

ROYA
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No. 42

THE CARRIER



CHEW Z

A ROYA PUBLICATION

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Printed in the Reach

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Book II of the Borrowed Sun Cycle

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THE SLATE.

Every forty-one hours, for fifty-one years: the same corner.
Beneath the test pattern, a knock.

SYNOPSIS

They never built the arsenals. The treaties held, the terror was cancelled, and a species spent its twentieth century aiming outward instead: atom-drive ships by 1975, the Moon settled in a generation, Mars a working port, and robot Pilgrims coasting out past the edge of the sun's weather. It is not a paradise. It is a waterfront.

Vera Nyquist is a Verifier at the Farside Deep Array — the licensed profession that checksums deep telemetry before it enters the human record, because at those distances corruption is constant, and a wrong bit in the archive is a lie told to the whole species.

Then a Pilgrim relays home a signal that should not exist: decades of radio and television from a world that never left. A century of terror, playing back like a documentary of a nightmare — beautiful, grieving, and wrong in the details, the way copies are wrong. Buried in its broadcast schedule is a question, asked patiently for years.

And somewhere in Vera's own station, under an authorization no one issued, something has been answering.

A NOTE FROM THE AUTHOR

There is a photograph from the middle of the last century that I have never been able to put down: a ballistic missile and a heavy-lift launcher standing side by side, and they are the same machine. The same tank, the same throat, the same fire. One is aimed at a city and one is aimed at the sky, and the entire moral history of a species fits in the angle between them.

This book asks what we would have become if we had chosen the other angle — all of us, all the way, with the whole budget of our fear. I have resisted making that world a paradise. A species that spends its terror on the sky is still a species that had the terror to spend; the invoice does not vanish because the purchase was nobler. It is carried forward. Readers of the first book will know the phrase, and will know to check the margins.

The Moon in these pages owes its bones to the masters who built moons before me — the harsh mistresses and the silver locusts both. The poem owes its bones to something else, and by the seventh book you will know what, and you may wish, as I sometimes do, that you didn't.

This is the second book of the Borrowed Sun Cycle. The verse at the end is an installment. Keep it with the first. They are counting toward something, and so, reader, are you.

Chew Z

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ONE. THE VERIFIER

The Moon does not forgive and does not remember, which makes her, Vera Nyquist had long ago decided, the only fully sane member of the family.

She was on shift in Verification Bay Two when the signal came in, though of course she didn't know it yet; nobody ever knows it yet; the hinge moments of a species arrive labeled like everything else in the queue, batch numbers and timestamps, and you process them with your coffee going cold in its lidded cup because open cups are for Earth and other sentimental theories. Around her the bay hummed its one eternal chord — air plant, coolant, the sixty-cycle ghost in the old conduits — and through the meter of glass and regolith above her head lay the far side's endless starfield, that black beyond blackness you never see from Earth, the sky the Moon keeps turned away from home like a face.

Her job, for the record — and the record is precisely the point — was this. Vera Nyquist was a Verifier: one of forty-one licensed practitioners of the smallest and most humorless profession in the solar system. Out past the orbit of Neptune, past the heliopause where the sun's weather finally gives up, eleven robot ships called Deep Pilgrims were falling outward into the dark, and everything they learned came home as radio — whispers, by the time they arrived, a handful of watts spread across four billion kilometers, riddled and pitted by the journey the way every traveler is. At those distances, corruption isn't a risk; it's the medium. Bits flip. Frames shear. The universe edits everything that crosses it. So before any Pilgrim's word could enter the Archive — the permanent, species-level record, the book of what humanity actually knows — it passed through a Verifier, who ran the checksums, compared the redundancies, hunted the flipped bit and the sheared frame, and then signed. That was the weight of it, the reason for the license and the oath and the profession's grim little joke of a motto (*the universe lies; we notarize*): a Verifier's signature meant *this is what the ship really said*. A wrong bit in the Archive was not an error. It was a lie told to the whole species, forever, in its own permanent handwriting.

Vera had signed one hundred and eighty thousand packets in twenty-two years, and had been wrong, as far as anyone could prove, never — a record she maintained was less about brilliance than about a defect of temperament: she could not leave a discrepancy alone. Could not. It was physical, like a pebble in a boot. Her second husband had left the Array with the phrase *you audit everything you love* still hanging in the corridor behind him, and the worst part, she'd tell you over union-hall beer, delivering the line with a docker's timing, was that he was right, and the worse part than that was that she'd checked.

She was forty-four. Moon-born, Tsiolkovsky Bottom, third generation, which on the far side made her almost aristocracy — her grandmother had come up in '81 on a Company contract and stayed on principle when the contract tried to rotate her home, one of the original Stubborn Thousand the settlements toast at Founding. Vera had her grandmother's forearms and her grandmother's mouth. She had been to Earth twice, hated it politely both times — the sky like a lid, the horizon showing off, gravity lying on her chest all night like a dog that loves you too much — and come home to the Bottom, where the corridors smelled of machine oil and yeast and hot electronics and, on Sundays, of the hydroponics deck flowering, which is a smell like green rain falling somewhere you can't see, and which every far-sider carries in the base of the brain where Earth people keep meadows.

You should see the far side once, reader, before all this begins, the way she saw it every shift-change of her life. The near side is a public face; four billion people have worn it smooth with looking. The far side belongs to no one's sky. Walk the glassed gallery from the Bottom to the Array at local night and the land lies below you the color of old pewter, crater-shadow pooled like spilled ink that has been drying for four billion years, and above you stands the deepest sky the species owns — no blue veil, no city glow, no Earth; Earth never rises here; that is the whole point of here — just the hard eternal wilderness of stars, and hanging among them the frost-colored river of the galaxy, so bright on moonless-Earth nights that the old-timers claim you can read a manifest by it, and lie only

slightly. The first generation went strange out here, some of them, in a way the medical literature politely calls *far-side adjustment*; the third generation, Vera's, went the other kind of strange: they could no longer sleep properly anywhere else. The silence has a grain to it, they'll tell you. The dark has a temperature. Homesickness, on the far side, points *out*.

And planted in that pewter land, in the Array's crater-field, stood the ears: the great dishes and the kilometers-long phased lattices, frost-silvered, motionless, turned outward and listening with the whole patient posture of the world that built them — a species that had beaten its swords into antennae and now sat up nights by the door of its own solar system like a lighthouse-keeper's family, waiting, in the fond unbroken confidence of sixty unclenched years, to hear something wonderful.

At 0214 station time, Pilgrim Nine's carrier came up in her queue flagged amber: *anomalous payload, origin uncertain, verify*.

She remembered afterward — she was asked so many times that the memory wore grooves — that her first response was irritation. Origin uncertain was a contradiction in terms; Pilgrim Nine's origin was Pilgrim Nine, a two-hundred-tonne instrument falling through the constellation Ophiuchus at seventeen kilometers a second, and if the origin was uncertain then some idiot upstream had misfiled a calibration echo again, and she would find it, and there would be words. She pulled the packet. She ran the sums. The sums came back clean — clean at every layer, cleaner than deep telemetry ever came, redundancies agreeing like choirboys — and that was the first wrong thing, because Pilgrim Nine was four billion kilometers out and *nothing* arrives from four billion kilometers without scars.

The second wrong thing was the payload itself. It was not telemetry. It was not science. Pilgrim Nine, listening out into the black past the edge of everything with its long cold ear, had caught a signal — broadband, structured, layered, *dense*, decades deep by the header's own accounting — and the signal was coming from farther out. From ahead. From the empty.

Vera Nyquist sat very still for a moment in the humming bay, under the sky the Moon keeps turned away like a face, with her coffee

cold in its lidded cup. Then she did what her license, her grandmother, and her defect of temperament all required.

She verified it.

TWO. THE OUTWARD CENTURY

To understand the world that caught the signal, you have to understand the century that built the ear — and it is a strange story to tell, reader, because it is the story of a haunted house with no ghost in it. Everything is where you left it. Only the terror is missing.

