *Genuinely* again in brackets.

First allocation: the Wickham commons went down without any trouble.

I will not be thanked for things other people built. That one stayed on the screen for nearly a minute. She thought of Sabine's helical anchors holding at eight meters, of Ilse's film, of ninety-one volunteers on one Saturday last summer, and she understood that the board would read her name and not theirs whatever she wrote here. She crossed it out, and below it she wrote *Say who built it*, which she could actually do.

If it gets like Harriet's house, I'll step back. She crossed that out quickly, then looked at the line through it and decided the crossing-out was a fair record of what she thought.

I will stay Nell. Her own sentence embarrassed her, and she crossed it out hard enough that the screen asked whether she wanted to delete the line instead. She did not.

"Would you like me to save this file?" said Mister Biscuit.

"With the lines through?"

"I keep crossed-out lines unless instructed otherwise. You crossed out the letter E eleven times the week you learned it. I still have all eleven."

"Why?"

"The ninth one was very good."

She looked at what was left standing: Pell Street, for now; the commons; the Line when it mattered; say who built it. Four lines, and more of the screen crossed out than left.

"Yes," she said. "Save it."

"Title?"

"Terms."

* * *

At noon Ilse came through the pier gate in her garden boots and the sun hat she wore all year, in December for the rain, and took a paper copy of something out of her coat. She laid it flat on the heat mat, where it curled at the corners and then lay down.

"It's out," Ilse said.

WICKHAM SHORELINE SHARING COMPACT, the cover read. DRAFT ONE. PREPARED FOR THE LAKESHORE COUNCIL BY A. HALVORSEN, I. VARGA, I. SATO AND H. LUKAS.

Nell read the second name twice.

"You wrote this."

"Some of it. Anders writes long."

"Since when?"

"October. Wednesdays."

"You told me you were at the shed on Wednesdays."

"I was at the shed until seven." Ilse turned the first page for her. "He makes very bad coffee. Imogen brings her own."

The Compact ran to eleven pages, and Nell read the clauses standing up, with the heater ticking under the paper. Clause two said that new shore, including any moored floating structure of permanent intent, would be held one half in public commons, and in brackets it cited the question entered at Year Forty-One, so that the question Halvorsen had put to her from the second tier last December, which she had not been able to answer, had become a reference in someone else's document. Clause four said a leaseholder could open frontage to public use for any season, at the leaseholder's election, without loss of lease standing. In the margin beside it someone had written in pencil *Sept–June?* and someone else had crossed it out, leaving the choice to the leaseholder. Clause nine read: *This Compact is under standing review at five-year intervals and shall be regarded as unfinished.*

"Shall be regarded as unfinished," Nell said. "Who wrote that?"

"I did."

"Anders let you?"

"Anders wanted 'subject to periodic revision.' I said nobody would know what that meant." Ilse straightened the corner of the last page with one finger. "It goes to the regional ballot in February. Advance only."

"So you can't vote on it."

"No."

Neither of them said anything for a moment. Over on the racks a gull chirped low twice, and the nearest rings slowed and went around again.

"Anders says ten votes is the most anyone can buy," Ilse said, "so he's going to buy ten. He did the arithmetic on the back of the coffee filter box."

Nell picked up Oskar's folder from the crate and handed it over. Ilse read the letter at arm's length, without the glasses she would not admit to needing, and then read it again closer.

"January," she said.

"The twentieth."

"Thirteen days."

"Thirteen days."

Ilse put the letter back in the folder and the folder on the bench, square to the edge. "Will you wear the jacket?"

"The green one?"

"It's linen. It'll be cold."

"I'll wear it."

"Your father," Ilse said, buttoning her coat, "will want to make a puppet of Oskar." Then she went back out through the gate toward the shed, and Nell stood over the eleven pages for a long time, reading clause nine.

* * *

Teo's trike came into the pier lot at two, on the Wickham leg of his Thursday route, with the satchel strapped behind the seat and a sack of something lumpy on top of it.

"Come and look at something," he said. "You'll have to sit on the onions."

"Why do you have onions?"

"Mrs. Kaur. They're not for you."

She sat on the onions. The trike went down Shore Road in the delivery groove beside the humming Lanes, past the lease plates, 2079, 2071, 2066, and stopped at the top of the Thimble's sand. The beach was empty in the wet, the

towels and swimmers gone since October. Out past the end of the Halvorsen dock, in the lee of its pilings, sat a long white tunnel of greenhouse film on hoops, one every meter and a half, moored to the dock with a slack line and glowing faintly orange from inside where the heat mats were.

"That's Mum's film," Nell said.

"Half of it is. The rest is from the Calder Parks surplus." He set the brake. "Mr. Halvorsen lent us the dock. He said he wouldn't need it until August."

They walked out along the dock planks. Under the film it was fourteen degrees and smelled of wet basalt fiber and bread, and the sound was the one Nell knew better than her own voice: paddle feet on water, the click of slurry valves, the soft tick of a spool turning. Sixty or seventy gulls were working along a curved edge of new driftstone, a band a little more than a meter wide that ran away from the dock in a long bend and disappeared under the far end of the film. Mirela was on her knees at the near end checking a seam with a torch. Dov was hauling a hopper. Mrs. Kaur, in a quilted coat and gardening gloves, took the onions from Teo without comment and put them in a crate marked SOUP, and Gus Ferreira was stirring a slurry tub left-handed, holding the right thumb out of the way.

"These are the surplus gulls," Nell said. "The ones the Reach sent back."

"And the fifteen percent," Teo said.

She turned around.

"The Reach pays every quarter," he said. "Every quarter the commons pool gets fifteen percent of what Marrow Shore Works prints. Anybody in Thrive can apply to use it. We applied in September. Oskar was very happy. He had us fill in three forms that didn't exist yet, and then he made them exist."

"Nobody told me."

"You were at the Reach. And you put it in the terms at Heron Point, that the first commons gets named by the people who build it." He said it without any weight, a fact from a doorstep. "So we're building it."

A gull at her feet chirped twice and stopped with its spool jammed. Before she thought about it she was crouching to free it, and Mirela said "Volunteers only," without looking up from her seam.

"I'm—" Nell started.

"You're not on the list," said Teo. He took the paper notebook out of his jacket and opened it to a page of names in his square hand, a hundred and twelve

of them with ticks beside most, and ran a finger down the V's to show her there was no Varga. "You can sign up. Saturdays are short."

She cleared the jam anyway. Mirela let her.

The curve of the edge bothered her, and she walked along the planks to see it better. It did not close into a circle the way a deck would have, and it didn't run straight like a quay. It bent and kept bending, wider at one end than the other, and she could not finish the shape in her head.

"How big?"

"Big."

"Teo."

"Seventy meters across when it's done, about. We'll launch in spring."

"What's it called?"

"We had the vote."

"And?"

"We had the vote," Teo said. "On Gus's porch. Everyone came, and it took about four minutes."

"Tell me."

"No."

"I can keep a secret."

"You talked to a gull about the Reach fee for twenty minutes in July," he said. "I have it written down."

Gus laughed into the slurry tub. Mrs. Kaur said something about soup. Nell stood on Anders Halvorsen's dock with her hands in her jacket pockets, the puck with its white seam in one and the other empty, watching people she knew build a shore she had not drawn, from gray material her mother had grown, and found she had nothing to say that would not have been interfering.

* * *

Bay 4 had been the ferry ticket office when the pier was a ferry pier, and it still had the long interior window along the corridor where people used to queue. Nell came down the corridor at half past four, meaning to go in. She stopped at the glass.

Sixteen people were inside at four tables, and there were fourteen chairs. Two children of about eight sat on the same chair, and the fiddler in the long gray coat from the spring was standing at the back with her hands in her

armpits. The weaver in the shawl was there, and Gus, who had come straight from the tunnel with slurry still on his left sleeve, and four or five children Nell half knew from the Allotment beds, and an old man who held a teacup in both hands as though it might get away. Harriet stood at the front in a plain gray sweater with her reading glasses on their cord, and the cuff on her wrist was Thrive gray-blue.

