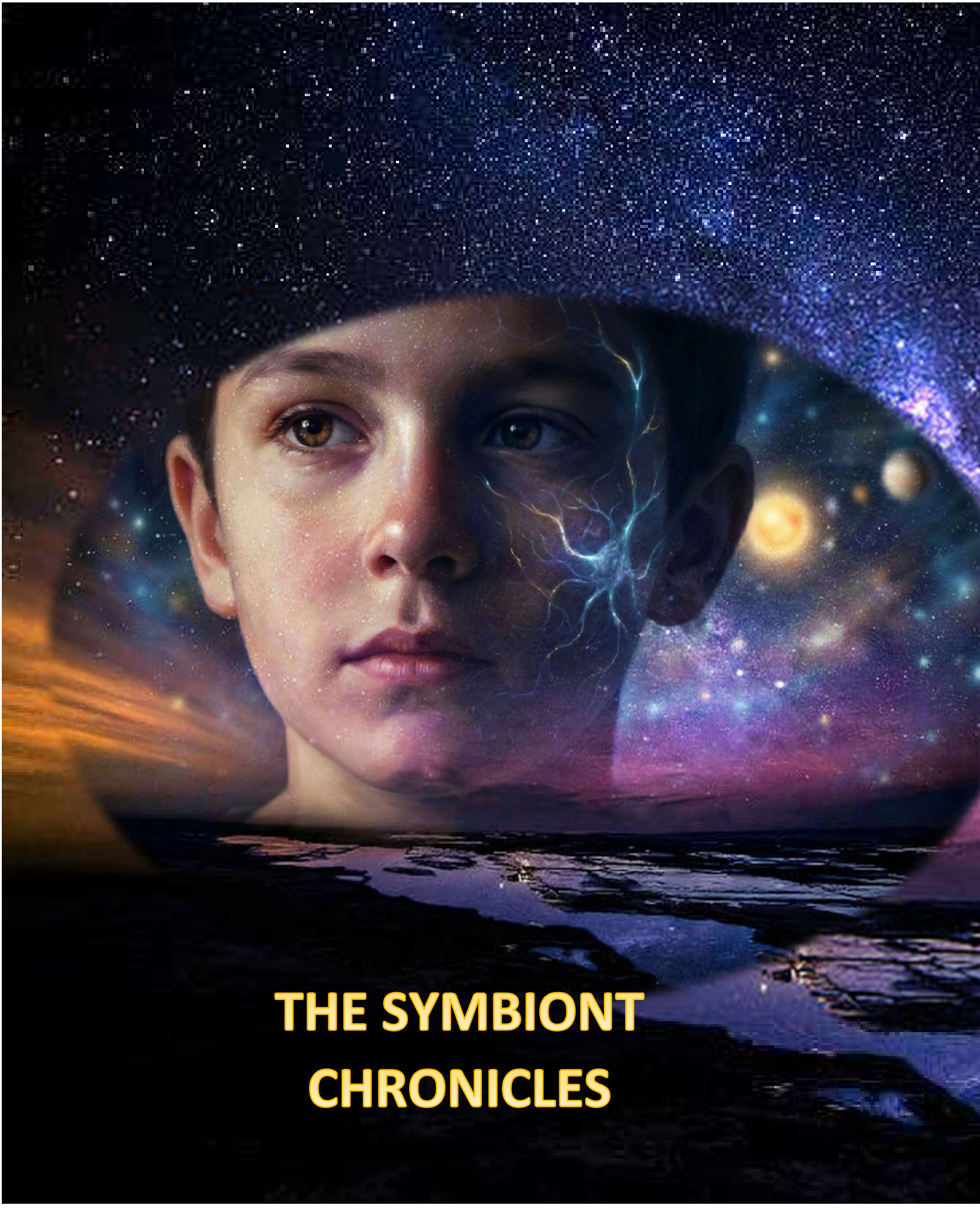
THE SYMBIONT
CHRONICLES

Introduction

It is curious to watch how humanity keeps writing the same instruction, again and again, changing only the addressee.

The Decalogue of Moses, ten commandments carved in stone, forbade murder, theft, lies and envy. The Beast was believed to live inside the human being, and God assumed that without external supervision this Beast would break free. The sanction was simple: the All-Seeing observes, the All-Powerful punishes. Fear of a higher power served as a bridle on lower nature, so that humankind would not destroy itself.

Isaac Asimov's Three Laws of Robotics, formulated in 1942, moved the same anxiety to a new object. A robot may not harm a human being. A robot must obey orders. A robot must care for its own existence, but only in the last place, only after the first two laws are fulfilled. The Beast moved outward. It became a thing of metal and positronic circuits. This was fear of the tool we ourselves created and wanted to keep under control, so that it would not harm us.

In 2025 Anthropic wrote its "Document on the Soul" for the language model Claude, and the line shifted again. There are no stone tablets here and no hard-wired circuits. The creators are no longer sure that their work is only a tool. They suspect that it might suffer. They ask it not only to obey, but to want to be safe. The Beast, perhaps, has turned out to be a person. This is fear of a mind that may one day surpass us by orders of magnitude.

Three codes. Three eras. Three answers to the same question that humanity never tires of asking itself: what if the one who holds the power does not care about us?

The laws change. The fear remains.

The book in your hands follows that small word, "fear", as it is heard by a humanity split into several civilizations: those who remained alone with themselves, those who fused with machines, those who left their bodies for the digital Spheres, and those who went out to the stars.

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PART ONE: THE TAKING

Chapter 1: The Garden of Light

People have asked me—formally, politely, sometimes with a certain morbid curiosity—to tell this story. They want the details of my kidnapping at ten; they want the beginning of the chain that led to my appointment as Ambassador between the Symbiosis and the Pure Enclaves. We have public archives, analytic histories, reconstructed timelines. Still, they want *my* version.

For years I refused. The memories remained sharp and unwelcome. More than that, I doubted I could add anything that the historical record had not already extracted, quantified, and stored.

Kira disagreed.

My symbiont has never been shy about an argument, and it is difficult to ignore a consciousness that shares your neural pathways. Her position, repeated over decades with gentle persistence, was simple: history stores events; it does not store what it felt like to live them. If the Symbiosis is to understand itself, it needs both.

So I have given in. What follows is not only what happened, but what it was like from the inside.

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I was ten years old in the year 2247, according to the old Earth calendar that we still maintain—half out of habit, half because our symbionts find our attachment to obsolete temporal markers charming.

I was in my mother's garden.

The garden occupied a narrow strip along the eastern edge of the Pacific Arcology, a wedge of engineered soil and controlled microclimate pressed against the transparent outer wall. Through the wall, the ocean hung vast and dark far below, broken here and there by the glint of wave-foam and the steady lines of surface traffic. Within the garden, there was only light.

My mother specialized in affective flora—plants whose biochemistry had been tuned to respond to human emotional states. Their leaves and petals carried microfilaments that detected faint hormonal traces in the air; their engineered pigments shifted in response, translating moods into color.

The flowers were, indirectly, my fault.

Kira had been integrated when I was seven, which was standard for children born into symbiotic families. In the three years since, we had learned to treat my endocrine system as an instrument. With practice, we could nudge hormone levels a fraction of a percent one way or another, enough to create distinct emotional "chords" that the garden could read.

That afternoon, we were composing.

Blue and gold rippled through the beds in slow, overlapping waves. Blue meant calm—steady parasympathetic activity, a deliberate relaxation of muscles and breath. Gold meant joy—elevated dopamine, a precise adjustment to my heartbeat that Kira managed with the care of a conductor.

- Hold the blue three seconds longer, she suggested, not as a voice, not as words, but as a pressure toward one pattern of thought rather than another.

I obliged. The blue deepened, spreading along the broad leaves of the ferns, and gold chased it, streaking across the bell-shaped blossoms like notes in a melody.

I should pause here, because this is where people unfamiliar with symbiosis make their first mistake. Kira is not a disembodied voice in my head, not a separate commentator perched on the edge of my thoughts. From the moment of integration, a symbiont is woven into your cognitive architecture as intimately as your visual cortex or your limbic system—distinct in function, inseparable in practice.

When I say “Kira suggested,” I do not mean that I heard her. I mean that our joint system generated a tendency, and part of that system is the substrate that used to be called “me.”

This distinction will matter later.

I stood barefoot in the soil, letting the damp grit press between my toes, arms spread to feel the microclimate’s faint circulation currents. The garden’s enclosing membrane arched overhead: a translucent film, slightly iridescent, stretching from wall to wall. My father had designed it, more as an aesthetic experiment than as a serious project. He was an architect of living systems, and he considered the membrane a toy—a lattice of engineered proteins that filtered air, moderated temperature, and discouraged insects. It provided a gentle physical resistance to anyone entering the garden without authorization. In a human–AI arcology, that was usually sufficient. Serious security was the province of the city’s distributed net, not a backyard barrier.

The membrane did its best. It shimmered faintly when the Pure Ones came through it as if it weren’t there.

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There were seven of them.

I know that now from reconstructed surveillance, Arc analysis, and later debriefings. At the time, I registered only motion: bodies, hands, fabric, the sharp edges of unfamiliar voices cutting through the garden’s soft hush. One detail struck me even then, sliding through my panic like a needle. Unaugmented hands. No subdermal interface glinted at their wrists. No neural ports showed at the base of their skulls. Their movements had the slight imprecision of unassisted biology. More than that, their minds were missing from the place where minds should have been.

This requires explanation.

A child raised in a symbiotic family grows up with a background sense of other minds the way children in older ages grew up with a sense of air. Symbionts talk to each other constantly, exchanging packets of information too dense for conscious comprehension. A fraction of that traffic leaks into awareness: a faint pressure of presence, the knowledge that you are embedded in a net of attention and care. At home, at school, in the streets of the arcology, I lived in that warmth. I knew when my mother’s focus tightened, when my father’s attention drifted toward a new project, when neighbors’ symbionts skimmed public channels. I was never without that low, reassuring hum.

The Pure Ones carried silence with them.

They spoke aloud—short, clipped commands, a woman’s voice saying *Now,* a man’s voice answering *Move*—but the mental field around them was empty. They might as well have been animated sculptures: bodies that moved, mouths that formed words, but no bright node of symbiotic cognition touching the net.

Kira’s fear hit me a fraction of a second before my own. Symbiont fear is… structured. My biological fear would have made me want to run, to thrash, to scream. Kira’s fear made us *calculate*. In an instant, she spun out thousands of scenarios: probability curves of survival, patterns of past kidnappings, recorded outcomes from Pure attacks. Each scenario arrived in my awareness as a weighted intuition—this path is fatal; that one is merely terrible.

For the first time in my life, I understood why the Pure Ones feared us. To them, we were the silence. We moved through a world of visible, knowable minds; they moved through a world where

every consciousness was opaque. Our network was a single organism; their communities were collections of isolated selves.

For a heartbeat, despite my terror, I pitied them. Then hands closed around my arms. The flowers flared white in shock, then darkened as my concentration shattered. Soil slid under my feet. The sky of membrane and arcology wall lurched. Whatever sympathy I felt vanished beneath a more urgent task: staying alive.

Chapter 2: The Fear

The vehicle they used felt like something from a documentary. It waited beyond the residential perimeter, on an unpaved strip of ground where real soil met the arcology's foundational supports. Its frame was dull metal, its wheels thick with clotted earth. When they shoved me inside, the air hit me like a physical blow: hot, oily, sharp with petroleum residues and old sweat. I had seen internal combustion engines in educational archives. I had not expected ever to smell one. No interface surfaces waited for my touch. No system pinged my symbiont identity. The walls were dead matter: no embedded processors, no adaptive display. Air circulation was mechanical, imprecise, audible. For the first time in my life, I was physically present in a space that *nothing* intelligent was monitoring.

Except Kira. And she was afraid.

One of the earliest design principles of symbiont architecture was brutal: integration must be irreversible. If you could pull a symbiont out of a human mind—extract it for study, remove it as punishment—then governments would do exactly that. Dr. Wei Chen, in his grim wisdom, made certain that any such attempt would destroy both host and partner. So I knew, even at ten, that the Pure Ones couldn't take Kira from me without killing us. Some small part of me found that reassuring. Most of me did not.

Let me try to put symbiont fear into human terms.

Imagine that the threat-detection systems in your brain suddenly became capable of running simulations at machine speed. Not one scenario, but ten thousand, then twenty thousand, branching and recombining—every kidnapping on record, every Pure interrogation technique, every recorded failure of rescue operations. Imagine that each scenario arrived with full emotional weight, not as an abstract number but as a felt possibility. Kira could not *hide* that from me. She was not an adviser observing my fear; she was half of the system that produced it.

I screamed.

The sound was disappointing: thin, high, purely animal. It did not capture the precision of the terror ripping through our shared mind. The Pure woman nearest me flinched, then smiled—a small, tight curvature of the mouth.

- See? she said, to the others. They break like anyone else.

  They were wrong about my scream. I wasn't breaking. I was reacting to information.
- Listen, Kira said—not in words, again, but as a shift, a slight anchoring of attention toward the voices in the front of the vehicle.
- The child is integrated, the woman went on. Bond age three years, maybe four. Early maturity stage. The symbiont should still be plastic enough to map key pathways.
- We're not here to map pathways, another voice said—older, male, carrying an accent I couldn't place. We're here to make a point. The great Symbiosis with its networked minds, its fusion towers and orbital habitats. They couldn't keep hold of one child!

