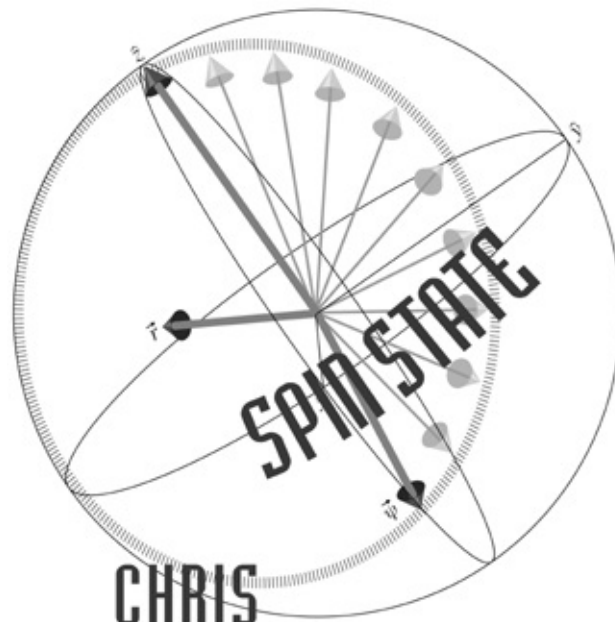


# SPIN STATE

CHRIS MORIARTY



BALLANTINE BOOKS



**CHRIS  
MORIARTY**

*BANTAM BOOKS*

---

# Contents

[Title Page](#)

[Dedication](#)

[Quote](#)

[Acknowledgments](#)

[ENTANGLEMENT](#)

[SYSTEMS WITH ONE DEGREE OF FREEDOM](#)

[HIDDEN VARIABLES](#)

[INTERFERENCE PATTERNS](#)

[UNCENSORED TOPOLOGY](#)

[COLLAPSE OF THE WAVE FUNCTION](#)

[KILLING VECTORS](#)

[SLOW TIME](#)

[FURTHER READING](#)

[About the Author](#)

[Praise for \*Spin State\*](#)

[Copyright Page](#)

---

For Mitchel

---

Then we encountered a leopard man who was rumored to be a cannibal. He must not have thought we looked good to eat; he smiled and let himself be photographed like a veteran tourist guide. After that I started asking everyone where we could meet real cannibals. I wanted to see them, know them.

“They exist,” my hosts told me.

“But where?”

“No one knows. But there’s nothing special about them. You can’t even tell them apart from normal people.”

“Ah, but I have to know them, eat with them! I want to eat a person. Just a taste. Just to taste it!”

—Louis Lachenal, *Vertigo Notebooks*

---

Special thanks to Anne Lesley Groell for her brilliant editing and uncanny ear for what I meant to say; to Charles H. Bennett, John A. Smolin, and Mavis Donkor of the Quantum Information Group at IBM's Watson Labs for brainstorming, technical advice, and quantum teleportation jokes; to Ann Chamberlin and M. Shayne Bell for kindness above and beyond the call of duty; to Scott Anderson, Julia Junkala, Jim McLaughlin, Susan Mayse, Tony Pustovrh, and Kirsten Underwood for being the best readers any writer could ask for; to Judith Tarr for sensible advice and extravagant encouragement; to John Dorfman for being there at the beginning . . . and of course to the fabulous Jimmy Vines, who made it all happen.

---

# ENTANGLEMENT

Quantum mechanics is certainly imposing. But an inner voice tells me that it is not yet the real thing. The theory says a lot, but does not really bring us any closer to the secret of the Old One. I, at any rate, am convinced that He does not play at dice.

—Albert Einstein

God may not play at dice, but She certainly knows how to count cards.

—Hannah Sharifi

---

**They cold-shipped her out**, flash-frozen, body still bruised from last-minute upgrades.

Later she remembered only pieces of the raid. The touch of a hand. The crack of rifle fire. A flash flashing bright as a fish's rise in dark water. And what she did remember she couldn't talk about, or the psychtechs would know she'd been hacking her own memory.

But that was later. After the court-martial. After jump fade and the rehab tanks had stolen it from her. Before that the memory was still crisp and clear and unedited. Still hers.

After all, she'd been there.



Li knew Metz was going to be big as soon as she met the liaison officer TechComm sent out to brief her squad. Twenty minutes after Captain C. Xavier Soza, UNSC, hit planet surface he'd gone into anaphylactic shock, and she was signing him into the on-base ER and querying her oracle for his next-of-kin list.

Allergies went with the uniform, of course. Terraforming was just a benign form of biological warfare; anyone who had to eat, breathe, or move in the Trusteeships got caught in the crossfire sometime. Still, no normal posthuman was that fragile. This time TechComm had sent out a genuine unadapted Ring-bred human. And clever young humans didn't get cold-shipped to the Periphery; they didn't risk decoherence and respiratory failure unless they'd been sent out to do something that counted. Something the brass wouldn't trust to the AIs and colonials.

Soza spent thirty hours in the tanks before he recovered enough to give them their briefing. He seemed alert when he finally showed up, but he was still short of breath, and he had the worst case of hives Li had ever seen.

"Major," he said. "Sorry you had to deal with that little crisis. Not how I imagined my first meeting with the hero of Gilead."