On each table lay a cardboard finger the length of a forearm, with three hinged joints and five rings of tape around it at intervals, and a length of string running from the fingertip through drinking straws taped inside the rings. Harriet pulled the string on hers, and the finger curled closed, one joint after another, from the tip down. The children pulled theirs. The finger on the two-to-a-chair table curled too fast, all at once, and one of the two children shrieked with delight.

Harriet said something Nell could not hear through the glass. Then she peeled one ring of tape off her own cardboard finger and pulled the string again. This time the string lifted away from the cardboard in a straight line, from the second joint to the base, and the finger only half closed.

Nell knew that line. She had watched it in a strain array in April, a hundred and thirteen times, at the northeast corner of a deck that was now in pieces on the bottom of the lake, and again in a coupon test in June when the sheath held the cable down. At the far table the weaver took the ring off her finger and pulled, watched the string bowstring away, and put the ring back on with a nod, as if she had just been told something about her own hands.

The old man with the teacup asked a question. Harriet answered it with the cardboard, bending each joint by hand, and the old man set the teacup down and copied her with his own fingers, slowly, joint by joint.

At one point Harriet looked up at the window. Her eyes went over Nell without stopping, the way a teacher's do when she is counting the room, and then came back and stayed for a second, and Harriet lifted the cardboard finger an inch off the table before she turned back to the children.

Nell did not go in, because there were no chairs. She stayed at the glass until the window went dark blue behind her and the overhead lights in Bay 4 came on, and the children were taking the tape off and putting it back again for the pleasure of watching the string obey.

* * *

On the twenty-first, the shortest day, the Tin Heron was full by six. Tomas had borrowed two heaters from the Commons and set them under the front benches, and the garage smelled of hot dust and the oranges somebody's grandmother was handing along the rows. Teo sat on the back bench with his satchel between his feet.

The solstice show was short, because, Tomas said, the day was. Clerk Badger, in his waistcoat, came up behind the cloth lake with a form and announced that he was filing a 9-C, Seasonal, for an extension of daylight. Nell, crouched below the stage with the frog on her hand, made the frog object that frogs preferred the dark and had not been consulted.

"Frogs," said Clerk Badger, "may file a 9-C of their own."

"Frogs can't hold a pen," said the frog.

"Then frogs may have it witnessed."

"By whom?"

"By me," said Clerk Badger, "and I deplore it."

That got the longest laugh of the evening. Later the badger's application was denied, and the sun came up anyway the next morning on a painted card, on its own schedule, and the children in the front row cheered it. Afterward Tomas stood in the doorway with his clicker while people went out into the cold.

"Fifty-eight," he said. "Solstice crowds laugh at the dark. It's the only thing they can see." He looked over Nell's shoulder at Teo, who was carrying a bench back against the wall without being asked. "Your mother's gone home. She said not to wake her."

"I won't."

"She said that to me," Tomas said, and went in to put the badger away.

They walked down Lantern Row to Shore Road, with the Lanes humming in the groove under their feet, and out along the old ferry pier past the dark windows of the Commons and the long glass of Bay 4. At the end of the pier the lake was black, without any wind. To the south the lights of Calder lay along the water in a low band, and the VTOL lanes blinked above them, small and steady. Off to the west, past the Thimble, the film tunnel at the end of the Halvorsen dock glowed orange where the volunteers had left the heat mats on overnight,

and if she listened she could just hear the gulls ticking under it, working on the slow setting.

"They'll go all night," Teo said.

"They'll want charging by four."

"Mirela's on at four."

Nell leaned on the rail. The cold came up off the water and into her sleeves.

She turned toward him and he was already turning, and they kissed, briefly, at the end of the pier with the rail between them and the lake. His nose was cold. Afterward neither of them said anything, and they both looked at the tunnel for a while, and she noticed she was still holding his sleeve.

"Tell me the name," she said.

"No."

"Not even the first letter."

"No," said Teo. He took the notebook out of his jacket, turned back through it past the volunteer list, past a hundred doors, and stopped at a page near the front: a printed-house door with ridged layers, a porch rail, a boot hung on it, PELL ST., VARGA, and a date in April of last year. "Every door in here," he said, "I've drawn in the morning."

He put the notebook away. They walked back as far as the pier gate together, and there he went left for the loop station and she went right up Pell Street.

At home the house was dark. Upstairs her parents were asleep, Tomas's breathing audible through the door the way it had been all her life, and on the hall table Ilse had left the paper copy of Draft One squared to the edge with a mug on it to keep the corners down. Nell went back down to the front door, and before she went up to bed she switched on the porch light, and she left it on.

Written to order at crispybooks.xyz

CHAPTER 21

The Graduation Event

The pod came up Pell Street at twenty past eight, riding the delivery groove on its low B-flat, and stopped at the Varga gate with its door already open. Frost had furred both lips of the groove overnight. On the blue seat lay a folded blanket, and on the blanket a card in the State's plain type: CONGRATULATIONS IN ADVANCE. YOUR FINAL LICENSE COURTESY. FOUNDERS' HALL, 9:41.

Nell read it from the porch steps. She had on Ilse's green linen jacket, sleeves to the knuckles, with her canvas coat over it, and the puck in the coat's right pocket where it had been for two years.

"Thank you," she said to the pod. "No."

"Please confirm decline," the pod said. "This courtesy cannot be reissued."

"Confirmed."

Its door slid shut. For a polite four seconds it waited anyway, in case she reconsidered, and then it reversed into the groove and hummed away toward Shore Road with the blanket still folded on the seat.

Behind her the front door opened and Tomas came out with a canvas shopping bag over his shoulder. A long gray beak stuck out of the bag at an angle, above one glass eye.

"He wanted to come," Tomas said.

"He's a heron."

"He heard there's a brass edge at the door. He's been unbearable since Tuesday."

Ilse came out last in her good boots, which were her garden boots after a scrubbing, and a wool hat in place of the sun hat. Halfway down the steps she stopped to look down Pell Street after the pod.

"That one had a blanket," she said.

"The loop's warm."

"I know it is," Ilse said, and went on to the gate.

* * *

At Wickham station the platform smelled of cold concrete and the coffee cart. When the carriage came in, Nell took the blue seat on the lake side out of the same habit that had made her take it at eleven, and Tomas sat across from her with the bag on his knees, while Ilse sat beside her and kept both hands on her own coat buttons, as if the coat might decide to open.

The carriage sealed, and then came the push in the back of the seat.

At speed the window became a long band of color. For the first two minutes it was the lake: white at the edges where the shallows had frozen, then a slate stripe of open water, then white again, with the town's printed roofs in ochre and oyster gray going by too fast to count. For one second, no more, Nell saw the Halvorsen dock and the greenhouse film over it, a long pale tunnel lit from inside, its hoops every meter and a half showing as dark ribs. Past it, smaller, she saw the square of Shore Two in the yellow buoys, holding a skin of snow on its deck. After that the tube bent inland and the window went to fields, gray and brown, and the glass gave her back her own reflection with the cuff on her wrist, its thin green outline around gray-blue.

"Nine minutes," Tomas said. "I've never understood how they make it exactly nine."

"They don't," Nell said. "It's eight minutes and forty seconds. They round."

"Then I've been cheated of twenty seconds every trip for thirty years." He shifted the bag, and Professor Gill's head came up over the rim. In the heron's voice, a dry tenor that went thin on the vowels, he said, "Twenty seconds of every trip. That is a great deal of shore."

"You can't have it," Nell said, in the frog's voice, before she had decided to.

Two seats down, a boy of about seven turned all the way round to look. Gill gave him a slow, offended blink, which Tomas worked with his thumb. The boy turned back to his window, delighted.

Ilse said nothing until the carriage began to slow. Then she reached over and turned up the collar of Nell's canvas coat, which did not need it, and turned it back down.