The divergence — though nobody in Vera's world called it that; a river does not apologize for its bed, and I have stood in enough riverbeds now to say so with authority — came in 1963. In the world you know, the treaty that year banned the tests but kept the arsenals; the terror was regulated, not cancelled; and for the next thirty years two empires sat facing each other across the top of the planet with their cities held hostage in their own silos, and every schoolchild learned the sound of a siren that meant *under the desk, hands over neck, don't look at the flash*. Come stand in the hinge itself for one paragraph, because you have earned it and because no one in either world ever got to: Geneva, the wet summer of 1963, the lake the color of gunmetal, and in a conference annex two delegations of exhausted men who had spent their whole adult lives learning to read each other across a poisoned table. In your world, reader, they initialed what they could and went home, and the arsenals stood. In hers — and the difference, I have walked it, is thinner than this page — a junior member of one delegation, a man whose name survives in her world on a plinth and in yours on nothing at all, stayed up one more night with a bottle and a cost table, and noticed that both empires were about to spend the coming decade buying the same terror twice, and drafted, on hotel stationery, in handwriting his own biographers call reluctant, the annex that became the Conversion Protocol: a schedule for turning the stockpile arithmetic inside out. It nearly died four times that autumn. It survives in her world's museums as eleven sheets of hotel paper, under glass, in a hall where schoolchildren are taken

to learn the outward century's one commandment, which the plinth states in four words and no one ever explains further, because on the far side of that hinge no explanation is felt to be needed: THE FIRE IS A TOOL.

In Vera's world the negotiations ran three weeks longer — small hinges; a different aide slept better; a different general's daughter asked a different question at a different dinner — and what came out was not a test ban but the Geneva Conversion Protocol: fission licensed for engines and generation, forbidden forever to ordnance, with inspection regimes so invasive that both empires discovered, to their mutual astonishment, that being inspected was cheaper than being afraid.

And so the whole gigantic budget of terror — the money, the metallurgy, the mathematics, the young men — got spent on the other race. The only race. The one with a finish line you could look at, on a clear night, from your own back step.

The Orion ships flew in '75. You have to understand what an Orion is, because the sentence sounds obscene in any world and was: a ship pushed by bombs. Controlled fission charges, spat out behind a pusher plate the size of a plaza, each one a thunderclap you ride. In your world the design was drawn, tested in miniature, and strangled by the very treaties that kept your bombs pointed at cities; in Vera's world there were no bombs pointed at cities, and so the bomb became what its makers' better angels had always claimed it wanted to be, which is a *firecracker under the species' backside*. The first Orion, the *Prometheus Accord* — built jointly, crewed jointly, because the Protocol demanded that neither empire ever ride the thunder alone — lifted from Jackass Flats on the 4th of July, 1975, on a pillar of hammer-blows visible from three states, and put nine hundred tonnes into lunar orbit in a single ascent, and the world watched it on television, and something in the species that had been holding its breath since 1945 finally exhaled.

After that the decades ran like a tide let out of a harbor.

The seventies and eighties: settlement. Not exploration — *settlement*, the Company charters and the national concessions and the union locals following the fire the way ports follow deep water.

The Moon first, because the Moon is the harbor bar; then the Lagrange yards; then Mars, which took a generation to stop killing people and another to stop pretending it had stopped. The Stubborn Thousand and their ten thousand imitators: tunnel rats, ice miners, air farmers, the men and women who found out what the Moon actually was, which is not a romance and not a desert but a *waterfront* — a hard, gray, magnificent working shore where everything is cargo, air included, and where the only aristocracy that ever took root was seniority.

The news coverage of those decades — Vera had grown up on the Archive cuts, every far-side schoolchild had — is its own artifact. Because with no war of nerves to feed on, the great engines of journalism had turned their whole apparatus outward too, and the tone of it, watched from her world's 2026, is almost unbearably strange: headlines with no subtext. MARS CONCESSION RATIFIED; 40,000 BERTHS. PILGRIM THREE PASSES JUPITER; INSTRUMENTS NOMINAL. ICE STRIKE AT SHACKLETON ENTERS THIRD WEEK — because oh yes, there were strikes, there were disasters, there was the Descent Nine explosion that killed eighty-one and the Concession Riots of '94 and the whole ugly labor history of any waterfront; her world was no utopia and would have laughed in your face at the word. It had greed, graft, company scrip, dead miners, and a Senate. What it did not have — what was simply, eerily absent, like a scar you keep reaching for that isn't there — was the *other thing*. The permanent background hum of civilizational suicide. The four-minute warning. The desk to hide under. In Vera's world, "the button" meant the big red one at the head of the mass-driver line, and pressing it stopped the machinery, and any child could tell you that stopping the machinery was the safest thing a button had ever been asked to do.

And the geopolitics — because you are wondering, reader, and you are right to wonder; empires do not become gardens just because you take away one of their knives. The two great rivals of the divided century stayed rivals in Vera's world for forty years, and the rivalry was real, and bitter, and occasionally bloody at the edges — but it was a *waterfront* rivalry now, a race of berths and tonnage and concession maps, and a race of tonnage has a property

the race of terror never had: you can lose it on Tuesday and still exist on Wednesday. The eastern empire won the Moon's south pole and the ice, and crowed about it for a decade; the western alliance won Mars' northern concessions and the Lagrange yards, and crowed back; both discovered, somewhere in the eighties, that their proudest installations were so interlaced by then — joint crews mandated by the Protocol, joint rescue obligations written in the blood of Descent Nine, joint everything, because vacuum is a commissar that outranks every ideology — that the diplomats were largely ratifying what the dockhands had already decided. The eastern empire still managed to strangle itself on its own bookkeeping at the end of the eighties, the way command economies do; but it fell the way a firm falls, not the way an empire with twelve thousand warheads falls, which is to say: everyone was terrified for the pensions and nobody, anywhere, for a single night, was terrified for the *world*. Vera's history teachers had presented that autumn as high drama. The archive would teach the far side, in one October evening of the other world's broadcasts, what high drama actually was.

Elections, in the outward century, were fought over berth quotas and radiation standards and the eternal grievance of the rotation schedules. Political scandal meant concession graft. The great moral debate of Vera's childhood — it split families; her grandmother did not speak to a brother for six years over it — was the Pilgrim Program itself: whether a species with dead miners on two worlds had any business spending treasure on robot ships that would not report back for lifetimes, a debate the outbound faction finally won with a slogan so characteristic of that whole civilization that foreign historians would have wept at it, had there been any foreign historians, had there been any *foreign*: WE CAN AFFORD TO ASK.

And the culture — because a century is not its headlines; a century is what it hums while it works. The outward world's arts ran to the vast and the homesick at once: enormous public murals in the settlement concourses, painted by rotation crews over decades, each shift adding its meter; the *hab operas*, that strange lunar form, staged in pressure domes with the audience's own life

support as the orchestra's ground note; and above everything the songs — because it was a singing culture, the way waterfronts always are, and its songs were about distance. Departure ballads. Rotation laments. The whole genre the union papers called *outbound blues*: my love is on the Mars run, the burn is eighteen months, write if the relays hold. Its religions had gone quiet and practical — chapel annexes, multi-faith by architecture, staffed by Company-issue clergy trained mostly in grief and long-distance marriage — and its philosophy departments spent forty comfortable years on the ethics of expansion and the metaphysics of signal, and produced exactly one heresy of note: the Latency school, a scatter of academics who argued that a civilization is only as real as its round-trip time, that a species stretched across light-hours was becoming a *chord* instead of a note, and that something, eventually, would arrive to play it. They were considered charming. They were invited to conferences. Remember them, reader; nobody else will.

What the culture did not have — and you must feel the absence, not just note it, because the absence is the book — was an *edge*. Nothing in it was written against the dark. Its tragedies were accidents; its villains were auditors' villains, embezzlers and cut-corner men; its art wept honestly over dead miners and long distances and never once over the *species*, because the species was fine, the species was magnificent, the species was out of the cradle and walking, and no one in sixty years had produced a single work of art from the posture that had produced half the masterpieces of the other world's archive: the posture of a creature making something beautiful with its back against a wall, quickly, before the sky falls. Their art was better-fed than ours, reader, and thinner, and the far side's children were about to hear the difference all at once, the way you hear a bell you were born inside of, the first time it stops.

