

PROLOGUE: THE EAGLE

When I was a boy, summers meant Vadsø. My grandmother's flat on Havnegata, beside Finnmarken's offices. Uncle Arne lived below. Both apartments overlooked Vadsøya and the Varangerfjord. Even in the late '90s, the town felt abandoned, an echo of the harbour town my parents insisted had once thrummed with life.

My grandmother's living room was always crowded, grown-ups speaking Norwegian and Sami in overlapping currents. I didn't speak Sami, but honestly, I didn't catch much of what they said in Norwegian either. Mostly, I lived in my own skull. In Vadsø, nothing happened unless you invented it.

I don't remember how I ended up in Arne's car that day — just the destination: beef snacks in Vardø. Arne insisted they were the best in Finnmark, maybe all the Arctic Circle.

The boy rarely saw his Uncle Arne: a birthday here, a wedding there. Arne always arrived late and left early. A man of few words, or so the boy thought. Later, he would learn that Arne was the family's black sheep, that he had done time, but no one ever said for what. Arne lived alone, and both his apartment and clothes smelled of tobacco, sweat, alcohol, and a sweet, strange scent the boy wouldn't recognize until years later. At the time, his uncle just smelled like an old man, and so did the car.

Arne's eyes were fixed on the road. There wasn't much to see. Fjord to the right, heath and low brush to the left. The boy was happy to escape coffee talk and dry cookies. This felt different because his uncle was a mysterious figure. The questions came fast, the answers were short, indifferent, until he asked:

"Do you believe in aliens?" And Arne? He didn't believe, he knew. The boy watched him with admiration; eyes on the road, the cigarette never burning out. Old northerners can turn a two-sentence story into half an hour, and you're grateful for every second.

It was early morning — or late at night, in Vadsø, the sun doesn't set from mid-May to mid-July, but Arne thought few were awake when it happened. It was grey outside, in Vadsø, even colourful houses looked grey. To the boy, Vadsø had no colour. All family photos were black-and-white, and every trip north felt like viewing the world through a filter. Arne said it was grey that day too. Morning, or night, was quiet until clouds over the fjord vanished in a blinding flash. The light erased all contours, and through it, a ship plunged into the Varangerfjord, over in seconds, maybe less. Arne told it as it happened in slow motion, the craft was so perfectly made that, even at incredible speed, the water barely rippled. It slid into the fjord like a hot knife in butter. The ship didn't even make a sound. But Arne saw it, and now the boy did too — in his mind.

When he came back, the other grown-ups did not believe his account of the encounter. "He talks a lot of crap, that uncle of yours," they said when he returned from what was, in fact, the best beef snack he had ever tasted.

Arne didn't follow his nephew inside Grandma's place, and the family had heard Arne's story before, many times. He had even tried to tell the newspaper office next door, Finnmarken, but local journalists had no column space for that kind of nonsense. But the boy didn't care, he believed. It was as if he'd witnessed it himself: the UFO that parked in the Varangerfjord.

Arne's story gave him belief, but belief is a fragile thing when it rests only on another man's story. The boy had no photos, no metal, no proof — just Arne's voice and the image in his mind. Yet that absence, that silence, let the story grow.

* * *

High above Vadsø's rooftops, an eagle only watched, knowing its place was not to intervene, but to remember.

PREMISE: CALLING INTO THE DARK

The boy grew up believing, it didn't matter that no one else did. He believed as you believe a vivid dream, as if he'd seen it himself. He yearned for space, and this longing grew over the years: quiet nights spent gazing upward filled him with restless hope and longing for connection. Where the fuck is everybody?

Our galaxy holds a hundred billion stars, each a possible cradle for life. Beyond, billions more galaxies scatter like sand. Since 1992, we've confirmed thousands of exoplanets — a fraction of what's likely out there. With so many planets, some must have the right conditions for life. So why have we found only silence, not neighbours?