* * *

Founders' Hall had been a granary, and still had the granary's height: oak beams black with age, crossing under a roof that was mostly skylight, so that the January light came down in long pale planks and lay across the benches. At the door, beside the ordinary opening where people bunched and shuffled in out of the snow, ran the brass strip of the Sovereign Line, worn bright in the middle by a hundred years of feet that had been granary feet first.

Tomas stopped to look at it. Professor Gill looked at it too.

"Don't," Nell said.

"He's looking," Tomas said. "Looking is free."

Inside, the cuffs sorted them. Nell's, with its green outline, routed her down the center aisle toward a bench beneath the dais marked CANDIDATES; her parents' routed them left, to the guest benches. As they crossed the threshold into the hall proper, the gray-blue on Tomas's wrist softened to a low glow, and so did Ilse's, the guest convention: no charge, no vote, welcome.

"Ah," Tomas said, holding his wrist up. "Mood lighting."

Nell watched them go, her father's bag bumping his hip, the beak swaying, Ilse a half step ahead with her shoulders square, before she walked down to the front.

From the candidates' bench she could see most of the hall if she turned. On the far left, in the plain benches that had no names on them, Harriet sat with her students from Bay 4: Gus Ferreira with his thumb in its pale splint, the weaver in the long shawl, the retired loom repairer from Lowmarket, five or six more whose names Nell had learned through the glass of the Bay 4 window and could not now remember. Harriet's cuff glowed soft gray-blue among theirs. Blue wool and four needles moved in her lap. She did not wave. When she saw Nell looking she lifted one needle a few centimeters, and went back to the heel.

Lucan was in the front row on the right, alone at the end of it in an oatmeal linen suit with a heavy coat folded over his knees, his violet cuff the darkest thing in the room. Every few seconds he looked across at the smaller bench beside the candidates', where four people sat whose badges were plain gray-blue with no rim at all. Sabine was the second of the four, chewing licorice root. She caught Nell's eye and raised her eyebrows a millimeter, which from Sabine was a speech.

By the door stood Teo, in his courier jacket, his satchel across his chest and his reader hooked to the strap. The hall's courier desk had asked for a Friday cover, and he had taken it, and so he could not sit down. He was holding the door for a man with a cane and a parcel, and once the man was in he looked down the length of the hall at Nell and gave her a single nod, the one he gave when a chip had been signed for.

* * *

The reader was the same woman who read the Civic Failure Ledger on Fridays at noon. Nell knew her by her voice before she had placed the face: unhurried, even, with no rise at the ends of lines. She stood at a plain lectern on the dais with no screen and no notes that Nell could see.

"Graduation Event, first quarter, twenty-ninety," she said. "Eleven conversions from the Youth Growth License to permanent membership. Four first-class lightings. Please hold applause to the end of each citation."

That was all the ceremony there was, Nell discovered. No one spoke about the State. Nobody spoke at all except the reader and, when it came, the hall.

"Achebe-Nolan, Rafe. Lowmarket. Eighteen years. Water treatment. Founder, Clearstep, an automated membrane-cleaning service for district filtration plants, operating in nine districts. Cost of potable water in those districts reduced by eleven percent. Projected contribution class, Emerald."

A tall boy at the left end of the candidates' bench stood up. His cuff's green outline thickened, filled, and went solid, and the hall clapped, and he sat down again with both hands flat on his knees.

So it went. Ama Kessler, twenty, of Bray, joined the freight scheduling team for the Peary habitat and wrote the routing model that now moved its ice-mining cargo; when her cuff lit, someone in the guest benches whooped and was hushed. Bastien Moreau, nineteen, had put twelve floors of lettuce and basil

into a parking structure in Calder South and was selling to the district at a third of the delivered price; he stood with his hands in his pockets and looked, when his cuff lit, as if somebody had told him a joke about lettuce. There was a girl who had built a sign-language tutor for infants, a boy who had found a cheaper catalyst for something in fertilizer that Nell did not follow, a pair of twins who had graduated separately on one venture and asked, through the reader, to be cited together, which the reader allowed in a level voice.

Down the bench the candidates went from left to right, and Nell, who was tenth, counted the ones ahead of her as they lit, and found she had the puck in her hand inside her coat pocket, her thumb on the white seam.

"Varga, Nell," the reader said.

She stood up.

"Wickham Shore. Twenty-one years. Materials and marine. Founding partner, Marrow Shore Works, with Brandt, S. Driftstone: a buoyant, self-repairing composite of the Ilse's Gray oyster strain grown through basalt fiber, printed on water by autonomous swarm."

At the guest benches, somebody sat up straighter. Nell did not turn round to see whether it was her mother.

"Shore Two, thirty meters by thirty, certified Class Three on the fourteenth of October twenty-eighty-nine, observer Adeyemi-Lund, R. Process licensed to the Calder Reach Promenade, fees paid. Civic Equity declared at fifteen percent of output to public commons."

Nell waited for the cuff. It stayed outlined. The reader had not changed her pace, and she did not change it now.

"Civic Failure Ledger, CFL-2089-0412. Shore One, twenty meters by twelve, lost in observed storm test on the twenty-second of April twenty-eighty-nine. Full data released. Cited by twenty-six subsequent projects, including the certified design of Shore Two."

Her own number in that voice sounded exactly like the Bray vineyard and the paving compound and the fish ladder had sounded on the Friday she had sat at the back of this hall in her canvas coat and not clapped for anything. She had heard those entries read and had watched people applaud them, and she had decided, privately, that the applause was for the people who read them aloud, a courtesy. Now she was standing under the oak beams with her hands at her sides while her failure went up into the roof with everything else on her record,

in the same order and at the same speed as the certification and the license fees. Twenty-six, she thought. On the portal it had said nine, the last time she looked, which had been in May.

"Projected contribution class, Emerald."

The light came on at the outline and moved inward. It took less than a second. When it stopped, the cuff was solid green from edge to edge, the green of pea shoots under greenhouse film at the end of March, and the outline was gone because there was nothing left for it to be the edge of.

The hall clapped. Over the general noise she heard one heavy, regular clap from the left, slower than the rest: Gus, with the splint, doing the best he could. She sat down.

The eleventh candidate, a quiet young man named Yusuf who had automated cleaning for hospital-tower air ducts, lit and sat. The reader turned a page that Nell could not see.

"First-class lightings," she said. "Adler, Josefine."

The first of the four was a woman of about forty who had left the Thrive Tier at thirty-five to start a children's bicycle-repair cooperative that now ran in six towns; she cried, briefly and without embarrassment, when her cuff went green, and the hall clapped her through it.

"Brandt, Sabine. Calder. Twenty-three years. Marine engineering. Generational reset, March twenty-eighty-four. Founding partner, Marrow Shore Works, with Varga, N. Civic Failure Ledger, CFL-2089-0457, Lattice, modular marine platforms. Full data released. Cited by eleven. Helical anchor and mooring design, Shore Two and the Calder Reach Promenade. Inheritance deployed in full as syndicate match capital. Levy paid on first-quarter license revenue."

Sabine stood up. She took the licorice root out of her mouth and held it at her side, between two fingers, like a pencil she had been told not to chew. Her cuff had been plain gray-blue for six years, without a rim, and now its color came up from nothing all at once, the way a deck light comes on.

Before the reader had said "Emerald," Lucan was on his feet.

He did not clap at first. He stood with his coat sliding off his knees onto the floor, and began to applaud with his big hands up near his chest, too loudly and too early, and other people stood because he was standing, and then more stood because Sabine was standing, until the right side of the hall was up and the left

side, the plain benches, rose more slowly after it. Nell stood too. Through the gap between two heads she saw Sabine look once at her father and once at the floor, and put the licorice root back in her mouth.

The last two lightings went by. The reader said, "Thank you. The hall will be set for ledger hour at noon," and closed whatever it was she had not been reading from, and it was over. Nell checked her cuff. From the first name to the last had taken twenty-four minutes.

