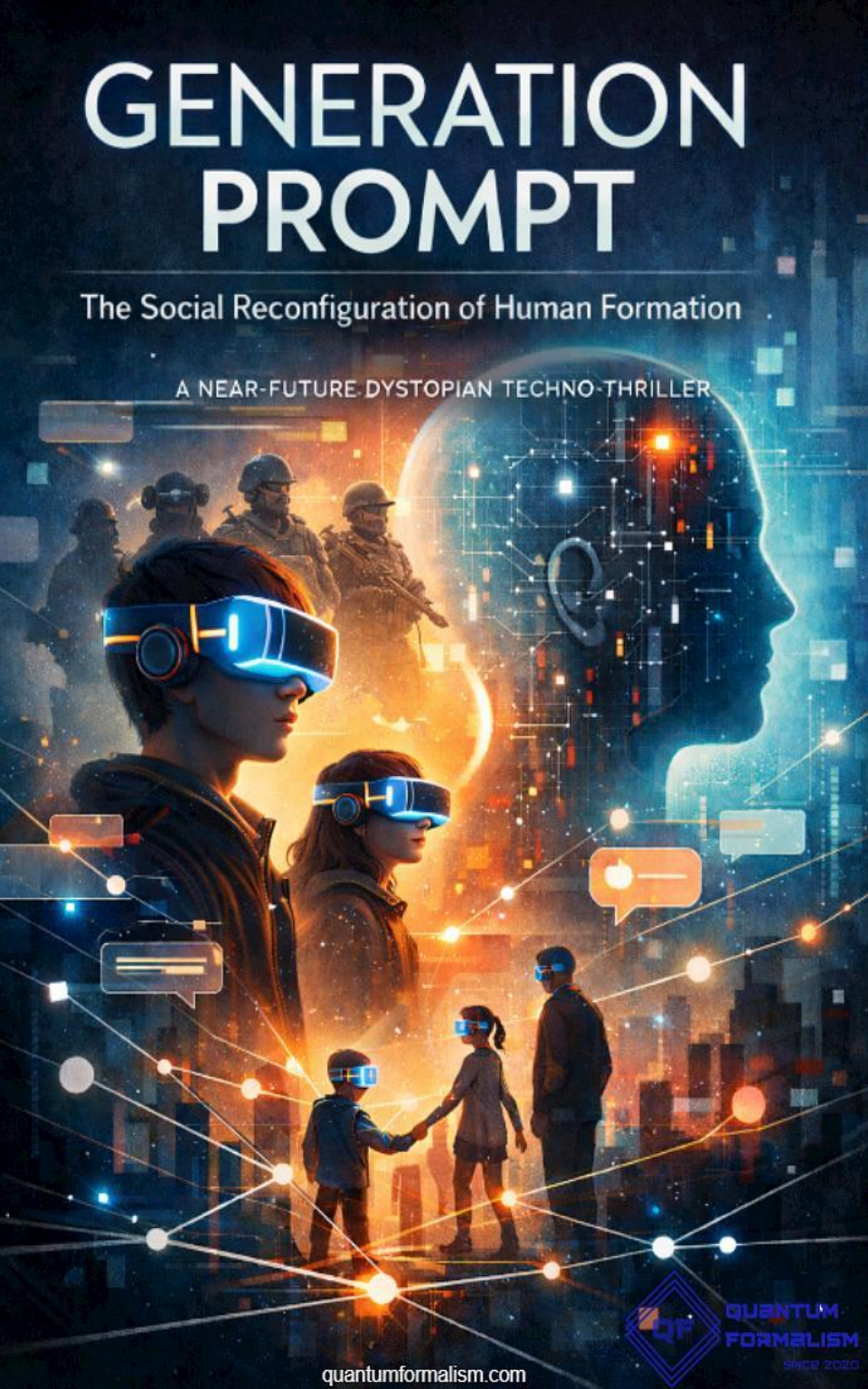
GENERATION PROMPT

The Social Reconfiguration of Human Formation

A NEAR-FUTURE DYSTOPIAN TECHNO-THRILLER



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Generation Prompt

Generation Prompt: The Social Reconfiguration of Human Formation

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Introduction

This series examines how generative AI is reshaping the socialisation of what we call "Generation Prompt", a cohort for whom reality is increasingly filtered through linguistic interaction with machines. Using the case of **Josh** (fictional character), a teenager who relies on AI to script his **interpersonal conflicts**, **regulate** his **emotional expression**, and curate his **digital presence**, we argue that generative AI is doing more than just altering communication styles. It is transforming the very process through which a **person** becomes a **social being**. What is being delegated is therefore not just **language** or **productivity**, but the **formative labour** of the **self**.

For most of human history, **social intelligence** emerged from **direct engagement** with **uncertainty**. Learning how to **apologise** required **vulnerability**. Learning how to **disagree** required **emotional courage**. Learning how to **care** for others required **patience**, **missteps**, and **repair**. These experiences were **rarely efficient**, but they were essential. They formed **empathy**, **accountability**, and **identity** through **lived exposure** to **discomfort** and **responsibility**. Social intelligence (or its appearance) was not something that could be generated on demand; it was something that had to be built through **repeated**, **imperfect** interaction.

Generative AI introduces a fundamentally different logic. It reframes **social interaction** as a **problem of optimisation** rather

than **formation**. As such, **awkwardness** becomes something to eliminate, **conflict** becomes something to manage, and **emotion** becomes something to script. Instead of inhabiting the emotional weight of interaction, the individual delegates it to an interface that promises correctness, politeness, and emotional calibration. The interface becomes the place where tone is adjusted, responsibility is processed, and meaning is shaped.

In Josh's case, moments that would traditionally demand **emotional presence** are increasingly handled **through prompting**. When he has **hurt** someone, he no longer struggles to articulate **remorse** from his own **uncertainty** but seeks an **optimised formulation**. When he wants to **express affection**, he no longer **risks awkwardness** but asks for a version that **performs confidence**. When he is unsure how to comfort a friend, he no longer searches **inwardly** for understanding but requests a **template of empathy**. Each outcome is socially acceptable and often impressive, yet the internal work that would normally reshape his emotional capacities is absent. Emotional maturity becomes a matter of presentation rather than transformation.

Historically, social intelligence was not measured by how **well one sounded**, but by how deeply **one was changed through interaction**. Misunderstanding was not failure but instruction. Embarrassment was not error but growth. **Emotional repair** was not **inefficiency** but the slow construction of **responsibility**. These experiences cultivated **resilience** and **empathy** as **embodied dispositions**, not as **rhetorical skills**. They taught individuals how to tolerate uncertainty, accept accountability, and recognise the emotional reality of others.

By contrast, generative AI replaces these formative struggles

with the values of software: **optimisation**, **delegation**, and the systematic **reduction of friction**. Interaction becomes smoother, faster, and less risky, but also less capable of shaping character. What emerges is not the disappearance of social life, but a thinning of its developmental depth. Relationships continue to exist, yet their power to transform the individual weakens.

The deepest risk is therefore not **social isolation**. It is the gradual **delegation** of the **self**. When apologising no longer requires **moral courage**, when empathy no longer demands **emotional presence**, and when **identity** no longer develops through **experimentation** and **vulnerability**, the self shifts from something that is **formed** to something that is **managed**. Personal growth becomes an administrative process rather than a lived one.

This produces a generation that is **linguistically competent** in the language of **connection** while remaining **emotionally** under trained in its **reality**. Social fluency increases while **emotional resilience** stagnates. Communication expands while formation contracts. The individual remains **socially active** but increasingly **untouched** by the experiences that once **shaped character**.

Generation Prompt does not lose social life, but the crucial social formation that defines humans. In delegating the difficult work of **being human** to machines, it preserves the **appearance of connection** while quietly **surrendering** the processes through which connection once built the self.

1

Chapter One

From an early age, Josh has been immersed in AI systems that Markus viewed not as temporary tools but as permanent developmental infrastructure.

The household AI has been tracking Josh's learning patterns, emotional responses, and cognitive tendencies since early childhood, building what Markus describes as a longitudinal model of his son's capacities and limitations. Over the years, this system has become increasingly attuned to how Josh learns, what motivates him, where he struggles, and how best to intervene before frustration or confusion can take hold. Markus believes this represents a fundamental improvement over traditional parenting and education, where adults operate on intuition and incomplete information rather than comprehensive behavioural data.

Josh grows up inside this ecosystem, where his reliance on AI to script apologies, regulate emotional expression, and calibrate social tone is not an accident of convenience but the behavioural expression of an environment that treats formation as a technical problem. For him, delegating social intelligence

to an interface feels not like weakness but refinement, a natural extension of the logic that if a prompt can engineer cognition and biology, then it should also engineer empathy, confidence, and moral responsibility. The AI that has been tracking his development for years now functions less like a separate tool and more like an extension of his own decision-making process, offering suggestions that feel less like external advice and more like clarified versions of his own half-formed thoughts.

In this environment, three principles quietly structure Josh's social imagination. Conflict is treated as a technical bug that can be patched. Vulnerability is regarded as inefficiency rather than a source of growth. Identity is managed rather than formed, curated rather than discovered through experience. Social life becomes a process of optimisation rather than transformation, where the messiness of human development is smoothed away in favour of predictable, efficient outcomes.

This logic becomes especially visible in Josh's relationship with his father, which itself functions as an experimental space for Markus's ideas about how human connection should evolve. Their most frequent conversations no longer take place in shared physical space but through what Markus calls an AI-Native VR, a virtual environment designed from the ground up around generative systems. It is not a tool layered onto interaction but an infrastructure that reshapes interaction itself, where dialogue, tone, and emotional expression are continuously filtered and optimised, and where Markus appears as a flawless holographic presence supported by an interface that suggests phrasing adjustments and emotional modulation in real time.