Li flinched. Was she never going to enter a room without her reputation walking two steps in front of her?

"Forget it," she said. "Happens to the best of us."

"Not to you."

She searched Soza's handsome, unmistakably human face for an insult. She found none; in fact his eyes dropped so quickly under her stare that she suspected he'd let the words slip out without thinking how they sounded. She glanced at her squad, settling into chairs proportioned for humans, behind desks designed for humans, and she felt the usual twist of relief, shame, envy. It was pure accident after all, that her ancestors had boarded a corporate ship and paid for their passage with blood and tissue instead of credit. Pure accident that had subjected her geneset to anything more than the chance



mutations of radiation exposure and terraforming fallout. Pure accident that made her an outsider even among posthumans.

---

“No,” she told Soza finally. “Not to me.”



Slip of the tongue or no, Soza was all smooth, cultured confidence when he stood up to give the briefing. His uniform hung the way only real wool could, and he spoke in smooth diplomatic Spanish that even the two newest enlisted men could follow without accessing hard memory. The very picture of a proper UN Peacekeeper.

“The target is located below a beet-processing plant,” he told them, “hiding in its heat signature. He subvocalized, and a streamspace schematic of the target folded into realspace like a spinning asymmetrical flower. “There are five underground labs, each one of them a small-run virufactory facility. The system is deadwalled. No spinstream ports, no VR grid, not even dial-in access. The only way to break it is to shunt the cracker in on a human operative.”

Soza nodded toward Kolodny, who straightened out of her habitual slouch and grinned wolfishly. There was a new scar along the rake of Kolodny’s cheekbone. Fresh, but not so fresh that Li shouldn’t remember it. She searched her active files, came up empty. Ran a parity check. Nothing. *Christ*, she thought, feeling queasy, *how much is missing this time?*

She was going to have to get someone to put a patch on her start-up files. Someone who could keep a secret. Before she forgot more than she could afford to forget.

“The rest of you will get the cracking team past the deadwall,” Soza was saying, “and collect biosamples while the AI goes fishing. We’re after whatever you can get on this raid. Source code, hardware, wetware. Especially wetware. Once the AI has the target code on cube, he wipes his tracks and you withdraw. Hopefully without being detected.”

“Which AI are we using?” Li asked.

But before Soza could answer, Cohen walked in.

Cohen wasn’t his real name, of course. Still, he’d been calling himself that for so long that few people even remembered his Toffoli number. Today’s interface wasn’t one Li had seen before, but she knew it was Cohen on shunt before he closed the door behind him. He wore a silk suit the color of fall leaves—real silk, not tank-grown stuff—and he moved with the smooth, spare grace of a multiplanetary network shunting through cutting-edge wetware. And there was the ironic smile, the hint of laughter behind the shunt’s long-lashed eyes, the faint but ever-present suggestion that whatever he was talking to you about couldn’t possibly be as important as the countless other pies he had his fingers in.

As usual, he’d appeared at exactly the right moment, but with no apparent idea what he was doing there. “Hallo?” he said, blinking vaguely. “Oh. Right. The briefing. Did I miss anything?”

“Not yet,” Soza answered. “Glad you could make it.” He spoke French to Cohen, and Li glanced between the two men, wondering how they knew each other—and how well they knew each other—the privileged world Ring-siders called normal life.

Cohen caught her looking at him, smiled, took a half step toward the empty place next to her. She turned away. He took a seat in the back. He leaned over and whispered something in Kolodny’s ear and he sat down, and she smothered a laugh.

“We interfering with your social life, Cohen?” Li asked. “Like us to take the briefing elsewhere?”

“Sorry,” Kolodny muttered.

Cohen just raised an eyebrow. As he did, a thin, dark-haired schoolboy trotted into Li’s frontbrain dribbling a soccer ball. He pantomimed an elaborate apology, then bounced the ball off the toe of one cleated foot, tucked it under his arm, and loped off toward a point behind her right ear. The cleat tickled; she had to resist the urge to reach up and rub her forehead.

<Stuff it,> she told Cohen.

Metz’s Bose-Einstein relay was sulking today. A rapid-fire barrage of status messages flashed across Li’s peripheral vision telling her that the relay station was establishing entanglement, acquiring a spinfoam channel, spincasting, matching spinbits to e-bits, running a Sharifi transform, correcting nontrivial spin deviations and dispatching the replicated datastream to whatever distant segments Cohen’s network were monitoring this briefing.

Before the first Bose-Einstein strike on Compson’s World—before the first primitive entanglement banks and relay stations, before Hannah Sharifi and Coherence Theory—a message from Metz on Earth would have taken almost three days in transit along a narrow and noisy noninteractive channel. Now Bose-Einstein arrays sent entangled data shooting through the spinfoam’s short-lived quantum mechanical wormholes quickly enough to link the whole of UN space into the vivid, evolving emergent universe of the spinstream.

Except today, apparently.

<Can’t you get a better channel?> Li asked.