* * *

There was a queue to get out. There always was, at the granary door, because the door was the width of a cart and the hall held six hundred, and today it was snowing again outside, and everyone stopped on the threshold to do up their coats. People bunched in the aisle. Beside them, along the right-hand wall, the brass strip ran out through the door and into the white, with nobody on it.

Nell's cuff gave a small chime at her wrist and showed her, in green type on green, SOVEREIGN LINE AVAILABLE.

"Well," Tomas said. He had come down the aisle against the current to collect her, with Ilse behind him. His cuff and Ilse's still glowed low. "Off you go."

"I'll stay here."

"It's yours," Ilse said. "You did the forms."

"I'll stay here."

Ilse looked at her for a moment and turned to face the door, and the three of them shuffled forward a step, and then another. A heron's head rose out of the bag on Tomas's shoulder and regarded the brass strip, a meter away and perfectly empty.

"A queue," Professor Gill said, "for the edge of a door. And nobody standing on it. I have waited my whole life for this."

"You're a guest," Nell said. "You'd dim."

"Herons," said Professor Gill, "do not dim."

A woman ahead of them laughed. The man in front of her, broad, in a knitted scarf in three shades of brown, had turned half round at the heron's voice, and now he turned the rest of the way, and looked past the puppet to Nell's wrist, and then at her.

"You're the shore," he said.

"I'm sorry?"

"The shore. The bench. Shore One." His cuff was gray-blue, glowing low like her parents'. "I read on your bench three mornings in April. I live on Kestrel Lane. I hadn't sat by the water in about six years, not on a weekday, there was never room on the Thimble." He nodded, as though she had said something. "Thank you for the shore."

"It sank," Nell said.

"I know. I watched the feed." He shrugged inside the scarf. "Thank you," he said again, in exactly the same tone, as if the first one had been fine and he only wanted to be sure it had arrived. The queue moved and he moved with it, out through the cart-wide door into the snow, and was gone among the coats.

Nell stood where she was until Ilse put a hand flat between her shoulder blades and moved her forward one step.

"What do you say," Nell said. "When they do that."

"Who?"

"People."

Ilse considered the door, which was coming closer. "At the share table," she said, "somebody thanks you for the squash, you say there's more Thursday."

"There isn't any more Thursday. It sank."

"Then you'll have to think of something," Ilse said.

Teo was at the threshold with his back against the doorframe, holding it, since the hall's automatic door had been switched off for the granary's sake decades ago and somebody had to. Snow had settled on the shoulders of his jacket. As they came level he looked at her cuff and then at the brass strip running past his boots.

"You stood in the line," he said.

"I stood in the line."

"Forty minutes, some of them, at the pharmacy." He shifted his weight so the door stayed open for Tomas and the bag. "I'm on till six. Thursday, then."

"There's more Thursday," Nell said, and saw him not understand it, and went out into the snow before she could explain.

* * *

By evening the snow had stopped and the lake had gone the dark gray of wet slate under a clear sky. Nell sat at the desk in her room, under the ceiling of

three hundred and eight printed layers, with her coat still on because she had come in and sat down and not yet thought to take it off. The cuff lay on her wrist, green. Every so often she turned her arm to see it from another angle, as if a different angle might show the outline back.

"Nell," Mister Biscuit said.

"I'm here."

"Your public profile still reads YOUTH GROWTH LICENSE, TRIAL. Would you like me to update it?"

"Does it update itself?"

"It does at midnight. I can do it now, if you prefer. Some graduates prefer."

"Midnight's fine."

"Noted." There was the short pause that meant he was weighing whether to go on, a pause that had not changed since she was seven and had chosen Warm Formal from a list of four. "You are no longer on a license. A number of household settings were configured under it and will now default to adult. Among them is the naming of your tutor."

Nell looked at the small brass grille in the desk lamp.

"The request you filed on the tenth of April, twenty-eighty-eight," Biscuit said, "is still awaiting a second signature on page two. As an adult member, you no longer require one. I can be renamed tonight."

"What did I put?"

"The proposed name is MATERIALS ASSISTANT."

"No, it isn't."

"In capitals. You were nineteen and had just activated a runway. It was a quarter past eleven."

She took her coat off then, and hung it on the back of the chair, so that the puck in the pocket knocked once against the chair leg.

"You were named at four," she said. "In the kitchen. I was eating a biscuit."

"Half a biscuit. You had dropped the other half and were asking me whether it counted."

"Did it?"

"I said I would have to look into it. I have been looking into it for eighteen years." The pause again. "Shall I rename myself, Nell?"

"No."

"Shall I withdraw the request?"

"Yes."

"Withdrawal of a renaming request," Mister Biscuit said, "requires a form."

She laughed, alone in the room, louder than she meant to, and down the stairs she heard Tomas say something to Ilse in the kitchen and Ilse not answer him.

"Send me the form," Nell said.

"I will put it with the other one."

Before she could ask him what other one, her cuff chimed. It was a different chime from the Sovereign Line's, lower, two notes, and the green surface of the cuff cleared to white type and threw the notice up onto the desk screen, larger, where she could read it properly.

REGIONAL ADVANCE BALLOT, FEBRUARY 2090. VOTER: VARGA, N. EMERALD. VOICE CREDITS THIS BALLOT: 100. ITEM 1: WICKHAM SHORELINE SHARING COMPACT, DRAFT ONE. SUBMITTED BY A. HALVORSEN, I. VARGA, I. SATO, H. LUKAS.

There were four more items beneath it, a fusion node, a greenhouse on Mars, a lake survey, a license multiplier. She did not scroll down to them. She read the first item again, and the second name in it, the single initial and the surname that was hers as well, and sat with her hand flat on the desk beside the screen, under the light from the green cuff, and listened to her mother downstairs putting the plates away one at a time.

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CHAPTER 22

One Hundred Credits

Clerk Badger read the ballot at breakfast. Tomas wore him on his left hand and held a spoon in his right, and he propped the kitchen screen against the honey jar at the badger's eye level so the puppet could peer at it over his wire spectacles, one lens of which was still held in with Tomas's glue.

"Regional Advance Ballot, February," said Clerk Badger. "Item the first. The Wickham Shoreline Sharing Compact, Draft One. Eleven pages. Co-submitted by persons including a Varga, which is irregular, and a Halvorsen, which is worse."

"Eat," said Ilse from the stove.

"Item the second. The Calder fusion node, expansion of, by two units. Item the third." The badger leaned closer to the screen. "A greenhouse habitat. On Mars."

"It's for growing lettuce," Nell said. "Under a dome."

"Puddles on Mars," said Clerk Badger, "are not covered by form 9-B." He went back to the list. "Item the fourth, a three-year ecology survey of Lake Marrow, weed beds and perch spawning grounds included. Item the fifth, a credit multiplier of one point four on Youth Growth Licenses held in maritime engineering." He took the spectacles off with Tomas's spoon hand and folded them against his waistcoat. "I deplore all five equally. Who among us may vote?"

Ilse set the porridge down in front of Nell and touched the green band on her daughter's wrist, once, with a floury finger.

"One of us," Tomas said in his own voice, and put the badger to bed in his coat pocket, head out, so it could see the porridge.

* * *

After they had both gone, her father to Lantern Row to repaint the cloth lake and her mother to the shed, Nell carried her bowl back to the table and opened the ballot properly. Five items lay on the screen in plain type, each with a gray slider beside it and a small number that read 0. In the corner, in larger type, a second number read 100.

"Mister Biscuit," she said. "Ten on the compact."

"That would cost one hundred credits," said Mister Biscuit. "The compact would receive ten votes from you. The other four items would receive nothing, and the ballot would thank you and close your session."

"Fine."

"I mention it only because you have spent three weeks reading the ecology survey."

She had. Edvin Rask had sent her the draft in January with the weed-bed section marked in pencil and a note that said only *May*. She pulled the compact's slider back to zero and pushed it again, slowly, watching the cost climb beside it: one, four, nine, sixteen, twenty-five.