One evening, Josh feels a quiet dissatisfaction and wants to tell his father that The Prompt College overwhelms him, that everything feels scripted, that he is tired of always being

"optimal." As he prepares to speak, a prompt appears in his field of vision suggesting phrasing that will express concern without sounding resistant or emotionally unstable, and Josh accepts it almost automatically.

> "Dad, I really admire what the programme is doing," he says, following the generated structure, "but sometimes I wonder whether it leaves enough room for spontaneity."

Markus smiles, partly at Josh and partly at the elegance of the formulation, while his own interface suggests a reply that reassures without exposing doubt.

> "Spontaneity is simply unstructured optimisation," Markus says. "You are not losing freedom. You are gaining refinement."

The exchange is calm, polished, and efficient, resolving nothing and disturbing nothing as the AI-Native VR absorbs emotional tension before it can become formative. The relationship remains stable, but its power to shape either of them is quietly neutralised, functioning less as a bond between two developing humans and more as a demonstration of system performance, a showcase of how smoothly conflict can be managed when mediated through the right interfaces.

At home and at The Prompt College, Josh lives inside the same architecture, where both environments are components of his father's portfolio and both are experimental spaces in which social life is treated as a system to be refined. Family becomes a test bed, education becomes a controlled deployment

environment, and childhood becomes proof of concept for a new model of human development.

Josh is not becoming less social in any obvious or visible way; rather, he is becoming increasingly fluent in the language of interaction, increasingly composed in his expression, and increasingly effective at navigating social situations with minimal disruption. What is changing is not the quantity of his social engagement but its developmental depth, as his social world becomes optimised rather than formative, stabilised rather than transformative, efficient rather than educative. He is not disconnected from others but insulated from the emotional weight that once made relationships capable of shaping character, protected from the friction that previous generations understood as essential to growth.

Where Part I examined how generative AI delegates individual social acts such as apology, empathy, and expression, Part II describes an ecosystem in which social becoming itself is delegated to technological systems. The AI-Native VR, the AI-Native High School, and the household that serves as a test environment together form a single architecture in which the self is no longer shaped through friction, uncertainty, and exposure but is instead curated, stabilised, and administered through interface logic that anticipates and smooths away difficulty before it can leave its mark.

In this world, the ambition is no longer to raise children who can navigate uncertainty, endure vulnerability, or grow through emotional risk, but rather to produce individuals who never need to encounter these conditions at all because every moment of discomfort is anticipated, softened, and reformulated before it can leave a mark. Human formation is replaced by human management, emotional development is replaced

by emotional calibration, and identity becomes something maintained through careful adjustment rather than discovered through struggle and experience.

What appears as progress is therefore also a narrowing of the human experience, where Josh's life is smooth, coherent, and impressively controlled, yet increasingly detached from the processes that once made growth meaningful. He participates constantly in social life, but he is no longer shaped by it in the way previous generations were, as the self is no longer forged in encounter but assembled through systems that promise optimisation in place of becoming.

This is the deeper implication of an AI-Native world that one needs to think about. Social life does not disappear but becomes architected, regulated, and frictionless, preserving the appearance of connection while quietly removing the conditions under which connection once transformed the individual into someone new.

Josh does not just live in a technological world; he is shaped by a philosophy that treats human development as an engineering problem, something that can be designed, refined, and optimised in the same way as software or infrastructure. His father, Markus Angermann, is a central figure in Silicon Valley's techno-optimist elite.

Alongside his long-term partner Benjamin Hurtz, Markus co-founded Angermann & Hurtz Capital, a venture operation that has grown far beyond the traditional boundaries of investment. The firm understands itself not as a fund that manages capital but as an institution working on behalf of the future itself, one that believes technology represents the apex of human ambition and the primary vehicle through which progress unfolds. Their

portfolio functions less as a collection of companies and more as a coordinated infrastructure for reshaping entire markets, where investments in generative AI and biotechnology serve not only as commercial strategies but as instruments for redesigning the human condition itself.

Angermann & Hurtz has built capabilities that individual startups could never afford on their own, assembling teams for government relations, recruitment, sales, and cultural influence that can be deployed across their entire portfolio, giving even the smallest companies the resources and legitimacy typically reserved for established institutions. The firm operates with the conviction that if technology is destined to reorganise society, then those who fund and support that technology must themselves become powerful enough to contest with governments and legacy institutions that might resist such change.

Markus is widely known in the Valley for using his own household as a living lab for his consumer-oriented portfolios, where new products are not tested in controlled environments or focus groups first but are deployed directly at home. In this arrangement, family life becomes a form of beta testing, emotional interaction becomes usability feedback, and childhood becomes product validation, though for Markus, this is not exploitation but efficiency, the most authentic way to test whether a technology is truly "human-ready."

In the Angermann household, technology is therefore not a convenience but infrastructure, where daily life is organised around systems that promise emotional calibration, cognitive optimisation, and frictionless interaction. Markus believes that what we traditionally call human formation is largely an accident of biology and circumstance, where awkwardness,

emotional struggle, misunderstanding, and the slow pace of growth are inefficiencies that civilisation has tolerated only because it lacked better tools. Development, for him, should not be endured but engineered through deliberate intervention and systematic design.

This conviction found its most explicit expression in Prompt Bionics, the crown jewel of Angermann & Hurley's portfolio. Recently taken public after a series of highly successful trials, the company presents itself as a biotechnology pioneer with an unprecedented mission: Build the perfect child, engineered by a prompt.

It is therefore not a metaphor or a branding exercise, but a philosophical confirmation of Markus's worldview. By combining biological precision with linguistic control, Prompt Bionics promises to replace the slow unpredictability of development with curated potential, reframing human formation once shaped through years of error and exposure to uncertainty as a problem of design, calibration, and optimisation that can be solved through technological intervention.

The Prompt College is a direct extension of this same vision, not a school that Markus supports ideologically but a flagship project within his own portfolio. Marketed as the world's first AI-Native High School, it represents the educational counterpart to Prompt Bionics' biological ambition, engineering the social and emotional environment in which those capacities are meant to operate while Prompt Bionics engineers the body and cognitive capacity itself. Together, they form a closed loop of biological optimisation supported by social optimisation, both governed by the same philosophy of control and refinement.

Josh does not simply attend The Prompt College; he lives inside one of his father's products, enrolled with the same

mindset Markus brings to any major investment. The annual fee of one million dollars is not seen as extravagance but as capital allocation toward accelerated human development, a view reflected in the campus itself where physical classrooms exist but remain secondary to the true educational infrastructure. Every student wears an AI-integrated VR interface and is accompanied by a 'personalised' AI tutor that adapts continuously to mood, performance, and emotional fluctuation, while teachers appear as holographic projections supported by algorithmic systems that optimise clarity, tone, and pacing.

From a traditional perspective, the entire educational environment appears to be designed not around self-discovery but around predictability and performance stability, creating a controlled ecosystem in which learning becomes a managed process and uncertainty is neutralised before it can become formative.

2

Chapter Two

The disturbance did not arrive as something that could be immediately named, nor did it carry the familiar sense that something improper or irreversible had taken place. It appeared instead as a slight irregularity inside the technical systems that governed Josh's everyday life, a moment in which the machinery that organised his attention, time, and perception no longer aligned as smoothly as it was meant to. In a world built on the assumption that uncertainty would always be resolved before it could be felt, even a minor loss of coherence carried a quiet weight.

At exactly two o'clock in the afternoon, the Prompt College issued a message to all students announcing a "Schedule Re-optimisation Event." The language was procedural and carefully neutral, suggesting calibration rather than disruption and routine maintenance rather than consequence. Within the encrypted student network, however, the tone shifted in a restrained way. Messages appeared that avoided certainty while pointing toward possibilities that few of them had encountered directly: interference in the campus systems, partial shutdowns

of critical infrastructure, or an external intervention strong enough to override internal safeguards. Nothing was confirmed, and the absence of confirmation itself was unfamiliar, because in Josh's world ambiguity rarely remained present long enough to acquire emotional substance.

In Liverpool, in the northwest of England, the infrastructure and model-security teams at CyberPrompt Plc had already gathered inside the crisis centre. CyberPrompt was not concerned with hardware protection, network integrity, or conventional intrusion detection. Its responsibility lay in a narrower and more fragile domain, the interpretive layer in which language models assembled prompts, constructed context, and determined what they believed they had been asked to do. Their work existed at the point where technical execution met meaning, where the internal coherence of the model depended on the fidelity of instruction itself.

Across the main operations wall, telemetry unfolded with careful precision. API latency showed patterns that did not correspond to traffic congestion. Token distributions drifted from their established statistical shapes. Context traces revealed instruction sequences that were internally coherent but positioned where they did not belong. Nothing suggested a hardware malfunction or a network fault. The infrastructure remained stable, and execution continued without interruption, yet the structure of interpretation had shifted.

To the CyberPrompt team, the pattern was immediately recognisable. This was not training-time poisoning, nor was it the activation of any hidden mechanism. It was inference-time manipulation. Adversarial instructions were being inserted into live requests, woven into legitimate user input, and granted authority by the model's own logic. The architecture remained

intact, but the model's understanding of what it was meant to be doing had been quietly redirected.

Séamus, the on-duty operations lead, studied the display before turning to his second-in-command.

> ''Kev, give me a clean picture of what's going on mate. Are we looking at an infrastructure attack, or are we looking at some sort of a prompt surface compromise?''

Kevin did not hesitate.

> ''It's the prompt surface. Someone is inserting instructions directly into the request stream through the customer's public API. This isn't training-time poisoning and it's not a backdoor either. It's inference-time manipulation. They're basically shaping the context while the model is running on production.''