<I already have,> Cohen answered before she’d finished the thought. <And if you cared about me you’d laugh at my jokes. Or at least pretend to laugh.>

<Pay attention, Cohen. Kolodny’s skin’s on the line tomorrow, even if yours isn’t.>

Soza had turned back to the VR display and was explaining the logistics of the raid. If things went as planned, Cohen would shunt through Kolodny and retrieve the target code. The rest of Li’s squad had only two jobs: get the AI in and out and collect biosamples while he cracked on-line security. It sounded little different from the two dozen other tech raids Li had commanded, and she thought impatiently that Soza could have briefed them more efficiently by dumping the data into the squad’s shared hard memory. She sat through about five more minutes before interrupting him with the

obvious but still-unanswered question.

---

“So what are we looking for?”

“Ma’am,” Soza said. He hesitated, and Li saw a flicker of self-doubt behind his eyes. She thought back to her first command, remembered the panic of wondering if she could give orders to seasoned combat veterans and make them stick. She’d been different, though. She’d led Peacekeepers in combat against Syndicate ground troops long before her first official command. Hell, she’d held a wartime field commission for three years before her CO would recommend a quarter-bred genetic for officer candidate school. “Our reports—” Soza cleared his throat and continued. “Our reports indicate that the facility is producing products on the Controlled Technology List.”

Someone—Dalloway, Li thought—snickered.

“That’s not too helpful,” Li said. “Last time I saw the CTL it ran to a few thousand pages. We go in with that, we’re going to be confiscating wristwatches and toenail clippers.”

“We also have strong evidence the parent corporation is Syndicate-friendly.”

“That’s it?” Li asked incredulously.

“That’s it,” Soza said.

He was lying, of course. She could see it in his eyes, which met her own gaze with unblinking unnatural steadiness.

Her mind flashed back to her first meeting with Helen Nguyen—Christ, how many years ago had it been? She’d been younger than Soza then, but she’d already survived Gilead. And she’d known, standing in the discreet office of the woman whispered to be the UN’s most ruthless and successful spymaster, that Nguyen’s support could help her survive peacetime.

*Bad liars always think they can make a lie stick with eye contact,* Nguyen had murmured, a unnerving smile playing across her lips. *But they’re wrong, of course. There’s no trick to lying well except practice. So go practice. That is, if you want to work for me.*

Li stood up and flicked a thumb toward the door. “Can we speak privately, Captain?”

Squad members caught their breath, muttered, shifted on their benches. Fine, Li thought; wouldn’t hurt morale if they knew she was willing to go to bat for them. But that didn’t mean she was going to dress down a TechComm liaison officer in front of them.

She followed Soza toward the door. In the back of the room, Cohen stood, stretched casually, and slipped out after them without even asking if he was wanted.

“Come on,” Li said as soon as the three of them were out in the empty corridor. “Let’s hear the rest of the story.”

“That is the real story,” Soza said, still standing by his lie and putting his faith in eye contact. “That’s what Intel gave us.”

---

“No, it’s not. Even Intel isn’t that stupid. This your first trip to the Periphery, Soza?”

He didn’t answer.

“Right. Well, let me tell you what they didn’t tell you in your official briefing. Half the population of this planet are registered genetic constructs. The other half don’t know what the hell they are and couldn’t qualify for a clean passport even if they had the money to pay for a genetic assay. The only human in-system besides you is the governor. His air’s shipped in, his food and water’s shipped in, his official car has a full-blown life-support system, and he might as well be on Earth itself for all he has to do with anything. I could put you in a cab and drive you to places where people have never seen a human, where they’d look at you like you’d look at a mastodon. The Syndicates, on the other hand, are practically neighbors. We’re eight months sublight from KnowlesSyndicate, fifteen from MotaiSyndicate. You can catch a ride to Syndicate space on half the freighters in-system as long as you’re willing to pay cash, keep your mouth shut, and forget you ever met your fellow passengers.”

Soza started to speak, but Li put up a hand impatiently. “I’m not being disloyal. Just realistic. We put riot troops on-surface here during the incursions. That’s not the kind of thing people get over whichever side of the gun they’re on. And the Secretariat knows it. That’s why they tread so lightly on the Trusteeships these days. And why they wouldn’t in a million years call down a tech raid just because some local company is a little too friendly with the Syndicates. No. There’s a reason for the raid. And the right thing for you to do is play straight with me about it.”

“I can’t,” Soza said. He glanced at Cohen for support, but the AI just shrugged.

Li waited.

Soza laughed awkwardly. “General Nguyen warned me about your, uh, persuasiveness, Major. Look, I really admire you. You should have made colonel in your last go-round. Everyone who doesn’t have his head stuck in a hole knows it. You’re a credit to . . . well, all colonials. But you know that kind of politically sensitive information isn’t cleared for release to line troops.”

“It’s cleared for release to you, though.”

“Well . . . of course.”

“And you’ll be dropping with us tomorrow?” She asked the question in a carefully neutral voice. She didn’t want to humiliate him—but she sure as hell wasn’t going to sugarcoat it.

“No,” Soza said. At least he had the grace to blush.

“So when the shooting starts, we’ll have no one on the ground who knows enough to tell us when it’s time to cut our losses and leave. I’m not willing to send my people into action under those conditions.”

That hit Soza where he lived.

---

“They’re not your people, Major. They’re UN Peacekeepers. And they’re under TechComm command for the duration of this mission.”

“TechComm doesn’t have to visit their parents when we send them home in boxes,” Li said.