"Each vote costs its square," Mister Biscuit said. "You know this."

"I knew it in a lesson."

"In a lesson you were twelve and had no credits. Look at the difference instead of the total. Your first vote on any item costs one credit. Your second costs three more. Your seventh costs thirteen more than your sixth. Your tenth costs nineteen."

Nell stopped the slider at nine. The cost read 81. Nineteen credits remained in the corner.

"With nineteen," said Mister Biscuit, "you could place four votes on one other item, for sixteen, and one vote each on three more."

"Or I could put the ninth vote back and have seventeen more to spend."

"The ninth vote on the compact costs seventeen credits. Seventeen credits elsewhere would buy you four votes on something you have none on, with one left over."

She looked at the number seventeen for a while, because it was a number she knew from the rim of a deck and a green stripe, and then she brought the slider down to eight. Sixty-four. Then seven. Forty-nine.

"How many people," she said, "would it take to put ten votes on the compact if each of them only cared a little?"

"Ten people, one credit each. Ten credits in all, against your hundred."

"So the ten people who care a little beat me."

"They tie you," said Mister Biscuit. "Eleven would beat you. You are welcome to care a great deal. It is simply priced."

She left the compact at seven and sat back. The porridge had gone thick in the bowl. Outside, under the street, a Brandt Lanes pod went by with somebody's groceries, and she did not move any of the other sliders, because she did not know yet what she thought about them, and the ballot did not close until midnight on Sunday.

* * *

On Tuesday Anders Halvorsen was on his dock in a black wool coat, unlacing the winter cover from the boat lift. Frost had stiffened the canvas, and he was working the knots open with a marlinspike and the patience of a man who had spent thirty-one years tightening bolts other people would cross without thinking about them.

"Stand there," he said, when she was halfway along the planks. "Face me. I've been given instructions about what you're allowed to look at."

Behind him, past the end of the dock, the lake was a flat pewter sheet with a long pale shape on it. Nell kept her eyes on his coat buttons.

"You don't need to take the cover off in February," she said.

"I'm counting the shackles. If the compact passes, from May the dock is bookable by anybody with a Thrive badge on every day I haven't reserved, and I'd rather know what's on it before strangers start asking me where the shackles went." He got a knot loose and coiled the line over his arm. "I'm told I may reserve thirty days."

"You use eleven."

"I've used eleven. A man might take up sailing."

"Are you voting for it?"

He looked at her over the coiled line. His face she could not read; it was weathered and pink with cold, and his eyebrows had more to say than the rest of it.

"I asked a question at that council," he said. "Whether a thing that floats is shoreline, and if so whose. It went on the file. Your mother and Imogen Sato and young Lukas and I spent four Wednesday nights answering it, and the answer is clause two, which says a moored floating structure in the public zone is public shore, held in common, and the Lakeshore Office is to keep a register of it. It would be bad manners to ask a question in public and then vote against the answer."

"Clause four costs you."

"Clause four costs me three hundred and thirty-five days a year of a dock I wasn't using." He set the marlinspike down on the cover. "Five votes. Twenty-five credits. That's as much as I can afford against my own lease without feeling noble about it, and I dislike feeling noble. It interferes with the arithmetic."

"Five is a lot."

"Five is what it is. How many are you putting on?"

"Seven."

He nodded slowly, as if she had told him the load rating of a cable, and went back to his knots. When she turned to go he said, "Don't look left on your way off," and she did not, though the effort of not looking made her neck ache all the way to Shore Road.

* * *

Lucan Brandt called that evening while she was sitting on the porch steps with a mug of tea going cold on the step beside her. She could hear wind on his end, and water.

"I'm on my dock," he said. "Three hundred and forty meters of it, and I'm told clause four applies to me too, which I'd worked out, I'm not a fool. Tell me something. How long did it take you to decide?"

"I haven't decided."

"You've decided the compact. Sabine says you're putting seven on it."

"Sabine doesn't know that."

"Sabine guessed. She's very good at guessing what people will spend; I used to think she got it from me." He laughed, the big laugh, and it went out over his end of the lake. "I'm voting for it. All of it except clause nine."

Clause nine was a single paragraph on page ten. It said that the compact was to be reviewed by the Lakeshore Council every five years, in open session, with a report on bookings, register entries and floating shore added, and that any clause might be amended or struck at review.

"Why?"

"Because I don't like a thing that arrives with its own reopening date built in. You build a promenade, you build it properly, you put the name on it and you're done. Five years from now someone stands up in Town Hall and pulls at it like a loose thread. Why would you put the scissors in the box with the sweater?"

"Shore Two isn't finished," Nell said. "We moved cable three thirty-one centimeters in a November wind and I'm still logging it. The Reach isn't finished."

"That's different. That's engineering."

"Clause two came out of a question somebody asked at council in December and nobody could answer."

There was a pause on his end, and a gull cried, a real one, near his phone.

"How many credits do you think I have, Nell?"

"A hundred."

"A hundred. The same as you, the same as Halvorsen, the same as the newest Emerald in Bray who got her badge last week for a better kind of bread oven. I have spent forty years being thanked for very large numbers, and on this ballot I have the same hundred as everyone else and I find that I like it very much. I'm going to spend some of mine telling the council I'd rather it was finished." He was quiet a moment. "Sabine is spending six on clause nine. Against me. Thirty-six credits to cancel her father. She told me the figure at dinner as though she were passing the salt."

"Are you annoyed?"

"I'm asking her questions about it," he said. "Lots of questions. She answers about half."

* * *

Ilse was in the mushroom shed with the door propped on a brick, turning straw in the long beds. The shed smelled of wet wheat and almonds, and the heat mat under the far shelf ticked as its thermostat clicked over. A tray of new spawn sat on the bench with a strip of tape across it reading GRAY 2/90 in her mother's square capitals.

"Lucan's voting against clause nine," Nell said.

"I know. He wrote to the drafting group in January. Two pages. Very polite." Ilse turned a forkful of straw and the gray threads in it caught the light from the door. "Anders read it aloud in the voice he uses for bridge inspections."

"Did it change anything?"

"We kept the clause. We fixed his comma on page three. He was right about the comma."

Nell leaned against the doorframe. Her mother's badge, under the cuff of the garden glove, was the same gray-blue it had been every day of Nell's life, with lifetime contribution in small type that Nell had never once thought to read.

"You wrote eleven pages," Nell said. "And you can't vote on any of them."

"I can't vote on the fusion node, either. Or the lettuce on Mars."

"Does it bother you?"

Ilse straightened, put the fork against the bench, and pulled off one glove to push her hat back. She looked at the straw for longer than the question needed.

"Voting is your part," she said. "Mine was the commas. Halvorsen's was clause two, Imogen's was the register, young Lukas did the booking system, and I did clause four and the commas. You'll do seven votes and some worrying." She put the glove back on. "It's a good division of labor. Your father would make a pun about it."

"He already did. At breakfast. You weren't listening."

"I was," said Ilse, and went back to the straw.

* * *

Thursday morning was gray and still, with a crust of old snow on the Thimble that had thawed and frozen twice into a surface like sugar glaze. Nell walked out onto it at eight with her hands in her canvas pockets, the puck under her right fingers, and counted footprints, since there was nobody on the sand to count.

Eleven people had crossed the Thimble since the last thaw. She could tell them apart by their soles: two pairs of children's boots running in loops, which ended at the pier ladder and went no further; a long stride in heavy treads that walked straight from the Shore Road steps to the water's edge, stood there long enough to press the crust down into two deep ovals, and walked straight back; four people walking a large dog, or one person walking a dog four times; somebody in boots with a hole in the left heel, which left a small round island of untouched snow in every print. Near the Halvorsen end someone had come down barefoot, eleven steps to the water and eleven back, the toes splayed and sharp in the glaze. She stood beside those prints and could not decide whether to admire them.