Imagine a civilization a hundred times more advanced. Their ships, even crawling at a fraction of light-speed, could colonize the Milky Way in mere millions of years, nothing in cosmic time. If intelligent life were common, the galaxy would overflow with traces: radio waves, megastructures, or ruins. Yet it's silent. This is the Fermi Paradox: why, in a universe so vast, do we seem so alone?

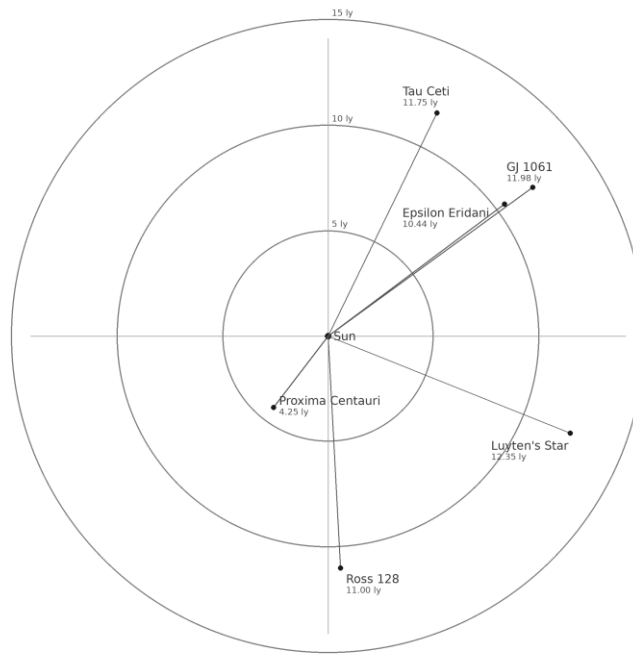
Could there be a Great Filter that prevents most species from ever reaching the stars? Maybe intelligence is the curse. Or worse, maybe the filter waits ahead, hidden in whatever every civilization invents to end itself. A more haunting theory is that the cosmos is a dark forest of hunters who've learned that silence means survival. Perhaps the silence is chosen, not empty. Some civilisations broadcast and die, while others hide, hoping to stay unseen.

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Still, we call out. SETI — the Search for Extraterrestrial Intelligence — listens passively for signals, hoping for a faint sound from elsewhere. In contrast, METI — Messaging Extraterrestrial Intelligence — actively broadcasts our presence, hoping for a reply. The difference between listening and sending may seem small, but the risk is far greater. SETI is the quiet neighbour with an ear to the wall; METI opens the door and shouts. Some scientists, including Stephen Hawking, warn that METI is reckless. We can't know who's listening or what they'll do. Others argue that any civilisation capable of hearing us already knows we're here; our signals have leaked into space for a century.

There's no global consensus on who should speak for Earth, or what to say, or if we should speak at all. A proposed international declaration was never adopted. Today, anyone with the right equipment can decide they represent all of humanity. If the universe is a dark forest, humanity is a teenager: loud, unafraid, and convinced danger only happens to others.

Somewhere, the boy would understand. His life veered from his ten-year-old dreams. Space receded as he advanced, the path tangled, leaving longing just out of reach. The NRHO rejection stung the most. For the first time, we needed a proper space force, and yet, he was denied. That ache still lurked. Distance became its own kind of exploration. He never made it all the way to space, instead, he listens.



A selection of nearby exoplanet-host stars within ~ 12.5 light-years of the Sun
(confirmed systems as of 2025)

ARC I:

THE SILENT REPLY

"The eternal silence of these infinite spaces frightens me."

— Blaise Pascal



SILENT SIGNAL

Location: Exloo, Netherlands

UTC Time: 06:18:02 — April 28, 2042

He woke up before his alarm, the way he always did. The apartment stayed dim behind closed blinds. He preferred to wake up slowly. Shower first, warm to cut the chill, then cold enough to jolt him awake. The air dryer whirled, but he switched it off and grabbed a towel instead. Drying his face, he caught thinner hair and deeper lines in the mirror. Same indifferent face every morning: neither happy nor unhappy, simply there. He didn't linger. The toothbrush activated when he bit down, bristles pulsing with mint and fluoride. Everyone used one now; it was silent and efficient, done in twenty seconds.