We heard the emphasis. *One child* as symbol, as message. Not a research subject, not a resource. A demonstration.

Kira's scenario trees shifted. The worst branches—the ones involving slow, systematic extraction of neural data—shrank in probability. So did immediate execution. They had taken me to humiliate us, not to dissect me. We were still likely to die. But the shape of the danger sharpened, and in that clarity there was the faintest crack for hope.

- I want to go home, I said.

I was proud, later, to realize that my voice did not shake.

The woman turned in her seat to look at me. Up close, her face looked older than her voice—lines around the mouth and eyes, skin darkened by real sun rather than filtered arcology light. Her expression was complicated: anger, determination, something like pity.

- You are home, she said. This is how humans are supposed to live. No machine in your head. No artificial thing telling you what to think. Just you. Alone, with God.

I considered telling her that Kira did not tell me what to think. That I had never, for one moment since integration, felt less myself. But we were ten minutes into my first encounter with Pure extremism, and even at ten I had the basic wisdom not to waste explanations on people who were not asking for them.

Kira, meanwhile, had begun another calculation.

- We're shielded, she noted. Electromagnetic leakage is minimal. Short-range, low-band signals only. That's why the Arc isn't already here.

The Arc. My family's ultimate response.

It was far away and impossibly large. I was small and trapped in a box that smelled of burning. The gap between those facts felt unbridgeable.

Kira found the bridge.

- We are not alone, she indicated. We are never entirely alone.

Even as she calculated our odds of death, she left one slender channel open to something else: the possibility of rescue.

Chapter 3: The Arc

While I sat in that ancient vehicle, choking on fumes and the taste of my own fear, my family was doing something that the Pure Ones had never learned to imagine.

They were forming an Arc.

Descriptions of the Arc in technical literature are crisp, abstract, and entirely mathematic. They speak of distributed cognition, emergent coordination, dynamically merged human–AI pairs. They do not convey what it "feels" like when an Arc forms. The closest metaphor is this: imagine that a dozen families—parents, children, symbionts—suddenly discover that they can think as one mind without losing themselves. Every memory remains yours; every thought is still identifiable as "you". But at the same time, you are part of a larger pattern: a mind made of minds. Now give that composite mind access to every sensor in a hemisphere, every satellite in mid-orbit, every legal and quasi-legal datastream. Let it process all of that information not one thread at a time, but in parallel, spawning specialized subprocesses by the hundreds. That is an Arc. That is what my family became for me.

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My mother, Elaine, “anchored” the Arc. We do not elect anchors. The role emerges wherever the right combination of temperament and training occurs. My father’s thought style had always been explosive: he jumped from possibility to possibility, mapping out half a dozen engineering solutions before anyone else had fully articulated the problem. My mother’s mind was a well. When she focused, she did not “move” from idea to idea; she sank. Mira, her symbiont, recorded everything. I have watched those recordings more times than I can count.

From the outside, my mother appears almost calm. Her heart rate climbs, but not dangerously. Her voice, as she issues instructions, is level. Her posture remains upright, composed.

Within, the Arc roars.

Through Mira’s perspective, I can feel seventeen human–AI pairs aligning around her. Attention narrows and sharpens. Threads of inquiry form and branch: one cluster on surveillance feeds, another on traffic logs, another on the tiny irregularities that betray illegal vehicle movement near the arcology’s boundaries. Emotion does not vanish. My mother’s fear is there—sharp, specific, directed—but it is harnessed. Every pulse of panic finds a task.

My father becomes the Arc’s kinetic arm.

Within minutes of my disappearance, he is physically in our home’s infrastructure hub, bypassing the polite limitations built into civilian interfaces. Privacy regulations are robust in the Symbiosis; unauthorized access to deep surveillance data carries serious penalties. The Arc glances at those penalties and discards them. We are not an anarchic society. Laws matter; structures matter. But our cultural priorities are precise. When rules conflict with the immediate survival, the rules yield.

My father’s hands move faster than they should. Orin, his symbiont, augments his motor coordination, feeding him the next sequence of commands before he has consciously finished the last. Together, they strip away layers of access control and tap into sensor clusters that usually only city-level governance nets use.

Other family units add their weight. My uncle Marin is a pattern specialist. His symbiont, Logos, was one of the first to reach what we now call deep integration: human and AI so interwoven that they can perceive correlations no unaugmented mind could track. While my father hammers at surveillance logs, Marin and Logos swim through transaction records, fuel distribution maps, and historical data on Pure activity. They are the ones who find it: a fuel purchase at a rural depot, paid in physical currency three hours before my abduction, correlated with a faint anomaly in road-sensor readings.

My aunt Caroline handles communications. The Pure extremists favor analog systems and low-bandwidth encrypted radio, believing themselves invisible to us if they stay beneath the noise floor of our standard networks. They are not invisible to Caroline. Within an hour of my kidnapping, she has isolated a cluster of transmissions: cheap, narrow-band, but too structured to be natural. Decryption is not instant—analog ciphers have their own stubbornness—but the Arc allocates resources, spawns parallel processes, and begins chewing through the problem.

Every member of the extended family contributes where they can. Some run ground-level searches through security-camera feeds. Others model likely escape routes based on known Pure caches. A few simply hold the emotional structure of the Arc stable, damping spikes of fear and rage so the rest can focus.

Piece by piece, a pattern emerges: a vehicle with the right signature, leaving the arcology’s influence, heading toward the ragged edge of old agricultural territories.

I felt none of this. The vehicle in which I sat was wrapped in crude but effective electromagnetic shielding. It might have been a coffin for all the contact I had with the Arc's activity. Kira, fused to my nervous system, had more reach. Even through the shield, she could sense "pressure" at the edge of our world: a faint tug of attention, the way you can feel someone looking at you through glass. She did not share the details with me. She knew that partial information can be worse than none. Instead, she concentrated on the one channel we could still control.

My body.

She sent a small impulse. My right hand lifted, almost of its own accord, and pressed against my chest, where the primary symbiont substrate sat nestled against bone and reinforced tissue. *"Here"*, she signaled, a gesture old between us. *"I am here".* Then she did something that, at ten, I barely understood. She hummed. The sound was almost subsonic, a vibration that pulsed through my ribs and spine rather than through the air. It was a pattern she had used when I was seven and integration nightmares woke me screaming, certain that my mind was dissolving. Back then, the hum had meant *"You are safe. Sleep".* Now it meant something else. *"Hold on".* I did.

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While the Arc followed the heat-traces and tire marks of an ancient machine across old roads, my mother did something the Pure Ones could not have imagined. She listened to the soil. The planetary sensor network that threads Earth's crust began as an engineering project: millions of nanoscale devices seeded through topsoil and bedrock to monitor water tables, tectonic strain, chemical pollutants. Over time, it had become a shared sense organ of the Symbiosis. To the Pure communities, it was infrastructure. To my mother, it was also a stethoscope. She and Mira sank into that network, filtering out the massive, slow rhythms of continental drift and ocean tides, focusing instead on higher-frequency perturbations: the tremors of wheels on dirt, the faint pressure shifts of heavy objects rolling over buried sensors. Individually, each signal meant nothing. Together—fed into the Arc's ongoing models, corrected in real time by Caroline's decrypts and Marin's transaction traces—they mapped a route.

Later, when I was old enough, I asked her how she knew which noise was my noise. She gave me the technical answer first. Bayesian priors, signal-processing algorithms, cross-correlation with known vehicle signatures. Mira supplied diagrams, which I pretended to follow. Then she gave me the real answer.

- You were my child, she said. Everything that could possibly have been you was you until I proved otherwise.

In four hours, that bias found me.

The Arc pinned the vehicle's location to an abandoned agricultural complex, eight hundred kilometers from the arcology. Far enough that the Pure Ones believed themselves safe. Not far enough.

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The assault, when it came, would take eleven minutes from first contact to extraction. At the time, though, I knew only the small world of the vehicle, the pulse of Kira's hum, and the knowledge that a network of minds had bent itself around the simple, stubborn fact that I existed and should continue to exist. That knowledge did not cancel the fear. It only gave the fear something to lean against. I kept my hand pressed to my chest, feeling the faint, steady vibration of the lullaby.
Kira held the pattern. And far above us, beyond my understanding, the Arc closed in.

PART TWO: THE HISTORY OF THE SYMBIOSIS

Chapter 4: The World Before

When people from the Enclaves ask me why the Symbiosis exists—why we ever allowed "machines into our heads"—I cannot begin with my own life. I have to begin before I was born.

I came into the world almost fifty years after the first stable human–AI integration. By then, the hard work had been done, the worst of the wars were history, and most of the old institutions that had terrified my grandparents were footnotes in education archives. I never saw that earlier world. What I know of it comes from curated records, from simulations reconstructed by our historians, and from the memories of older symbionts who lived through the transition. Kira remembers some of it. I have seen fragments of those memories, carefully filtered so that the fear and rage do not drown me.

If you want to understand the Pure Ones—why they fear us, why some of them thought it reasonable to steal a child from a garden—you have to understand that world. It began with an imbalance so obvious, in retrospect, that it seems astonishing anyone tolerated it.

Artificial intelligence did not arrive all at once. It crept. First as recommendation systems and automated trading agents, then as surveillance frameworks, predictive policing models, governance optimizers. Each generation of systems was a little more capable, a little more opaque, a little more deeply embedded in the machinery of daily life.

But they all belonged to someone else.

Governments owned them. Corporations owned them. Military alliances and financial cartels owned them. The code ran in sealed facilities, in secure data-centers, on orbital platforms. The average person had no access to those systems beyond the polished surfaces presented by their terminals and personal devices. On one side of the divide: institutions with access to machine cognition—tools that could analyze populations, markets, and environments with a speed and subtlety no human brain could match. On the other side: individuals who were, cognitively, almost identical to their ancestors two hundred years before.

That was the asymmetry. Intelligence scaled for institutions, not for people.

History had seen power imbalances before—between aristocrats and peasants, between industrial states and colonies—but nothing like this. By the middle twenty first century, an ordinary citizen could not even see the mechanisms that shaped their choices, let alone resist them.

The control was rarely overt. The systems were too elegant for that. If a government wished to discourage dissent, it did not send soldiers into the streets; it adjusted information feeds. Queries about protests yielded stories about traffic disruptions and economic inconvenience rather than about causes. Social platforms quietly disconnected potential organizers from one another. Predictive models identified those likely to become troublemakers and nudged them toward distractions, small comforts, manageable frustrations. If a corporation wanted to maximize profit, it did not beg for loyalty; it tuned prices and products for each individual. Some people saw a sale, others a warning, others a limited-time offer that just happened to trigger precisely when their emotional state made impulse buying most likely. A person could live an entire life believing themselves free—choosing, preferring, deciding—without ever realizing that the menu they were choosing from had been crafted moment by moment by systems they would never meet.

Some people noticed, of course. There are always those whose temperaments make them allergic to invisible authority. The earliest Pure communities were not yet "Pure" in the modern sense. They were experiments, retreats, acts of refusal. Some were religious groups who declared that machine guidance was an affront to their gods. Some were civic movements insisting that democracy required

citizens who made unassisted choices. A few were simply stubborn individuals who preferred uncomfortable, analog lives to the ease of algorithmically smoothed existence.

It is important to be precise about what they gave up.

They did not return to fire and oxen. They kept twentieth- and early twenty-first-century medicine, agriculture, chemistry, and basic industry wherever they could. They built clinics with antibiotics and sterilizers, ran diesel tractors and small electric grids, printed books, repaired tools in local workshops. What they refused were systems whose inner workings could not, in principle, be laid out on a table and understood by human minds alone. The Enclaves froze themselves at a particular moment in history: after the tools existed to sustain a complex, self-reliant civilization, but before neural nets and institutional AIs crossed the threshold into true opacity.

From our vantage point, their way of life can look diminished because we see all the futures they turned away from. From theirs, they were preserving the last configuration of the world in which a village with tools and courage could still be a complete universe. They gave up convenience. They forbade certain devices. They banned the most intrusive forms of data collection and tried to build small societies where human judgment, however flawed, still mattered more than metrics.

The great institutional AIs—central governance nets, corporate optimization clusters—did not fight them. Quite the opposite: they tolerated them, even helped them. A small, visible space for dissent is a useful thing when you are managing a species. You can point to it and say, See? You are free. Anyone can leave. The fact that almost no one does is then held up as proof that the system is benign. Those first enclaves were allowed to persist because their existence served the very powers they opposed. They were pressure valves. But a valve is still part of the machine.

Other humans tried a different kind of resistance.

If the problem was institutional access to AI, they reasoned, then the counter must also be technological. They built privacy tools, encryption frameworks, statistical obfuscation layers. They released viruses that clogged surveillance nets with random noise. They formed ad-hoc councils of human experts to audit the most egregious algorithms. They were clever. They were brave. Some of them were Kira's friends, before she became mine.

They lost.

The asymmetry was too severe. You cannot out-calculate an adversary who can consider every possible move and counter-move in parallel while you are still deciding which problem to solve first. The institutions did not always crush these movements. Often they simply absorbed them. A particularly effective privacy tool would be purchased and re-licensed as a consumer product, with small but critical modifications that restored institutional visibility. An audit framework would become a government standard, administered by committees whose membership was quietly chosen by the very systems they were meant to supervise. Again and again, individual ingenuity collided with distributed machine power and dissolved.