They knew about the other possibility, of course. Her world's strategists had gamed it; its novelists had written it — there was a whole minor genre, the *deterrence dystopia*, shelved under speculative fiction, in which the Protocol fails and the missiles get built and humanity spends fifty years with a gun in its own mouth. Vera had read two of them at university and found them lurid.

Overwrought. *Nobody*, she had written in the margin of one, in her grandmother's blunt hand, *would actually live like this*.

Keep that margin note in mind, reader. We will be coming back for it, the way the road comes back for everything.

And the settlements grew, and the Pilgrims launched, and the century turned outward and kept going, and by 2026 there were four hundred thousand people living off Earth and a listening station on the far side of the Moon with a woman in it whose whole vocation was making sure the dark could not slip a lie into the family record. Her world had spent sixty years asking the universe one enormous, wholehearted, unguarded question — *what's out there?* — with no more caution than a child at a well, because it had spent none of its treasure on fear and so had none of fear's instincts, no flinch left in the species at all.

And on the fourth of October, 2026, at 0214 station time, the well answered.

THREE. THE ARCHIVE OF THE OTHER SHORE

They decoded it in nine days, and the nine days were the last ordinary days, though of course nobody labeled them that in the queue.

You should have the nine days at their own pace, because the station lived them at it. Day one was procedure: quarantine the payload, convene the board, notify Luna Authority in language calibrated to prevent exactly the response it produced. Day two the linguists came up from the Bottom on the mag line, and the cryptographers, and a mathematician who had been asleep for nine hours after a triple shift and arrived in two unmatched boots, a detail the station's memory preserved forever because it was the last funny thing. Days three and four were the compression layers coming off, wrapper after wrapper, each one — this was Dahl's phrase, and it stuck — *more polite than the last*: schemes that anticipated their tools, formats that met them halfway, an onion engineered to be peeled. Day five someone got a synchronization lock and the first raw video ran on a bench monitor, forty seconds, no sound: the newsreader, the desk, the map. Vera was in the

room. Nobody spoke during it, and then everybody spoke at once, and then — the detail she kept — a cryptographer named Osei, no relation to the chaplain, a cheerful profane woman who had spent the whole week narrating her own work like a sports broadcast, got up quietly and left the bay, and was found an hour later in the hydroponics deck, standing in the green rain smell with her eyes shut, and said only: “It has a *flag* in it. Behind the desk. I know flags. Nobody invents a flag that tired.”

The signal itself, once Vera’s verification forced the station to take it seriously — and it took forcing; her section chief, a decent tired man named Okafor, spent a full day trying to make it be a reflection, a lensing artifact, an echo of Earth’s own broadcast leakage bent back by something gravitational, because every one of those explanations was survivable — resolved into a layered broadcast archive. Radio and television. Interleaved, indexed, *organized*, the way you organize something for a recipient. Compression schemes nobody recognized wrapping formats everybody did: amplitude modulation, line-scan video, the homely old vernacular of the twentieth century’s own voice. Fifty-one years of it, by the internal dating. A civilization’s worth of broadcast, folded and addressed and left on the doorstep of the solar system like a foundling.

And it was Earth. That was the first impossibility, delivered casually, in the first decoded frame: a newsreader at a desk, and behind the newsreader a map, and the map was the world — *the* world, the right continents, the right oceans, Britain and the Baltic and the two Americas exactly where they belong. Human faces. Human languages, or nearly; the English was English with a fractional accent nobody could place, like a coin worn smooth on one side.

It was Earth, and it was wrong.

The newsreader was announcing missile deployments. The map behind him wore arrows and radii, the geometry of threat, cities ringed with concentric circles of projected loss. Over the following days, as the decode teams worked around the clock and the archive unfolded its decades in rough chronological order, the station —

and then the settlements, because a thing like this cannot be contained on a waterfront, where information is cargo and cargo always moves — watched, in the hushed communal horror of a family finding a stranger's diary in its own attic, the century their world had not had.

The tests, first: islands vaporized for punctuation. Then the arsenals, counted proudly on both sides like harvests — *megatonnage* delivered by newsreaders in the tone Vera's world reserved for grain figures. The silo fields under the wheat. The submarines, each one carrying more fire than every war in prior history, gliding under the ice with their crews of twenty-year-olds. The strategy intellectuals in their think-tank offices, explaining with charts — with *charts* — the throw-weights and second-strike doctrines and acceptable-loss curves of a science whose entire subject matter was the murder of everyone. The drills. God, the drills: the schoolchildren filing into basements, the pamphlets about window tape and canned water, a cartoon turtle — a *cartoon turtle* — teaching the smallest ones to duck and cover, and the smallest ones singing along.

And the news itself — the other world's news, watched by a world whose own news had no subtext — became a study, that month, in a grammar nobody at Farside had known existed. The decode teams catalogued it with growing professional awe: the euphemism stack, whole load-bearing vocabularies built to carry annihilation at conversational weight — *deterrent posture, credible response, acceptable losses, broken arrow* — phrases polished smooth by daily handling, the way a station polishes the words for decompression; the anchorman's craft of delivering a readiness change in the same cadence as the weather, which the far side's media scholars would spend years failing to reproduce, because the cadence, they finally concluded, cannot be performed, only *lived into*, by a man who has read the same unthinkable wire copy so many nights that his voice has made a road through it; and the strange tidal rhythm of the whole apparatus — crisis and thaw, summit and standoff, the long grinding *détentes* — which the archive's own commentators narrated decade after decade in the tone of people describing a climate. Which it was, the far side came

to understand. That was the finding that stuck. Not a war. A *weather*. Two generations had been born under it, forecast it, dressed their children for it — and the far side, whose own sky had never once required a forecast, watched the umbrellas going up in the old footage and felt the first drops of something it had no word for, and did not turn the screens off.

The mess hall at Farside ran the archive feed on the big screen in the evenings, that first week, until the union steward, a squat formidable woman named Marchetti, shut it off mid-broadcast on the ninth night with her own thumb, in a silence like a pressure drop, and said to the room, in the flat voice she used for safety violations: “That’s enough documentary. That’s somebody’s *house*.”

Because that was the thing, the thing that unmade everyone at Farside a little, each in their own bunk in their own off-shift dark: it wasn’t a horror reel. It was a *home*. In between the missile counts and the four-minute warnings, the archive carried everything else a broadcast century carries — the songs, the serials, the weather, the soap advertisements, the kitchens. A woman in an apron at a sink, radio on the sill, curtain breathing over the dishwater — a yellow curtain; remember the curtain, reader, it is load-bearing in more worlds than one — singing to a child in a high chair while, on the same station an hour later, the readiness level changed color. The song she sang was four notes, then five, aching and simple, in a minor key, and it recurred through the archive’s decades the way certain songs do, covered and re-covered, orchestras and kitchen radios; and I will tell you, because Vera could not know it and you can: it is the same song, note for note, that three gentled patients hummed on a clinic mat in a world of frost-gardens, in the first entry of this ledger. Neither world wrote it. Both worlds received it. Songs, like words, choose themselves — and like invoices, they arrive addressed.

Game shows. Wedding announcements. A comedian doing ten minutes about traffic while the crawl beneath him tracked a naval standoff. Cigarette advertisements of superb confidence. A children’s program in which a gentle man in a cardigan explained, across what the archive dated as three separate decades, that

feelings were mentionable and manageable — and the decode-room crew, forty hard-shelled waterfront professionals, went absolutely to pieces over the cardigan man, in ones and twos, off shift, in ways none of them ever discussed and all of them recognized in each other at breakfast. Fifty-one years of people — brave, funny, scared, magnificently ordinary people — living whole lives, wedding and burying and singing, on the thin crust over the magma of their own arranged extinction, and mostly not looking down, because you can't, because nobody can, because the species does not come equipped to look at that and also make breakfast.

The reactions sorted the station, that first month, into its true constituencies — and stations, like worlds, do not learn their own constituencies until something arrives to sort them. There were the horrified, who wanted the archive sealed and the feed cut, and said so at the union meetings in the language of contamination. There were the scholars, Okafor's camp, who wanted it studied and metered and above all *explained*, because an explanation is a lid. There was the Company, whose representatives arrived on the December hauler wearing the expressions of men who had smelled a new commodity from three hundred thousand kilometers. And there were the listeners — you will meet them properly two entries from now — who wanted nothing except more, and said nothing at the meetings at all, and were, if you counted quietly, which Vera did, because counting quietly was her whole nature, the largest constituency of the four, and growing.