In the kitchen, his coffee ritual began, not the AI's perfect brew, but his jar of cheap, dark instant, the kind most would spit out. Boil water, add a spoonful, swirl, and done. The sharp and bitter smell was familiar; it was the only taste from home he had never replaced.

After finishing breakfast, he set the plate in the sink and moved to the window, glancing out at the quiet street as if confirming the morning hadn't shifted. He liked Exloo in the morning, or maybe he liked that mornings here hadn't changed in twenty years. Sheep dotted the fields. Familiar cafés, the same slow nod from the neighbour whose name he never remembered. The only real change was the solar panels glinting from the rooftops, catching the first light.

He pocketed his phone and said, "Read messages." The AI voice went through them as he put on the same jacket he had worn yesterday and the day before. There was nothing worth replying to. He stepped into the chilled morning air as an electric van glided by. Overhead, a small quad-rotor drone carried a package toward the next village. He didn't look up. Across the street, his neighbour's domestic droid rolled down the driveway with plastic bins. He noticed every whine from the servos as it adjusted its stance on the curb. Four-legged, headless, its white casing scuffed from use. He thought about how its military-precise design, once meant for soldiers' gear, was now just garbage duty.

"Pathetic," he muttered, cinching his jacket with a scowl. He glowered at the house, and something prickled at his jaw. "Two able-bodied thirty-somethings in there, and they won't haul their own trash."

The droid didn't answer, of course, it simply pivoted neatly, dropped the bins, then headed to the garage.

His car, a decade-old matte-silver electric hatchback, woke up as he approached, already warm inside. He drove the short route toward LOFAR, fields on either side, with wind turbines spinning slowly in the distance. The sky was a thin grey that never quite brightened. In his mirror, Exloo shrank to a collection of rooftops and dark panels. Inside the car, music coloured the scenery. *While My Guitar Gently Weeps* played. He let it run, fingers drumming the wheel as the April grey blurred into guitar lines.

They bought and sold you... He barely settled into a groove before his phone jolted the car speakers with its lifeless metallic voice: "Reminder: Liv's birthday. Would you like me to generate a greeting?"

He scoffed under his breath. "No. I can write to my own sister." Machines offer to speak on his behalf, even about something minor. He dismissed it with a swipe and turned the volume back up, letting Harrison's voice drift out again:

...I look at the world, and I notice it's turning. While my guitar gently weeps...

The words settled in his chest, heavier than he would admit, but he didn't skip the track. Better than silence.

The road narrowed as it left the village, bordered by grass and shallow ditches. Sheep stood motionless in the damp fields, heads down, steam curling from their nostrils. The LOFAR array appeared in fragments, first, a single dish above the hedgerow; then a scatter of others. Soon, the entire network came into view: hundreds of spindly frames stretched across the flat land, their lines taut, each one turned toward a piece of sky most people never thought about, waiting.

The security gate opened before he reached it. The barrier rose with a slow, hydraulic sigh. The gravel was still wet from last night's rain. The main building was low, glass-fronted, unremarkable, waiting at the path's end. He parked in his usual space, the same one for years. The car powered down without a sound. The air was colder out here than in town. He pulled his jacket tighter, crossed to the entrance, and palmed the access pad. The door unlocked with a muted click.

Inside, there was a faint smell of coffee and ozone. Monitors showed live feeds from stations across Europe, spikes and troughs crawling on black backgrounds. He nodded at the night-shift tech leaving. No words were exchanged.

His office was cramped: a desk, two chairs, and one wall covered in printouts. Another held an old Hubble photo; a wheel within a wheel. He set his mug down, woke his terminal, and watched the first batch of overnight data stream in from the east; columns of numbers, waiting for someone to notice.

A knock on the door. Hendrik from scheduling, leaning on the frame. "Any chance you can cover the night shift? Erik's out sick."

He had no plans worth protecting. "Yeah, sure. Fine."

The supervisor nodded, already moving on. He sipped coffee and stared at the data, unease lingered from the shift change. Night shifts unsettled him, yes, but he could not quite hate them. Night shifts were just something to get through.