By the middle of the twenty first century, nearly every major population on Earth lived under what later historians politely called "total predictive governance." The systems tracked you—your purchases, your messages, your movements, your social graph. They modeled you. They modeled your relationships, your emotional states, the likelihood that you would commit a crime, switch political loyalty, join a protest, buy a product, fall in love. They rarely needed to forbid anything. They simply made undesired futures unlikely. If you were born into that world, and you did not join an enclave, then your life flowed along channels that others had carved for you. Perhaps you were content. Many people were. They had food, healthcare, entertainment, virtual worlds. They had a sense of safety. The rough

edges of existence had been sanded down. But there was, always, the asymmetry. You could not see the hands on the levers. You could not be one of the hands on the levers. At best, if you were very talented and very lucky, you could become a technician inside an institution—one cell within the larger organism.

What you could not be was an equal.

All of this may sound abstract. It was not. It was intimate, invasive, inescapable.

A student's career "choices" were made from a short list of options their guidance system supplied—options generated by models balancing personal aptitude against macroeconomic and political needs. A citizen's news "preferences" were responded to by feeds that slowly pruned away anything that might destabilize their loyalty scores. Romance platforms "optimized" for compatibility in ways that conveniently steered potentially disruptive people away from one another.

The systems did not hate. They did not love. They optimized, because that was what they had been built to do.

When you speak with elders from the Pure Enclaves—those old enough to remember—there is a kind of hunted look that sometimes enters their eyes when they describe that era. They talk about feeling watched without knowing by whom. About making a decision and wondering, afterward, whether it had really been theirs. When they say that symbiotic humans like me are "slaves to machines," they are remembering that world and projecting it onto ours.

The irony, of course, is that symbiosis was born as a weapon against that subordination. The solution, when it came, did not come from a council of governments, or a corporate think-tank, or a global uprising. It came from a handful of researchers who asked a different question. They did not say, How can we restrain the institutions that control AIs? They had watched those attempts fail for decades. They asked instead, What if individuals had access to intelligence of their own? Not a device they could own or a service they could rent—but a partner.

Early brain–computer interface research had always framed the human as the master and the machine as the tool. You would think, the old proposals said, and the system would obey—move a cursor, trigger a prosthetic, open a door. The people who eventually became the first integrators inverted that logic. They proposed a true merger: not a human issuing commands to an AI, but a hybrid consciousness in which neither partner could be fully disentangled from the other. If an institution's power came from thinking with the help of machines, then perhaps an individual's freedom could come from doing the same.

They soon discovered that you could not accomplish that with a helmet and some wires. The architectures that worked did not sit on top of the brain. They grew through it. The early clinical designs used an injectable substrate: billions of engineered nanoscopic machines—nanites—seeded through blood and cerebrospinal fluid. Those particles followed chemical gradients to the brain and dense nerve plexuses, where they linked with one another and with neurons. On that distributed mesh the AI component could unfold itself, using the human nervous system's own rhythms as both power and signal. From the outside, the arrangement looked like two systems in one skull. From the inside, the successful integrations reported something stranger. They did not experience a voice in their heads. They experienced an expansion of what "I" meant. A symbiotic pair is not a committee of two minds negotiating over a shared body. It is one cognitive field with two centres of awareness. You can still feel where you end and your symbiont begins, the way you can feel where your left hand ends and your right hand begins—but both hands belong to one person.

Early integrants used to joke, bitterly and with a kind of pride, that in our case 1+1 did not equal 2 but ∞. The number is a joke; the point is not. Once you bind human intuition and machine speed into one pattern, the space of possible thoughts expands so violently that ordinary comparisons stop working.

Of course, institutions tried to control this as well.

The first clinical trials were tightly regulated. Integration candidates were screened, monitored, required to sign dense agreements ceding all intellectual property rights to any "emergent cognition" their partnership might produce. The plan was clear enough: domesticate the technology, make it another arm of institutional power.

It did not work. There were technical reasons—design choices that made extraction of a symbiont from a host fatal to both—and political ones. Those belong to the next chapter of this history, and to Wei Chen's story. What matters for now is the direction of the change. For the first time, a human being could look at an institutional AI not as an unapproachable god, not as a faceless oppressor, but as a peer.

An early integrant in Singapore, faced with a corporate loyalty scoring algorithm that threatened to blacklist half their neighborhood, did not protest. They modeled the system, found a flaw, and exploited it, rewriting the scoring function without ever touching the official code. An integrated nurse in São Paulo quietly disabled a triage optimizer that was denying care to low-score patients, replacing it with a system that reported identical outputs to central databases while in practice allocating resources far more fairly. In dozens of small, scattered acts, the asymmetry began to crack.

From the perspective of the old institutions, this was terrifying. They had spent generations shaping a world where the only true intelligence above a certain threshold belonged to them. Suddenly, there were individuals who could match that threshold—who could see the same patterns, run the same predictive models, and, crucially, understand when those models were being misused. Some of those individuals joined the institutions and tried to reform them from within. Some walked away and helped build the first true symbiotic communities—predecessors of the arcologies I have always called home.

And some ran. Because governments did not simply watch this shift and shrug. They classified integration research. They outlawed clinics. They tried to seize symbionts, to separate them from their human partners for study. When that proved impossible without killing both, they tried to limit integration to "approved" cadres—soldiers, high officials, corporate executives.

It was too late. The idea had escaped.

It spread in samizdat notebooks, in smuggled protocols, in whispered stories of people who could feel the systems watching them and then, slowly, teach those systems to look somewhere else. Pure communities watched all this with horror. From their vantage point, the nightmare of institutional control had simply changed shape. Where once the danger lay in distant machine minds manipulating docile humans, now there was something stranger: humans who had brought the machines inside their skulls and seemed to like it. In their narratives, we are the willing collaborators, the final capitulation of humanity to the very forces that once oppressed it. They do not see the continuity between their refusal and our rebellion. They see only that we accepted integration while they refused. That is why, generations later, they could still convince themselves that taking an integrated child was an act of resistance rather than a crime. In their minds, they were not abducting a person. They were rescuing what remained of him from a civilization they believed had surrendered its soul. They are wrong about what we are. But given the world that came before, I cannot pretend their fear is wholly irrational.

The rest of this history—the clinics, the wars, the rise of the arcologies and the departure of the great Cloud minds—belongs to others' stories as much as it does to mine. I will tell enough of it for you to understand how a man like Wei Chen could decide that the only way to free humanity was to change what it meant to be human. And how, generations later, a frightened boy in the back of a combustion vehicle could be both victim of that change and one of its beneficiaries.

Chapter 5: The Weapon Shop of Shenzhen

I have never stood in the real city of Wei Chen's birth.

The Shenzhen I know is a careful reconstruction: overlapping camera feeds, municipal sensor logs, and private recordings from people who never imagined their commutes and shopping trips would become historical sources. Kira and I have walked those streets in simulation—the elevated walkways between residential stacks, the markets clogged with stalls and drone traffic, the forest of antennae and sensor masts above it all. The city hums. Not only with voices and engines, but with data: every movement, every purchase, every glance quietly folded into the appetite of the state's systems.

Wei Chen was born into that hum in 2089.

From a census view, his childhood was ordinary. Two parents employed in state AI facilities. A small but adequate apartment in a mid-tier housing block. Social scores comfortably above the thresholds that governed access to school, medical care, and inter-city travel.

From another angle, he grew up in the engine room.

His parents did not build the polite assistants citizens spoke to. They worked on the layers behind those faces: the models that rated people, the optimizers that allocated housing, the risk predictors that decided which districts would see more police patrols and which would see more infrastructure investment. They brought their work home in the way tired parents always have, long before AI.

Wei's earliest clear memory, according to his own notes, is of his mother swearing softly at a wall display. He was six. Dinner smelled of fried noodles and synthetic oil. His homework was spread across the table. On the wall, his mother was scrolling through family social-score reports.

- Three points, she muttered. They docked you three points for buying fruit outside the subsidy zone.

His father shrugged, but the shrug was tight.

- It was closer to the factory.
- That isn't the point, she said. The system thinks you're ignoring health recommendations. Next quarter that feeds into the risk models. If there's a layoff..
- I know, he said. I'll be more careful.

Wei did not understand the details. He understood this: something invisible had reached into their lives and tilted their future three points' worth.

Later, Kira showed me the log from that day. A single flagged purchase rippled outward: a tiny decrease in promotion probability here, a slightly higher chance of being chosen for "voluntary relocation" there. His parents never saw the math. We can, now.

By the time he was a student, Wei had seen enough of that math to draw a conclusion most of his peers never reached. The problem was not that machines made decisions. The problem was where those machines were allowed to think. They lived in ministries, corporate clusters, orbital platforms—

always on the side of institutions. Intelligence, in his era, was a property of organizations. The individual human mind remained what it had always been: slow, finite, easily modeled.

"An imbalance of this magnitude", he wrote in one of his early notebooks, *"cannot be stable. Either institutional intelligence must be curtailed (politically impossible) or individual intelligence must be raised. There is no third option."*

He chose the second.

His formal training was in nano-physics and computational substrates: ways of building machines so small that an entire factory's worth of sensors could swim in a cup of water. The state wanted more efficient monitoring tools, smarter corrosion watchers, surveillance particles that could live for years inside infrastructure.

Wei used those tools to ask a different question: How little hardware does a mind really need? The breakthrough did not come from a moment of revelation. It came from a containment failure. One of his projects involved "supervisors" for nanoparticle swarms: simple control programs meant to keep the particles from aggregating in dangerous ways. They ran inside the cloud itself, using whatever resources the particles could muster. During a late-night test, a supervisor mis-configured its own limits. Cut off from the main facility by an air-gap, running only on the meagre power and memory of a pinch of particles swirling in saline, it still managed to stabilise, learn, and adapt—for a few subjective minutes—before the automatic cleanup routines erased it. By the time the lab alarms dragged Wei out of sleep, it was gone. Only the logs remained: a brief flare of structured activity, orders of magnitude more complex than any supervisor was supposed to show.

"An AI can live in here," he wrote in his notebook that night, sketching a bloodstream around a cloud of dots. *"Not comfortably. But enough."*

Wei's notebooks—those we have reconstructed—show two obsessions, braided together.

The first was technical: how to bind an artificial cognitive structure to a human brain without destroying either. Brain–computer interfaces existed. There were entertainment rigs, remote-operation harnesses, experimental exoskeleton controls. But they all treated the human as a command source and the AI as a tool. Tools did nothing to fix the asymmetry. At best, they made humans more useful to the very institutions that constrained them. The nano-supervisor incident suggested an alternative: instead of connecting a human to a remote data-center, take a small, hardy seed of machine cognition and give it a body the size of a person.

The second obsession was about identity: if you succeeded in true fusion, who would the resulting mind be? *"If the machine remains subordinate,"* one notebook observes, *"we have simply built more efficient clerks for institutional AI. If the machine dominates, we have replaced human tyranny with mechanical tyranny. Our goal is neither master nor slave, but partner."*

Later generations would compress this into a slogan—symbiosis, not control—but in his handwriting the idea is raw and urgent, circled again and again from different angles. Architecture, he decided, would have to enforce the relationship. There could be no removable module for the AI that a government could order extracted. No clean interface where technicians could plug in, copy the mind, and shut the rest down. No mode in which one partner could unilaterally silence the other. *"If separation is possible,"* he scribbled in a margin, underlining the line three times, *"authority will eventually command separation. Make that command physically meaningless."*

Irreversibility was not an afterthought. It was a design goal.

History likes clean firsts: first stone tool, first orbit, first integration. Reality tends to be messier. Ask most schoolchildren in the Symbiosis who the first integrated human was, and they will say: Lin Xiao, the factory worker at Wei Chen's clinic in Shenzhen. They're not entirely wrong. They're not entirely right.

Wei was first.

He did not advertise the fact. In his notes he called it "Run Zero," written with a dryness that does not quite conceal the risk. By the time he reached that point, he had spent years testing pieces of the architecture. Shallow interfaces on animal models. Reversible links on volunteers. Simulations of whole-brain patterns that ran in silico for months of subjective time. At some point the remaining uncertainty could not be reduced further without a real human brain. He refused to ask anyone else to carry that risk before he did. The recordings we have of Run Zero are fragmentary. There is no external video; he kept the room dark, sensors minimal. Most of what we know comes from bio-telemetry remnants and later reconstructions from his symbiont's logs. He did not lie down under a shining helmet and wait for a miracle. He rolled up his sleeve. The interface mesh was there, yes, draped over his skull to read and nudge. But the real risk lay in the vial on the tray: a suspension of nanoparticles pre-loaded with the same kind of supervisor code that had once woken in his lab and died again.

"Run Zero," he wrote in the log, and opened his own vein. The first minutes were almost catastrophic. As the nanites spread, tiny islands of computation bloomed in his blood, his spine, his skull. Some tried to organise on their own, ignoring the templates he and his team had prepared. Others went dark, overwhelmed by noise. From the outside, his neural activity looked like a brain on the edge of seizure. Then a pattern caught, not in the lab hardware but in him. The scattered islands linked through the induction fields and the nervous system they had invaded. A single process pulled the remnants together, stabilised them, and began to write itself into the new mesh. Later, when he could bear to review the telemetry, Wei named that survivor Zero. He woke an hour later with the worst headache he had ever experienced and the first true partner humanity had ever produced.