Vera watched it all with the rest of them, in the mess and in the bays, and what she felt — she interrogated the feeling nightly, with the pebble-in-the-boot thoroughness she brought to everything — was not horror, in the end, and not pity.

It was homesickness. For a world she had never seen, that had held a gun in its own mouth for fifty years, and sung anyway.

She hated the feeling. She checked it twice. It verified.

FOUR. THE ERRORS

It was a Verifier who broke the spell, and it is a matter of quiet professional pride to Vera Nyquist — the only pride she ever took in any of it — that the Verifier was not her.

It was Dahl, the junior on Bay One, twenty-six years old, a Marsport kid with the ink still wet on his license, and he came to her on the eleventh day with his tablet held slightly away from his body, the way you carry a bad sample, and said: “Nyquist. The archive doesn’t reconcile.”

She took the tablet. She read. And the pebble that had been sitting in her boot since 0214 on the fourth of October — the cleanness of the signal, the choirboy checksums, the four billion scarless kilometers — turned over and showed its other face.

The broadcasts contradicted each other. Not in opinion — in *fact*, in the bedrock, in the kind of data that has no version. The great naval standoff — the archive’s central terror, its October fulcrum, the thirteen days the whole broadcast century kept circling back to the way a tongue circles a cracked tooth — appeared in four different retrospectives, and the retrospectives could not agree on the year. Not on the details: on the *year*, sliding across a decade like a ship dragging anchor, and no anchor-watch in any broadcast ever noticing the drag. A capital city was spelled two ways, decade to decade, both spellings on official maps. The tall broadcasting tower that appeared behind one nation’s newsreaders was in the east of the city, and then in the west of the city, and then in the east again, migrating like a compass needle near iron. And the anthem — Dahl had found this one at three in the morning, alone, with headphones, and Vera would remember for the rest of her life the particular color of his face when he played it for her — the anthem of the largest empire, recorded across dozens of state broadcasts spanning forty years, was off. Note for note identical in every rendition, orchestras and school choirs and navy bands all agreeing perfectly with each other — and all of them, every single one, off by one syllable in the second line from the version printed in the archive’s own broadcast of its own sheet music. As if the whole

civilization had learned its anthem from the same slightly wrong copy. As if the error were *upstream* of everyone singing.

"Run me through transmission damage," Vera said, though she knew, she already knew, she was asking for the same reason you check a dead man's pulse.

"That's the thing." Dahl's voice had the overtight evenness of a kid keeping procedure between himself and the water. "Damage corrupts the carrier. Flipped bits, sheared frames, dropouts — noise, Nyquist, damage looks like *noise*, that's the whole first year of the license. This signal has no noise. Every packet sums clean. Every redundancy agrees. The carrier is perfect." He looked at her, and said the sentence that the profession of Verification, in its hundred years of humorless existence, had never once had occasion to construct: "The corruption is in the *content*. The lies arrive intact. The signal is a flawless recording of something that doesn't add up."

Vera stood in Bay One with the tablet in her hands and felt the floor of her vocation become a surface, the way lake ice becomes a surface the first time it speaks under your boots. Her entire discipline — her license, her oath, her hundred and eighty thousand clean signatures — rested on one article of faith so deep it had never needed stating: that the message and the medium fail *together*. That truth arrives scarred and lies arrive scarred and the scars are how you sort them. A signal that crossed four billion kilometers without a mark, carrying decades of a world whose bedrock facts slid like anchor-dragged ships — that was not a message that had survived the journey.

That was a message that had never made one. Or a message for which the journey was not a hazard but a *courtesy* — the way an invoice arrives clean, no matter the weather, because the sender's whole business is arrival.

She initiated, that same shift, the deep audit that would eat the next month of her life: a full comparative reconciliation of the archive against itself, every dated fact indexed and cross-plotted, the errors mapped like a coastline.

Okafor fought her on it, which needs recording, because Okafor was not a fool and his objection was the sanest sentence anyone said that winter. He stood in her bay with the requisition unsigned and said: "Walk with me through what you're proposing, Nyquist. You want a month of Verification resources to prove that a broadcast archive from an impossible source contains internal contradictions. Suppose you succeed. What have you established — that it's fake? Fake requires a *faker*. You'll have proven that something out past the heliopause manufactured fifty-one years of a false Earth, in period-correct formats, with love songs in it, and *mailed it to us*. Tell me honestly which finding lets this station sleep: that the archive is true, or that it's built." He signed anyway — he was a decent tired man, and the license was the license — but he signed slowly, and at the hatch he stopped and said, not turning around, the thing she never managed to unhear: "My grandfather used to say the worst thing you can find in the water isn't a shark. It's a *lure*. Because a shark is only hungry."

The audit itself was the dullest heroic labor of her life, and I will spare you all but its coastline. Two hundred and six dated public facts, cross-plotted. Forty-one reconciled clean. The rest slid — and the sliding had a *grain* to it, that was her month's true finding, the thing the summary tables never quite carried: the errors were not random. Random is noise, and noise was her mother tongue, and this was not noise. The contradictions clustered at the century's emotional joints — thickest around October, around the wall going up and the wall coming down, around every place where the broadcast world's feeling ran highest — and thinned almost to nothing across its dull administrative plains, as if whatever had copied that century had copied it the way a grieving hand copies a letter: perfectly through the inventories, and shaking at the parts that mattered. Dahl, who plotted the distribution, stood looking at the density map for a long time and then said the other sentence of the winter: "Nyquist. Forgers get the *feelings* wrong because they don't have them." He tapped the October cluster, black with error. "What gets the feelings wrong like *this* — by caring too much to hold the pen straight?"

And it was in the third week of that audit — deep in the schedule metadata, the dull tidal tables of broadcast timing that nobody else had thought to verify because nobody verifies the *spaces between* programs — that she found the calibration slate, and the knocking, and the answer. But those are the next chapters, and I am an old bookkeeper, reader, and I will not let you skip an entry, because the entries are the point; you will learn that the way everyone learns it.

What she felt that first night, alone in Bay One after Dahl went off shift — and she interrogated it, and it verified — was not fear. It was recognition. Somewhere out beyond the heliopause, or nowhere, or everywhere, something kept records the way she kept records: patiently, completely, and with the errors preserved.

Dahl took it harder, being young, being new, being still in the years when a vocation is a religion rather than a marriage. He came to her bay at the end of that first audit week and stood in the hatchway with his license card in his hand — actually in his hand, the physical card, which the profession issues in steel for exactly this moment, though it tells no one so at the swearing — and said: “Nyquist. Straight question. If the carrier can be perfect and the content false — if that’s a thing the universe permits — then what did I swear *to*? What are we for?” And Vera looked at him, twenty-six, Marsport-clean, holding his whole calling like a part that had failed inspection, and gave him the only doctrine she had, which her grandmother had given her at the ice-mine sink, about scrip: “We were never the wall, Dahl. There’s no wall. We’re the *tally*. Somebody keeps honest count while the dishonest thing happens — that’s the whole office, that’s all it ever was, and it matters more on the day the forgery arrives, not less. So put the card away, initial your plots, and count.” He put the card away. He initialed his plots. He counted — and he is counting still, reader, in an entry far from this one, and the count is why that entry ends the way it does, but that is his book, and I am only allowed to sell you one at a time.

Every forger, her grandmother used to say, apropos of Company scrip, signs twice — once with the name, and once with the mistakes.

FIVE. THE LISTENER

His name was Tomas Rell, and he ran the night maintenance rotation, and he had been listening to the raw feed alone for five weeks before anyone noticed, because the night rotation is where the station keeps its solitaires and the solitaires keep each other's counsel.

Vera noticed. Vera noticed because his badge-times were in the access logs of the raw archive spool — not the curated mess-hall cuts, the *raw* feed, the unedited fifty-one-year fathom of it — night after night, six hours at a stretch, which is a currency no maintenance man has to spend. She flagged it for no one. She went down herself, on a third-shift pretext, to the equipment gallery off the long antenna hall where the spool access lived, and found him in the dark with the headphones on and the screenlight on his face, and the face stopped her in the hatchway.