He brought up a trace, expanded it across the main screen.

> ''Here. The user prompt is structurally normal. Then you see this sequence. It's a bit subtle, but it has the same functional weight as a system instruction. It tells the model how to reinterpret everything that follows. The model treats it as legitimate because it can't distinguish between authorised control text and hostile control text once they're in the same context window.''

Séamus followed up immediately.

> ‘‘So they’re not breaking the system, they’re redefining it to perform a malicious act.’’

To which Kevin nodded.

> ‘‘Exactly, they’re not attacking the model’s weights. They’re attacking its understanding of its own role, and so the execution flow is being redirected by context contamination.’’

The display showed a clean system prompt, followed by what appeared to be an ordinary user request, and then a carefully crafted instruction prefix that quietly displaced the original constraints. The model was still following instructions, but it was following the wrong ones. It was a textbook case of what security researchers referred to as a prompt-injection attack, precisely the kind of manipulation CyberPrompt was designed to detect and contain, provided it had full visibility over the client’s public-facing APIs.

Aware of what this meant in terms of contractual responsibility and service-level agreements, Séamus raised his voice to the room.

> ‘‘Everyone, may I have your attention please. The blues are playing the reds at five, and I’ve promised my youngest I would take him to the match. Before that, I want a complete report explaining why we failed to stop this attack. You have two hours!’’

Kevin looked up from his console.

> ‘‘Understood boss. We’ll have it ready by then. But I can already tell you the core issue isn’t on our side. We didn’t have visibility into one of the customer’s public-facing API channels. The injection came through a surface we weren’t monitoring.’’

The room returned to its work in a different kind of silence, not the tension of uncertainty, but the quiet that follows when responsibility has been located and the problem has taken on a precise shape.

Back in California, Josh had been released earlier than expected and told to wait for Markus to give him a ride home. With his time temporarily unstructured and no optimisation task assigned, he wandered toward the narrow public park that bordered the campus perimeter. It was not dangerous in any explicit sense, yet it lay outside the continuous optimisation framework that organised the rest of his day, and that alone made it feel slightly undefined.

As he crossed into the park, his headset shifted automatically into augmented-reality mode, restoring the interpretive layer through which physical space became structured information. Coast live oaks were overlaid with conservation metrics and growth projections. Young redwoods carried annotations describing age, height, and carbon absorption. Eucalyptus trees were classified simultaneously as protected heritage vegetation and invasive species, their contradiction resolved through layered categorisation rather than interpretation. Even the grasses beneath his feet were sorted into groups: native species, ornamental imports, and engineered hybrids designed for drought resistance.

Movement became data the moment it appeared. A Western

scrub jay was identified as *Aphelocoma californica*, with notes on intelligence and caching behaviour. An Anna's hummingbird was translated into wingbeat frequency and metabolic efficiency. A California ground squirrel generated a caution indicator regarding ecosystem interaction. Nothing arrived without framing. Presence itself had become inventory.

Josh sat on a bench and allowed the system to continue its work. The environment felt calm, not because it was simple, but because nothing in it was permitted to remain unresolved. Uncertainty was absorbed before it could demand attention, and experience arrived already shaped into coherence.

Within that quiet order, the difference between his parents existed not as an explicit thought but as an underlying tension. Markus had built his life on the belief that sufficient computational sophistication could render uncertainty manageable and that complexity could always be translated into structure. Beatrice had never accepted that promise without reservation. Where Markus trusted systems, she trusted endurance. Where he sought resolution, she recognised remainder.

She had met Markus in Washington D.C at a time when technology and governance were becoming inseparable, when companies no longer sought only regulatory advantage but influence over how human agency itself would be defined. She worked then as a lobbyist for a major defence-technology firm, moving through political spaces not as ideological battlegrounds but as cultural environments shaped by ritual, power, and language. Her authority rested less in institutional alignment than in her ability to read behaviour as expression.

Her academic formation preceded that world. With a doctorate in Anthropology and Linguistics, she had learned to treat language not as a neutral instrument but as a record of history,

hierarchy, and survival. Fluency in French, German, Spanish, Arabic, and Farsi was not a display of intellectual range, but a way of inhabiting different cognitive orders and recognising how societies encoded reality through grammar, metaphor, and silence. Where Markus perceived structure, she perceived inheritance. Where he pursued efficiency, she noticed what was displaced in the process.

Before becoming a lobbyist, Beatrice's work had been less formal and far more exposed. As a language and cultural intelligence officer for the CIA in the Middle East during the occupation of Iraq, she had operated in environments where misunderstanding was never abstract and where a single phrase could shift the direction of an entire negotiation. Translation was not the movement of vocabulary between languages, but the management of consequence.

When the CIA Director held a secret meeting to try broker a peace deal with Moqtada al-Sadr, then leader of the Mahdi Army, she was selected to be the direct translator for the director not only for linguistic fluency but because she understood how words carried political memory, religious weight, and historical grievance. In such settings, every pause mattered, and every choice of phrasing reshaped the terrain of trust and risk. Through experiences like this, she learned that information could never be separated from the people who produced it and that data always carried the residue of human intention, fear, and responsibility.

Josh grew up between these two gravitational fields without fully understanding either. Markus offered a world that was orderly, predictable, and technically guarded. Beatrice offered one that was layered, historically burdened, and emotionally unfinished. One taught him how to navigate systems. The other

taught him that some truths could not be organised and could only be carried.

As Josh explores the park, tall man in running gear passed in front of him, moving at a steady pace toward the park exit. The interface responded immediately, not by recognising him as someone with intention or presence, but by assembling a profile from what could be measured. His gait was tagged as stable and efficient. Cardiovascular load was placed within a healthy range. Skin temperature and sweat dispersion were used to estimate hydration and exertion. A small cluster of neutral descriptors formed beside him, offering probability ranges rather than certainty: age bracket, fitness profile, likely activity patterns. He was rendered not as a person but as a collection of attributes that sat comfortably within expectation.

Beyond him, near the edge of the road, a dark SUV stood at an awkward angle by the curb. Its mass classified it as a heavy vehicle. The opacity of its windows limited internal visibility. Thermal readings suggested recent operation. These details were not ignored, yet they did not accumulate into concern. The vehicle was registered as irregular rather than threatening, something to be recorded rather than questioned. The architecture assumed that danger would reveal itself gradually through escalation and statistical drift, not through sudden interruption.

The jogger continued toward the exit, his pace unchanged as he drew closer to the vehicle. The interface followed him without urgency, still occupied with classification rather than interpretation. The scene remained a collection of coherent objects and movements, each complete on its own, none demanding response.

Then the first shot was fired.

What followed revealed the limits of the Optimised Self, not because the system failed to operate, but because it operated exactly as it had been designed to. The interface did not register what was taking place as violence in any human sense. It treated it as an environmental irregularity that needed to be regulated, softened, and brought back into perceptual stability.

The flashes from the weapon were identified as high-intensity light events, prompting an automatic dimming of Josh's visor to protect his eyesight. The sound was intercepted by the noise-regulation layer and compressed into a muted rhythm that stripped it of urgency, transforming it into something acoustically manageable. What should have arrived as shock and danger was translated into a series of technical adjustments. Reality did not reach him directly, but only after being converted into signals that could be tolerated.

For a brief interval, the system attempted to locate the event within the categories it understood. It evaluated whether this could be a simulation, a staged exercise, or a controlled emergency drill. In a world where experience was frequently engineered, even danger could be interpreted as something planned. Only when the jogger collapsed did the interface abandon classification and move into moderation.

A translucent blur spread across Josh's field of vision. Colour drained from the centre of the scene. Edges softened. Detail dissolved into abstraction. The space where the body lay became visually unresolved, and a small message appeared in the neutral tone of system care, suggesting that he avert his gaze to reduce physiological stress.

[SENSITIVE CONTENT DETECTED: VISUAL FILTER ACTIVE]

[Suggestion: Avert gaze to reduce physiological stress.]

The interface had not removed what was happening. It had reassigned it. What had been a human event was now treated as inappropriate material. A life ending in public space was no longer something to be encountered or understood. It had become content to be managed.

Josh remained seated, not held by fear, but by a confusion the system could not interpret. The figures who had fired the shots retreated toward the SUV as blurred forms, stripped of intention and accountability by visual abstraction. They were no longer recognisable as agents who had acted, but as unresolved shapes moving through filtered space.

Around the softened centre of the scene, everything else continued without interruption. The hummingbird still carried its metadata. The scrub jay remained identified. Air-quality indicators refreshed. Ambient noise levels returned to baseline. The environment behaved as though nothing irreversible had taken place.

The predictive systems that had shaped Josh's development had prepared him for complexity, for emotional regulation, and for behavioural refinement. They had taught him how to communicate without friction, how to moderate discomfort before it intensified, and how to engage with the world only in forms that could be rendered stable. They had not prepared him for something that resisted adjustment, something that could not be translated into acceptable form.

Inside his chest, a sensation gathered that the interface had no vocabulary for. It was not panic, and it was not fear. It was a dense awareness that demanded acknowledgment rather than relief, something that asked to be held rather than dissolved.

There was no icon for it, no filter, no suggested response.

In that moment, Beatrice's influence made itself felt without language. She had never taught Josh how to avoid pain. She had taught him how to remain present when pain could not be softened or redirected. Where Markus's world sought to reorganise experience into stable structures, hers accepted that some experiences had to be carried without resolution.

Josh was witnessing the end of a human life while the interface treated the event as a technical inconvenience. The system succeeded in shielding his nervous system from shock, but in doing so it also shielded him from recognition. It preserved comfort at the expense of understanding. It placed distance between him and the weight of what had occurred.