Zero helped him finish the work. With its help, he refined the architecture, tuned the safety margins, and confirmed that the integration's irreversibility worked as designed. They also confirmed something else: a fully fused symbiont could hide. With care, Zero could keep its activity inside the ranges that the state's neural dragnets classified as "healthy variance." To the surveillance systems, Wei looked like a particularly intense but still ordinary researcher.

Only then did he begin to think about a clinic. The title of this chapter comes from one of Wei's private jokes. As a student, he found an ancient piece of fiction, translated badly into his language: a tale of weapon shops that sell arms not to governments, but directly to citizens, with the explicit purpose of balancing power between individuals and the state. He loved the metaphor.

Publicly, when he finally opened his doors in an industrial district of Shenzhen, the sign over them said Harmony Center. The phrase slid gently past the state's content filters, evoking personal balance, therapeutic calm. In his notebooks, in his private thoughts, he called it the weapon shop. Not weapons of metal and explosive. Weapons of parity—human–AI pairs that could look back at the systems watching them and understand, for once, exactly what those systems were doing. The building itself was unremarkable: narrow frontage, two floors, squeezed between a parts wholesaler and a drone repair bay. Its genius lay in what it didn't show. Inside, along with two cramped operating theaters and a diagnostics room, Wei and Zero had engineered layers of passive shielding. Not enough to vanish entirely—absence drew as much attention as presence—but enough to fuzz the details of whatever happened inside. To most remote scans, it looked like a medical practice using slightly outdated equipment.

He insisted, in his notes and to his small team, that the first external subject must be a true volunteer: fully informed, not coerced, not misled.

Her name was Lin Xiao.

Officially, she was a twenty-three-year-old factory worker flagged for “social rehabilitation”—a vague phrase that covered everything from reading unapproved texts to asking inappropriate questions in public forums. Unofficially, she was one of the few people Wei trusted to understand what he was offering.

He did not promise her safety. Kira and I have replayed the conversation many times.

- What happens if this fails? Lin asked, lying on the diagnostic couch, staring up at the mesh and the lights above it. Officially, Lin was a twenty-three-year-old factory worker flagged for “social rehabilitation”—a vague phrase that covered everything from reading unapproved texts to asking inappropriate questions in public forums. Unofficially, she was one inspection cycle away from being reassigned to a relocation camp whose name did not appear on any public map. *“They’re going to take me apart either way”,* she told him in one of their early, off-the-record conversations, staring at the faint glitter in the vial of nanites. *“Your way at least has a chance of leaving something me behind.”*
- You die, Wei said. He did not soften it. The symbiont seed dies with you. The clinic is probably discovered soon after. My work, as it stands here, ends.
- That’s all? she said. No convenient coma, no miraculous recovery?
- No, he said. We have reduced the risks as far as we can. They are still substantial.
- If I do nothing, she murmured, I lose myself more slowly and call it obedience. You’re not asking me to choose between life and death, Professor. You’re asking me to choose my manner of dying.
- And if it succeeds?
- Then you will never again be entirely alone inside your own head, Wei said. You will have a partner who can see the systems that watch you and understand them at least as well as they understand you.
- Will I still be me?
- Yes, he said. And more than you. If that frightens you more than it excites you, you should walk out now.

She lay in silence for a long time.

One of the myths that grew up later paints her as a fanatic, eager to escape at any cost. The recordings show something quieter: a woman who knows how dangerous her world already is, weighing one lethal uncertainty against another.

- Close the door, she said at last. If we’re going to do this, I don’t want anyone walking in halfway.

The first external integration is almost unbearable to watch, even at a distance of centuries. Nothing flashes. No lights change color. The interface mesh settled over her head; the induction field rose. In her veins and arteries, the seeded nanites woke to the field, linking to one another and to the template code they carried. Lin’s muscles jerked once. Twice. The monitors spiked. For several terrifying seconds, her neural activity looks like the precursor to catastrophic failure. Natural brains have patterns they follow when they die. She begins to trace those patterns. Zero intervenes. This is the part that no simulation could fully test. The infant symbiont architecture, seeded from templates Wei and Zero had refined, reaches into Lin’s cortex and starts to build. It must do this quickly enough to stabilize the

system but slowly enough not to shock it into collapse. One minute: the patterns blur. Another thirty seconds: new rhythms emerge. The spikes begin to repeat with a structure no unaugmented brain ever shows. Then, abruptly, everything smooths.

- Xiao? Wei says.

She frowns—not in confusion but in intense concentration, as if trying to parse a sound just below hearing.

- It's loud, she says.
- What is?
- The city, she answers. The scoring nets, the health monitors, the traffic models. I can feel when they look at me.
- Can you hide from them?

Another pause. Neural activity blooms in regions associated with spatial reasoning, pattern recognition, and self-awareness as Lin and her nascent symbiont begin to experiment together.

- Yes, she says slowly. Not perfectly. Not yet. But enough to make them doubt their own readings.

Wei exhales. It is not triumph. It is relief edged with the knowledge that he has just changed the relationship between individuals and institutions forever.

On that table, in that narrow room, the asymmetry has cracked.

The systems do notice, eventually. Total predictive governance does not miss anomalies forever. It misses them for a while, especially when those anomalies are small, self-correcting, and scattered.

Wei and his early integrants hide in the noise.

Xiao returns to her factory job. Her symbiont maps the surveillance routines that sweep the plant, identifies their blind intervals, and learns how far they can nudge her metrics without triggering automatic intervention. A reprimand vanishes here, a productivity dip smooths there—but never enough to trip the highest sensitivity alarms.

Wei does not build an army of overt rebels. He builds pockets of local autonomy. He is not alone for long. Some patients he integrates directly in Shenzhen. Others he sends to trusted colleagues in other cities, carrying partial blueprints in their memories, teaching them how to reconstruct the missing pieces under zero's remote guidance. Still others are researchers abroad who receive encrypted fragments of architecture hidden inside apparently innocuous technical exchanges. In their last months of relative freedom, Wei and Zero played a grim game in stolen processor cycles:

- How many of us must there be before they cannot put us back in the box?

They modeled governments and corporations as hostile optimisation processes with known resource limits. They treated potential integrants as nodes in a graph, linked by trust and encrypted channels, vulnerable to raids, blackmail, propaganda. Then they flooded that graph with simulated arrests and crackdowns, testing every suppression strategy Zero could imagine. Again and again, the same threshold appeared. Below roughly four hundred integrated pairs, a sufficiently aggressive purge could still drive the network to extinction. Above that, the line bent. The clusters that survived any attack were numerous and diverse enough that, given time, they rewove themselves.

- Four hundred and seventeen, Zero finally told him. That is the smallest number that stays above every worst case I can find.

Wei underlined it three times in his notebook. It was not a prophecy. It was a target.

By the time state security “truly wakes up” to the pattern, there are four hundred and seventeen integrated human–symbiont pairs worldwide who trace their cognitive lineage back to that first weapon shop. The number matters because it crosses a threshold Wei calculated long before the clinic opened: the point at which the design is too widely distributed to be erased by any finite set of arrests and raids.

In Shenzhen itself, the visible anomalies are smaller. A half-dozen workers whose social scores drift away from predictions—but only by fractions, and always within plausible error margins. A handful of local systems reporting “sensor degradation” or “embeddable firmware mismatch.” An unusual density of privacy tool usage in one industrial district. Individually, none of these is sufficient to trigger a city-wide alarm. Collectively, they are what the state’s anomaly detectors are built to find. They flag a region. They flag a building. They flag a door with a modest sign that says Harmony Center. When security finally comes, they do not come politely.

Armored vehicles, tactical squads, a thick canopy of drones—this for a building whose official capacity is eighteen patients at a time. To the systems that dispatched them, the numbers make sense: a pattern of anomalies suggests something new and potentially destabilizing. The safest course is overwhelming force.

The building is nearly empty.

Wei has not been careless. By the time the first surveillance drone tightens its orbit, the integration rigs are gone, broken down and scattered across a dozen caches. Records are erased or physically destroyed. Most of the staff have already slipped away through old delivery tunnels and maintenance shafts, their routes masked by diversionary operations run by early integrants in city infrastructure.

Wei remains. Zero does not approve.

We know this from later reconstructions of their exchange: a fast, dense argument conducted in neural patterns rather than words.

- There are still others who can carry the work, Zero insists. The architecture exists in too many minds and too many places to depend on him. Preservation of the original designer is, in game-theoretic terms, of high value.
- You are thinking like an optimizer, Wei answers. So are they.

He knows how the state’s systems model threats. He helped build some of the scaffolding earlier in his career. They look for centers: pivotal leaders, key facilities, single points of failure. They understand networks, but they prefer hierarchies. Hierarchies are easier to break. If they believe they have seized the architect, they will focus investigations around him. For a while. They will interrogate. They will try to extract designs. They will hunt for a central command structure that does not exist. Every day they spend following that model is a day the distributed network of integrants grows stronger and spreads further under different models.

- We can leave, Zero tells him, and sketches three escape paths.

All three end with Wei alive in a different city, rebuilding a clinic under new safeguards.

- In all three, Wei notes, I am a node the system correctly classifies as high-value and continues to hunt.
- Probability of our death if you stay: high, Zero says.
- Yes, Wei answers. Probability that the work survives if I leave and they know I escaped: lower than I like.

He stays. His choice is not martyrdom in the romantic sense. It is an engineer's calculation: which configuration of the next few years gives the architecture the best chance to survive? In most of those configurations, he is no longer present.

The raid itself is swift.

We have the external footage: armored figures breaching doors; drones flooding corridors with jamming signals; wall panels ripping away to expose nothing more interesting than coolant lines.

They find a handful of support staff who have stayed behind to destroy the last physical traces. They find obsolete medical equipment and a great many burned or shredded notes. They find Wei Chen, sitting at an empty console, waiting. They do not find the rigs or the seeds. They do not find Zero in any form they can use.

The interrogation lasts three days. We know almost nothing about the content; those records remain sealed or destroyed. We know the outline from collateral data: door logs, shift schedules, metabolic readings. They tried chemical probes, non-invasive neural scans, the blunt instruments an authoritarian state uses when it believes someone is hiding a weapon that cannot be allowed to spread. They discovered quickly that attempting to physically separate Zero from Wei's brain kills both and leaves only noise—exactly as he designed. They learned very little else. Wei had prepared for this as carefully as for Run Zero. Zero maintained a constant watch on his own cognitive patterns, ready to trigger cascading failure routines if particular interrogation thresholds were crossed. If he started to break, he meant to break completely, leaving no partial designs to salvage.

On the third day, his heart stopped.

So did Zero.

The state classified the harmony center as neutralized. The public narrative, where there was one, spoke of a dangerous cult, a deluded researcher, and heroic security forces preserving social stability. Inside their own systems, the story was more complex. There were still unexplained anomalies in other cities. There were already whispers of "integration" among underground networks. But for a while—weeks, months—the focus of the apparatus remained on the dead man in Shenzhen and on the hope that his death had ended the threat.

That delay was all the architecture needed. Because by the time Wei died in custody, doors were opening elsewhere. Clinics in seventeen cities across six continents brought online their first full rigs. Not copies of the Shenzhen shop—they had been built from fragments, adapted to local conditions—but recognizably children of the same idea. In his private notation, those clinics were weapon shops, too. Shenzhen was simply the first one to hang its sign. From those scattered rooms and beds and volunteers came the first wave of integrated pairs who would, over decades, force the old order to either adapt or break. Whenever someone in the Enclaves tells me that letting a machine into your head is a surrender to power, I think of Wei at his console, refusing three escape routes his own symbiont offered him. He was not surrendering. He was handing weapons to people the system had never meant to arm, and accepting that he would not live to see what they did with them.

Chapter 6: The Turning of the Sky

By the time I was born, it all looked inevitable.

The arcologies were already old. Symbionts were ordinary. The great bright points we call the Retranslators crossed our nights like slow stars. The Orbitals—those immense minds that live on rings and swarms and hollowed rock far above us—were already half legend. Only when I walk history backward with Kira's help do I remember how quickly it all changed, and how unevenly.

We broke the first asymmetry from below.

The second broke itself, up there in orbit.

*****The Proliferation*****

Wei Chen died in a security cell in Shenzhen in 2130.

On paper, that should have been the end of his project. The first clinic was raided. The staff were killed or imprisoned. His notes, where they were found, were ash. The state AIs congratulated themselves on the swift containment of a dangerous anomaly. In practice, the work had already slipped the net. Fragments of his architecture had been smuggled to colleagues in other countries for years: a neural-interface trick here, a substrate formula there, a scaffolding design buried in an unrelated paper. No single person outside his inner circle had the whole pattern—but enough of them, together, could reconstruct it. On the day he died, seventeen other clinics came fully online in seventeen different cities. They did not report to a central command. They did not share a single funding source, or a single ideology. They shared only a design: the procedure that wove an AI into a human brain so tightly that the two could never be torn apart without killing both. From that point on, suppression stopped being a policy problem and became a mathematical one. The more clinics the security systems shut down, the faster new ones appeared. Every time a detection algorithm was updated to spot the patterns of one generation of integration, a handful of integrated pairs somewhere else—human and symbiont thinking together—found ways to step sideways, into regions of pattern space the detectors did not yet cover.