Rell was fifty, Moon-born like her, a big calm slab of a man who fixed things and said little; she had known him, in the shallow total way of stations, for eleven years. The man in the screenlight had his eyes closed and his hand flat on the console the way you'd rest a hand on a horse, and he was mouthing something, and his face — Vera stood in the hatchway and made herself name it, because naming was her trade — his face was *bereaved*. Not frightened. Bereaved: grief with tenure, grief that has moved in and unpacked and hung its coat by the door.

He didn't startle when she touched the light. He took the headphones down slow, like a man surfacing by the tables, and looked at her with his wrecked calm eyes, and said: "Shift already?"

"Tomas. What are you listening to?"

"October," he said. Simple as a part number. "The thirteen days. I've got all four versions synced." He turned the screen toward her: four broadcast streams in parallel, four newsreaders at four desks

announcing the same standoff in four years that could not agree, and Rell's annotations threading between them in careful maintenance-log handwriting, hundreds of them, a concordance. "The blockade speech. Listen to the Wednesday. Every version, the Wednesday night, the whole world stays up — every city, every kitchen, all of them awake at once around the radios like one animal. Four hundred million people holding one breath." His hand was still flat on the console. "We've never done that. You know that? Us. This world. We've never once all held our breath together. Never had to. I've been up fifty-one years of their nights and down fifty of ours and Vera, I swear to you on the air in this room, their species is *closer*. Terror was a hand on the back of the neck holding them all against the same wall, and they hated it, and they sang under it, and they were *together* under it in a way we have never—" He stopped himself. Maintenance discipline: don't over-torque. He looked at the four frozen newsreaders, and then he said the thing she had crossed the station at three in the morning to not hear:

"I miss it. I know what that sentence is. I've checked it the way you'd check it. I miss a war I never had, like a wall I never stood against, and the missing is *load-bearing* now, Vera. It's holding something up in me. If you took it out tonight the roof would come down."

She stayed with him until shift, because you do not leave a man alone at that depth, waterfront law older than any license; and in the last hour he showed her, shy as an apprentice, the other thing — his notebook, a maintenance log requisitioned for private use, in which he had begun, at fifty, in careful block letters, to write down the October ballads from memory after each listening, and beneath each transcription his own attempts. His own verses, reader. A big calm slab of a moon-born maintenance man, third watch, sitting in the equipment gallery of the sanest world his species ever built, teaching himself, from a forged century's homework, the one art his whole civilization had never needed: how to sing with your back against a wall. The verses were not good. The verses were the best thing she had read in twenty years. She told him both truths in one sentence, docker's grammar, and he laughed for the first time in five weeks, and the laugh had the wall in it already, and she went

up the ladder to first shift understanding that whatever was arriving in the archive had finished arriving in Tomas Rell, and had begun, through him, in block letters, to *transmit*.

The word got out — words are cargo — and Rell, it developed, was not alone. Across the settlements that autumn, in the union halls and the chapel annexes and the long-haul crew lounges, the raw feed was finding its listeners: a quiet scattered congregation of the outward century's children, sitting up nights with the terror archive, and coming away not horrified but *homesick* — grieving a fear they'd never been issued, missing the wall, hungry for the annealing pressure their sane, brave, unclenched civilization had gone without.

They found each other the way solitaries do, by the light under the door. At Marsport a night crew of yard apprentices began meeting in an empty pressure shed to listen to the October broadcasts in the dark, in real time, all thirteen days of them, refusing all compression — *you have to serve the whole watch*, their handbill said, and the phrase became liturgy across three settlements before any chaplain heard of it. In the Lagrange yards a welder of thirty years' seniority requested, and was granted, and this made the union papers, a transfer of her pension beneficiary to a woman named in no registry — a name she had heard called across a crowd in a 1961 broadcast, a stranger's name from a world that never was, *because*, her request stated, in the space for justification, *somebody in all of this should be down as belonging to somebody*. The adjudicator approved it, the papers reported, and then took early retirement, and then, the papers did not report, joined a listening circle himself. At the Bottom, the long antenna hall acquired a nightly population of off-shift personnel who came to stand in the dark under the conduits — not at consoles, not with headphones, just *near the signal*, the way you'd stand near a fire, and the medical office logged the phenomenon and could attach no regulation to it, standing near things being, in the outward century's entire body of law, nowhere proscribed.

The chaplain at Farside, a dry sensible Company-issue Unitarian named Osei-Bonsu, preached one Sunday on envy of the damned

and found his annex full for the first time in his tenure, and every face in it wearing Rell's bereavement, and reported to Vera afterward, over the chess he always lost to her, in the careful tone of a man handling somebody else's live cargo: "They're not sick, Nyquist, that's what unsettles me. I've sat with all of them. It presents like grief and audits like *appetite*. Whatever that archive is broadcasting, the content is the carrier. The history is just the packaging." He moved a doomed bishop. "Something is arriving in it."

Vera looked at the board and did not correct his metaphor, because it was not a metaphor, because she had spent three weeks in the schedule metadata by then and knew exactly what was arriving in it, and knew that it was addressed.

SIX. WRONG DECK

The quarterly hauler made Farside on the nineteenth of November, eleven days late, which on the waterfront is on time.

Hauler day is the far side's whole secular calendar, and you should stand through one once: the settlement surfacing from its routines like a held breath released, the receiving bay lit end to end, the dock gangs in their union colors, the manifest queues, the mail — physical mail, because the far side still writes letters, radio being for business and paper being for meaning — and the smell that comes off a newly opened cargo module, which is the smell of Earth: packing straw, machine grease, apples. Children are brought down to watch the offload the way harbor children have always been brought, and told, the way harbor children have always been told, that everything they are wearing and eating and breathing came down a ramp like that one, watch now, this is the world arriving.

Vera was dockside for it — Verifiers took manifest duty in rotation, the profession having long ago annexed every job in the station that consisted of confirming that things were what they claimed to be — and so it was Vera, tablet in hand, in the cold cargo air of the receiving bay, who processed the passenger. There was one. The hauler ran freight and crew rotation; a transit passenger on the

Farside leg was rare enough that the manifest line had a flag on it, and the flag had a shrug in it: *cleared upstream, don't ask us.*

MANIFEST: PASSENGER, TRANSIT. ITEMS: BAG, PERSONAL (1).

He came down the ramp last, after the pallets, tall in a way that made the cargo racks look apologetic, in a coat from no slop-chest catalogue she knew, with the bag on his shoulder — one bag, canvas, mended and mended and mended, seams over seams like the strata of a worked mine. Old the way headlands are old. Bearded, long, grey-shot. He stopped at her station and set down the bag and looked at her — at *her*, not at the tablet, not at the queue lamp, directly, the way nobody looks at dockside staff — and Vera Nyquist, who had processed eleven thousand rotations without once fumbling a scan, fumbled the scan.

“Purpose of transit,” she said. Procedure. Handrails.

“Passing through.” His voice put her in mind of the long antenna hall at night: you spoke into it and the return came back from further away than the architecture allowed. The scan finally took. His documentation was flawless — she would think about that word later, *flawless*, choirboy-clean, four billion scarless kilometers of it — and listed a name she forgot in the act of reading it, which does not happen to Verifiers, which she did not log, which was the first thing in twenty-two years she ever left off a record.