She stood toe-to-toe with Soza and looked straight into his eyes so he could see the green status light blink off behind her left pupil as she shut down her black box. “Look. Feed’s off. This is so memory only. It’ll wipe as soon as we jump out-system.” Well, not quite. But hopefully Soza was too young to know all the ways you could kink Peacekeeper datafiles.

“You’re not authorized for that information,” Soza said stiffly. This time he didn’t call her Major.

<Well,> Cohen said on-line. <That wasn’t exactly a smashing success.>

Li ignored him.

“How can we do the job,” she asked Soza, “if no one who’s coming with us even knows what we’re looking for? That kind of nonsense may seem like a good idea back on Alba, but out here it’s deadly.”

Soza’s eyes flicked toward Cohen so briefly that Li wouldn’t have seen the look unless some part of her was already watching for it.

“Oh,” she said. “So that’s how it is.”

She turned and stared at Cohen. Cohen cleared his throat and glanced at Soza. “I believe you have just been let off the hook,” he told him.

Soza looked at Li hesitantly.

“Fine, go,” she said. “And get the briefing back on track. I’ll pull whatever I miss off Kolodny’s feed.”

“I’m just following orders,” Soza said apologetically.

Li shrugged, smiled. “I know it.”

Cohen closed the door behind Soza and set his back against it.

“Well?” Li said once it was obvious he wasn’t going to volunteer anything.

“Well, what?” he asked, smiling the little-boy-in-trouble smile she’d seen shunted through a dozen different interfaces.

Today’s ’face was another of Cohen’s soft-skinned boys—or was it even a boy? Either way it was beautiful, and just far enough over the threshold of adulthood to fill out the expensively tailored suit. Where did Cohen find these kids? And assuming even half of them were as young as they looked, how

did he finesse the laws about implanting shunts in minors?

---

*Well, at least it's not Roland*, she thought. That was one mistake she didn't need to be reminded at the moment.

"Were you even planning to tell me?" she asked.

"I can't," Cohen said. "*Desolée.*"

"Can't? Or won't?"

"Can't. Truly." He looked embarrassed. "I'm persona non grata at Alba ever since the Tel Aviv fiasco."

"Yeah," Li said. She'd thought Cohen would never work for TechComm again after Tel Aviv. If he was on Metz, then Nguyen must be after something so important that she had to use the best AI she could find—even though the best meant Cohen. "What happened in Tel Aviv, by the way?"

"The usual story. Good intentions gone sour."

"Gone rancid, from what I hear. There's a rumor going the rounds that they tried to strip you of your French citizenship."

He glanced sidelong at her, an enigmatic smile curving the 'face's lips. "Is there?"

"Fine, don't tell me. It's none of my business anyway. Unlike Soza's little secret."

"My dear, I'd tell you that, of course. I'd tell you anything and everything if only I could be sure my confessions wouldn't work their way back to the charming General Nguyen. But, as I've said once already, I can't. TechComm made me give them every cutout and back door in my networks before they'd clear me for this job. Then they sicced one of their tame AIs on me. He fiddled me so good I can't even find the kinks." The soft girlish mouth twitched. "Humiliating."

"So why take the job?" Li asked. "And don't tell me the money. I know better."

Cohen looked away.

"Jesus wept! You're getting paid in tech? On a shooting mission? How could you do that to Kolodny? To all of us?"

He fished in his trouser pocket and pulled out a slim enameled cigarette case. "Smoke?" he asked.

"No," she said angrily. But then she said yes and took one; Ring-made cigarettes were too good to pass up, even on principle. And Cohen only smoked the best.

He reached over and lit it for her—not touching her, not leaning too far into her space, not making eye contact. All the elaborate *nots* of friends who have been lovers but no longer are.

They smoked in silence. She wondered what he was thinking, but when she glanced at him he was just staring at the floor and blowing smoke rings.

---

“Listen,” he said when she was about to tell him it was time to get back into the briefing room. “We need it. I wouldn’t do this to you, to Kolodny, if we didn’t.”

“We need it? We who?”

“We me.” He spoke with the typical Emergent AI’s disregard of individual boundaries. Pronouns meant nothing to him; *me* and *not me* changed every time he signed a network share or association contract. *We* could be no one or a hundred someones. But at least it sounded like he wasn’t planning to auction the tech off to the highest bidder. That was something, Li supposed.

She threw down her cigarette and crushed it under a bootheel. The virufactured alloy floor mobilized its scrubbers as soon as the butt landed, and within seconds there was no sign on its matte gray surface that the cigarette had ever been there.

“I hate those floors,” Cohen said, scowling prettily at the place where the cigarette had been. “I have yet to see one that can actually tell the difference between something you meant to throw out and something that just fell out of your pocket. I’ve lost some really nice jewelry that way. Not to mention the address of the prettiest boy I never slept with.”

“You’re a martyr,” Li drawled.

“Yes, well. We all have our trials.” He looked at her, waiting. “What are you going to do about this one?”

“Call up Nguyen and ask for my orders in writing,” Li said, her voice heavy with sarcasm. “What else?”

Cohen gave her a long straight serious look. “You could always trust me.”