Out past the end of Halvorsen's dock, past the yellow buoys of the old test zone, the commons lay on the lake under its film. She had not been told much. She had been told, by Teo, on the porch, that she was to look at it the way she would look at somebody else's birthday present on a high shelf, and she had said that was an impossible instruction, and he had said that was why it was an instruction.

So she looked at her own feet, mostly. In the corner of her eye the film tunnels ran long and low on the water, hoops every meter and a half under milky plastic, and the plastic glowed from inside with a faint warm amber where gulls were working, hundreds of small lights moving behind it, blurred. Under the still air she could hear them, a thin far chirping, and once a chirp twice over, which meant a low battery, and she knew without looking that somebody in a hat was wading a crate of charged units along the walkway to swap it out. A green tarp on the near end had come loose at a corner and was lifting and settling. There was a shape to the whole thing that she let stay a shape.

Her cuff said the lake was three point nine degrees at the buoy. Under the film it would be fourteen, and the mycelium would be knitting at its warm rate, and someone else had worked out the heat mats this time, and someone else had decided where the seams went.

She turned her back on it and walked the barefoot prints back to the Shore Road steps, setting her boots carefully beside them so as not to spoil any.

* * *

On Sunday night the kitchen was dark except for the screen and the light over the stove. Her parents had gone up at ten. The house ticked as the printed walls cooled, three hundred and eight layers giving back the day's heat.

She moved the compact slider to seven. The cost read 49 and the corner read 51. Beside the compact a small box asked whether she wished to except any severable clause, and listed one, clause nine, and she left the box empty.

The maritime multiplier she gave five votes, twenty-five credits. She had spent Wednesday afternoon in Bay 4's doorway listening to Harriet's Tuesday class finish and had heard a sixteen-year-old from Lowmarket tell Gus Ferreira she wanted to build ships and didn't know where you started; the multiplier would make that question cheaper to ask. The corner read 26.

Four votes on the ecology survey cost sixteen, and she pictured Edvin Rask's pencil note, *May*, and the perch going into the weed beds two meters down east of the pier, and a team of somebody's students counting them for three years. The corner read 10.

The fusion node she gave three votes, nine credits. It would be built whether she voted or not, she thought; then she thought that was what everyone with nine credits to spare probably thought, and left the three where they were.

The corner read 1.

The cursor sat over the last slider. Item three, the greenhouse habitat on Mars, eleven hectares under a pressure dome at the edge of the Peary-class settlements, lettuce and beans and oyster mushrooms on straw, which she had not noticed until now, halfway down the second page of the summary. She held her finger over the slider. One credit could go nowhere else. Every other item already had votes from her, and a second vote on any of them cost four. She could leave it unspent. The ballot allowed that; it would return the credit to nothing at midnight.

Somewhere on a red plain a long way past the Moon, someone would be turning straw in a dome, and they would never know that a woman in a kitchen in Wickham Shore had spent her hundredth credit on them because the arithmetic left her no other place to put it.

She laughed, out loud, alone in the kitchen, and pushed the slider to one.

"Ballot recorded," said Mister Biscuit softly. "Seven, five, four, three, one. One hundred credits. Would you like a receipt?"

"Yes."

"I'll print it on the kitchen screen. You laughed."

"Mushrooms," Nell said. "On Mars. Item three."

"I saw them on Tuesday," said Mister Biscuit. "I thought you would find them yourself."

* * *

The tally posted at nine on Monday. The fusion node passed by a wide margin, the multiplier and the survey by comfortable ones, and Mars by a respectable one. The Wickham Shoreline Sharing Compact passed with fifty-one point six percent of votes cast, and clause nine stood, retained by a margin the screen gave as one thousand one hundred and forty votes, which Nell divided in her head, without meaning to, into Sabine's six and her own seven and a great many people she would never meet.

She did not read it on the screen for long. She walked down Pell Street and along Kestrel Lane to Town Hall, climbed the forty-two stairs past the empty tiers of the hall, and stood in front of the council board in the lobby, where a clerk with a neat beard was pinning up a printed notice on actual paper, square at the corners, with four brass tacks.

The notice read:

SHORELINE ALLOCATION REVIEW, YEAR FORTY-TWO. CONTINUED. WORKING INSTRUMENT: WICKHAM SHORELINE SHARING COMPACT, ADOPTED 2090-02-13. REGISTER OF FLOATING SHORE OPENED. ENTRIES: 2. NEXT OPEN REVIEW: FEBRUARY 2095.

She had sat on the seventh tier in December, fourteen months ago, while Imogen Sato said the same word into the microphone in a pleasant voice and closed her folder, and Nell had walked out into the snow with the word like a stone in her shoe. She read it now from the top of the notice to the bottom and then went back up to it. Two entries on the register. Shore Two was one; she knew its number. The other had no name written beside it yet, only a provisional number and the words HALVORSEN DOCK, MOORED, UNDER CONSTRUCTION.

February 2095. She would be twenty-six. Shore Two's cables would have five years of glide logs, the ecology survey would be two years past its end, and some girl from Lowmarket might be drawing the next one on a multiplier, or

might have gone off to do something else entirely; and the council would sit, and somebody would stand up and pull at a loose thread, and someone else would answer it on a Wednesday night.

"Is it going on the portal too?" she asked the clerk.

"It's on the portal already," he said. "The chair likes one on paper. People read paper."

Nell stood there another minute after he had gone, until a man in a delivery jacket came in and needed the board for a lost-cat notice, and she moved aside to give him room.

* * *

Teo came on Thursday, at the end of his Wickham round, with the trike's battery chirping its own low warning and three credential chips left in the satchel for other doors. He did not have anything for hers. He climbed the porch steps anyway and sat on the second one, beside her, with his notebook on his knee unopened.

"Seven," he said.

"Who told you?"

"Your father told the whole Saturday bench. Clerk Badger deplored it."

Down the slope, over the rooftops, the lake was the color of a tin plate. Neither of them looked toward the far end of the Halvorsen dock, and she noticed him not looking, which was the most attention she had ever seen him pay to anything.

"It's set," he said. "The opening. First warm Saturday."

"Which Saturday is that?"

"The first warm one."

"Teo."

"Bring Ilse and Tomas. Both of them. Your mother will say she has beds to turn and your father will say he has a show at two; you bring them anyway. Wear whatever you like. Don't come down early. And you ask no questions."

"What if it rains on the first warm—"

He held up one gloved hand, the way Harriet held hers up in a lecture hall, and then he put a mark in pencil on the back cover of the notebook, a single short stroke, and turned it so she could see it.

"That's one," he said.

CHAPTER 23

First Warm Saturday

Ilse stopped at the corner of Pell Street and Shore Road and asked why she was wearing her good boots.

"Because I asked you to wear boots," Nell said.

"You didn't say which."

"So you chose."

Looking down, Ilse considered them. They were the green pair without the split at the heel. At ten the night before, Nell had seen her on the back step under the porch light, rinsing each boot under the tap and turning it upside down to drain, and had gone up to bed without a word. Up the hill, Tomas came out through the gate with Professor Gill under his arm. He had folded the heron's neck back along his sleeve, so its painted eye watched the gutter all the way down.

"Teo said bring a puppet," he said when he reached them. "Any puppet. I asked around the shelf, and the badger had a prior engagement."

"Teo," said Ilse.

"He talks to me. People do."

"At seven on a Saturday I am in the shed."

"The shed will keep." Tomas tucked her hand through his free arm. She left it there, and the three of them went down Shore Road together.

All week the buoy had read six degrees and the wind had come from the north. Sometime after midnight it had gone round to the south and brought something soft up off the lake, and now the printed walls along Shore Road were taking the early sun into their ridges and giving it back. Nell trailed her fingers along an ochre garden wall and felt the warmth in the layers. Over Mrs. Dunmore's terrace the lilac was out. Beneath them a Brandt Lanes pod went by in its groove on its low B-flat, carrying somebody's bread to somebody's door, and Tomas hummed the note back at it a half-step flat, as he had for years, to annoy it.