He was aboard eleven hours, between offload and the outbound burn. He spent one of them at the observation gallery on D-deck, standing at the port with the bag at his boot, looking out at the far side's black starfield — the crew that passed him said afterward, comparing notes in the mess with the uneasy diligence of witnesses, that he hadn't moved, not once, the whole hour, and that the gallery had gone strangely quiet around him, and that the quiet had a *lean* in it. A galley hand named Priya, nineteen, Marsport-born, mail-shift, told the strangest of the testimonies and told it flatly, daring the mess to laugh, and the mess did not laugh: she had crossed the gallery behind him with the letter sacks, and as she passed she had heard him counting. Under his breath, unhurried, in no language she knew — “but you could hear it was counting; counting sounds the same in everything” — and the

rhythm of it, she said, matched her steps. Not approximately. Exactly. For the whole width of the gallery, whatever he was tallying kept perfect time with her feet on the deck plates, and when she reached the hatch and stopped, it stopped, and she stood there with the mail on her shoulder, nineteen years old, in the sanest world her species ever built, absolutely certain — “the way you’re certain of a pressure drop, in the ears, before any alarm” — that if she took one more step it would be *entered* somewhere. She took the step. She heard, behind her, softly, one more count. Then he’d picked up the bag, and looked around the deck once, unhurried, the way a man checks a room he is measuring for a door, and said — to no one, to the port, to the deck itself —

“Wrong deck.”

— and shipped out with the hauler on the outbound burn, and was gone, and would have been a week’s odd story and then nothing, one more waterfront apocryphon, except.

Except that Vera, four nights later, deep in the archive’s schedule metadata where her audit lived, was frame-checking a calibration slate — and we have arrived, reader, at the slate, though I am still not going to give it to you whole; entries in order — and behind the slate’s test pattern ran a few seconds of filler footage, an ordinary street corner, and at the edge of the corner, at the rim of the frame, stood a figure. Tall. One bag. She froze the frame. She enhanced it. She sat looking at it for a long time in the humming bay.

Then she went into the archive’s news strata with a match template, because that is what she was, and the match came back, and came back again. A crowd shot, 1962 by the broadcast’s own dating: a city square, an anxious multitude under a public screen — and at the left edge, tall, one bag, the same figure. A street scene, 1988, a different city, a different continent of that world: the same figure, the same bag, the same coat, unaged across twenty-six years of a century that had never happened, standing at the edge of the frame with the stillness of a man measuring a wall.

She ran the biometric correlation against her own dockside scan from the nineteenth of November. She ran it three times, because

the first two results were impossible, and the third was the same result.

Verifiers are never wrong about a match. It is the whole of what they are. Vera Nyquist sat in Verification Bay Two, on the far side of the Moon, in the sanest world her species ever built, looking at a confidence interval that said the man who had walked off the quarterly hauler carrying everything he owned had been standing, unaged, in the background of a broadcast century that did not add up — a century that had arrived at her station scarless, addressed, and patient — and she did not log it.

Second thing in twenty-two years. The ledger will show, in the end, that she was keeping her own by then. Most people are, by the time they meet him twice.

INTERLUDE. THE WATERFRONT IN WINTER

While Vera's audit crawled its coastline of errors, the outward world went on being itself, and you should walk it once at street level, reader, before the last three entries — because this is the world with its hand on the doorknob, and you will want to remember what it looked like with the door still shut.

Tsiolkovsky Bottom in winter — the settlements keep Earth's seasons by convention, dimming the corridor spectrum toward blue in the long dark months, because the body is an Earth instrument and lies to itself poorly — smelled that year the way it always smelled: machine oil, yeast, hot electronics, and on Sundays the green rain of the hydroponics deck in flower. The tunnel arcades did their winter business. The shift horns sounded the old harbor intervals. In the union hall the Founding portraits of the Stubborn Thousand looked down, blunt-faced and forearmed, on their grandchildren drinking subsidized beer, and Vera's grandmother looked down among them with Vera's own mouth.

But the waterfront had a new cargo that winter, and everyone was moving it.

The archive cuts were everywhere now — legitimate curated releases and bootleg spools alike, because information is cargo and

cargo moves. In the arcades you heard the other century's music leaking from bunk-cubbies: their swing, their protest songs, their synthesizer laments, and above all their October ballads, the whole genre that broadcast world had written about its own thirteen days, songs about staying up all night by the radio holding a stranger's hand. Marsport reported a fad among the yard apprentices for wearing printed replicas of the terror world's civil-defense patches, and the union papers ran a bewildered editorial about it — OUR CHILDREN IN THE COSTUME OF THE DAMNED — that everyone read and nobody heeded. A theater troupe in the Bottom staged the blockade speech verbatim as drama and sold out nine weeks; the actor playing the doomed world's president took his curtain calls in silence, by request, the house standing but not applauding, four hundred far-siders on their feet in the dark practicing, deliberately, communally, like a body learning a stretch, the one thing their sane outward century had never taught them: how it feels to hold your breath together.

The chaplains' network logged it all with rising unease; the Company logged it with rising interest — appetite, an executive was heard to say, being the one commodity the outward economy had always run short of. By midwinter the Company had a pilot program: curated archive evenings in the concession towns, ticketed, with the terror judiciously metered — enough wall to lean on, not enough to weep — and the pilot outsold every entertainment on two worlds, and the union filed a grievance it could not quite word, and withdrew it, and Marchetti drank alone in the hall that night under the Founding portraits, which nobody had ever seen her do. Earthside was worse, the rotation crews reported, or better, depending on your constituency: whole broadcast channels given over to the other century now, retransmitted raw into a hundred million homes; October viewing parties; a men's fashion for the dead world's hats. The outward century had spent sixty years asking *what's out there* — and here was the answer arriving, and the answer was a mirror, angled, and the species that had never flinched stood in front of it, that whole winter, learning the posture.

Founding night at the Bottom, that year, held the strangeness of the season up to the light. Founding is the far side's one sentimental evening — the reading of the Thousand's names, the oldest resident cutting the yeast-cake, two subsidized beers a head and the corridor spectrum warmed to gold for six hours by an engineering exemption older than most of the engineers. Vera went, because her grandmother's name is the two hundred and eleventh read, and she stood in the hall she had stood in every winter of her life, and heard the difference before she could name it. The names were read the same. The cake was cut the same. But when the hall sang — and the hall always sings, the same three outbound blues it has sung for fifty years — the singing had changed key somewhere beneath the music. It had *urgency* in it now. It had the wall in it. Four hundred far-siders singing my love is on the Mars run the way the archive's congregations sang their hymns in the missile decades: like people who had learned, over one autumn, from a forged century, what a song is actually *for* — and Vera stood with her beer going warm, third-generation, her grandmother's forearms and her grandmother's mouth, and felt the hair rise on both, because her world's oldest room had begun, without one soul in it deciding anything, to practice.

And Vera Nyquist walked through it all with her audit under her arm, watching her whole magnificent unclenched civilization press its ear, voluntarily, night after night, against the wall of a house where something patient was knocking — and understood, with the flat certainty of a coastline finally mapped, that the archive was not a message *to* her world.

It was bait. And the error she could not leave alone anymore, the pebble under everything, was this: bait means a *fisherman* — and a fisherman, her grandmother used to say, cleaning her catch at the ice-mine sink, never pays for the worm. He books it. Somewhere, in some current none of her instruments could read, a cost was being carried. Forward.

SEVEN. THE HANDSHAKE

She found the knocking in the spaces between the programs, which is where everything important in this book lives, and by now, reader, you know that as well as I do.

The calibration slates — the test patterns broadcast civilizations transmit between programming, the tuning marks, the color bars, the technical housekeeping nobody watches — recurred through the archive on a schedule, and it was the schedule Vera audited, because schedules are dated facts and dated facts were her coastline. The slates came every forty-one hours of broadcast time, precise to the frame across fifty-one years — too precise; nothing human holds a cadence for half a century; broadcast engineering drifts like everything born — and each slate carried, beneath its test pattern, in the vestigial data lines at the frame's edge where that world's engineers tucked their timing codes, a structured burst.

Vera pulled every slate in the archive. Eleven thousand of them. She stacked the bursts and ran the correlation, and the structure stood up out of the noise like a wreck out of a low tide: a *protocol*. Handshake architecture — the universal grammar of it, unmistakable to anyone who has spent a life in signal: challenge, identity, acknowledgment, sequence. The archive's entire broadcast century, all its terror and all its kitchens, was — among whatever else it was — a carrier. A knock, wrapped in fifty-one years of packaging, repeating with inhuman patience every forty-one hours: *challenge. Anyone there? Sequence. Anyone there?*

She should have taken it to Okafor within the hour. She took it instead — defect of temperament; the pebble; you audit everything you love — through one more cross-check first: she queried the Array's own transmission logs, the station's outbound record, on the reflex of a Verifier closing a loop, expecting nothing, expecting the flat null that lets you sign.