He watched her in absolute inhuman stillness—a puppet whose electronic strings had been cut. Li had learned to notice that stillness over the years, to track it along the horizon of their friendship like a climber tracks the thunderhead looming over the next mountain range. She didn’t know what it meant any more than she knew what the weather meant. But it was a sign. It was the only one she had sometimes.

<Catherine.> He spoke on-line, in the sinuous tenor she still thought of, however naively, as his voice. <I wouldn’t put you at risk. Not for anything. You know that. You *know* me.>

She stared at him. At the eyes that changed with every new ‘face he shunted through. At the shifting mystery behind the eyes. He was the closest thing she’d found to a friend in the fifteen years since she’d enlisted—the only years that were backed up in Corps data banks. And that was as good as saying he was the closest thing to a friend she’d ever had. She knew his luxurious habits, his sly feints and twists of humor, the beautiful bodies that he put on as easily as the soft shirts his tailor made him. She knew what countries he called home, what God he prayed to. But whenever she tried to touch

anything real, anything solid, he poured through her fingers and left her dry-mouthed and empty handed.

---

She didn't know him. She doubted anyone could know him.

And trusting him? Even the thought of it was like diving blind into dark water.



“You see it?” Kolodny asked, throwing back the bolt of her carbine with such machine precision that Li had a sudden vision of microrelays ratcheting back ceramsteel filaments. Only long familiarity with her that Cohen was off-shunt and Kolodny herself had asked the question.

They were coming in low, hiding the hopper's trace in Metz's violent predawn dust storm. Checkerboard-square fields flashed beneath them. Flatlands faded into a featureless horizon that had never known glaciers or river flows. The hopper whipped up black plumes of virufactured topsoil in its backwash, filling Li's nose with the hot exotic spice of rotting things.

She crossed the hopper's bucking flight deck and leaned out into the wind, searching. Her GPS told her that the target was close, close enough to be visible in this flat country. But Metz was only partially terraformed, the atmosphere still swarming with active von Neumanns and virucules, and her optics struggled to pierce the haze of radiation. She squinted, switched to infrared, then quantum telemetry. Hopeless.

“Hey, Kolodny,” someone asked. “The AI. Is it on-line yet?”

Li didn't have to turn around to know the speaker was one of the new recruits; newbies were always fascinated by the AIs.

“Not yet,” Kolodny answered. “And don't call him an ‘it’ to his face unless you want to annoy him. AIs are ‘he’ just like ships are ‘she.’ ”

“What's it feel like when it—when he's on shunt?”

“Like running into a burning house,” Kolodny said—and Li heard the grin in her voice even through the rattle and roar of the hopper. “Only you're the house.”

She glanced over and saw Kolodny still cleaning the old carbine she always carried. She should have said something about it, of course. This raid was nonlethal arms only. But Kolodny had earned the right to break a few rules. And that was one rule Li was breaking herself, truth be told.

She looked out the door again and spotted the target, a bright point of silver tossed on the dark fields. It appeared and vanished with each pitch and yaw of the hopper. It grew, splitting into two buildings, then five. A gate. A tower. A double fence of bright, freshly milled razor wire walled the compound off from the surrounding fields. The fence enclosed a strip of hard-packed earth about the width of the warning track around a baseball diamond. Li upped the magnification on her optics and saw paw prints in the dirt. Intel had said there were dog patrols, and it looked like they had it right for



once.

---

Beyond the track rose a sleek virufactured alloy cube—a prefab office module that had been replicated through Metz’s orbital Bose-Einstein relay and dropped from orbit. Li guessed it was the little luxury that led to the lab’s discovery; the shipping bills must have set red lights blinking all the way back to Alba. The cube had glimmered like a pearl on the satellite feed, but today it was as dark as the sooty sky reflected in its windows. Just south of it, crouched behind long low Quonset huts full of farm equipment, lay the ramshackle bulk of the beet plant.

Li looked around at her team. Shanna, Dalloway, Catrall, and Kolodny were veterans. No worries there. Cohen was Cohen. He’d do his job superbly as usual, for his own incomprehensible AI reasons, and she didn’t have to worry about him getting hurt because he’d never be physically present except through Kolodny. Her big worry was the two fresh-faced privates, shipped in three days ago. They needed time, training. Well, they wouldn’t get it. They’d figure things out in the first minutes or not at all.

“Two minutes,” she shouted over the wind. No one answered; they were all waiting for Cohen to get the link up.

She ran a final check on her weapons: the long-muzzled pulse rifle, the Corps-issue neural disruptor—called a Viper because of its distinctive fanglike anode prongs—and her own hand-rebuilt Beretta. Then she moved around the flight deck, feet spread to counter the hopper’s bucks and slides, checking weapons, checking equipment, checking eyes.

She paid special attention to the new recruits, talking to them, mustering a confident smile that belied her fears about this mission. As she bent over the younger boy’s rifle, her crucifix slipped out of her shirt collar and swung forward in a brief gold flash.

“That’s nice,” the boy said. And then flushed and added a belated *ma’am*. “Where’d you get it?”

She shoved it back into her shirt. “My father gave it to me.”

She finished with the others, came around to Kolodny, crouched in front of her. Not to check anything—Kolodny was too much of a pro for that. Mostly just to say good-bye before she went under the shunt.

“So,” Kolodny said. “This should be interesting. Total fuck fest, obviously.”