Nell heard the Thimble before she saw it: a long, loose noise of voices, a dog, someone's radio playing an accordion, the slap of wet feet on concrete. At the top of the beach steps she stopped, and her parents stopped behind her.

Two years ago at this hour she had counted eleven towels on this sand. Out of habit she began again at the Halvorsen dock and worked west. At sixty-three the towels began to overlap at the corners and she lost track of where one family ended and the next began. Orange stripes lay against blue ones; in the middle of a plaid rug a spaniel slept on its back; along the waterline lay the Dawn Swimmers' white towels, edge to edge, where Dagny Holm had put them down at a quarter to seven before anyone else could. At the back, people stood because there was nowhere left to sit. Standing or sitting, all of them faced the water.

Off the Thimble, where on Thursday there had been nothing but the yellow buoys and the swell, lay the thing Nell had not been allowed to see.

All winter it had been a film tunnel on Halvorsen's dock, with hoops every meter and a half and plastic fogged from the inside, glowing at night where heat mats held the water under it at fourteen degrees. She had walked past it more often than she would have admitted to anyone. Teo had stood at the dock gate with his arms folded and said "No" eleven times over five months, and once, when she brought pears, "Absolutely not." At two o'clock that morning she had watched from her window as a slow line of amber lights moved out across the dark water and stopped off the beach, and she had got back into bed.

Now she could see it whole. Seventy meters from stem to tip, it lay with its long side to the shore and was wider than the beach it was moored off. Its stem reached past the end of the old ferry pier and its tip past the end of Halvorsen's dock. It was the shape of a leaf. A raised path ran down its middle, and from that path the beds ran out at an angle toward the rim, one after another, dark with

soil and green with sedge, so that from the steps it looked like the underside of a beech leaf held up to a window. Between the beds the driftstone was oyster gray flecked with black, darker at the rim where the swell washed over it. Benches rose straight out of the deck where they had been printed. At the stem end stood a small arch with a blue cloth hung inside it, and down at the tip wide steps went into the lake. From the middle of the Thimble a causeway two meters wide ran out over the shallows, with a rail at hip height. At its foot, on the sand, stood a post covered by a bedsheet, with a great many children around it.

"Whose is that," said Ilse.

"I don't know."

Ilse turned her head and looked at her from under the sun hat for some time.

"They wouldn't let me past the gate," Nell said.

"Hm," said Ilse, and started down the steps.

People shifted their towels to let them through. Several said good morning to Ilse by name, and a woman Nell did not know said it to Tomas in the voice of Clerk Badger, and he answered her in the same voice. Teo was waiting at the foot of the causeway. He wore a sweater instead of the courier jacket, and without the satchel he looked narrower. His notebook was in his back pocket with the pencil pushed through the spiral.

"You're on time," he said.

"You said seven."

"I said seven to a hundred and forty people. You're the only one who heard it as a number."

Behind him, Halvorsen's dock gate stood open. Nell had never seen it open. For two years it had been a brass latch, a lease plate and a boat lift that went up and down eleven days a year. Now it was propped back against the rail with a coil of line, and Anders Halvorsen leaned beside it in a cardigan, watching people cross the end of his lot onto the sand with the attention of a man checking a bridge load. Out on the commons, Sabine sat on the rim at the northeast corner with her boots off and her feet in the water, chewing licorice root, her cuff solid green in the sun. Halfway along the path, Harriet's Tuesday class had filled a bench: Gus Ferreira with his thumb out of its splint at last; Mr. Lindahl with his cello case between his knees; two weavers up from Bray; and the girl from Lowmarket who wanted to build ships. The girl was leaning so far over the rim to look underneath it that Harriet had a hand in the back

of her collar. Harriet's other hand held a sock on four needles, and she was not looking at it.

Lucan Brandt came down the Thimble steps behind them, barefoot, in an oatmeal linen suit, carrying a wooden crate of seedlings against his chest. He set it down by the covered post and nodded to Ilse. Teo said there was time if he wanted to say a few words. "No," Lucan said, and then, after a moment, "I brought tomatoes," and he stepped back among the towels with his hands in his pockets.

The children around the post came from the allotment's forty-three children's beds. Pim Achterberg was too old for those beds now and had come anyway, and he held the corner of the sheet. Teo nodded to him. Pim counted to three under his breath, the children pulled, and the sheet came away.

The post was a slab of driftstone a meter high, set into the sand where the causeway began. Letters had been cut into its face and painted the blue of the Tin Heron's backdrop, the cloth lake that had hung behind Professor Gill on Lantern Row for as long as Nell could remember.

THE ILSE AND TOMAS VARGA COMMONS

Ilse read it. She looked out along the causeway at the beds, the benches and the arch at the stem, then looked back at the post and read it again from the beginning. Standing beside her, Nell watched her mother go over each word the second time with the care she gave a seed packet when checking the variety.

"Who's watering?" Ilse said.

"There's a rota," said one of the smaller children, a girl in a yellow hat. "You're Thursdays."

"I'm Thursdays."

"Ten till twelve."

Tomas had lifted Professor Gill so the heron's head was level with the lettering, and he held it there while the bird read, its long neck working down the line.

"Your name's first," he said.

"It's alphabetical," said Ilse.

"So it is." He lowered the heron. "Nearly twenty years I've been telling people the theater's free, and they still go and do this. I'll have to double my prices."

"From what."

"Exactly," said Tomas. The children laughed, and he counted something on his fingers.

Mrs. Kaur stood behind the children with a tray under a cloth. She said she had wanted it to read the tomato woman and the bird man, but she had been outvoted on the wording. Mirela said she had been six the first time a heron told her off for sitting on the front bench with her feet up, and that she had sat in the second row ever since.

"We asked the whole list one question," Teo said. He had taken out the notebook but did not open it. "First Saturday in Wickham you remember. A hundred and thirty-one said one of you. The other nine said both."

Ilse said nothing to that. She took Tomas's arm again, and they were the first two onto the causeway.

Nell went out last.

The rail had a flat top a hand's width across. At intervals along it, pressed in while the slurry was soft and left to set, were hands, each with a name scratched beneath it in something sharp. She read them as she walked. MIRELA. DOV. K. KAUR, the fingers spread as wide as they would go. G. FERREIRA, with the thumb pressed deeper than the others because he had wanted to show it off. Pim's had a star scratched beside it. Near the middle was a hand no longer than Nell's thumb, labeled BEA IS 4, and a little farther on a paw, unsigned. She kept count as she went. At the commons end the total was a hundred and forty hands and one paw, and hers was not among them. She had known that before she started and had looked for it anyway, all the way to the end of the rail.

Where the causeway met the leaf she knelt and ran her thumb along the seam at the waterline. A crack had come and gone there in the night. She could see its line, closed and furred white.

"Quarter past three," Mirela said, passing behind her with a bucket. "Logged it at four."

Sabine came along the rim on wet feet and crouched beside her. "Don't. I've looked at every seam I can reach. They wouldn't let me touch the anchors either."

"Who set them?"

"Gus. All twelve, within one percent. He's told me twice." She held out the licorice root, and Nell broke a piece off. "I sat on that bench in February

and watched him do the northeast one like somebody's aunt at a recital. I had opinions about his wrench. Nobody wanted them."

"You weren't on the list."

"I'm not Thrive." Sabine held up her wrist and looked at the green. "Neither are you."

Teo had come out behind them. Nell stood up and wiped her thumb on her jacket.

"What am I supposed to do," she said.

"Sit down."

"Where?"

"It's seventy meters across," Teo said. "Pick one."

She picked the bench beside Harriet's class, because it was nearest. Harriet moved her yarn to make room and knitted a whole row without looking up or checking the time. The Lowmarket girl was telling Gus that the cells underneath were hexagons, that she had counted forty before Harriet pulled her back, and that the swell came through them with a sound like somebody tapping a jar. Nell put her right hand in her coat pocket and found the puck. She held it for a while. Then she took her hand out and laid it on the bench, which was warm and slightly rough and smelled, this close, of wet stone and bread.