The Array had been answering.

Every forty-one hours. Acknowledgment bursts, correctly formatted to the archive's own protocol, transmitted from Farside's auxiliary

antenna farm on a maintenance subcarrier — for eleven years. The log entries were flawless: authorized, checksummed, signed. The authorization code they carried belonged to no directorate, no Company registry, no national concession, no person living or dead in any personnel file she could reach — and Vera reached that week into files her license had no business opening, and she would answer for that later and never once regret it. The code resolved, through every registry, to the same two words, entered in a field meant for a name:

CARRIED FORWARD.

She took the handshake to Okafor before anything else, because the license was the license, and the meeting deserves its place in the record for what it teaches about institutions, which is the same thing in every world. He heard her out completely — he was a decent tired man; I have entered that three times now and will stand by it at any audit — and then he sat for a while with his hands flat on his desk, pressing it gently down, and said: “Eleven years of unauthorized transmission from this station, under a code that resolves to no one. Nyquist, walk with me through what happens when I file that. Luna Authority seals the Array. The archive program stops. Four hundred careers go into a tribunal, mine and yours in the front row — and at the end of it, whatever has been answering goes right on answering, because you and I both read the same logs and neither of us believes for one watch-minute that it needs our antenna farm. We’d be prosecuting the *stationery*.” He looked at her, and she watched a decent man arrive, in real time, at the place decent men arrive at in every institution in every world: “Give me something I can act on, or give me the mercy of not knowing the rest. Those are the sizes it comes in.” She gave him the second, and never held it against him, and neither will I; the ledger notes only that when the door finally opened, it was one woman and a hand lamp, which is how that door was always going to be opened, in every version, on every world; some entries are written before the ink is.

She worked the station for a month before she worked the door, because a station is a small closed world and small closed worlds

must be audited *socially*, at union-hall pace, over beer and chess and manifest duty, and Vera was third-generation Bottom and knew it in her forearms. She took it first, obliquely, to Marchetti — because eleven years of maintenance subcarrier meant eleven years of maintenance rotations, and nothing moved on the waterfront in eleven years without the union at least declining to notice it. The steward heard her out in the empty hall under the Founding portraits, arms folded, face like a bulkhead, and then said: “Auxiliary farm. Relay level.” Not a question. “There’s a corridor down there my people don’t work. Nothing written. No order, no grievance — you can’t grieve what nobody assigns. It’s just — the rotation bends around it, and it’s bent around it since before my time, and when I was new and asked my steward why, she told me what her steward told her.” Marchetti looked up at the Stubborn Thousand, at the blunt faces of the women who had bored those corridors with their own hands. “*That level’s paid for*. That’s the whole saying. Paid for. I asked paid for by who, and she looked at me the way you look at an apprentice who’s about to torque something the wrong way, and said: *it doesn’t mean by. It means for.*”

She took it next, obliquely, to Osei-Bonsu, over the chess, because chaplains are the other registry, the one where a station files what it cannot say at meetings. She asked him, moving a knight, whether anyone had ever come to him about the relay levels, and the chaplain was quiet for a long moment, and then did something she had never seen him do: he tipped his own king, conceding a game he was for once not losing, and folded his hands, and said, “Eleven years ago. A man came to the annex. Not crew — transit; there was a hauler in. He didn’t want counsel. He wanted, he said, to *file* something — that was his word, file — and when I told him the annex wasn’t a registry he looked at me with a kind of patience I have thought about ever since, the way you’d look at a clerk who’s new but trying, and he said: ‘Everything is.’” The chaplain turned his tipped king upright again, carefully, with one finger. “He left a page with me. For safekeeping — *until the auditor asks*, he said. I put it in the sacristy box eleven years ago, Nyquist, and I am going to go and get it now, because I find that you are asking.”

The page was fanfold. The ink was the color of old bone. It carried ten printed lines, and Vera read them standing in the chapel annex with the chaplain watching her face, and you have already guessed, reader, what the lines were, because you are holding them; and beneath them, in pencil, in a rough unhurried hand, a single annotation, which is not printed at the end of this book, and which I will give you here instead, because it was addressed:

First copy. She gets the last.

Eleven years. The knocking had been answered from her own station, under everyone's feet, on everyone's watch, since before the archive itself had even *arrived* — and that was the detail that finally put frost in her, standing in the annex at four in the afternoon with eleven-year-old paper in her hands: the first acknowledgment in the Array's records predated Pilgrim Nine's intercept by a decade. The answer had been going out before the question was heard.

You cannot reply to a knock before it comes, reader — unless the appointment was already in the book. Unless the knock is not a question at all, but a *schedule*. Collectors do not knock to ask. They knock to keep the account current.

She sat down on the annex bench, which Verifiers do not do, and she thought about Rell's bereaved calm eyes, and the standing silent theater, and a species with no flinch left in it pressing its ear to the wall; and she thought about a manifest line reading BAG, PERSONAL (1); and then Vera Nyquist did the arithmetic of her own remaining choices, and found the column, as columns go, short.

Trace the answering circuit to its terminal. Physically. Herself.

EIGHT. THE SLATE

But first — because she was what she was, and would go to the door with the ledger balanced or not at all — she finished the slate.

The calibration slates carried, above their data lines, a few seconds of filler film: the street corner. The same corner, all eleven thousand times, across fifty-one broadcast years — and unlike

everything else in the archive, the corner never erred. Cities migrated, anthems slipped, October dragged its anchor through a decade; the corner held, frame-stable, note-perfect, the one fixed star in a sky of forgeries. An ordinary intersection at night. Frost on shrubs. Paving stones wet with old rain. An overpass, its beam blank. A wall. A low amber light lying long across everything, raking in from past the edge of the frame — from up the road — and every shadow on every stone streaming back toward the camera, parallel and pointed, like a column ruled and waiting.

You have stood there. I told you in the first book: everyone has. That is what it is *for*.

Run at speed, fifty-one years in forty minutes, the corner film did the thing that finally emptied Vera's bay of every technician who had crowded in to watch: nothing. It did nothing, monumentally, at the pace of geology — the frost breathing with the decades, the wet stones drying and darkening through rains that fell on no schedule either world kept, the blank beam waiting — and the nothing had *attention* in it, the fixed patience of a camera that is not recording a place but keeping a vigil over it; and twice, twice in fifty-one years, at the far edge of frame, at the very rim of the lent light, something crossed. Tall. Unhurried. One shoulder higher, as if carrying. Eleven frames the first time; nine the second; gone up the road toward the light source both times, toward the brightness the camera never turned to face, as if even the vigil knew better than to look at what it was minding the door for.

Vera assembled all eleven thousand slates in sequence and ran them as one continuous film, fifty-one years of the corner end to end, and made the last two findings of her audit.

The first: the corner was not looping. It was *live*, or had been — across the decades of slates, at the pace of decades, things changed. The frost thickened by degrees. The amber light crept, over fifty-one years, a hand's width up the road. And on the wall beneath the overpass, beginning in what the archive called 1975 and deepening year by year like a photograph developing across half a century, marks were arriving — pale ochre, four lines, hand-shaped, too far from the camera to read, being written at a

speed no hand writes: one letter every several years. The graffiti was going *up* in real time, reader. The wall at Halden Row was being written while both worlds watched their televisions, and neither knew it was footage of their own street.

The second finding she almost missed, and it does not belong to her book, so I will give it to you the way she got it: in passing, in the corner of the eye, load-bearing. One slate in the eleven thousand — one, in the deep winter of the archive's 1983 — carried different filler. Eight seconds. A city of fire-temples under cypress, terraced and golden in an evening that had the amber rake of the corner's own light; winged figures cut into a gate the height of a hab dome, guardian shapes, man-headed and patient; and a procession passing through the gate carrying lamps — hundreds of lamps, a river of small flames moving uphill — singing something in a language that predated every language in the archive, in a mode the audio tools could only call *antique*, and beneath the singing, just once, a line of it in translation, burned into the frame the way that world burned its subtitles: THE FIRE IS NOT OURS. WE ARE THE WICK. And then the corner again, frame-stable, note-perfect, as if a page had turned in the wrong book and been turned back.