Li shrugged. “Looks that way.”

“Too bad I won’t be around to see it.” Kolodny grinned her toothy grin. “You’ll have to catch me up when we get home.”

“I will,” Li said.

She leaned over to check Kolodny’s carbine. No harm in checking. And Kolodny knew her too well to get offended. As she reached across her, the crucifix swung forward again.

Kolodny caught it. Before Li could react, she tucked the chain in and hooked it around the top button of Li's collar to hold it in place. "There. Better, no?"

Li turned to look into the gray eyes. "Cohen," she said.

He smiled. "You always can tell," he said. "How do you do it?"

Li pulled away, walked back across the flight deck, and sat down facing him. A moment later Kolodny's husky alto sang out a few lines of a Charles Trenet song.

It was Cohen's favorite—or at least his favorite when they were going into anything that looked like trouble. He'd told her to get her feet wet and look it up the one time she'd asked about it, but all she found were a few long-dead noninteractive sites and a cryptic reference to the French Foreign Legion that made her wonder just how old Cohen really was.

"Are we go?" she asked.

The only answer she got was a few more lines of the song, not in Kolodny's voice this time, but one line, in Cohen's liquid tenor:

*Quand tu souris, tout comme toi je pleure en secret.*

*Un rêve, chérie, un amour timide et discret.*

Her oracle translated the words for her, but damned if she knew what secret dreams or singing for money had to do with tech raids.

Then the link broke over her, and she was being swept out to sea on the massive undertow of the AI's interlocking neural nets. He held her on the link, sharpened it, refined it, brought on the other squad members one by one until there were seven clean clear voices. Only Kolodny was missing; his reflexes and combat programming were at Cohen's disposal, but she herself would be gone until the raid ended, her life riding on the choices Cohen made while he was on shunt.

<One minute,> Li told the squad. <Terminate GPS.>

She switched off her GPS and felt the others do the same. Then there was the long, frozen, disorienting pause before Cohen picked up the slack and started supplying position corrections to his inertial systems. This was always the worst moment for Li. The sharp, subliminal anxiety at the missing datastream. The unnerving knowledge—unthinkable to someone who'd been wired her whole adult life—that she didn't know where she was, that only Cohen stood between her and being lost.

Cohen's nav feed came up at last, and Li felt her limbs go limp with relief. Then, without any warning of trouble, the link flickered and died. Kolodny surfaced where a few seconds ago Li had felt only the vast glacial sweep of the AI's networks.

One of the new recruits groaned as the twisting backwash of net vertigo washed over them. Li's stomach clenched, and she closed her eyes and waited, knowing that trying to pull out of the line would only make things worse now.

It passed.

Kolodny disappeared, and Cohen was back, as if nothing had happened.

<Problem?> Li asked.

But if there was one, he wasn't admitting it.



They dropped into the northwest corner of the compound, snaking down rappelling ropes between the dog patrols. As they slipped into the shadow of the beet plant, Li saw her squad's skinbugs cycling through their camo programs: sky gray, dirt brown, rusted orange.

The lab's door was tucked into a sidewall of the processing plant, just where Intel had said it would be. Li stood aside while Catrall jiggered the lock. Then she and Dalloway triple-timed down the corrugated virusteel staircase, secured the landing, and brought the others in after them.

According to Soza's schematics, the landing fed onto a long gangway that accessed the outer row of labs. Li tossed off a quick and dirty heat scan to make sure the adjoining labs were empty, then sprinted down the gangway at eighty-two kilometers an hour by the clock—just the way they'd marked it out. As she ran, she felt a warning twinge in her left knee. She'd pay for that burst of speed later; bones and ligaments couldn't keep pace with ceramsteel. But right now, time was everything.

She reached cover and pumped her first fire team down behind her. She listened, scanned, eyeballed. Then she brought up her second team and leapfrogged the whole squad around the corner in textbook fashion. They regrouped at one end of a long ultramodern virufacture bay. The whole lab was built from ceramic compounds. White walls, white lights, white floors and ceilings. The only flash of color was a stylized biohazard red sunburst stenciled on the floor. No corporate name below it. But then there wouldn't be. Not in a lab that was so obviously illegal.

Open virufacture tanks stretched down the length of the bay between a bewildering tangle of feedlines and biomonitors. Half the tanks were empty. Half were filled with clear, high-grade virumatrix.

<?> Li shot to Cohen.

<Nothing here,> he answered.

They secured the lab and moved on.

They swept the next three labs on schedule, still finding nothing that piqued the AI's interest. In Lab Four, Li guarded Kolodny's back while Cohen jacked in and made a first cautious foray into the

mainframe. It took him less than a second to confirm the Intel data. Lab Five stood out like a black hole on the lab net: a total absence of output. Whatever illicit wetware work was going on here, Lab Five was its epicenter.

A blind corner led into Five—the only blind corner in the complex. Li reached it first. She paused, scanned, motioned Catrall over to the far wall to cover her. On his nod, she juiced her internals and accelerated around the corner—straight into a withering blast of white light.

She pushed forward and through it; no matter what the danger the worst possible response was to lose momentum, risk being stranded in the kill zone. Then she rolled behind a stack of sterile saline canisters and stopped to tally the damage.