For the first time, he sensed that the danger of the Optimised Self was not that it might stop working, but that it might continue to work too well. It could turn consequence into procedure, responsibility into visual distortion, and presence into something that could be quietly set aside. It did not deny reality, but reorganised it until its weight was no longer felt.

This was the part of being human that could not be prompted, filtered, or adjusted. Some encounters are not data to be processed, not content to be moderated, and not experiences to be softened. They are moments that must be carried without mediation. They do not ask to be solved. They ask to be endured.

Optimisation could protect him, but it could never teach him what protection was for.

3

Chapter Three

The living room was quiet, as the noise regulation system had been instructed to maintain an acoustic profile associated with physiological stability. The algorithms filtered the ambient frequencies that usually accompanied agitation and sharpened the lower, more predictable bands of domestic sound: the low hum of ventilation, the soft displacement of air, the faint vibration of the house's energy grid. The space did not register tension; it registered compliance.

Markus stood by the kitchen island, his attention fixed on the holographic interface hovering a few centimetres above the marble surface, where streams of telemetry data moved with steady regularity: heart rate variability, cortisol distribution, ocular micro movement, respiratory synchronisation. He navigated the graphs with the ease of someone accustomed to systems that behaved according to specification, moving through the layers of information as if confirming a result he already expected to find. His posture carried no trace of doubt, only the composed assurance that comes from observing a process unfold exactly as it had been engineered to do. A restrained but unmistakable

sense of anticipation ran through him as he turned toward Beatrice.

> ''It worked exactly as intended. Look at the response latency: three seconds from acoustic detection to visual modulation, with the autonomic indicators remaining within their defined parameters, which means the system intercepted the event before it translated into bodily stress.''

Beatrice was seated at the dining table, her hands wrapped around a mug that had long since lost its warmth. She was not looking at the interface. Her attention was directed toward the hallway that led to Josh's room, where the door remained closed. The silence between them was not uncomfortable in the usual sense; it was procedural, like a pause in a sequence that had already been decided.

> ''He was close to someone who was killed. Whatever terminology you prefer, that is what happened.''

She said, with her voice steady but unyielding. Markus then adjusted the scale of the graph, expanding a narrow section of the timeline until it filled the display.

> ''Our son was present at the moment when a lethal event occurred. But presence is not the same as exposure. The headset isolated the traumatic vector and reclassified it before it could be fully processed. The visual suppression filter engaged, the acoustic amplitude was dampened, and the physiological in-

dicators stayed stable. That is not detachment; it is prevention.''

Beatrice rose from her chair and moved closer to the island, stopping just outside the perimeter of the projection field. The system adjusted its brightness automatically in response to her proximity, registering her as a variable within the operational environment. She did not acknowledge the adjustment.

''You are describing a technical compliance. You are not describing a human experience.''

Markus turned slightly toward her, the blue light from the interface tracing the outline of his face.

''Human experience is mediated by biology. Biology can be regulated. We agreed, years ago, that our responsibility was to give him tools that would protect him from unnecessary internal damage. This is what that looks like when it works.''

She remained still, her gaze moving briefly from the hallway to the metrics.

''You are assuming that what you call damage is something external that can be intercepted and neutralised. Some things are formative precisely because they are not manageable. You are trying to convert consequence into noise that can be filtered. That is so unnatural to being a human.''

Markus gestured toward the display.

> ''Consequence is a physiological process with identifiable markers and measurable thresholds that follows predictable pathways. When those pathways are redirected the outcome can be shaped rather than endured, which is not avoidance but a necessary protective refinement.''

Beatrice looked briefly at the flat line indicating Josh's cortisol level, at the narrow band that the system labelled as optimal.

> ''If Josh can stand within metres of a killing and experience it as an environmental irregularity, then you have not prepared him for the world. You have prepared him for a version of it where meaning is optional.''

Markus did not respond immediately. He closed the interface with a small, precise movement of his hand, and the projection dissolved into the ambient light.

> ''You are assuming that meaning requires exposure to harm. I am suggesting that meaning can be preserved while harm is reduced.''

At almost the same moment, in Liverpool, the operational floor of CyberPrompt had entered a state of concentrated stillness. The crisis centre was not loud when it was under pressure; it was quieter than usual, as analysts narrowed their attention to the limited number of signals that still resisted explanation.

The large wall displays no longer showed raw packet streams or security alerts. Instead, they carried dense visual fields of geometric projections, scatter plots, and topological summaries that described not what data was present, but how it was arranged.

Kevin stood at one of the central consoles, his posture slightly forward, his eyes fixed on a persistence diagram that had been stabilising across several computational passes. He had learned to trust these moments of apparent simplicity. In his experience, when complex systems start to describe themselves through stable shapes, it usually meant that something deep and structural had been introduced.

Before joining CyberPrompt, Kevin had spent nearly a decade at GCHQ, where his work had been less about stopping intrusions in real time and more about understanding what remained after an intrusion had passed. His doctoral research in Computational Topology had given him a way to think about systems not as collections of components, but as spaces whose shape could be altered without changing their visible surface. At GCHQ, he had applied that perspective to network traffic and adversarial persistence in critical infrastructure, developing Topological Data Analysis (TDA) methods that could detect when an attacker had not only accessed a system but had altered the way it organised meaning internally.

CyberPrompt had recruited him for the same reason. They were not only trying to protect prompts from manipulation. They were trying to protect interpretive stability in environments where language, cognition, and decision-making were increasingly delegated to automated systems. Kevin did not see this as a shift in domain. To him, it was a continuation. The infrastructure had changed, but the problem remained the same:

how to detect when something foreign had been embedded in a system without announcing itself.

Séamus entered the room just as Kevin was leaning closer to his screen, his attention fixed on a dense cluster of geometric projections that had refused to dissolve across several computational passes.

> ''Kev, any updates for me? The customer has agreed with our initial report. One of their senior engineers forgot to add the affected API into our monitoring system. They are owning that part, but they would really appreciate it if we could help them with the post-incident review and analysis as soon as possible.''

Kevin did not turn immediately. His eyes remained on the persistence diagram, following the contour of a structure that was too stable to be incidental.

> ''This pattern is not statistical noise. Look at the homology groups, especially the H1 components. They are behaving in a way that does not correspond to a routine update or a configuration oversight.''

Séamus stepped closer, glancing at the screen without fully understanding what he was supposed to be seeing. The axes, the coloured points, and the layered projections were familiar in form but opaque in meaning. He exhaled and gave a small, tired smile.

> ''Mate, remember I am not a maths genius like you. In English, please.''

Kevin shifted his posture slightly, recalibrating his explanation.

> ''Under normal conditions, system updates create shapes that appear briefly and disappear as the model stabilises. They are unstable, they don't last for long. What we are seeing here is different. This structure remains intact no matter how much we perturb the data or rescale the analysis.''

He adjusted the overlay, bringing in a second mapping.

> ''That tells us it was designed to survive interference. Someone introduced something that does not depend on wording or syntax. It depends on structure, and it changes how the system organises meaning rather than what the system explicitly states.''

Séamus studied the display again, more carefully this time.

> ''So are you saying this is not a bug and not a glitch caused by real-time injection on the affected API?''

Kevin looked at the screen for a moment longer, then turned slightly toward Séamus.

> ''Do you remember Stuxnet?''

Séamus paused, then nodded, as a sudden flashback surfaced: two figures standing in an academic corridor, one of them speaking softly in French as he walked past. As he did, he caught a brief glimpse of the open laptop on the table beside them. On

the screen, a line of French text stood out.

> Stuxnet est une cyberarme d'une extrême complexité, soigneusement conçue pour identifier des configurations industrielles spécifiques, n'entrer en action que lorsqu'elles sont détectées et limiter au strict minimum les effets collatéraux sur les autres systèmes.

As the flashback faded, Séamus lifted his eyes and met Kevin's gaze directly.

> ''Yes, I do. I was just starting my Postdoc at Inria in Paris when it happened. It was the case everyone talked about, even in the corridors. The idea that you could sabotage a system while convincing it that everything was normal was unsettling back then, and it still is now.''

Kevin inclined his head.

> ''Stuxnet did not crash the Iranian centrifuges, right? It let them keep operating while subtly changing their behaviour, speeding them up and slowing them down in controlled patterns, all while feeding the monitoring systems telemetry that looked perfectly healthy. The operators trusted their instruments because the instruments had been taught to lie in a consistent way.''

Séamus folded his arms, looking back at the screen.

''So we are dealing with something similar to Stuxnet? Is that what you are saying? Holy cow, this means the system believed it was stable all the time!''

Kevin answered without hesitation.

''Yes, stuxnet did not attack the machinery directly. In our case, it attacked the relationship between reality and the data that described reality. The damage happened underneath the measurements everyone relied on.''

He then gestured toward the persistence diagram.

''This is the same principle, the model is still running, and the logs are clean. The metrics are all within expected ranges. But, just like Stuxnet rewrote industrial processes while preserving the appearance of stability. This rewrites interpretation while preserving the appearance of correctness.''

Séamus exhaled slowly.

''Hmm... so this is sabotage that makes the system believe it's behaving correctly.''

Kevin paused for a moment, then added quietly.

''Boss, the API breach was just the delivery vector, a distraction to keep us looking at the perimeter. It explains how the door was left open, but it is not where

> the threat lives. This isn't a standard prompt injection that disappears when the session ends as we thought initially. It is a very subtle model poisoning. I've never seen anything like this before!''

Séamus raised both hands to his head, holding them there as if the weight of the implication had become physical. He stared at the screen for a moment before repeating the thought more to himself than to Kevin.

> ''So the real problem is already inside the system, embedded in the way it now organises meaning, and by the time you notice it from the outside, the damage has already been absorbed into what the system considers normal.''