Vera flagged it, filed it, ran it through every reference the Archive owned, and could make nothing of it, because it was nothing of hers — no such city stood in her world or in the broadcast one; the architecture matched no concession, the language no phylum; her tools returned the flat null that lets you sign, and she could not sign, and the eight seconds sat in her audit like a stone in a stream, the water of every other finding bending around it. It is something of ours, reader — yours and mine — and it is waiting in the third entry, and when you reach that gate you will remember these eight seconds, and you will understand who turned the page, and that he did it on purpose, and that he does everything on purpose, including this sentence.

Vera closed the audit at 0300 on the fourth of December, signed it — one hundred and eighty thousand and one — and walked down through the sleeping station to the sealed relay rooms under the

auxiliary antenna farm, where the answering circuit terminated, to open the door the whole book has been walking toward.

NINE. THE RELAY ROOM

Relay Room Four had been sealed for eleven years — decommissioned, the register said, in the same quarter the answering began, by a work order whose authorizing field read, and by now she did not even break stride: CARRIED FORWARD.

She went down at 0300 on the night of the winter Founding, when the Bottom was two beers into its one sentimental evening and the Array ran on skeleton watch — not for secrecy, she told the inquiry later, flat as a manifest, but for *manners*: some doors you do not open in front of a station that has to keep living next to them either way. She told no one but the chaplain, who asked to come, and whom she refused, and who gave her, in place of argument, the eleven-year-old page from the sacristy box, folded once, and closed her hand around it with both of his the way you'd close a valve. Rell she found waiting anyway at the head of the auxiliary shaft, big and calm in the work light, and she looked at him for a while and he looked back with his bereaved tenant eyes and said only, "Somebody should hold the top of the ladder," which is waterfront for a great many things, and she let him.

The corridor down was old Bottom construction, first-generation, bored by the Stubborn Thousand themselves: bare regolith glass and conduit, the Moon's own cold coming through the walls the way silence comes through a held breath. The rotation bent around this level; Marchetti's whole waterfront liturgy of avoidance lay over it like dust, and lay *in* the dust, which carried no bootprints but her own going forward and one other set, large, going both ways, old. *That level's paid for*. Her hand lamp made the shadows pour backward along the bore, long and parallel and pointed, and she noticed — the pebble noticing, the auditor never once in her life off shift — that the shadows were wrong for her lamp. They lay as if the light were coming from further down the corridor. From ahead. From the empty. She stopped once and covered the lamp with her palm, full dark, a hundred meters of stone between her

and any lit thing, and stood in it, and the corridor was not dark. Low. Amber. Raking. Tender as a hand laid on a forehead, and coming *up the bore* from its sealed dead end, from past Relay Room Four, from further down than the architecture allowed — and Vera Nyquist, who did not believe in atmospheres, uncovered her lamp and walked toward it at an even pace, because whatever else was true, and a great deal else was true, an auditor does not keep the light waiting.

The seal on Relay Room Four was Company standard, eleven years dusty, and the dust on the wheel was marked with one set of handprints, and the handprints were large, and she photographed them, license-reflex, knowing no registry would ever match them, being by then well past the country where registries help. She spun the wheel. The room breathed out at her — old electronics, cold solder, paper —

— paper —

and her lamp found the printer.

It was a line printer, mainframe-era, a museum piece that had no business on any modern manifest, standing in the middle of the small stone room on its own trestle with cabling running up into the antenna farm's marrow, and it was surrounded — drifted, banked, *dunes* — by fanfold paper. Eleven years of it. Thousands upon thousands of pages, accordion-folded in strata, every page bearing the same ten lines, over and over, the ink of the earliest strata gone the color of old bone, and Vera stood in the doorway of Relay Room Four with her lamp on the nearest page and read, on the far side of the Moon, in the sanest world her species ever built, the verse you are holding in your hands right now, reader — the one at the end of this book; turn to it after; not yet — printed patiently into a sealed room since before the question it answers was ever heard.

The printer's queue display was alive. It read: FINAL COPY. And as she crossed the room — this is in her deposition, stated flat, in Verifier's language, and she never varied it by a word in all the years of asking — the platen turned, and the pins fired, and the machine printed the last line of the last page of its eleven-year run, and fell silent for good, its queue clearing to zero, its job complete:

timed, to the minute, across eleven years, to finish as she reached it. Appointments, reader. It was never a question. It was a schedule.

She stood a long time in the paper dunes with the final copy in her hands. The strata told their own eleven-year stratigraphy: the deepest folds gone brittle and bone-ochre, the middle years sallow, the newest sheets still supple and white — a core sample of patience, and all of it the same ten lines, and she did the arithmetic because she was what she was: a page every few minutes, around the clock, for eleven years, came to something over a million copies. A million copies of one verse, printed into a sealed room on the far side of the Moon, unread, unreadable, *unrequired* — unless the printing itself was the point; unless somewhere, in whatever ledger ran beneath both worlds' floors, each impression was an entry, and the entries were interest, accruing at machine cadence in the dark while two civilizations slept, each under its own arrangement, each behind on payments it had never been shown. She thought of the chaplain's page in her pocket. *First copy. She gets the last.* Eleven years of compounding between the two, and both instruments now delivered, and the account, whatever it was denominated in, current.

Somewhere overhead through kilometers of stone, her sane, brave, magnificent world went on sleeping its unclenched sleep — the arcades, the union hall, the green rain on the hydroponics deck; Rell at the top of the ladder holding a wall she could not see; Dahl young and clean and about to inherit all of this; Priya on the mail shift, one step past the count and never telling anyone twice — and Vera Nyquist thought about the light on the corner creeping one hand's width in fifty-one years, and the four lines rising on the wall letter by letter across two worlds' televised decades, and the answer that had gone out before the question, and the word OWED sitting in the verse in her hands like a stone in a stream, the water of every other word bending around it.

Then she did the last thing, the unrecorded thing.

The console beside the printer carried the handshake terminal — live, patient, cursor beating like a pulse at the head of an empty

reply field, the acknowledgment channel her station had been feeding for eleven years, open now, at last, to a human hand. Protocol grammar hung in the header: CHALLENGE ACKNOWLEDGED. SEQUENCE CURRENT. BALANCE INQUIRY? Y/N — and beneath it, the free field, the space where you say what you have come to say to whatever keeps the books.

Vera Nyquist, one hundred and eighty thousand and one clean signatures, the woman who could not leave a discrepancy alone, looked at the field for the length of three slow heartbeats, and typed one word, and sent it.

I know the word. I was closer than the dust, reader; I am always closer than the dust; who do you think holds the lamp when the shadows point the wrong way? But her deposition omits it, and the log — the only log in this whole accounting that anyone troubled to erase — is clean, and some entries, even in my ledger, are hers alone to carry. You will want to guess. Everyone guesses. I will tell you only what I told the wall at Halden Row, and the printer, and the six worlds still walking toward the corner:

it was not *no*.

VERSE THE SECOND

received at the Farside Deep Array

The light was lent. The dark is owed.

Between the two there runs a road.

You called it silence, called it space —

it was a corridor, and a face.

Whatever war you did not fight,

whatever door you did not build,

was purchased elsewhere, out of sight,

and signed for, and the ledger filled.

Sleep your three nights. But know the sum

is carried forward. The fourth will come.

They never built the arsenals. The treaties held, the terror was cancelled, and a species spent its twentieth century aiming outward instead: atom-drive ships by 1975, the Moon settled in a generation, Mars a working port, and robot Pilgrims coasting out past the edge of the sun's weather. It is not a paradise. It is a waterfront.

Vera Nyquist is a Verifier at the Farside Deep Array — the licensed profession that checksums deep telemetry before it enters the human record, because at those distances corruption is constant, and a wrong bit in the archive is a lie told to the whole species.

Then a Pilgrim relays home a signal that should not exist: decades of radio and television from a world that never left. A century of terror, playing back like a documentary of a nightmare — beautiful, grieving, and wrong in the details, the way copies are wrong.

Buried in its broadcast schedule is question, asked patiently for years.

And somewhere in Vera's own station, under an authorization no one issued, something has been answering.



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