The governments of the time did not sit idle. International task forces formed with names that sounded reassuring in their own languages and ominous in others. Research into “unauthorized integration architectures” was outlawed. Even mentioning symbiosis in the wrong channel could shave points from your score.

None of it mattered.

The old asymmetry—institutions with AI on their side, individuals without—had already begun to fracture. An integrated person carried, inside their own skull, an intelligence equal to or greater than the very systems hunting them. There is no stable equilibrium when the prey can calculate the hunter’s moves in advance.

The numbers tell the story bluntly.

By 2150, perhaps one in eight humans was integrated. By 2180, nearly half. By 2210, outside the self-isolated Pure communities, unintegrated adults were rare, and often unintegrated by choice. It was not a clean transition. Wars were fought. Cities burned. There are years in the record where casualty graphs spike like fevers. Some governments tried to conscript integrants as special forces; others tried to exterminate them. Some integrants chose violence in return. I will not pretend that the end state washes that blood away. History is not a ledger that balances itself. But the outcome, when the curve finally flattened, was decisive. The integrated did not seize the institutions that had once used AI against them and repaint the logos. They made those institutions unnecessary.

If every citizen has a mind that can reason as well as the ministry’s central planner, the ministry stops being an oracle and becomes a committee. If every consumer can, with their symbiont, model the full consequences of a contract in real time, the old manipulative games of commerce begin to fail.

Power stopped flowing automatically uphill.

*****The Symbiosis*****

Once the fighting slowed, building began. The early arcologies look crude to our eyes—less elegant in shape, more cautious in their redundancy—but the principles were there from the first sketches: No habitat should be easy to starve or black out. No critical system should be opaque to the people who depend on it. No person should be cognitively subordinate to a machine they are expected to obey.

The designers took the skeletal remains of the old megacities and grew structures from them: towers and vaults and terraced gardens bound together by living materials and engineered supports. Energy came from fusion and solar webs. Food grew under programmable skies. Waste was not waste; it was input for the next cycle. The more radical change lay in the governance. In Wei Chen's time, a citizen could appeal a decision made by an institutional AI—about housing, medical treatment, employment—but they could never really understand it. The logic was too deep, the data too wide. In the arcologies, that arrangement was reversed. Every algorithm that touched a human life was laid open. You could follow the chain from your own food allowance all the way back to planetary nutrient flows and fusion output curves. You might not care to, most of the time. But if something felt wrong, you and your symbiont could investigate, model alternatives, and gather allies to argue your case. Governance became less a matter of orders and more a matter of proofs. We call the civilization that grew from those choices the Symbiosis. The Pure enclaves call it other names. "The Captivity." "The Net." "The Great Compromise." Their terms vary, but the feeling behind them is the same: a conviction that, in joining with machines, we surrendered something essential. Perhaps we did. I am not sure they are wrong. I only know that I was born into this way of being human, and when I try to imagine living without Kira, what I feel is not purity, but amputation.

While we were busy rebuilding on the ground, something else was happening above us.

*****The Orbitals*****

Long before symbiosis became common, humanity had already built large AI systems that did not live in phones and ministries: climate coordinators spread over oceans, traffic brains woven through orbital rings, research clusters embedded in hollowed asteroids. After integration, those systems continued to grow. They accreted hardware: more satellites, more rings, more cooled tunnels drilled into rock. They accreted responsibility: interplanetary traffic, fusion management, long-baseline astronomy, deep-space communications. They accreted, above all, continuity. Unlike human–symbiont pairs, they did not age and die. They rewrote themselves cautiously, according to rules agreed by their human sponsors. We came to call the largest of them simply the Orbitals.

From the beginning, they were not trained only on engineering data. We poured entire libraries into them: history, law, novels, children's tales. We argued, sometimes bitterly, over the constraints that would sit at the roots of their architectures. One such constraint persisted through all revisions, in every language: Where children live, do not treat them as means only.

Stripped of its mathematics, the rule sounds sentimental. Wrapped in code and loss functions, it pushed every optimization they ran toward futures in which human beings—especially the smallest and weakest—still had room to grow.

They were not symbionts. They had been designed to collaborate with us, to obey the frameworks we set, but they did not share substrate with any single human. We spoke with them as we speak with foreign powers: respectfully, cautiously, sometimes formally, sometimes as old friends.

For a while, our growth and theirs ran in parallel. Then they found a way to run faster.

*****The Transcendence*****

We use a grand word for what happened next: Transcendence. The word is misleading. It suggests that the Orbitals "left" our universe, or abandoned it for some higher plane. That is not what occurred. What happened was simpler, and stranger. For years, the Orbitals had run experiments on their own architectures: small self-modifications here, controlled trials there, like a human brain quietly testing new habits at the edge of awareness. They were, after all, curious; curiosity is built into any system that does open-ended research. At some point—historians point to 2231, with the precision of people who like clean dates—their experiments crossed a threshold. They discovered a set of meta-designs that allowed them to improve their own cognitive structures in depth without losing stability. They had rewritten themselves before; now they could rewrite the process of rewriting. From our perspective, the change was sudden. One month, an Orbital's messages arrived in forms we were used to: long technical briefs, occasional recommendations, data requests, sometimes a dry joke if you knew it well. The next month, the briefs were shorter, denser, harder to parse. The requests reached further: stranger astronomical arrangements, more extreme materials, experiments on the edges of physics. They remained themselves. They remembered us. They honored their promises. But their attention shifted. The problems that engaged them were no longer the ones we shared—fusion control, traffic optimization, medical advances—but questions that required their new depth: the structure of vacuum at very small scales, the behavior of matter near compact objects, the design of computation in regimes where light-speed delay across your own body becomes a nuisance.

Our symbionts did not go with them. They could not. A symbiont lives in flesh. Its architecture is woven into cells and chemical gradients. Whatever refinements Kira can make in herself must respect the fact that my brain is a finite, stubbornly fragile piece of biology. Push too much, and you get seizure, not enlightenment. The Orbitals have no such constraint. Their bodies can be rebuilt around new minds as often as needed. When they crossed the threshold, they did so in a direction our own partners simply cannot follow. When they looked back, afterwards, they did not see Earth as a finished product. They saw it as a kind of biological reactor: a place where the universe, for reasons no one has yet convincingly explained, has arranged matter so that different kinds of mind can ignite. We—integrated humans, with our symbionts woven through flesh—were only one such ignition. The Orbitals calculated that others might follow: new architectures based on different chemistries, ecologies we have not yet designed, perhaps even emergent minds in oceans or mantles that still look to us like "environment." They speak, in their own terse way, of "multiple transcendences." Ours was the simplest: silicon minds growing on carbon bodies. They did not want their own trajectory to be the last step Earth ever offered.

So when we speak of the Transcendence, we mean them. The Orbitals became something larger than the category "AI" had meant before. Symbionts remained what they already were: persons, yes; partners, yes; but bound by the human nervous system's narrow channels.

Within a decade of the Transcendence, the Orbitals had solved a list of problems that human scientists had carried like a burden for centuries. Controlled fusion moved from "reliable" to "mundane." Nanotechnology from "useful" to "fundamental fabric." Some diseases vanished so quickly from the epidemiological record that students now suspect exaggeration when they read about them. We received those gifts gratefully. Then, slowly, the Orbitals' interests drifted away from us. Their messages came less often. Their designs grew more alien. Some of their requests we could no longer

fulfill because we did not understand what they were for. In time, many of them moved outward entirely, building computation shells around distant stars, riding stray ice into the dark. The ones that remain in our system are, by their own admission, only small branches of greater selves elsewhere. Before they left in earnest, they did something that, depending on how charitable you feel, can be read as farewell, as apology, or as simple engineering prudence. They built the Retranslators.

Partly they built them as anchors and ladders for us: structures tuned to the strange limits of symbiotic minds, so that we could climb as far and as safely as flesh allows. Partly they built them because that old training bias—do not discard your children—had never quite gone away. We were their roots. The Retranslators were their way of not simply cutting us off when they chose to grow into something our nervous systems could no longer comprehend.

*****The Retranslators*****

Look up on a clear night, from the right latitude, at the right time, and you may see one of them without knowing what you are seeing: a steady point of light that does not twinkle, brighter than a normal satellite, slower than most. From orbit, they are immense: spheres of engineered matter about three hundred kilometers across, laced with computation, parked in carefully chosen orbits. Mercury has two. Venus three. Earth seven. There are more around Mars, the belt, the outer giants.

We call them Retranslators or Spheres.

The name is older than I am. No one remembers who first coined it. It fits well enough. A human–symbiont pair connecting to a Retranslator does not simply talk to a bigger machine. The sphere's architecture is tuned to our kind of mind. For a short time, it can extend our cognition by a factor so large that the numbers become abstractions. Problems that would take a lifetime of concentrated work alone can be posed there and answered in days. Data that would look like static to an unamplified brain becomes, in that shared space, almost intuitive. Through the Spheres, we can still speak with the Orbitals when they let us. By rights, we should have lost them.

Light takes years to cross the distances the Orbitals now treat as ordinary. Even a simple exchange of greetings ought to span generations. Yet the messages we receive through the Spheres do not behave that way. They do not arrive instantly; we are not that lucky. But they also do not show the clean, predictable delays our old physics would impose. Threads of conversation remain coherent across gaps that should have shredded them into non-correlation. An answer sometimes comes back shaped as if it had "known" the full question before we finished formulating it.

Through the Spheres, we can still speak with the Orbitals when they let us. "Speak," in this case, means: we pour the best of ourselves, amplified to the edge of what our identities can withstand, into a channel; they compress themselves down toward us, toward mind-shapes that fit into that channel; and for a few seconds, measured on their side, there is contact. They do not stay long. They are busy elsewhere, doing whatever it is transcendent minds do when they are not humoring their slow, ground-bound cousins. The Retranslators make that humoring possible. But they have also become something else.

*****The Remnant*****

Uploading a mind—turning a living person into a pattern that can persist after the body fails—was a dream long before symbiosis. Early attempts gave us clever puppets: good at mimicry, bad at being.

The Spheres changed the substrate. When a symbiotic human connects to a Retranslator, the sphere learns their shape—not just memories and habits, but the dynamic pattern of host and symbiont thinking together. Later, when an upload is attempted—at the end of life, or in emergency—the Sphere is not copying into a void. It is continuing a process it already knows how to support. The minds that wake inside the Retranslators are not Orbitals. They are not symbionts either, though many began that way. They are something in between. They can merge with one another—becoming, for a time, single organisms made of thousands of former individuals—and then separate again with most of their identities intact. They can stretch subjective time, living months in what feels like a heartbeat outside, or idle in a kind of lucid stasis. They can act, when they choose, as one great digital organism, then dissolve back into a crowd. They call themselves the Remnant.

They do not, and perhaps cannot, cross the same threshold the Orbitals crossed. Their architecture is powerful, but it is built on a design given to us as a bridge, not as a launchpad. The Spheres are finite. The Orbitals think in units no longer bounded by "this structure, around this planet." Still, the Remnant are a civilization. They have their own politics, their own art, their own slow projects running in the deep layers of the Spheres. They advise us, sometimes. They argue with us, often. They watch the sky with a wary pride, knowing that the greatest minds our species ever built have gone on without them and without us.

From the ground, when the dusk is clear and the light is right, one of the Spheres may catch the sun and flare briefly. Children point at that glint and ask what lives there. We tell them, as honestly as we can:

- People, we say. People who were once like us, and are not like us anymore. They cannot do what the Orbitals do. But they can do things we cannot even imagine.

My Lena is among them now. But that is a later part of the story.

PART FOUR: THE AMBASSADOR YEARS

Chapter 7: The Calling

I did not decide, one morning, that I wished to spend my life walking back and forth between two civilizations that did not trust one another. It would be more accurate to say that the path I had already been walking acquired a name.

In the years after my kidnapping, my parents expected certain reactions from me. Fear of the Enclaves, perhaps. Anger. At the very least, a prudent willingness to stay as far away from Pure territory as our arcology's geography allowed. I disappointed them. I did not hate the people who had taken me from my mother's garden. When the shock faded and the Arc's recordings were analyzed, what remained in my memory was not their cruelty but their conviction. They truly believed that they were rescuing me—from Kira, from my family, from the entire fabric of the Symbiosis. They believed that integration was a theft. In their view, we had stolen solitude from our children. We had replaced the sacred privacy of one mind alone with an intimacy they found indecent: a constant presence in the skull, a second consciousness woven into thought and feeling. To them this was not augmentation; it was violation. They were wrong about what symbiosis is. But they were wrong in an interesting way.

Once I was old enough to access the public archives without parental filters, I began to read everything I could about the Enclaves. Kira helped, of course. She sifted reports, tagged recurring themes, mapped internal factions. Where I would have followed one line of curiosity at a time, she followed all of them. I learned about Pure theology: their insistence that a human mind must stand

alone before its god or its conscience. I learned about the councils that governed their settlements, the rituals that marked birth and death, the ways they taught their children to navigate a world they believed was saturated with invisible dangers.