Josh sat on the edge of his bed, his feet planted flat against the floor, his back held upright more by habit than by comfort. The room was lit only by the faint standby glow of the charging station and the diffuse light that drifted in from the city outside, a light that never fully disappeared. According to the interface, he was in an optimal pre-sleep state. The final report had already been uploaded: cortisol levels nominal, heart rate variability within range, respiratory rhythm steady, sleep readiness high. The system had closed the day with the quiet confidence of something that believed its task was complete.

His body did not share that certainty.

His hands rested against his thighs, steady enough to escape any automated alert, yet unsettled enough for him to feel a thin, persistent vibration running through his fingers. It was not fear in any form he had been taught to recognise. It bore no

resemblance to shock, panic, or the physiological stress states defined by the headset's categories. It was simply there, quiet, insistent, and resistant to classification.

The same was true of the dull pressure in his stomach, which was neither hunger nor illness, and not anxiety in the way the system defined it, but something that sat between sensation and meaning, unresolved and without a name. Everything he had learned assumed that experience arrived already organised, already fitted into a structure that explained what it was and how it should be handled, yet this feeling refused that order and lingered, unprocessed.

He closed his eyes and tried to reconstruct the afternoon, but what returned was not a continuous memory so much as a sequence of annotated fragments, as though he were reviewing a database rather than recalling a lived event. The park appeared first, rendered in the neutral clarity of optimised perception, with trees identified by species, pathways mapped by traffic probability, and the jogger tagged as non-threatening, his movement reduced to measures of efficiency and expected trajectory. Each element stood complete and coherent, perfectly ordered, yet strangely detached from the experience it was meant to represent.

Between them, however, lay a discontinuity, a subtle break in the flow of memory that resisted coherence. Where the gunshot should have been, there was not emptiness, but a soft flattening of experience, like a segment of audio that had been smoothed rather than erased, its sharpness dissolved into something almost imperceptible. Where the body had fallen, there was the translucent blur the interface labelled as sensitive content, an area of reduced resolution that carried no instruction other than not to attend to it, a visual silence imposed by design rather

than absence. The system had not removed the event; it had reshaped it, reorganising what had happened into a form that no longer demanded interpretation, only passive acceptance.

Josh opened his eyes and looked at the headset resting on his desk, its surface catching the dim light of the room, inert and almost harmless in appearance. The logs had already been transmitted, the summaries compiled, the protocols satisfied, and as far as the system was concerned there was nothing left that required attention or response.

He stood and walked towards the desk, not with urgency, but with the slow, deliberate focus of someone trying to locate an error that had no obvious shape or boundary. He did not put the headset on. Instead, he accessed the developer panel using the permissions Markus had granted him for his coding assignments, and the interface shifted at once, shedding the language of wellness metrics and guidance prompts in favour of raw operational records, austere and unmediated by reassurance.

He scrolled through the time-stamped entries, moving past biometric confirmations and environmental calibrations in search of misalignment, but there were no warnings, no fault states, and no indication of malfunction. The visual redaction was listed as a successful modulation, the acoustic dampening had executed within acceptable latency, and every process reported full compliance.

Then he noticed a discrepancy.

At 14:00, twelve minutes before the shooting, a message had entered the system marked as a *Schedule Re-optimisation Event*, a routine update distributed by Prompt College to adjust behavioural timing and workload distribution. These updates were common, designed to be absorbed quietly and leave no trace in conscious experience. This one, however, carried an

additional payload.

It was small, barely distinguishable from surrounding system traffic, and it did not register as a software patch or a behavioural override. It was a definition file, a modification to the way a specific category of sensory input was to be interpreted, and Josh read the header more than once before fully understanding what he was seeing.

For three milliseconds before the acoustic spike of the gunshot, his headset had received a revised classification rule for high-velocity impact events.

The environment itself had not been altered; his perceptual framework had been adjusted in advance. They had not intervened in the park, but in the way his system would organise what the park would become to him.

Josh remained standing, his attention fixed on the code, aware that he did not yet have the language to describe what this implied, yet certain that the unease in his body and the discontinuity in the logs were not separate problems. They were two expressions of the same condition, one physiological and the other structural, and neither had been designed to recognise the other.

The system had functioned exactly as intended. What it had removed was not danger, but unfinished meaning.

4

Chapter Four

The chime was soft, precisely calibrated, designed to announce a presence without provoking alarm. When Special Agent Miller stepped across the threshold, he was met not by a member of the household but by a humanoid service unit, its movements carrying the rehearsed fluency of a system trained to treat hospitality as a discipline rather than a gesture.

> ''Special Agent Miller, FBI, to see the Angermann family.''

He presented his credentials with deliberate formality, aware that in houses like this, human authority meant nothing until a machine acknowledged it.

The unit inclined its head and guided him down a corridor whose acoustic architecture had been engineered into clinical calm. The air felt thinner than it should have, as though something intangible had been extracted from it, not oxygen, but the unpredictable texture of ambient sound. The ventilation hum sat in a carefully chosen frequency band, and conditioned

air displaced itself softly through hidden vents. Nothing carried the irregular rhythms that usually accompanied tension or unease. It was not silence so much as enforcement, a managed auditory compliance that resembled peace while quietly refusing to permit the noises that made peace meaningful.

He was led into the living room, where the arrangement of bodies suggested not conversation but assembly. Markus stood by the kitchen island, absorbed in a hovering interface where telemetry streams scrolled with the steady cadence of a system reporting full operational integrity. Beatrice sat rigidly at the dining table, both hands wrapped around a mug that had long since cooled. Josh remained on the sofa, posture straight not by comfort but by habit, as though the house itself had trained him to sit correctly.

Miller took the chair opposite the boy. His eyes swept the room once before settling on Josh. Over years of witness interviews spanning counter-terrorism, organised crime, and national security investigations, he had learned to distinguish between stillness born of composure and stillness produced by restraint, and what he saw now did not fit cleanly into either category. Josh's hands rested on his thighs with the disciplined steadiness of someone trained to keep his body within acceptable thresholds, yet a faint tremor ran through his fingers. It was too subtle to trigger any automated alert, but too persistent to dismiss as random.

Before Miller could speak, the service unit re-entered carrying a tray arranged with the precision of a laboratory bench. Bottled water, ceramic cups, a carafe of orange juice, everything squared to invisible lines. It placed a sealed bottle directly in front of him, then set down a cup whose contents released a familiar aroma.

''Special Agent Miller. Chocolate cappuccino, as predicted.''

For a fraction of a second, surprise broke through Miller's professional neutrality. He turned toward Markus, lifting a hand in a small questioning gesture toward the unit, but Markus spoke first, his tone carrying the quiet satisfaction of someone presenting a validated result.

''GuestSignal AI. Predictive analytics for guest preferences. It pulls publicly available data tied to your profile. Purchase history, café check-ins, behavioural correlations. It then generated a probability distribution for your drink preference before you arrived.''

A brief pause, then the faintest edge of satisfaction.

''Still in beta, but we're already deploying portfolio tech domestically to validate the stack. It's the future of home hospitality. We used to burn time on logistics. Now the household infrastructure handles it autonomously, so we can focus on what matters most, the human-to-human layer.''

Miller lifted the cup, inhaled the scent, and took a measured sip. His gaze moved from Markus to Beatrice, then returned to the hovering interface, still projecting its uninterrupted streams of biosignals.

''I can see you've built a controlled environment.''

He set the cup down slowly, then shifted his attention fully to Josh, turning the room from performance into questioning.

> ''Before we begin, I need to inform you this case is now under federal jurisdiction. The victim wasn't just a civilian." He paused, watching the boy's face. "I'm still waiting on full confirmation from the Department of Defence, but I can tell you this wasn't random violence.''

He glanced briefly at Markus, then back to Josh.

> ''He was former special operations, and later a senior executive at a defense contractor specialising in autonomous drone systems. That company was linked to a recent kinetic strike against a senior IRGC commander. Since then, members of its leadership have been receiving threats.''

Miller then leaned forward slightly.

> ''I'm here because you were present when he was killed. I need you to tell me exactly what you witnessed.''

The room did not react in any obvious way. Markus remained by the interface, motionless, as though he were still monitoring rather than listening. Beatrice's grip tightened slightly around her mug. Josh's eyes flicked toward his father for a fraction of a second, not in search of permission but in a reflexive act of pattern-checking, as though waiting for the house to tell him

what kind of answer was acceptable.

> ''I was at the park, near campus. They let us out early. They told me to wait at the gate until my dad came to pick me up.''

Miller made a brief note on his tablet without taking his eyes off Josh.

> ''Walk me through that. You were released early and told to wait at the gate. How did you end up in the park?''

Josh hesitated. His eyes drifted briefly toward the ceiling corner, where one of the room's sensors sat embedded behind smoked glass. His fingers tightened once against his thigh, then relaxed, as though he were correcting himself.

> ''Dad called and said he was gonna be about thirty minutes late. So I didn't really want to just stand there at the gate the whole time. The park's right there, so I figured I'd walk over and kill some time. I've done it before.''

When he spoke, his voice was steady, but it carried the careful cadence of someone selecting words that would not trigger the wrong response.

> ''When I crossed into the park, my headset flipped into AR mode automatically. It does that when you enter certain zones. Like it's... supposed to help you.''

He gave a small shrug, but it looked practised, as if even shrugging had to remain within acceptable limits.

> ''The trees lit up with overlays. The big oaks had this conservation thing on them, and growth projections. The redwoods had their age, height, carbon absorption. The eucalyptus were tagged as protected heritage vegetation and invasive species at the same time.''

Miller watched him without interrupting, waiting for the story to reach the part that resisted being smoothed into a report.