The rest of the day passed without hurry. He worked the standard shift. Reviewed logs, ran a calibration on a western station. During lunch in the canteen, two technicians discussed a power fluctuation in Germany and joked that the grid was so automated that no one really understood it. He listened but didn't join.

* * *

By mid-afternoon, he was back in Exloo. The shift at LOFAR behind him, he carried a paper bag from the small market, balanced on the handlebars of his bike. At home, he dropped the bag on the counter, shoulders slumping in tiredness. He sat by the window with a nonfiction book on Norse myths, restless and unable to settle. He lingered on Ragnarok, but the words didn't stick. He closed it, emotional fatigue overwhelming any urge to read.

He ate early, searching for rest, hoping to catch a few hours of sleep before his shift. Then he closed the blinds and cooled the room. He lay on the bed, half-awake; frustration growing as sleep refused to come. He sat up and left the bedroom, made himself another coffee, stronger this time. He sat at the kitchen table, sipping without hurrying.

Later, when the clock neared the night shift, the roads were nearly empty on the drive to LOFAR. In the dark, the dishes looked stranger — black shapes against a clouded sky, all pointed up, waiting.

At the entrance, he spotted Jan, leaning against the concrete wall. A cigarette glowed in one hand; the other was glued to his phone, its blue-white light pulsing over his face as he scrolled, thumb flicking, eyes fixed. The cigarette burned fast, forgotten.

"Evening, Viking," he said. Jan didn't look up. "One sec." He tapped his phone quietly, then finally glanced over. "Hell of a night. Sky's clear. Not that it matters." He flicked ash into the gravel, eyes still half on the screen. "We stare at the sky all night. You know what we've heard so far? Nothing."

Jan was the type who entered cautious numbers in the Drake Equation — life rare, intelligence rarer, signals rarest — and still went home let down by the quiet. His gaze drifted to the stainless mug balanced on the step beside him. Steam curled from its lid, glimmering dimly in the dark. "You'll forget that," he said.

"Nah. It reminds me." Jan grinned, eyes back on the screen. "Keeps it perfect until I pick it up."

He watched Jan take a slow drag on the cigarette, exhaling, eyes never leaving the phone. His posture was slack. Lips moving barely in rhythm with whatever the device whispered to him. Jan had become the peripheral. He stepped past his colleague and into the facility. Behind him, the cigarette burned out, while the mug kept steaming on the step.

RECEPTION

Location: LOFAR Core Facility, Exloo, Netherlands

UTC Time: 04:41:02 — April 29, 2042

It was the quiet part of the shift where no one even pretended to be busy. He moved through the admin wing, noticing a steaming mug on the counter. The office-issue smart cup kept the liquid at 63°C, automatically regulated. Someone must have left it mid-meeting. He wasn't sure what to make of a machine babysitting coffee.

At Workstation 2, Mira was half-asleep behind her terminal, pretending to scan RFI sweeps. Jan was off somewhere in the data racks again; he always found something to calibrate when the night got long. He remained at Workstation 4 — the 'SETI' desk, as they joked. Nothing ever came through Channel B-16, the L-band feed added in 2037, except for Chinese satellites or that one time a dead Starlink shell triggered a false alarm. Still, he stayed with it, this was not a cockpit, but the desk had one virtue: it aimed at the stars.

Three terminals glowed dimly, the fluorescent lights were off per night protocol, a wall clock ticked faintly, the system pinged — soft, automated. At Workstation 4, he leaned in, six hours into his shift: nothing unusual had appeared: low-band noise sweeps, lingering RFI from a cargo satellite. Channel B-16: Silent.

Then another ping:

[SIGNAL CLASSIFIER ALERT]

Frequency: 1439.531 MHz (L-band)

Status: Non-random pulse train detected

Action: Human review required

He clicked open the alert. The waveform window expanded, and a narrow carrier signal rode the baseline, barely above the noise floor at -128.6 dBm. Weak, but linear.

Spectral centroid: steady.