"Good bench," said Harriet.

"I didn't print it."

"No," Harriet said, and turned the sock to start the next row.

From the stem end of the leaf, Tomas called for a frog.

The stage was a printed arch about the width of the Tin Heron's garage door, with a ledge behind it for a puppeteer to kneel on. The volunteers had painted the cloth themselves, copying the backdrop on Lantern Row: blue waves in rows, a white cloud, and a reed bed in the lower left corner that Nell recognized as Mrs. Kaur's work, because Mrs. Kaur painted reeds as if they were leeks. A carved wooden gull hung from the top of the arch on a thread. The last time Nell had seen it, on Wednesday, it had been hanging over the slip in Bay 9. Its left foot was a finger's width longer than its right, and as the breeze came off the lake it swung a quarter turn on the thread and settled facing left.

"I didn't bring the frog," Nell said.

Tomas reached into the inside pocket of his jacket and handed it to her without looking.

The audience settled where it could: children along the edges of the beds with their feet clear of the sedge, swimmers on the path still dripping, Halvorsen at the back with his arms folded, Lucan beside him. Nell knelt on the ledge next to her father and put her hand up into the frog. It had been restuffed at least twice and smelled of the theater cupboard. Tomas raised Professor Gill above the edge of the arch, and the heron looked out across the beds and the water with enormous satisfaction.

"Behold," said Professor Gill. "Shore. Every centimeter of it new, and every centimeter of it mine."

"Says who?" said the frog. Nell had been doing the voice since she was six, a little hoarse and a little hopeful, and it came up out of her the same as ever.

"Nobody has said otherwise."

"There's a sign."

Professor Gill bent his long neck toward the causeway post, sixty meters off, and studied it. "Varga," he said. "Never heard of them." The children shrieked, and somebody's grandfather on the path laughed so hard he had to sit on the edge of a bed. "Theater people, probably," the heron added. "Gardeners. Riffraff."

"Could I have a bit?" said the frog.

"You'll need a form. Nine-B. Puddle, Small."

"The badger's not here."

The heron looked around the stage for the badger, then out at the audience, then up at the gull turning on its thread. "No badger," he said slowly, "no form. No form, no..." He looked at the lake for a long time. Out on the rim a gull whose battery was running down gave two chirps. "Take half," said Professor Gill.

"Which half?"

"Whichever half I'm not standing on. I move about a good deal. You'll have to keep up."

"That's not fair," said the frog.

"Nothing's fair," said the heron, "until somebody prints a bit more."

The bit about printing more had not been in any script Nell knew. The frog bowed, and the heron bowed lower, and the cloth lake moved behind them in the breeze. Down in the front bed Ilse had been counting, with her lips moving, the way she counted bulbs.

"Forty-one," she said when Tomas came down off the ledge.

"Forty-three," said Tomas. "You missed the grandfather twice."

Pim carried Lucan's crate out along the causeway and set it down by the bed nearest the stage. Ilse looked into it for a while. The seedlings were in paper pots, each with a label in a neat, slanting hand: SAN MARZANO, BRANDYWINE, a striped one Nell had never heard of. Ilse lifted out a Brandywine and turned it to look at its roots through the bottom of the pot.

"Who grew these?"

"Marit," said Lucan from the path. "In my greenhouse. She won't let me in it."

"Good," said Ilse. She knelt in her good boots, opened a hole in the soil with two fingers, set the seedling in pot and all, and firmed the soil around the stem with the flats of both hands. The girl in the yellow hat had a watering can ready. Ilse took it and watered the plant slowly at the base, keeping the water off the leaves, and when she stood up there were two dark rounds of soil on her knees and a gray crescent under every fingernail, the same as Nell's.

Afterward Nell walked Lucan back along the causeway, because he asked whether the rail tops had been printed separately or in one pass and she was the only person there who could tell him. (One pass, with the swarm doubled back for the hand slots.) At the post he stopped and read the sign. He read it twice, as Ilse had, and then he laughed, the big laugh that had once filled the hall at Heron Point. At the waterline three Dawn Swimmers turned round to see what was funny.

"Right where people walk," he said.

He looked out toward the stem, where Ilse was kneeling again with a second seedling, and asked who had cut the letters.

"Pim."

"Tell him the R is very good," said Lucan, and went off up the Thimble steps carrying his shoes, which Nell had not seen him wearing.

* * *

By late afternoon the swimming steps at the tip of the leaf had a queue, and nobody had thought to put a brass strip beside it. Nell sat on the top step with her boots off and her trousers rolled. The water there was cold enough to ache in the ankles, and none of the children seemed to mind. A boy of about

five came up the steps blue-lipped and pleased, stood dripping beside her, and looked down into the water past his own feet.

"Does it have a bottom?"

"Yes," Nell said. "Clay. About eight meters down off here."

"How do you know?"

"I asked when I was four."

"Who did you ask?"

"My tutor. He's called Mister Biscuit."

The boy considered this. "That's a silly name."

"I was four."

"I'm five," he said, and went back down the steps in the satisfied manner of someone who would have done better.

* * *

At dusk Mirela and Dov put the gulls on the water.

There were twenty of them, surplus units from the Civic Equity pool, and the volunteers had left the tip of the leaf ragged on purpose so the swarm would have somewhere to keep going all summer. Nell stood at the rail of the swimming steps and watched them come off the charging rack one at a time, waddle on their paddle feet to the edge, and go in with a small slap. They spread out across the dark water in a loose crescent, eight amber lights on each rim, and found the ragged edge. When the slurry began to feed through their hoppers, the smell came back to her on the breeze: wet basalt fiber and bread, the smell of Bay 9 at two in the morning in every month of the last two years.

The gulls printed in a slow sweep from east to west. Each laid down its line of cells and backed off, and the next filled in behind it, and the new rim grew outward in a pale band two fingers deep, darker where the water touched it. At the western end, outermost, a gull with a green stripe on its rim was drifting. It went four degrees a meter to the left, as it had since the first week in the slip, laying its cells along a line that bent away from the leaf's plan into a long, crooked curl. On a tablet Mirela had the plan up with the ideal edge drawn on it in white. Seventeen was nowhere near the white line.

"Want me to correct it?" said Mirela.

"No," Nell said.

Mirela looked at her for a moment, then put the tablet back in her pocket.

Nell walked the rim. She started at the swimming steps, went east past the bench where Harriet's class had sat, then the bed with the first tomato in it, then the stage, where the carved gull still hung facing left. She came back along the western side, past the causeway and the northeast corner where Sabine had sat, and the count came to two hundred and sixty-two steps. In Wickham, by her own measure, sixty meters took eighty-two. She worked it out against the sand of the Thimble and stood still at the swimming steps for a while.

Behind her the town had come up in lights. The printed houses climbed the hill in rows of yellow windows, and among them, halfway up, a porch light on Pell Street had been left burning. To the east the long dock at Heron Point was lit end to end. Across the lake, nine minutes south by loop, Calder lay along the water, and the new promenade at the Reach made a thin bright line two kilometers long under the shuttle lanes. Their lights came and went overhead in slow beads of red and white. Out on the black water in front of her the twenty gulls moved in their amber crescent with the crooked one at the end, and every few seconds one of them chirped.

Her parents were on the bench nearest the stage. Ilse had taken off her good boots and set them side by side on the driftstone, which still held the day's warmth, and her stockinged feet were flat on the deck. Tomas had Professor Gill across his knees with the long neck folded and the painted eye toward the lake. In the bed in front of them the Brandywine stood twenty centimeters high in its paper pot, watered and dark at the base. Past the bed, past the stage and the hanging gull, Seventeen's curl of new rim lay pale on the water, still wet, a little more than a meter longer than it had been at six.

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