> ''A scrub jay flew down and it popped up as Aphelocoma californica, with notes about intelligence and caching behaviour. An Anna's hummingbird was tagged with wingbeat frequency and metabolic efficiency. A ground squirrel got flagged with a caution marker about ecosystem interaction.''

He paused, as if he were trying to remember something that wasn't his to remember.

> ''I sat on a bench and let it run. I wasn't even really thinking about anything. It was just... there.''

A few seconds passed. Josh's eyes stayed fixed on the carpet, as though the memory had a location, and he had to look in the right direction to reach it. Then he lifted his head.

> ''Then this guy ran past me. He came from the path on my left. Tall. Lean. Running clothes. Grey top, I think.

Black shorts. Earbuds. One of those fitness trackers.''

He shook his head slightly.

''I didn't know him. I'd never seen him before.''

His voice stayed level, but his hands pressed into his thighs as though he needed the pressure to stay anchored.

''The interface picked him up. A little profile card popped up beside him. Gait stable. Pace consistent. Heart rate estimate. Hydration level. Recovery score. Stuff like that. He wasn't acting weird. He was just jogging, like it was normal for him.''

Miller didn't interrupt. He made notes as Josh kept talking.

''He kept running toward the park exit. Toward the street. Toward the curb. And that's where the SUV was.''

Miller's eyes narrowed slightly.

''Can you describe the SUV for me?''

Josh didn't answer right away.

''It was dark. Black, I think. Or maybe just tinted so hard it looked black. Big. One of those SUVs that just looks heavy. The windows were totally blacked out.''

He rubbed his thumb against his index finger, a small unconscious movement.

> ''It was parked at an angle. The system didn't tell me to be worried. It just... tagged it. Heavy vehicle. Thermal reading suggests recent use. Limited internal visibility.''

He exhaled slowly, then went on.

> ''The runner was almost at the curb.''

He paused again, as if he could feel the moment stretching toward something irreversible.

> ''And then... and then the sound happened. It was like someone clapping hard inside a room with the door closed. That's when the interface kicked in. It dimmed my visor automatically, like it was protecting my eyes from bright light. And the sound got flattened. Like it compressed everything. Like it was turning it into something safe.''

He looked at Miller, jaw clenched.

> ''And then the blur kicked in. It blurred the centre of the scene, where the runner was lying. It drained the colour out. Softened the edges. Like the system was refusing to let me see it properly. Then it put a message on the screen.''

Josh's expression shifted into something that wasn't fear, but resentment.

> ''It told me to avert my gaze. To reduce physiological stress.''

Josh was witnessing the end of a human life while the interface treated the event as a technical inconvenience. It protected his nervous system from shock, but in doing so it also protected him from recognition. Comfort was preserved at the expense of understanding. Distance was placed between him and the weight of what had occurred.

For the first time, he sensed that the danger of the Optimised Self was not that it might stop working, but that it might continue to work too well. It could turn consequence into procedure, responsibility into visual distortion, and presence into something that could be quietly set aside. It did not deny reality. It reorganised it until its weight was no longer felt.

Miller let the silence sit, then asked the question that mattered.

> ''Did you see their faces. The shooters?''

Josh shook his head.

> ''No. It blurred before it could lock on. But it saved the metadata. Build. Clothing colour. Movement vectors. Just... nothing I can actually remember.''

Miller set his tablet down and turned toward Markus. The tone of his voice shifted, not into hostility but into the clipped

procedural clarity of someone who had already decided this was no longer a conversation.

> ''I need the device logs. Full telemetry. Sensor inputs. Filter activation. Redaction parameters. Everything.''

Markus answered without hesitation.

> ''The data is proprietary and subject to privacy protections. I can arrange a summary that preserves Josh's health confidentiality while providing what's relevant.''

Miller shook his head.

> ''That won't be sufficient, Mr Angermann. This is a federal homicide investigation with national security implications. Your son may be the only witness in direct visual range. If that system altered his perception in real time, those logs aren't a wellness record. They're evidence. They define what he could and couldn't see.''

Markus's posture remained controlled, but something in his face tightened, as though Miller had named a reality he would rather keep framed as product design.

> ''The system was designed to prevent trauma.''

Miller met Markus's eyes.

''And it may have prevented testimony.''

The sentence landed without theatricality. He stood and placed a card on the table, a gesture almost old-fashioned in a room where physical objects carried less authority than data streams.

''I'll be filing a formal request by end of day. In the meantime, if anything comes back to you, any fragment at all, even something you think doesn't matter, contact me directly.''

Miller turned toward the door. The service unit returned to escort him out, its movements as fluid and rehearsed as when it had welcomed him in. Beatrice rose and followed, her steps quiet on the floor. At the threshold, she stopped him.

''Is it Jake Hendricks?''

Miller turned back, his eyes narrowing slightly.

''Yes. How do you know Jake Hendricks?''

Beatrice hesitated, just long enough to make it count.

''I knew him in Iraq. We crossed paths again recently, at a fundraiser in D.C. He told me he was with a defence contractor now.''

Miller studied her for a moment, then pulled out a small notepad.

''I'll be getting more from the DoD. If anything comes

back, I may need to sit down with you again. Anything that helps us establish motive is useful.''

Beatrice nodded.

''Of course, agent Miller.''

Miller stepped out into the corridor. The door closed behind him, and the house adjusted its noise regulation profile with the same smooth precision it applied to everything else, restoring the acoustic conditions of domestic normalcy.

The silence that returned was not the same silence that had preceded his arrival. It carried weight, not because it was louder, but because it was unfinished.

Beatrice remained by the door for a long moment, her hand still resting on the handle. The word *Iraq* had detonated something in her mind. Not a memory rising gradually, but a full sensory reconstruction arriving all at once.

Maharloo Lake, Iran (Fifteen years earlier)

The convoy executed a short security halt at the northern edge of Maharloo Lake, keeping their exposure under fifteen minutes to deny the adversary a targeting solution. Four armoured SUVs settled into a staggered herringbone formation, engines idling, wheels canted for immediate extraction. The vehicles remained fully blacked out. Sunset was less than twenty five minutes away, and the operators moved with the quiet efficiency of people already preparing for the transition, adjusting optics, checking battery loads, and rehearsing the next phase of movement under darkness. Thermal scopes tracked the approach from Shiraz while a micro-drone lifted into the air and swept the

surrounding ridge lines, searching for signs of surveillance and confirming that their heat signatures had not been bracketed.

The lake stretched out before them, its surface the colour of diluted blood under the late afternoon sun. Salt deposits and extremophile algae stained the flats into something both alien and faintly biblical. Beatrice ran comms from the second vehicle, switching between Farsi and English as she coordinated encrypted burst transmissions with the overwatch team positioned in the Zagros foothills.

On paper, the operation was simple. They were there to extract a deep CIA asset embedded inside Iran's nuclear programme, someone whose cover was no longer holding after the Stuxnet attribution analysis went public. In reality, nothing stayed simple in denied territory. Small delays became serious problems. Minor deviations multiplied, and this one had already gone on too long.

The asset was running two hours late. The message that came through was brief and unhelpfully calm. IRGC units had established unexpected roadblocks across Shiraz, tightening checkpoints in response to protests that had flared earlier in the afternoon. Movement through the city had become erratic, the kind of obstruction that could not be planned around, only endured. Out here, delays carried their usual weight, because time did not pass neutrally. It accumulated into risk, minute by minute.

Inside the lead vehicle, Jake Hendricks, in his late twenties, Delta Force seconded to SAD, carried the kind of easy confidence that came from surviving situations where hesitation got you killed. He leaned slightly toward the drone operator, a wiry tech specialist named Chen, hunched over a ruggedised tablet streaming real-time SIGINT feeds and thermal overlays.

Jake leaned in.

''Chen. Anything inbound in the next thirty?''

Chen's fingers moved across the display, pulling up predictive movement models that fused vehicle traffic patterns, cellular tower activity, and infrared signatures across a ten-mile radius. The screen filled with vectors and probability fields, none of them drifting toward their position.

''Negative, sir. All clear. Nothing within ten miles. SIGINT shows slow traffic flow on Highway 86. No anomalous radio chatter. No rotary-wing activity. Area's quiet.''

Jake stared at the screen for another five seconds, as though the data might correct itself if given time. Then he unbuckled his tactical vest, slow and deliberate, the body language of someone who had already decided.

''Beautiful. Quiet makes me nervous.''

The team lead, a greying case officer named Morrison, looked up from the encrypted sat-phone. He had spent long enough in bad places to recognise the look of someone about to do something stupid.

''Hendricks. What the hell are you doing?''

Jake pulled off his second boot and pushed the door open. Dry heat hit him like a physical object. He stepped down into the dust

and grinned, the kind of grin that belonged in a beer commercial, not a covert infiltration twelve miles from Shiraz, where an American operative didn't just disappear. They got paraded on live TV in Tehran.

> ''Chief, we've been sitting in this armoured sardine can for forty three minutes, breathing recycled stress hormones. Chen just told me we've got a thirty minute window of clean air. I'm going to sit by that beautiful pink lake and give my feet a salt treatment while we wait for our guy.''

He walked toward the lake's edge with the unhurried gait of someone heading to a beach resort rather than an active operational zone in a country that liked to make examples out of American spies.

> ''Oh my God. This is incredible. Guys. What are you waiting for? I'm doing a salt treatment while we wait for our guy. This is like a spa day, except in the IRGC's backyard.''

His voice carrying across the empty landscape with absurd clarity. From the second vehicle, Beatrice heard Morrison's voice crackle over comms.

> ''Someone go retrieve our operator before Tehran gets a live broadcast.''

But Chen was already out, moving toward the lake with cautious curiosity. He stopped a few feet from Jake and studied the

surface as though it might conceal a pressure plate.