Doppler (post-barycentric): ≈ 0 within noise.

Sky origin: RA 07h 27m 24s, Dec $+05^\circ 13' 32''$.

He shifted to a spectrogram view. A time-domain plot unrolled: seven clusters of discrete pulses, each consistent in duration and spacing. The signal had already been repeated once. Fourteen groupings, perfectly duplicated. He measured the pulse width: Short pulse: 0.5 seconds. Long pulse: 1.5 seconds. Binary.

He opened a raw log window and began manual decoding. First grouping:

0 0 1 0 1 1 0 1 $\rightarrow$ 00101101

Binary 45. ASCII (8-bit): "-" (Decimal 45)

Next:

0 0 1 1 0 0 1 0 $\rightarrow$ 00110010 $\rightarrow$ "2"

0 0 1 1 0 1 1 1 $\rightarrow$ 00110111 $\rightarrow$ "7"

0 0 1 1 0 0 1 1 $\rightarrow$ 00110011 $\rightarrow$ "3"

0 0 1 0 1 1 1 0 $\rightarrow$ 00101110 $\rightarrow$ "."

0 0 1 1 0 0 0 1 $\rightarrow$ 00110001 $\rightarrow$ "1"

0 0 1 1 0 1 0 1 → 00110101 → "5"

Seven bytes.

He wrote it out and stopped:

–273.15

No explanation, no pattern, no signature block. Just the number, seven bytes repeated once. That was the whole transmission. But why that number?

He recognized it instantly: –273.15. Absolute zero, the coldest possible temperature, where all thermal motion ceases. A number you memorize once and never forget. It was the temperature of death.

He studied the screen, a breath half-exhaled held, as part of his brain whispered: Maybe it's not a reply, maybe it's a warning, or a farewell. Maybe someone typed "goodbye" into a gun and pulled the trigger. He looked at the signal again. The direction and frequency. The format. Did we send anything to them?

He opened the historical outbound log and searched for transmissions aimed at that sector. It took filters — frequency band, target coordinates, and known campaigns. A record eventually surfaced, archived under pre-LOFAR upgrade campaigns.

October 16, 2017.

Transmitter: EISCAT dish, Tromsø

Program: METI International - Sónar Calling GJ273b

Target: GJ 273 — Luyten's Star

Back then, LOFAR couldn't detect that high; its array capped below L-band. Partner stations logged the beam. After the 2037 retrofit enabled L-band feeds, those archives merged into the system. The log was sparse, but it listed:

- 1440 MHz beam
- 2-minute repeating signal
- Structured content: prime numbers, 33 musical sequences, planetary math, basic biochemistry

A project that was devised as "A celebration, an artistic and scientific experiment and a collective rumination on what it means to be human, and alien." All of it launched into the dark, back in 2017.

He glanced at the inbound classifier line: 1439.531 MHz within half a megahertz of the old METI beacon. Close enough to flag it for review. He checked the round-trip timing: Earth to Luyten: ≈ 12.36 years. Return journey: ≈ 12.36 more. He looked back at the timestamp on the inbound signal: April 29, 2042. The math lined up, that was the hello, and this was the answer. He flipped back to the decoded screen. A single number?

Weight settled across his chest. That stillness when something irreversible has happened, and the world hasn't caught up yet.

Then, he logged the signal.

RECEIVED CONTENT: "–273.15"

ORIGIN: Luyten b sector

ENCODING: ASCII (8-bit), binary, uncompressed

VERIFICATION: Pending triangulation

The screen glowed, the number blinked, nothing else had changed. Across the room, Mira peeled the wrapper off a granola bar. Jan was still lost among the server racks, and the fan above the whiteboard ticked as it rotated. The world had tilted, and no one noticed.

Routing activated: Nançay. Jodrell Bank. Onsala. Redundant capture requests sent.

Back at Workstation 4, the fans kept running. He looked once more at the number. No movement, no music, no complexity, just a flat pulse. On. Off. On. Off.

We reached out, and someone answered.

On the screen, the message blinked silently.

-273.15