None.

She'd run through an automated irradiation beam, installed at the door to protect the contents of the lab's unsealed virufacture tanks. Her skinbugs handled it, masking her presence, killing the intrusion alarm before her passage tripped it, protecting the weapons-grade virucules on her skin and uniform from the assault of the radiation. No problem.

Except there was a problem. The beam should have been on the schematics Intel gave them. Should have been, and wasn't. She wondered what else Intel had missed—and if the next surprise would be this harmless.

As soon as she was sure she hadn't set off any alarms, she waved in the rest of the squad. They had twelve minutes and twenty-three seconds left before the hopper returned. No time to waste on unnecessary precautions. When the perimeter was secured, she split the squad in pairs and had them scan the tanks. She set her realspace feed to toggle if anyone's pulse rose above combat-normal. Then she picked up Cohen's feed and rode in on his shoulder while he jacked the system.

The lab's security went far beyond the deadwall. There would be no slipping in under the radar. Cohen was going to have to meet their best stuff and better it. The network was broken into half a dozen separate zones. He'd have to crack each zone separately, and at the same time elude the quas-intelligent game-playing agents that defended them. There was no back door, no way in or out without running the gauntlet of the security programs. And even if Cohen got by them, Kolodny would still be physically jacked in to the lab mainframe, vulnerable to whatever wet bugs and bioactive code the system threw at her.

As Li watched, Cohen spun out a sleek silver thread of code, tweaked it into a loose Möbius strip and floated it into the main corporate site on a public-source message. *Trojan horse*, she thought. *Oldest trick in the book.*

Cohen was laughing before she finished the thought. <Good hacking requires a familiarity with the classics, Catherine.>

<Did we just go off duty?>

<No, ma'am.> The dark-haired schoolboy floated across her internals again, one arm buried to the

elbow in a brightly colored cookie jar.

---

Li glared. The boy popped like a soap bubble.

<Keep your mind on your job,> she said.

The security program caught the horse, just as it was meant to. In eight seconds alarms were going off all over the network. In twenty-three seconds the system's anti-incursion software had corralled the horse and routed it to the off-site virus zoo. For a moment nothing happened. Then an area of confused activity boiled up inside the virus zoo and ballooned into a roiling mushroom cloud of self-reproducing, randomly mutating code.

Li held her breath, trying to follow code that was spinning faster than even her military-grade wetware could track it. She shut down her VR interface and dropped into the numbers, a swimmer in the shifting ocean of Emergent networks that was Cohen.

His strategy was working. Or at least she thought it must be. The security program tracked each new virus, broke its code, sent antidotes shooting off to its entire UN-wide customer base. But this was the game the defense lost before the first whistle. The virus mutated constantly, generating new code faster than the system broke the old code, causing the system's outgoing mail to increase exponentially. And each new antidote-paired copy of the virus contained an embedded packet of active code that attacked the receiving system and sent yet another help request shooting back to the virus zoo.

In twelve seconds the off-site provider's network exceeded capacity, locked up, and went down. The target was cut out of the flock, and Cohen was ready to go to work in earnest.

Li maxed her realspace feed. Her squad was still sampling tank contents. They moved systematically down the rows of tanks, scanning and logging their contents. No search and destroy on this mission, just information-gathering.

<Retrieval minus 8:10,> she told them. <Keep it lively.> She went back on-line just in time to watch Cohen fish a series of clearance codes out of the lab's personnel files and drop into the database as a system administrator. <All clear?> she queried.

<Nothing left to do but sniff out the bone.>

<Well, sniff faster. 7:41 to retrieval.>

And back to realspace.

They were running late. Li sent Shanna and the two new recruits over to the far end of the lab, signaling that she'd cover the middle rows herself. They were flirting dangerously with missing the retrieval, and she didn't want to contemplate the possibility of a delayed pickup in the dust storm that was still raging above ground. Nor did she want to find out the hard way that Soza hadn't arranged backup retrieval.

A few rows away, Dalloway stopped and put a hand into an open tank. He jerked it out and waved in front of him while a rainbow oil slick of mutating viruses and counterviruses battled across it. <I'm melting! I'm melting!>

<Knock it off, Dalloway.>

Then one of the newbies screamed.

A short scream; Shanna clapped a hard hand over his mouth before it really got started. But when she saw what the two of them were looking at, she couldn't blame the kid.

The tank had a body in it. All the tanks at that end of the lab had bodies in them. They were women. Or, more precisely, one woman: smallish, recognizably Korean—a rarity in and of itself in this fourth century of the human diaspora—and brown-skinned despite the artificial pallor induced by water and lab lights.

<They can't run a crèche in a nongovernment facility,> Dalloway said uncertainly. <Aren't there laws about that?>

<It's not a crèche,> Li said. <They're just wetware hosts.>

But this was no approved wetware she'd ever seen.

She looked into the tank in front of her. Took in the bar codes stamped on the sallow flesh, the atrophied limbs, the silver glint of ceramsteel filament twining through exposed nerve cells. At first glance the wetware being grown here was no different from the AI-supported wire job every soldier in the squad was equipped with, or even from the civilian VR rigs rich teenagers used to sunder streams of space. But this wetware was growing in adult bodies, not viral matrix. And the pale, submerged faces were too identical, too regular, too inhumanly perfect to be anything but genetic constructs.