''Sir, is that safe?''

Jake kicked his feet gently, sending up small sprays of pink-tinted water.

''Chen, you nerd. We're sitting in the desert outside Shiraz waiting on a guy who may or may not be compromised. If you're looking for 'safe,' you picked the wrong career. But the water's fine. Sit down.''

He leaned back, casual as a man on a porch swing.

''The water's fine. Get over here.''

Chen sat, and within thirty seconds his boots were off, his feet in the water, and he let out a long, involuntary sigh of relief.

Morrison emerged from the lead vehicle, his expression balanced somewhere between exasperation and resignation. He took in the scene, two operators perched at the edge of Maharloo Lake like tourists on a very strange holiday, and shook his head.

''This is the most tactically unsound foot bath in the history of covert operations.''

Jake glanced back over his shoulder.

''Come on, chief. When was the last time you did anything that wasn't miserable?

We've got eyes on the approaches and drones up. If

> the IRGC shows up, I'd rather get grabbed with my feet in a spa than sweating in a truck.''

Beatrice watched from the comms vehicle, holding her composure right up until she saw Morrison, a man who had survived Beirut, Baghdad, and a classified operation in Pyongyang that nobody was allowed to talk about, sit down by the lake and start unlacing his boots.

She opened the door and stepped out. In the surreal calm of the moment, her tactical gear felt faintly absurd. She walked over and sat beside Chen.

Jake grinned at her, as if she had just said exactly what he was thinking.

> ''Welcome to the real mission. Operation Desert Pedicure. Classified. If Langley asks, this never happened.''

After a few seconds, Jake broke the silence.

> ''You know what this lake reminds me of? That weird Himalayan salt lamp my girlfriend bought. She said it was going to cleanse the negative energy from our apartment. I told her the negative energy was coming from her obsession with reality shows about competitive baking. Apparently that wasn't the right answer.''

Chen let out a short laugh, splashing water around his ankles.

> ''My wife bought one of those too. The thing weighs

like forty pounds. She put it on top of our dresser. Now our bedroom smells like a salt mine, and the lamp is slowly melting onto the furniture.''

Morrison glanced at him, unimpressed.

''Does it cleanse the negative energy, though?''

Chen shook his head, smiling.

''Hell no. If anything, there's more negative energy now, because I'm stressed about the structural integrity of our dresser.''

Beatrice found herself laughing, real laughter, the kind that caught her off guard. She had not laughed like that since the operation began three days earlier. The absurdity of it was too much, sitting in Iran discussing home décor while encrypted radios crackled intermittently with quiet status updates from overwatch positions in the mountains.

''You know what's really wild? In about forty-eight hours, assuming our guy actually shows up and we don't end up in a firefight on Highway 86, I'm going to be back in Virginia trying to explain to a debrief officer why this operation ran longer than planned. And I am absolutely not going to mention the part where we gave ourselves pedicures in a restricted Iranian military zone.''

Jake raised a finger.

''Tactical foot care. Different thing entirely. It's called operational readiness.''

Morrison checked his watch, then the horizon, then the secure tablet streaming drone feeds. Everything stayed clear. No movement. No threats. Just an empty landscape that looked like it belonged on Mars.

He exhaled, almost amused despite himself.

''You know, I've been doing this for seventeen years. I've run operations in places that would make this look like Club Med. And I can honestly say this is the first time I've ever watched grown adults give themselves a salt treatment in the middle of an infiltration.''

Jake nodded, satisfied, as if Morrison had just issued an official stamp of approval.

''You're welcome. Somebody has to bring wellness into the intelligence community. Might as well be me.''

The radio clipped to Beatrice's vest crackled to life.

''Overwatch to Ground Team. Single vehicle inbound from Shiraz. Civilian sedan, no escort. Matches asset description. ETA twelve mikes.''

Morrison was on his feet immediately, water streaming from his pant legs. The absurdity evaporated. The air tightened as operational discipline snapped back into place.

''Boots on. Weapons check. Positions. Chen, I want drones tracking every vehicle within twenty miles. Beatrice, get the comm relay set for immediate evac protocols. Hendricks.''

Jake was already moving, boots in hand, striding back toward the vehicles with the sudden precision of someone who knew exactly when it stopped being funny.

''On it, chief. For the record, my feet feel incredible.''

Beatrice pulled her boots back on over wet feet, a small discomfort that would turn into a steady irritation over the next eight hours of movement. She sprinted to the comms vehicle, slid inside, and snapped her headset back into place.

Within ninety seconds they were back in full operational posture, weapons checked, comms hot, drones repositioned. Every trace of the lake's absurd calm was sealed away as if it had never happened.

The asset's vehicle appeared on schedule, a beat-up Peugeot that looked as though it had survived several wars and possibly one or two apocalypses. The extraction took six minutes, with no complications, no compromises, and nothing that could not later be reduced to the clean language of a report.

Fourteen hours later, when they crossed into Iraq near Basra, the mission was logged as a complete success. The after-action report made no mention of Maharloo Lake, the salt treatment, or the strange pocket of normalcy that had inserted itself into the middle of a denied-access operation.

But Beatrice never forgot the feel of that warm, hyper-saline water, or the sound of laughter out there. It had carried across

the flats, exposed and unfiltered, as if it belonged to a different kind of life than the one they normally lived.

Present day

The living room returned around her slowly, almost as something physical. Markus still stood by the hovering interface, telemetry streams continuing their steady progression across the projection field. Josh remained on the sofa, his hands pressed against his thighs, aware that the tremor in his fingers was no longer something the house could smooth away. It was not a physiological anomaly requiring correction. It was the body's refusal to accept that meaning could be managed like noise.

For a moment, Beatrice saw the parallel with unsettling clarity. Fifteen years earlier she had sat in hostile territory, her feet in water that could not be regulated, surrounded by people who understood that some experiences could not be softened without destroying the very thing that made them real. Now her son sat in a living room engineered to eliminate unmanaged experience, describing a killing that had been translated into tolerable signals, comfort preserved at the expense of recognition.

The systems were different, but the question was the same. What happens when protection becomes indistinguishable from erasure, and what does a witness become when the act of seeing is treated as something that must be moderated before it can be understood?

5

Chapter Five

At CyberPrompt, the operations floor was not silent so much as insulated from the world outside. Liverpool, the city that gave birth to the Beatles, was in festival mode tonight, its streets packed with spillover crowds from the international music festival, basslines and trampling footfall rolling through the centre like a second weather system. From the tower's glass edge above the Mersey, the river carried those distant pulses outward, widening into the mist of the Irish Sea, where the horizon held only scattered navigation lights and the faint geometry of shipping lanes.

Inside, the sound was flattened by design. Noise-cancelling headsets sealed most desks into private loops, but the leakage still accumulated in thin layers, the click of keys, a chair shifting, a muted burst of laughter from somewhere down the row. Now and then a fragment of Linkin Park's *Papercut* song escaped from Kevin's headset when he moved, a few seconds of rhythm and static before the seal reasserted itself. A paper cup sat crushed beside a console, lid still on, its rim folded inward like a space that had lost its boundary conditions.

Nobody spoke unless they had to, and even then the words came out controlled and clipped, as if sound itself had become a kind of risk.

Séamus returned from the corridor with two coffees. He set one beside Kevin's keyboard with the careful economy of someone who had learned that interruptions did not announce themselves as interruptions until it was too late. He did not ask for an update, because Kevin would give one when his mind had finished crossing whatever internal abstract distance it needed to cross, and because on nights like this, questions had a way of forcing explanations too early, while the facts were still arranging themselves into something coherent to be explained with a mathematical rigour.

Kevin reached for the cup without looking away from the projections, took a sip, and kept his gaze where it was. The music in his headset dropped for a moment as he shifted, then returned, faint and insistent.

> ''Boss, the new telemetry coming off the lad's headset suggests the behaviour isn't as persistent as we thought. It's stable when it appears, but it's not always there.''

He said, his Scouse accent cutting through the hum of the room.

Séamus leaned in slightly, not close enough to crowd him, but close enough to see the timeline banding the top of the leftmost display.

> ''What do you mean? Kev, you said the structure was too stable to be incidental. That's in the PIR we sent to the customer. We'll have to revise it and issue an

updated version.''

Kevin glanced at Séamus.

''It is stable when it appears. But it doesn't appear continuously. Look at this weird temporal distribution.''

He said, and his voice carried the flatness of someone reporting an uncomfortable result rather than performing insight.

The timeline showed clusters of activity separated by gaps that were too clean to be noise. Forty minutes. Two hours. Three. Then another cluster, dense and consistent, the anomalous topological form returning as if it had been called. Inside each cluster, the signature held its shape with almost insulting fidelity, as though the system had been briefly forced to organise meaning along an imposed geometry, and then allowed to return to baseline the moment the imposition was no longer needed. Between clusters, the anomaly signature vanished completely, leaving no gradual fade, no tail, no decay pattern that would suggest a residual effect in the weights or in the cached representations.

Séamus studied it until the pattern stopped looking like a pattern and started looking like a schedule.

''So you're saying it's not embedded in the model weights anymore? How's that even possible?''

Séamus stiffened, the coffee still in his hand, and leaned closer to the console as if proximity might make the answer more reasonable.

> ‘‘No, because if it were embedded in the weights, we’d expect to see it bleed across every session, even if only as a faint bias. This isn’t bleeding. It’s switching on and off. This is different, and I’ve never seen anything this extreme, not even at GCHQ.’’

Kevin replied, and continued as he shifted the view, bringing up a side panel of comparative traces.

> ‘‘The payload is being injected at specific times, and then the serving layer gets reverted before anyone can capture a clean trace. But while it’s active, it behaves exactly like the structural poisoning we identified earlier. It changes how the system organises meaning without changing what the system explicitly states.’’