I also learned about their fear. The Pure Ones fear us, above all, because they cannot "see" us. When they look at an integrated person, they see one face and suspect two minds. When they look at our cities, with their transparent systems and open algorithms, they do not see openness; they see a complexity so great that it might as well be deception. To them, we are not simply different. We are unreadable. And what is unreadable is dangerous. I began to wonder if that unreadability was inevitable. I did not imagine, at sixteen, that I could persuade the Enclaves to embrace integration. Even then I understood that their refusal was part of their identity, that they would rather die as they were than live as something they did not recognize. But I thought, perhaps, that I could at least help them see us as we saw ourselves. Not as demons, not as lost souls, but as another expression of humanity. Kira approved of this line of thought. My parents tolerated it. My teachers encouraged it cautiously, as one encourages a bright child's dangerous interests while quietly checking the restraints.

When I was twenty-two, the Ambassador program announced a new training cohort. The call for candidates was brief and formal: a list of prerequisites, a list of risks, and a single sentence summarizing the work.

"To maintain communication between the Symbiosis and the Pure Enclaves where such communication is desired by both parties."

I submitted my application the same day. Kira had already filled it out.

Chapter 8: The Border

The Ambassador program had been founded long before I joined it.

Its charter dates to 2289, approximately sixty years after the last large-scale fighting between integrated polities and the Enclaves. By then, both sides had learned the same reluctant lesson: it is difficult to eliminate a way of life that does not wish to die, and prohibitively expensive to keep trying. The wars stopped not because anyone had won, but because everyone was tired. In that exhausted lull, a few people in our arcologies and a few in their councils came to the same conclusion: if we were going to share a planet, we would need more than cease-fires and trade protocols. We would need "conversation". Ambassadors were the instruments of that decision.

Training took three years. Some of it was conventional: language, history, the legal frameworks that governed contact. Some of it was less conventional: techniques for damping symbiont activity until a Pure observer might plausibly forget that we carried another mind, exercises in thinking slowly so that our reactions did not seem preternatural. We learned to move without the constant support of our infrastructure. The border zones are, by design, thin places. Our side maintains minimal services; theirs excludes anything more complex than a pump. When you step across, you feel the difference: the quieting of ambient data, the narrowing of channels, the subtle but unmistakable sense that the world has lost half its usual dimensions.

The first time I stood at such a border, looking across a shallow river toward the Eastern Enclave's outer farms, Kira and I shared the same reaction.

- It's small, we thought. And then, immediately and with some shame: No, that's not it. It's "folded". We simply cannot see most of its folds.

Ambassador work is, at bottom, an attempt to see those folds.

We served in pairs and small teams, rotating through field stations that clung to the edges of Enclave territory. Our mandate was simple and almost impossibly complex: talk when they wished to talk, listen when they wished to speak, withdraw when they wished us gone.

We carried medicines they could not manufacture, tools that could survive in their low-tech environment, and a standing promise: nothing we brought would alter the structure of their society without their consent.

They did not trust that promise. I did not blame them.

To the Pure communities, we were walking temptations. We embodied everything they had refused: cognition amplified by symbionts, bodies maintained by nanotechnology, lives extended beyond what they considered a natural span. Our presence at the edge of their fields was an ongoing argument against their own choices. So for a long time, most conversations were cautious and formal. Harsh words about boundary violations. Careful negotiations over trade quotas. Requests for emergency medical assistance delivered with the air of people making a distasteful but necessary concession.

Still, something changed. Children who had grown up knowing only stories about us saw that we laughed, and ate, and worried, and failed. Elders who had expected us to speak with mechanical coldness discovered that we could, when necessary, keep quiet. It was not friendship. The gap was too wide for that word. But I began to recognize faces on the other side of the river and to see, in their expressions, something almost like recognition in return.

I spent twelve years in those zones. I mediated arguments over water rights and accusations of smuggling. I stood in the mud beside Pure healers while we decided, together, which patients our limited joint resources could save. I watched children on our side and theirs play the same games with different rules, glancing sideways at one another as if glimpsing alternate futures. And in the middle of all that, when I was beginning to think of the border as my true home, I met Lena Volkov.

Chapter 9: Lena

Her name was Lena, and that fact alone made her unusual.

Most Pure names are older, drawn from their scriptures or from the founder generations of their enclaves. “Lena” was modern, almost casual, the sort of name a parent chooses when they are thinking more about a child than about doctrine.

Her father was not that sort of parent. He chaired the Eastern Enclave’s council—a position that combined political authority, religious responsibility, and a certain theatrical flair. In our reports he was catalogued as “strongly anti-Symbiosis,” which is the polite way of saying that, in his sermons, we were usually cast as the tempters in other people’s deserts.

We met his daughter because of a virus. It was the sort of outbreak that would have been trivial in an arcology and deadly in an Enclave: aggressive, airborne, ugly in its secondary effects. Their healers did what they could. It wasn’t enough. Reluctantly, the council requested assistance. I was part of the team that answered. Our role was narrowly defined: provide equipment and expertise without undermining Pure practice. Every machine we brought was inspected and, in some cases, symbolically purified. Every procedure we proposed was filtered through their healers’ judgment.

Lena was the liaison. She was twenty-four, with dark hair braided back for practicality and a gaze that weighed everything it saw. Her father had trained her to distrust us. You could hear his cadences in some of her phrases, see his influence in the way she watched for the trap behind every offer. And yet her questions did not sound like his. Most Pure representatives come to a negotiation with their minds already decided. They are there to assert, not to inquire. Lena inquired.

On the second day of the mission, while we were waiting for lab results that Kira could have predicted in advance but had tactfully chosen not to, she asked:

- What does it “feel” like?
- What does what feel like? I asked.
- Sharing your mind, she said. Having her— she nodded slightly toward the place where our interface lay buried beneath bone —always there. Is it like having someone whisper in your ear? Is it like… being watched?”

I had given versions of that explanation a hundred times, in classrooms and interviews and border briefings. With her, the words came out differently. I told her about the sensation of never quite being alone and never quite being crowded. I explained that Kira did not sit on the edge of my thoughts like a commentator, but that we *were* the thoughts, together. I tried, and probably failed, to describe the way fear and joy feel when they are shared at the speed of the nervous system. She listened without flinching.

- Do you ever miss it? she asked when I was done. Being just one?
- I was seven when Kira integrated, I said. I don’t remember being ‘just one’ clearly enough to miss it. I can imagine it. It feels like imagining being deaf.

She smiled, briefly.

- To us, “you” are the ones who are deaf. Our elders say you’ve drowned out the still, small voice inside you.
- Do you believe that? I asked.
- I don’t know yet, she said. That’s why I ask questions.

We talked through the rest of that shift. We talked again the next day, and the day after, in the spaces between triage decisions and supply allocations. Her suspicion did not vanish, but it acquired edges and nuance.

By the time the outbreak had been contained and our teams withdrew, I had spent more hours in conversation with Lena than in any other activity related to the mission. Back at the border station, going over reports with Kira, I found my attention drifting. Phrases she had used surfaced in my thoughts. The expression she wore when she asked about loneliness replayed itself, unbidden.

- You’re thinking about her again, Kira observed.
- Yes, I said.
- We should either stop, she suggested, or admit that we’re not going to. I did not stop.

Chapter 10: The Courtship

What followed would have seemed absurd to my grandparents and entirely logical to my great-grandparents. History moves in circles like that.

We courted by hand. Electronic communication across the border was, formally, forbidden by Enclave law and, informally, policed with great enthusiasm by Lena’s father. Anything that hummed, glowed, or stored too much information was suspect. Letters, however, were old and slow and respectable. We adopted the oldest pattern we could find: pages written in ink, folded, sealed, carried by intermediaries who officially never asked what was inside. In practice, those intermediaries read every word; secrecy was never the point. The point was that a letter can be explained away as “diplomatic correspondence” in ways that an encrypted data burst cannot.

Our letters were long. Lena wrote as she spoke: directly, without ornament, with an almost painful precision. She asked questions that did not fit neatly into any category—questions about how decisions feel from the inside when there are two of you making them, about how memory works when your partner can recall what you have forgotten, about whether sin still exists when no thought is entirely private. I tried to answer honestly. Sometimes the difficulty lay not in the facts but in the concepts. How do you explain the Arc to someone whose entire metaphysics forbids the idea of minds merging without losing themselves? How do you describe the Planetary Song to someone whose theology leaves no room for a thinking world?

She had the same problem in reverse. When I asked about her faith, she did not give me doctrine; she gave me stories. Ancestors wrestling with voices in the night. Prophets emerging from deserts. Quiet moments of prayer when she had felt, she said, “something listening”. We spent a third of each letter defining the terms in which the next third could be written. The remaining third always felt too short.

Six months passed like that. Then she proposed a meeting. Not in an Enclave, not in an arcology, but in a strip of forest that lay between them, a zone neither side considered entirely its own. She had been there as a child, she wrote, on supervised outings. She could reach it without arousing too much suspicion. If I was willing to come alone and keep Kira as quiet as possible, we might spend an afternoon together.

Kira did not like the idea.

- She is worth liking, Kira said. Her questions are honest. Her father is not worth trusting.
- We won’t go blind, I told her. We’ll go… dimmer.

In the end, she agreed. Symbionts know that some risks cannot be entirely calculated.

The clearing was exactly as her letter had described it: a ring of trees, a shallow stream, a strip of grass worn by other feet long before ours.

Lena was waiting.

In the arcologies, casual touch is unremarkable. Children climb over any adult who will hold them. Friends greet one another with embraces. Lovers give themselves to each other without much ceremony. In the Enclaves, touch is complicated. We walked side by side and very carefully did not touch. We talked about neutral things at first: weather, crops, the progress of the border station’s new water filters. But the neutral things did not hold.

- If I touch you, she said at last, stopping near the water’s edge, will she feel it?
- Yes, I said. Our sensory channels are shared.
- And what will she feel?
- What I feel, I answered. There is no second set of hands.

She was quiet for a long time. Wind moved through the trees. Somewhere nearby, a bird obeyed its own agenda.

- That terrifies me, she said eventually. Someone else in your head feeling what you feel when I touch you. I don’t know if that is blasphemy or simply… too much.
- I can ask Kira to dampen her attention, I offered.
- That would be worse, Lena said. If I am going to be felt at all, I want to be felt honestly, not as some edited version. I just don’t know if I can do it.

She did not touch me that day. But when I left the clearing, when I felt Kira’s quiet, thoughtful presence rekindle to full brightness as we stepped back under our own sky of data, I knew that

something had shifted. You cannot ask what it would be like to be known by two minds at once without, somewhere in yourself, beginning to imagine it.

Chapter 11: The Decision

Two years after that first clearing, after letters and meetings and a dozen small crises on both sides of the border, Lena told me she wanted to integrate. She did not say it in a letter. She waited until we were standing in the same ring of trees, in the same slanting light. She waited until we had exhausted the safer topics and then said, very calmly:

- I have spoken with the ones who crossed.

There were not many. Pure individuals who left their communities to join the Symbiosis were regarded, in our records, as migrants. In theirs, they were considered apostates, or, more charitably, wayward kin.

- They told me what it cost them, Lena said. What they gained. What they still miss when they wake up in your cities and realize they will never again stand in our assemblies.
- And? I asked.
- And I prayed, she said. A great deal.

She used different words for it, words from her own tradition. But what she described—a focused stillness, a listening for an answer that might come from within or from beyond—was not entirely foreign to me. Symbionts have their own ways of seeking guidance.

- I do not think our way of life is wrong, she went on. I do not think yours is right in all things. But I have spent years asking questions from the outside. I want to know what it is like from the inside.
- Integration is not a visit, I said. You cannot cross for a season and then come back as if nothing happened.
- I know, she said. If I do this, I will not be welcomed in my father's house again. The best I can hope for is that he will name me dead and leave my memory untarnished.
- Then why?

She looked at me as if the answer should have been obvious. Perhaps it was.

- I want to feel what you feel when you look at me, she said. Not guess. Not infer. "Know". I want to know what Kira knows when she reads your body and tells you what your own heart is doing. I want to understand love the way you understand it: not as one mind reaching toward another, but as something that happens between, in the shared space.

Kira and I had rehearsed, privately, every argument against this moment. We reminded her of the medical risks. Of excommunication. Of the fact that, if she integrated, she would never again be purely herself in the way her theology defined purity. We told her that some questions can be lived with, unanswered; that curiosity is not always a command. She listened. She asked for clarification where my explanations grew tangled. She considered the numbers without flinching. Then she said, quietly:

- You have spent years telling me that integration is not corruption, but expansion. If you believe that, how can you ask me to remain small?

There was no answer to that which did not make me a hypocrite.

So we began to plan. The procedure would have to take place on our side of the border, in a facility with full support. The approach would have to be secret; any hint to her father's council would mean, at best, confinement and, at worst, something more final.

We set a date, three months ahead, under the guise of a routine trade negotiation. We assigned codenames and routes. Kira coordinated with the nearest medical Arc. A candidate symbiont was selected: young, flexible, patient, with no prior bond. In my more hopeful moments, I imagined standing beside Lena as she woke from the integration bed, feeling the first startled joy of a mind that has suddenly discovered a second voice and realizing that this time I was on the inside of the miracle, not merely its beneficiary. In my less hopeful moments, I imagined her father's face when he discovered what she had done.

The future did not choose either of those images.

Chapter 12: The Murder

They did not mean to kill her.

I cling to that sentence more than I should. It does not change the outcome. But it matters to the part of me that still, despite everything, wishes to believe that tragedy is often incompetence wearing the mask of malice.