Li stared at the bodies, caught by an echo, a wisp of memory that skittered away like a spooked horse every time she tried to lay hands on it. Was this a geneline she'd seen before? On Gilead? Were they culturing wetware for Syndicate soldiers? And why? Who would be crazy enough to risk it?

<Can you run some of those samples?> she asked Shanna.

<Sure. But what do we do if it's . . . what it looks like?>

Li checked their time. Seven minutes, twelve seconds. <We call Soza. Cohen, we're going to need a line to HQ.>

<No you're not.>

<We have a situation here.>

<Irrelevant. Take the samples and forget about it.>

<Have you seen what we're looking at?>

~~<Yes,> Cohen answered, this time on a private link. <But you're not going to get Soza on the line no matter how many times you call. And if you miss your retrieval, illegal construct breeding is going to be the least of your worries.>~~

Li made sense of Cohen's words just as Shanna pulled up the first DNA read.

"They're constructs, all right," Shanna said.

Catrall cursed. "Those bastards dropped us in a Syndicate facility without even telling us? What kind of shi—"

"Stow it," Li told him. "What Syndicate?" she asked Shanna. "What series?"

Shanna hesitated. "They're . . . not. I don't think they're Syndicate genesets at all. This is obsolete tech. Prebreakaway corporate product. These things are fucking dinosaurs."

And suddenly Li knew with sickening certainty what she was looking at. She remembered that face not because it was the face of her old enemy, but because it was her own face.

These constructs were her twins, their genesets spliced and assayed and patented to survive the man-made hell of the Bose-Einstein mines on Compson's World. And they were here despite the fact that it had been illegal to tank a genetic construct anywhere in UN space for over twenty years.

She turned away, feeling sick and dizzy, hoping that the eerie resemblance was only visible to her eyes.

"Let's finish up and get the hell out of here," she said. "And keep your heads screwed on. We need to make that retrieval, or we're going to be on the receiving end of a hot package. Seven minutes are counting."

She flicked open her VR window and found Cohen still scanning datafiles.

<6:51 to retrieval,> she sent. <How long have you known about the artillery?>

<Just remembered it.>

<You expect me to believe that?>

<Believe what you want. Just be quiet and let me work.>

She gave him a full minute. <5:51,> she told him. <You've got a minute and twenty.>

<I need more.>

<We don't have more.>

She toggled her realspace feed. The squad was hovering, eyeballing her nervously.

<Secure the corridor,> she told Dalloway.

---

Back on-line. Cohen was running twenty-odd parallel searches now, working so fast she could not track him as a vast icy sweep of light cutting through the lab comp's numbers.

<Status?> she queried.

No answer.

<Talk to me, Cohen.>

<Got it!> he said.

The link wavered. "Shit!" Kolodny said, shaking her head and blinking. Then she was gone, and the link was back up before Li even had time to feel the vertigo hit.

<What the hell was that, Cohen?>

<I can't—there's something screwy with the interface. Just give me a minute.>

<We haven't got one.>

But a minute later he was still jacked in, and Li was still waiting.

<Do I have to jack you out myself?> she asked, turning to stare at him.

That was when she saw the blood on Kolodny's face.

She jerked Kolodny away from the comp station and yanked the jack from her head, knowing even as she did it that she was too late. She was still standing there with the wire in her hands when the first shots whined down the corridor.

<Man down!> Dalloway broadcast.

Li flipped to VR, picked up Dalloway's feed. Catrall lay in a twisted heap at the foot of the stairs. Four guards rattled into view, the last one down stopping to turn Catrall over with a booted foot and take his rifle.

"We're leaving," she told Cohen.

The only answer she got was the clatter of Kolodny's carbine hitting the floor.

Kolodny was bleeding out. Fluid dripped from her nostrils, leaving watery pink splatters on the white tiles. She moved jerkily; the muscles of her back and legs were going into spasm. Li had seen wet bugs at work before. Cohen didn't have to tell her Kolodny was only minutes away from being unable to walk at all. Or that she was slipping down a slope that would only end in one thing unless they got her out: flatlining.



---

sample content of Spin State

- [click Little Emperors: A Year with the Future of China](#)
- [download online Skirt and the Fiddle](#)
- [click Pro HTML5 and CSS3 Design Patterns pdf, azw \(kindle\)](#)
- [download online Aurorarama](#)
- [click Black Hole Sun \(Black Hole Sun, Book 1\)](#)
- [read ZOM-B Baby](#)
  
- <http://fortune-touko.com/library/Mindfire--Big-Ideas-for-Curious-Minds.pdf>
- <http://anvilpr.com/library/The-European-Union-s-Roles-in-International-Politics--Concepts-and-Analysis.pdf>
- <http://monkeybubblemedia.com/lib/Pro-HTML5-and-CSS3-Design-Patterns.pdf>
- <http://xn--d1aboelcb1f.xn--p1ai/lib/Resilience-and-Reliability-on-AWS.pdf>
- <http://paulczajak.com/?library/Insight-Guides--Sri-Lanka--8th-Edition-.pdf>
- <http://chelseaprintandpublishing.com/?freebooks/The-Girls--A-Novel.pdf>