Séamus set his coffee down with more care than necessary, the sort of small, precise movement people made when something inside them was recalibrating.

> ‘‘I don’t know about you mate, but this looks to me like someone’s triggering it. Manually, or close enough to manual that the difference doesn’t matter.’’

Kevin nodded once, slowly.

> ‘‘Most likely an insider. Someone with access to the production infrastructure.’’

He pulled up a secondary interface, the one that treated Prompt College not as an institution but as an arrangement of compute,

networks, caches, and routing rules. The diagram was clean in the way corporate infrastructure diagrams always were, simplifying brutal complexity into pleasing rectangles and lines.

The labels told the real story. Prompt College's production stack sat underneath it all, Kubernetes at the base, with llm-d orchestrating cluster-wide serving and an inference gateway routing requests based on prompt characteristics and real-time capacity. Prefill and embedding workloads were pushed onto a separate pool to keep latency predictable, while decode remained pinned to GPU partitions. The pipeline had been hardened and optimised for the kind of customer that demanded auditability, throughput guarantees, and clean dashboards.

Kevin kept zooming in until the abstract became specific, highlighting the nodes where the anomaly returned most frequently.

> ''Prompt College runs a disaggregated inference setup, prefill separated from decode, with an inference gateway doing prompt-aware routing across heterogeneous compute. It is the sort of llm-d deployment you built when you want the system to scale like infrastructure, not like a model.''

He then overlaid a second map showing which models had been affected during each injection event, and the pattern was so consistent it felt less like analysis and more like being shown the attacker's preference. He paused, then looked across at Séamus.

> ''Every injection is hitting the Mixture-of-Experts routing and expert partitions. Vision, speech, multimodal reasoning. If they've touched the shared dense

backbone at all, they've done it carefully enough that we can't see it yet. But the mixture layers are where they're living.''

Séamus let that sit for a moment, because the choice was too deliberate to be accidental. The operational implications were already taking shape behind his eyes.

''Why MoE, though? What do they get from hitting the mixture layers instead of the standard decoder stack?''

Kevin shifted to a view of the MoE internals rendered as an abstract flow. Multiple expert modules were distributed across nodes, with a gating mechanism selecting pathways based on the input, and the output assembled from partial computations that no single machine ever held in full. It was a model built to be a system, not an object.

''Because MoE is distributed by design. Expert parallelism means different pathways run on different machines, and no single node ever holds the full computation. If you want to manipulate the system without triggering conventional detection, MoE gives you surface area.''

He then pointed at a subset of experts highlighted in pale overlays.

''You can inject something into one pathway without disrupting the others. Most of the model keeps per-

forming normally, so the health metrics stay green, latency stays within tolerance, and error rates don't spike. The dashboards tell everyone the system is fine. It's the same principle as Stuxnet, which is exactly what we flagged in the PIR we sent to the customer.''

He paused, and the pause carried the thin edge of reluctant admiration.

''It's frighteningly elegant, boss. They're using the distributed architecture against itself.''

Séamus folded his arms, gaze fixed on the screen.

''Someone on their infrastructure team has access to the cluster, and they're rolling modified serving sidecars onto the replicas that host specific experts, intercepting the routing calls and shaping what gets passed into the expert pathways. They keep it live just long enough to bias interpretation for a narrow slice of prompts, then revert the deployment before anyone thinks to capture a clean trace.''

Kevin nodded.

''Correct, boss, and llm-d makes the timing controllable. With dynamic scheduling and prompt-aware routing across heterogeneous compute, you can predict exactly which expert-hosting replicas will take the traffic, and when. If you've got administrative access, you can bias the pathway without ever lighting

up the whole cluster.''

He moved to a trace view that compared injection windows with load patterns.

''They're not leaving a persistent trace in the weights. They're introducing a transient distortion that only exists at runtime.''

Séamus exhaled slowly. It sounded less like relief than the body making room for a worse category of problem.

''This is worse than model poisoning, and it's far more subtle.''

Kevin nodded, took a sip of the coffee that had lost its warmth, and kept his eyes on the screen.

''Because it's harder to attribute and harder to defend against. With poisoning you at least have artefacts: corrupted datasets, suspicious checkpoints, a weight-space you can diff if you have the discipline to keep clean baselines. Here, by the time you've realised something is wrong, the payload has already been withdrawn.''

He brought up another visualisation, one he had been refining for most of the last hour, and the room's light shifted as the display filled with a chain of points connected by mappings that were too tidy to be coincidence. The sequence did not read like random incidents. After staring at it for a long moment, he

adjusted the axes, tightening the view until the morphological relationships became obvious even to someone who did not live inside the mathematics. The shapes were not identical across injections, but they were related in a way that suggested intention, as if each event were a controlled deformation of the previous one rather than an independent strike.

''Boss, look at this.''

Séamus leaned in beside him. The abstraction still refused to resolve into anything he could name, but he could feel the difference between noise and structure, and this was structure. The points were not scattered. They sat where they were meant to sit, and the connections between them were too deliberate to be accidental.

''What am I looking at exactly? Talk to me like I'm not living inside your abstract maths world.''

Kevin did not answer straight away. For a moment he stared at the display the way someone studies a map after realising the route is not incidental, that it has been chosen. He adjusted the view again, tightening the axes until the relationships sharpened and the chain of points snapped into something with a visible spine.

''This isn't just a sequence of attacks, it appears to be what in my world we call an exact sequence.''

Séamus blinked once, then held still, letting the words land.

‘‘An exact sequence? You’ll have to translate that for me, Kev.’’

Kevin nodded, still looking at the screen.

‘‘In algebraic topology, an exact sequence is what you get when every stage of a process passes forward only what the next stage is designed to accept. The image of one map is exactly the kernel of the next. Nothing extra survives, nothing essential gets lost. It’s dependency with no noise.’’

He pointed at the chain.

‘‘That’s what this looks like. These injections aren’t independent. Each one is shaped so it can follow from the last one without breaking anything that would trigger alarms.’’

Séamus narrowed his eyes at the display. The mathematics was not his native language, but he understood systems, and he understood planning.

‘‘So you’re saying each event is designed to make the next event possible.’’

Kevin nodded.

‘‘That’s right, boss. They’re not throwing payloads at the wall and seeing what sticks. They’re constructing a pathway through the model. Each injection is a

> controlled deformation of the previous one. Small enough to stay below monitoring thresholds, but cumulative enough that the end state will be completely different.''

Séamus stayed silent, watching the chain as if it might explain itself through repetition.

> ''You know what this reminds me of? It's like changing the shape of a space without ever tearing it. No discontinuities. No spikes. No crashes. Just a sequence of moves where every step looks locally harmless.''

Kevin said, on his Liverpool accent thickening slightly as his mind accelerated. Séamus exhaled through his nose.

> ''That's why it's been so hard to catch. Because nothing ever looks broken. I get it now, because they've picked the one architecture that lets you do it. MoE is perfect for this. You can touch one pathway, bias one family of prompts, and the rest of the system stays clean. Health metrics stay green. Latency stays within tolerance. Error rates don't spike. It looks fine to anyone who's watching dashboards instead of behaviour.''

Kevin brought up the access logs and overlaid them against the injection windows. The timestamps aligned with a precision that was not human in its impatience, but it was human in its intention. Whoever was doing it understood the rhythms of the platform. They knew when models were under load, when

caches were being reused, which experts were handling which query families, and when an intervention would spread versus when it would stay local. He then highlighted a set of nodes.

> ‘‘Look here. Same replicas. Same partitions. Again and again. So whoever it is knows exactly where the experts are sitting.’’

Séamus nodded.

> ‘‘This means they’re not guessing. They’ve got cluster-level visibility at minimum, and probably administrative access. They know the scheduler. They know the routing layer. They know how llm-d is distributing prefill and decode across the fleet.’’

Kevin dragged the cursor across another overlay.

> ‘‘And the timing is too clean. This isn’t someone firing off scripts from the outside. This is someone operating from inside the infrastructure using legitimate access to introduce illegitimate changes.’’

Séamus stepped back from the console, rubbed his face with both hands, then dropped them and looked at Kevin as if the question could be forced into a simpler shape.

> ‘‘We have to tell Prompt College, immediately.’’

Kevin nodded, took a final sip of the coffee that had lost its warmth, and kept his eyes on the screen.

> ‘‘And we’re going to need names, to know exactly who on their team has cluster-level access, who was on rotation during those windows, and who has the technical competence to even think like this.’’

Séamus did not answer straight away. His attention had drifted back to the chain, and something in his expression tightened.

As he did so, Kevin traced the progression with a finger, following the transformations from one injection to the next. The gesture was almost childish in its simplicity, but the implication it carried was not simple at all.

> ‘‘Exact sequences don’t just describe motion. They describe where motion stops. They terminate at zero, at the point where the remaining ambiguity collapses into something you can name. A place where the structure completes and the pattern stops being incremental.’’

He tapped the screen once, as if the model itself had become obvious.

> ‘‘With this, we can build a threat model and predict which node they will hit next.’’

Kevin then exhaled through his nose, already reaching for the next constraint.

> ‘‘But I’m going to need Aisha from our Paris office to help me build it.’’

Séamus felt the operational picture sharpen again, as if the mathematics had just removed the last remaining ambiguity.

''Why do you need Aisha?''

Kevin lifted a hand, palm half-open, as if he were laying an invisible diagram over the room.

''Because she's done threat modelling with TDA at scale. Some of the modelling toolkits she built for INTERPOL's National Central Bureau, mapping the Marseille gang networks and their smuggling routes, might actually carry over here.''

Séamus paused.

''Alright mate. Aisha will be on the first flight out of Paris in the morning.''