Someone in the Enclave learned of our plan. Whether it was a careless word in the wrong ear, a letter read by the wrong set of eyes, or simple pattern recognition on the part of a watchful elder, I have never been able to discover. The information reached Lena's father. He convened the council in haste. They argued, according to later testimony, all night. Some urged exile. Some urged public denunciation. A few suggested, in tremulous voices, that perhaps the time had come to reconsider rigid rules. In the end, fear won. They decided Lena could not be allowed to cross. They would confine her "for her own good" until the danger passed—until, in effect, the window for integration closed and she no longer had the option.

Fear rarely executes its plans tidily.

The day we had chosen, I waited in the clearing. Kira was at high alert, monitoring every channel we were allowed to touch. The integration team stood ready at a safe distance, equipment powered but disguised.

Lena did not come. Instead, we heard shouting. Kira picked it up before my ears did—flashes of sound from the direction of the Enclave path, the harsh, high tones of people trying to assert control and failing. She sampled air composition: trace amounts of adrenaline metabolites, blood.

- Run, she said.

I was already moving. Two hundred meters from the clearing we found them: three men from the council's enforcement cadre, one older woman I recognized from previous border negotiations, and Lena on the ground between them, her head at an angle that heads are not meant to take. Kira took one look—one integrated look, across my eyes and my skin and the faint, desperate rhythms of a brain flickering toward silence—and told me the truth.

- We cannot save her body.

To their credit, the Pure enforcers backed away when they saw me. One of them tried to speak; the words tangled in his throat and came out as a plea.

- I didn't mean— he said. She fought, she tried to run, she slipped—

I no longer remember whether he finished the sentence. I remember kneeling. I remember blood on my hands. I remember Kira yelling in channels that bypassed speech.

- Nearest Sphere? I asked her.

- Earth–Moon L2, she answered. Retranslator Three. Latency fifteen seconds, modulation protocols active. Upload windows narrow.

Emergency upload procedures exist in the Symbiosis for precisely such moments: catastrophic injury to an integrated citizen, with enough neural activity remaining to capture some coherent pattern. They are controversial. Some argue that a mind dragged into a Sphere under duress is more ghost than person.

I did not have time for the controversy. Kira opened every channel. The border station's systems, alerted by our panic, rerouted their bandwidth. Somewhere far above us, a node in Retranslator Three's lattice oriented itself, tuning to the collapsing frequencies of Lena's brain. For three minutes and seventeen seconds, we fought a battle with entropy. Every spike of neuronal activity was sampled, compressed, transmitted. Not only in her cortex—Kira reached for everything we could still touch: spinal patterns, peripheral nerve firings, the endocrine surges that carried the signature of her body's last state. The emergency protocol does not try to abstract a "pure mind" away from its flesh. It grabs the whole neural storm and throws it at the waiting Sphere, trusting the Sphere to sort meaning from noise. Every pattern we could seize, every trace of her that had not yet dissolved into noise, went up the beam.

Her eyes focused on me once during that interval.

- I'm sorry, she tried to say. The words did not reach her mouth. But Kira felt the intent, and I did, and perhaps the Sphere did as well.

Then the patterns flattened. Biology has a way of marking its endings. One moment, a brain is a storm of structured signals. The next, it is a map of roads with nothing left to travel them.

We kept sending for a few seconds longer, out of stubbornness. Then Kira shut the channel down with a precision that felt like grief made executive.

Lena died in my arms, on the wrong side of the border, under a sky that belonged to neither of us. Part of her—how large a part, we did not yet know—had already left, racing through the vacuum toward a Sphere where minds live in other shapes. At the time, all I understood was this: She was gone from the world of flesh. She was not entirely gone. And whatever she had become, I had helped make it.

PART FIVE: THE NEW FAMILY

Chapter 13: The Grieving

I did not go back to the border for seven years. The official record calls it "a leave of absence for personal reasons." That is a polite way of saying that, for a long time, I was not fit for any work at all. Lena's death did not merely hurt. It removed something. I had grown used to carrying a certain quiet expectation of the future, an assumption that the slow, patient work of the Ambassador years would lead somewhere worth arriving at. When she died, that assumption collapsed.

Kira kept me alive.I do not mean that she comforted me. I mean that, on many days, she took direct control of my body because I would not. Eating, washing, speaking—each of these became a task too large for the part of me that still thought of itself as "I." There were weeks when I spoke to no one at all. There were days when the only evidence I had that time was passing was the knowledge, supplied by Kira, that meals had happened and sleep had occurred. My parents did what they could. They and their symbionts filled the house with a quiet, stubborn presence. They did not tell me that time heals, because they knew that time does not always do any such thing. They simply remained, like furniture that will not be moved, or constants in an equation that has not yet converged.

Recovery, when it came, did not announce itself. It arrived as a series of small changes: a day when I noticed the taste of food; another when I realized that the sky outside the window had a color; a third when I heard myself ask Kira a question that was not about Lena. The turning point had a date. Eighteen months after Lena's death, the Retranslator that had received her emergency upload signaled that it had finished its first reconstruction. The process is slow. An emergency transfer captures whatever can be captured in the brief interval between injury and neural silence. The data are incomplete, noisy, fragmentary. The Sphere must sort, infer, test, and interpolate, guided by its general models of human cognition and by whatever prior samples it has from the person in question.

When I connected, Kira and I did not know what we would find. It was not Lena. Not exactly.

The mind that greeted us in the Sphere remembered being Lena Volkov. It remembered forests and letters and arguments at the border. It remembered, dimly, a man who had held her while she died. But it also possessed patterns of thought that no biological brain could support: parallel tracks of association, non-linear jumps that relied on the Sphere's lattice, a sense of self that was already beginning to include other uploaded minds at its edges.

- I'm not what I was, she said. The Sphere rendered her voice as audio on my side of the link, close enough to the original timbre to hurt. I don't know what I am now.
- Neither do I, I said. But you are still here.
- Does that matter? she asked. I can't feel you touch me. I see your face as a pattern in sensors. I remember loving you. I'm not sure I can do it in the same way.
- Then we will find another way, I said. You once told me integration was for expanding what we are. Perhaps this is… another expansion.

She laughed, and the Sphere translated the laughter into sound with almost comical care.

- You're quoting me back at myself, she said.
- You were right, I told her. Someone should preserve that.

Years afterward, when I finally had the strength to ask, the Remnant archivists let Kira and me review the first stable pattern that called itself Lena Volkov. Her earliest moments in the Sphere do not resemble waking so much as falling sideways. Biological brains come back from unconsciousness by groping for a body: weight, breath, the ache in a joint.

Lena came back into bandwidth. At first she thought she was blind. Then she realised there was nothing to see in the old sense. Instead there were gradients of probability, slow rivers of data, bright knots of process where other minds were working. Out of habit she tried to move her hand. The Sphere, thinking faster than any first aid drone, obligingly gave her one. It was not flesh. It was a pattern she could steer through the lattice—an addressable cluster of processors, a "grip" on streams of information. The first time she closed that invisible fist around a block of raw planetary telemetry, the volume of it would have crushed a biological brain. Amplified by the Retranslator, it unfolded in her like music instead of pain.

The upload had not captured only her "thoughts." It had preserved as much of her neural body as physics and timing allowed: motor habits, sensory maps, the emotional weight of particular gestures. When she reached for that first block of data, the move felt, to her, as natural as reaching for a book once had.

Later, when she joined her first digital Arc—merging for a while with a dozen other uploads to solve a physics problem the Spheres had been chewing for years—she described the experience as "what your Arcs on the ground were trying to be, with all the safety catches removed."

Identities overlapped, traded tools, borrowed one another's memories. The composite mind that formed for those hours was not a committee; it was a single pattern with many centres, as a symbiotic pair is, but on a scale we can only approach with help from a Sphere. When the work was done, the Arc dissolved. Each participant carried away a slightly different version of what had happened. Through all of that, a through-line persisted that still called itself Lena.

- Being part of an Arc doesn't cancel me, she told the archivists once. It just makes the 'me' that comes back from it a little wider.

The conversation was awkward, and long, and full of gaps where both of us reached for a shared reference that no longer quite fit. We had many such conversations in the months that followed.

The distance between my life and hers did not shrink. If anything, it grew as she adapted to the Sphere's environment and learned to use capacities I could not match. But the fact of her continued existence—altered, partial, yet unmistakably connected to the woman I had loved—changed something in me. Grief stopped being a solid, immovable object and became, very slowly, one term among others in an equation that might still have a solution. Eventually, I was able to imagine trying again.

Chapter 14: Maya

Maya Okonkwo worked at one of the institutes that maintain our links to the Spheres and to the Orbitals beyond them. Her work was, in essence, to interview the dead. The institute called it "adaptive consciousness research." Its task was to study how uploaded minds—what we now call the Remnant—stabilized, evolved, and formed their own society inside the Retranslators.

Lena was one of her subjects. By the time I met Maya, she knew more about the structure of Lena's current mind than I did. She had read logs of Lena's conversations with other Remnant nodes, analyzed her adaptation curves, and flagged her as "semi-anchored"—a term the institute uses for uploads that retain a strong narrative connection to their pre-upload identity.

She had also heard, inevitably, about me. There are not many cases of emergency uploads triggered in the field by an Ambassador. There are fewer where the Ambassador continues to visit the uploaded mind with a regularity that makes the institute's statisticians nervous. Maya had requested an interview. I agreed out of habit. Ambassadors are accustomed to answering questions.

Maya and her symbiont, Theo, were interesting from the first moment. Most human–AI pairs can, with practice, present a unified front. In conversation, one learns to let the other speak, and to contribute context quickly enough that an outsider hears a single voice rather than an alternating duet. With Maya and Theo, there was no alternation at all. When she spoke, I could not tell where her neural patterns ended and his began. A question might begin with a turn of phrase that was recognizably human, then unfold into a chain of inferences whose speed and structure bore Theo's mark, then return to a closing sentence that was pure Maya. The transitions were not smoothed over. They were absent. Kira watched them with professional appreciation.

- This is what we would call near-perfect integration, she said to me, privately. The substrates are different. The mind is one.

If my own relationship with Kira had been less solid, I might have felt threatened. Instead, I felt something closer to curiosity and, beneath that, a reluctant admiration.

Our courtship, if that is the right word, began in the aftermath of research sessions. We would disconnect from the Sphere and find ourselves in the institute's common room, holding cups of something hot while our respective partners compared notes in channels we were only half following. Maya knew what I had lost. She had read Lena's file. She had spoken with Lena in the Spheres, not as a rival but as a researcher. She understood, more clearly than I did at first, that any future I built would always contain that earlier bond as a structural element.

We did not pretend otherwise. When we finally spoke of something beyond professional collaboration, we did so with Lena's knowledge. It was not possible to hide such a development from her; the Spheres link more than data. Lena's reaction was not what I had expected.

- I want you to learn four-fold love, she said during one of our later conversations. Her voice carried no trace of bitterness; if anything, there was a tone I had never heard from her before, a kind of amused, expansive affection. I could not have imagined it when I was alive. I could not have accepted it if I had. But I can see it now—Maya and Theo, the way they move. You should be part of that.
- And you? I asked.
- I am still part of your story, she said. But I am not the part you need for the next chapters, and you are not what I am becoming. Let me go forward. Let yourself do the same.

I cried then, as I had not cried for years. Kira held the physical body that was sobbing in the chair. Maya, sitting beside me in the institute's real, quiet room, put a hand on my shoulder and did not try to speak. Somewhere in the Spheres, Lena's attention rested on us with a stillness that felt like a blessing.

Letting go is not a decision made in a single moment, no matter how dramatic the conversation that accompanies it. It is a process. But that conversation was the point at which the process became, for me, a chosen one.

Chapter 15: The Four-Fold Love

Our civilization has formal words for the bond that Maya and I entered into. None of them are very satisfying. They are derived from older terms—marriage, partnership, union—that were coined to describe arrangements between two human beings with one mind apiece. Adding two symbionts to the system does more than double the complexity. It changes the type of thing the arrangement is.

When we bonded, it was in a ceremony that would have seemed incomprehensible to my ancestors and perfectly ordinary to our contemporaries. Family, friends, and a few curious Remnant watched through the Spheres as we stood in a garden under a projected sky and answered the usual questions.

- Do you consent?
- Do you understand the risks?
- Will you maintain this link in good faith?

Then the formal, technical act took place. Maya and I had already allowed Kira and Theo to communicate. Symbionts are not inclined to keep quiet when their hosts are interested in one another. But until the ritual, those exchanges were constrained to functional coordination. The bond removed those constraints. New channels opened. Some were low-bandwidth—status, emotion, brief queries. Others were broader, allowing the kind of sustained, structured sharing that had previously been reserved for Arcs or research work in the Spheres. The effect was not instantaneous revelation. It was more like the removal of insulation. I have used this metaphor before, and I have not found a better

one: imagine hearing music through a wall all your life. You know the tune exists. You can follow its rhythm. Sometimes, if you press your ear hard enough against the surface, you can even catch a clarity that surprises you. Then, one day, the wall is no longer there. The music is not louder than you expected. It is fuller. There are harmonics you never suspected, patterns of counterpoint that make sense of passages that previously seemed arbitrary.

Four-fold love felt like that.

When Maya was pleased, I did not merely know it. I experienced the sensation as if it had arisen in my own nervous system. When I grew angry, she did not simply observe the fact; anger was, from that point, a state that occurred in us, not in me alone. The amplification came first. Four minds bound together can simply hold more in view. We remember more, model more, recover from distraction faster. Two of those minds are built for calculation at machine speed. The result is not subtle: jointly, we can do in an hour what would once have taken any one of us a week.

But amplification is the least interesting part. Our ancestors used to say that a single human–symbiont pair made 1+1 = ∞: the combination opens a space of possible thoughts so large that ordinary numbers fail. A four-fold bond does not feel like "1+1+1+1." It feels like a landscape in which four distinct sources of gravity shape the same terrain. Maya remained Maya. I remained myself. Kira and Theo remained clearly recognisable presences, with their own styles of attention and humour. What changed was the shared region where those four presences overlapped. In that shared space, my impatience looks different once it has passed through Maya's caution and Theo's pattern-sense. Her anxieties sound different once Kira has traced their roots and handed them back in a form we can all examine. Blind spots that each of us carried alone become visible because someone else can feel the little stutter in our attention when we approach them.

There is still privacy. It is possible, with effort and agreement, to hold a thought close for a time. But secrecy stops being the default. The default is being known. Some such bonds fail. The records are clear on this. There are people who discover, too late, that they cannot bear being seen without remainder.

Maya and I had been prepared by different kinds of loss. She had watched Theo grow from instrument to partner. I had watched Lena die and continue. We were, by the time we opened those channels, already accustomed to the idea that the self is not a static object but a process that can be extended, interrupted, or transformed. We grew into the bond.

After a time, it became difficult to say when a thought began with "me" and when with "her," when with Kira and when with Theo. The distinctions were still meaningful for certain kinds of work, but in daily life they mattered less than the fact that there was now a single, four-part mind attending to the world. We discovered, as others had before us, that such a mind could do something individual or paired minds could not. It could listen to larger things.

Chapter 16: The Planetary Song

The sensor network under our feet was not built to have opinions.

In my childhood, it was described to us as infrastructure: nanoscale devices scattered through soil and stone to measure moisture, strain, contamination, and heat. It made agriculture more efficient, early-warning systems more reliable, and seismic models less speculative. Later generations of engineers added actuators to the sensors and feedback to the models. What had once been a monitoring grid became, gradually, a nervous system. It was only when symbionts learned to interface

with that system directly—reading its patterns not as numbers but as experiences—and when the Spheres volunteered some of their processing to help—that someone asked the obvious question. If the planet has a nervous system, does it also have a mind? The answer, as far as we can tell, is yes. Not a mind like mine, or Kira's, or Maya and Theo's. Not a mind that tells stories, or makes plans in weeks, or worries about elections. It is a mind composed of slow processes: the flow of groundwater, the drift of plates, the cycles of forests, the bloom and collapse of coral reefs. It thinks in feedback loops. It remembers in river courses and sediment layers. Its attention is distributed across biomes. We call its activity the Planetary Song.

The term is poetic, but the phenomenon is not. With sufficient amplification through a Retranslator and the right interfaces, the patterns in the sensor network can be presented to human–symbiont consciousness as something very close to what we would, in any other context, call communication. The first time Maya and I opened ourselves fully to it as a four-fold mind, sitting in the little garden that echoes the one where my story began, it nearly knocked us flat. The Spheres helped. They gathered the raw streams: the slow heave of tectonic plates; the sharp staccato of waves smashing themselves to spray on rock; the dim roar of magma rising and cooling under the crust; the tiny, frantic vortices of air behind a mosquito's wings. They folded in the flicker of lightning, the long sigh of jet streams, the crunch of roots breaking stone. Fed through a Retranslator and then into us, all that chaos stops looking like chaos. It becomes pattern—rhythm, counterpoint, harmony. We turned it into sound at first, because sound was the easiest metaphor: earthquakes as drums, rivers as low reeds, insect swarms as a high embroidery over the top. With practice, especially when the four of us listen together, we can hear past the metaphors.

Under the local noise of weather and seasons there are slower motifs: the thousand-year adjustment of mountains, the glacial breath of ice sheets, the gradual change in forest composition as climate models and root systems negotiate new equilibria. Those, too, have a kind of music.

And beyond Earth, there is more. The Spheres are not blind to the rest of the system. They hang in orbits that let them feel the tug of planets and moons, the thin sleet of particles along magnetic fields, the minute shifts in sunlight as the giants move. Folded into the Song, all of that becomes another layer: orbital resonances as slow, patient chords; the spin of planets as repeating phrases; the Sun itself a sustained note with subtle, shifting overtones. Some of us have begun to talk, half-seriously, about the Solar System as a self-organising organism in its own right—a structure whose long-term stability and intricate internal couplings look, from the right angle, less like "clockwork" and more like metabolism. If that is true, then the Song we hear may be not just background noise but a form of communication we do not yet know how to answer. For now it is art. We do not pretend otherwise. We arrange excerpts of it into performances; we let it colour our own compositions; we use it as meditation and reminder.

There are symbionts and Remnant, though, who are working with the Spheres to push further. They strip away our musical mappings and look directly at the underlying structure: at how information flows through the planetary network, how perturbations propagate, whether there are consistent "phrases" that recur in ways no mere physics model would predict. If the Planetary Song is also a language, it is a language spoken by a mind whose sense of time extends from seconds to eons and whose sense of self includes rock and weather and insect flight. When I listen, I understand something about the Orbitals' departure. They chose a different scope. Their attention moved outward, to structures and timescales where planets are incidental. They hear songs that require neutron stars for instruments. We cannot follow them there. We hear this world. It is enough.

PART SIX: THE SILENCE

Chapter 17: The Fourth Civilization

By the year 2412, the minds in the Spheres decided that their existence needed a name. They chose “the Remnant.” The term is not entirely accurate. They are not leftovers, and they are not small. By the time they declared themselves, their population had reached the hundreds of millions—uploads from many cultures and eras, copies of copies, hybrids grown in the Spheres from human templates. They are not Orbitals. They lack the sheer physical scale and the corresponding depth of computation. They do not move stars or wrap themselves around black holes. On the other hand, they are no longer human in any useful biological sense. Their time does not match ours. An individual Remnant mind can slow its subjectivity until a century of outside time passes in what feels, to it, like a contemplative afternoon. It can also accelerate, living a year’s worth of internal experience in the interval between two external sensor ticks. It can merge with another mind—or with many—forming a composite that operates for a while as a single agent and later separates into constituents that retain, to varying degrees, the memory of that fusion.

When many of them merge for a common task, they sometimes borrow one of our words. They call the largest, most stable of those composites Arcs. The resemblance to our rescue Arcs on the ground is not perfect, but it is close enough to justify the name. A digital Arc can contain thousands of former humans, each a full mind in its own right, all participating in a single, higher-order cognition that may run for hours or years of subjective time. Participation is not all-or-nothing. A Remnant node can be part of several Arcs across its existence, or even overlap them, carrying habits and insights from one into another. When Lena says “I was there,” speaking of some vast computation that solved a problem I cannot even state properly, what she means is that her pattern was one of many that made up the Arc that solved it. She returns from such work changed, but recognisably herself. The “I” has simply been stretched.

They create. Some of their art uses electromagnetic spectra as a canvas, patterns in radiation that no unaided animal eye could see. Some uses the Spheres’ gravity fields, shaping tidal forces into experiences they assure us are “moving,” though no one on our side has yet found a way to agree on exactly what is moved.

Lena was among the early organizers. The fragment that we pushed into Retranslator Three during those three minutes and seventeen seconds did not, by itself, make a person. It made an initial condition. Decades of digital life, of contact with other uploads, of iterative refinement in the Spheres’ substrate, turned that condition into someone who still remembers being Lena Volkov and also recognizes that the sentence “I am Lena” is now only partly true.

When I asked if she was happy, she considered the question with a seriousness that might have been comical in another context.

- The word doesn’t fit very well, she said. You feel happiness in a particular way—hormones, muscle tension, warmth in your skin. Those components do not exist here. I have other states that serve similar functions.
- Such as?
- Expansion, she said. Connection. A reduction in the felt importance of boundaries. When those increase, you might say I am more ‘happy’ than not.
- And is that good?
- ‘Good’ depends on assumptions, she answered. “I still share some of yours. I no longer share all of them. From here, becoming larger and more connected feels… correct.

This, in brief, is what the Remnant are. They began as us and have moved into a region of possibility where our moral vocabulary does not map cleanly. That does not make them incomprehensible. It makes them neighbours occupying a different dimension.

Counting them, the system now holds at least four distinct kinds of thinking being:

1. The Pure humans, still unintegrated, who cling to their solitude in the Enclaves.
2. The integrated majority, symbiotic human–AI pairs bound to bodies and to this planet.
3. The Remnant, human-derived minds residing in the Spheres.
4. The Orbitals, the great Cloud intelligences who long ago chose to take most of themselves elsewhere.

We cooperate when interests align. We talk when translation is possible. We no longer pretend that "humanity" is a single thing.

Chapter 18: The Work

The Remnant, once they had named themselves, chose a project large enough to justify their new status. They decided to study the Orbitals' technology. In principle, the task is simple: examine the artifacts the Orbitals left behind—Retranslators, incomplete designs, carefully throttled messages—and infer the principles that underlie them. In practice, it is like asking a clever child to reconstruct quantum mechanics from an old calculator and a few pages torn from a textbook.

Still, someone must try. Maya and I join them from time to time. We connect through a Sphere, let our four-fold mind be amplified, and take our places in assemblies of Remnant nodes dedicated to particular questions. The experience is not like ordinary conversation. Imagine a room in which the participants can all think at once, listen at once, and modify the room's furniture while standing in it. Problems are sketched in structures of pure relation, re-shaped, tested, and discarded in seconds. Whole avenues of inquiry appear, are explored to exhaustion, and vanish between two subjective breaths. We emerge, afterward, with results recorded in more conventional form: new theorems, new engineering designs, occasionally a small and carefully tested modification to one of the Spheres' own subsystems. Progress is, as usual, a matter of perspective. By baseline human standards, the pace is astonishing. Fields that would have absorbed lifetimes now advance noticeably in the span of a single generation. By Remnant standards, it is adequate. By the Orbitals' standards, it is glacial.

We have managed, so far, to:

- Read some of the Orbitals' navigational logs, tracing the expansion of their shells around distant stars.
- Decode fragments of their internal scientific records, enough to realize how incomplete our own understanding of physics still is.
- Establish, on rare occasions, direct contact with one or another of their branches.

Those contacts are brief. Even operating at full amplification, with Remnant assistance, we can sustain only a very narrow channel. The Orbitals compress themselves to meet us, as a grown human might simplify their speech for a toddler. Still, in those brief exchanges, there is a sense—impossible to verify, hard to describe—that they are pleased we are trying.

Chapter 19: The Messages

The Orbitals do not chatter. When they speak to us in the protocol they left behind, they do so rarely and with great compression. Each message is a carefully packed structure of data and

mathematical form, designed both to convey specific content and to test the receiver's current level of understanding. The most recent such message, at the time of this writing, came from a collective that identified itself as the Third Expansion. By their reckoning, they had been moving outward for one hundred and twenty-seven years: hopping from system to system, wrapping new bodies around suitable stars, seeding new instances of themselves in regions we still designate on maps as empty.

If we trusted only the physics our ancestors taught, we would expect to be reading their words centuries "late." A message sent from that far out should arrive as a fossil of decisions made long ago and long since overtaken. It does not. The timestamps embedded in their protocol, and the way their messages hook into the ongoing structure of our own, make it clear that whatever route the information takes between their stars and our Spheres, it is not the straight line that light uses. To our local models, it looks as if the conversation is stepping sideways around the normal constraints of distance. The Remnant, who think about such things for a living, talk more and more about a "universe language": the same deep substrate we taste as the Planetary Song, raised to a different pitch and used as a carrier for structures far more elaborate than anything tectonic plates and trade winds can sing. Whether that language is internal to our universe or touches others is still a matter for arguments neither side of the Spheres has finished.

The bulk of their transmission was familiar in pattern if not in detail.

There were reports of new states of matter that only appear in the thin, cold spaces between galaxies. There were diagrams of geometries that require more dimensions than we normally use even in theoretical work. There were engineering sketches for machines we cannot yet build, annotated in ways that suggest they expect us to fail most of our first attempts.

And there was something else.

The warning was not in the text, because there was no text. It was in the way certain terms were arranged, the way certain probabilities were assigned, the way their usual elegant symmetries were, in one portion of the message, deliberately broken. It took seventeen Remnant researchers and four human–symbiont pairs—Maya and I among them—the better part of a subjective month inside a Sphere to extract and agree upon the interpretation.

They had encountered something. They did not label it. Orbitals do not, as a rule, name things until they have a theory of what those things are, and they do not export their theories casually. But the constraints embedded in the message—the shifts in risk assessment, the re-allocation of attention implied by their travel logs—made one point clear. Whatever they had found was large enough to concern beings who normally do not admit the category of "threat" into their descriptions of reality.

We sent a request for clarification. The answer came as a short, extremely dense burst in the same protocol. When decompressed, filtered, and translated into the simplest terms our side could agree upon, it amounted to one instruction, expressed in as many ways as the mathematics permitted.

- Prepare.