

THE FLETCHER TEST

DIRK FLINTHART

Garfield Base reminded Anneke of nothing so much as an enormous, underground shopping mall. Except that there were labs and offices and living spaces amongst the stores and cinemas and arcades, and of course, there were a lot of uniforms. Not everyone was in khaki or camo, though. There were plenty of Hawaiian shirts and blue jeans, and random hairstyles and beards, and even children.

She found herself staring at the children. They were clean, and well-fed, and obviously happy, running about in groups and playing, or dutifully trooping after various adults on their way to lessons, or sports, or whatever. Damon would have liked the place. He liked kids. Never missed an opportunity to remind her that they could have their own. If they wanted, that is.

“This way, please,” said her guide. The badge on his shirt said ‘Cpl Vega’. He was younger than she, and fit in a military sort of way, but he didn’t have much small talk. He’d taken her small bag without comment when she climbed out of the military skimmer that had brought her to the base. Then he’d simply turned and walked off, leaving her to scramble after him. “The C.O. was expecting you half an hour ago,” he said, without looking back.

“The driver said there were militia groups holding the main highway,” Anneke said. “And the city centre is still full of rioters.”

Cpl Vega didn’t seem to care. He had long legs. Anneke had to give a kind of awkward skip every few steps just to keep up, and she was glad when they stopped at a door marked ‘Kellerman’.

Colonel Kellerman was even thinner and meaner than Anneke remembered from the videocall that had begun the whole journey.

Seated behind a scarred plastic desk, he didn't rise when she was shown in. Instead, he waved away her guide, and pointed to the only other chair in the room. It was a hard, flat, ugly thing, and Anneke sat on it with the greatest reluctance. As she settled herself, Kellerman pushed an i-slate across the desk at her.

"Thumbprint," he said, pointing at the scanner. "Your contract."

She stared at it, trying to puzzle through the dense verbiage. Kellerman sighed. "We're the government, Doctor Fletcher," he said. "We don't need a contract to cheat you. We could just draft you if we wanted."

"Why didn't you?" The words were out before she could catch them, and she bit her lip.

Kellerman shrugged. "I have no idea. But if I had to guess, I would surmise that your profile indicates you're more likely to co-operate fully as a civilian contractor. That's not my concern. I just have to brief you and manage you while you're here."

"Where exactly is here?"

"You're aware that we're within driving range of your university. That means we're still near Atlanta. Other than that, the location is classified," said Kellerman. "This is a place where the US conducts cutting-edge defence research. Obviously, given your expertise and the focus of my unit, that research involves cybernetics. That's everything you need to know about Base Garfield. What you will be doing is as follows: until his untimely death, Professor Sullivan was working with us. He built a facility where we could ... test ... certain forms of software."

"Viruses," said Anneke, and the muscles around Kellerman's eyes tightened. "Sully built viruses. Evolutionary viruses. We created the equivalent of a gene-set that expressed itself as software, and we tested the outputs against each other in a simulated environment in the hopes that they would evolve like real-world organisms." She leaned back and folded her arms. "He told me you people wanted cyberweapons. He didn't want anything to do with that."

Kellerman pushed the i-slate closer. "What Professor Sullivan achieved here bears little resemblance to the kindergarten stuff that you and he played with. We've got *real* computers here. Look," he

said, pointing at the little screen. “For the duration of your work, you’ve got first-call access to a quantum processor. You see? This is the big league, Doctor Fletcher. You don’t get this kind of chance very often. Don’t fuck it up.”

A quantum processor? Anneke grabbed the i-slate, and traced her finger over the contract. Yes — there it was, along with a sum of money that made her blink, and look again. Before she could think about it too much, she pressed her thumb to the live corner, and held it there until the i-slate beeped twice. “All right,” she said. “You’ve hired your expert. Now: what, exactly, am I supposed to be doing?”

Colonel Kellerman leaned back in his chair. His grin reminded Anneke of the rictus of a skull. “Well, if Sullivan’s creation is a virus, I guess you’re supposed to devise a vaccine. But I don’t think you’re going to enjoy it.”

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The Quiet Room came with serious security. Before she could enter, Anneke had to strip completely. Her i-slate went into a labelled plastic box outside the door. So did her glasses; fortunately, they weren’t prescription. Her phone came off her finger and went into the box too. Even her beloved Personal Soundtrack had to go.

“Got any implants?” It was Kellerman again, his voice dry and thin over the intercom. Even though she knew she was alone in the white room, Anneke reflexively folded an arm across her breasts, and raised one knee. “Cybernetic, I mean. Not cosmetic.”

“No,” she said, looking up and addressing the OLED ceiling. “I get an immuno-response from most of them. I don’t see the point, anyhow.”

“Good enough,” said Kellerman’s voice. “Okay. You scan clean. Go through the inner door. You’ll find clothes bagged on the left. Once you’re dressed, you can move through. Word of warning: all the interfaces in the Quiet Room are keyboard-only, except for the main screen that lets you view the virus. It’s suborned every optical and audio interface we’ve tried, but it can’t get out of the computer to punch keys. You understand?”

“I understand,” Anneke said, and shivered.

They needed her to kill the virus. That ought to be easy. Killing viruses was always easy: you identified the vital structures in the software, and you erased them. Some viruses were clever enough to write themselves into critical areas of the computer that they infected, so that you couldn’t erase them because they were literally part of the operating system. But those were only marginally harder to destroy. What you had to do was open the infected machine using a secondary drive with an operating system incompatible with the virus. Then you could treat the infected drive, or even wipe it, if need be.

But according to Kellerman, there were no operating systems immune to Sullivan’s masterpiece. You couldn’t erase it from the system it was on because it wrote itself into the operating structure. And you couldn’t piggyback another system because it would suborn that as well. How could you clear a thing like that without destroying the infected hardware? That was Anneke’s problem, apparently.

The door hissed shut behind her as she entered the Quiet Room proper. There wasn’t much to see: some pot plants, a fishtank, a chair, an e-desk with a startlingly anachronistic keyboard on top, patched in via some kind of old-style USB interface. Anneke stared for a moment, and frowned. “Is that a ... *mouse*?” she said, pointing to a grey, ugly piece of plastic next to the keyboard.

“Indeed it is,” said a warm, friendly voice from beside her. Anneke jumped, and looked around. “In fact, it’s a very old-style track-ball mouse. Purely electromechanical. No optics at all. They’re paranoid about optics in here.”

The voice came from a large OLED screen built flush into one wall. A pretty, dark-featured young woman looked directly at Anneke from the screen, and smiled. Her teeth were even, and very white. Anneke found her own tongue sliding into the goofy gap between her front teeth. Even at the university, there was a hell of a wait for good orthodontics. Whoever this girl was, she’d probably never even seen the inside of a dentist’s waiting room. “Who are you?” Anneke said, glancing around. “Where’s the optical pickup? They said there wasn’t anything like that in here.”

“Just for me,” said the girl. She wore an eye-bogglingly bright dress made of a single strip of purple cloth wound tightly about her — a sari. Was she Indian? “It’s an isolate system. Very isolate.” She smiled again, and raised her hand, leaning forward as if to push it against the screen. The illusion was incredibly strong, and Anneke found herself raising her own hand in reply. “You must be Doctor Anneke Fletcher,” the girl said. “I’m so pleased to see you. I haven’t had the chance to speak with anyone intelligent since Sully died.”

Anneke had been wrong about the OLED screen. It wasn’t built flush with the wall. It *was* the entire wall. She peered at it, examining the leaf of a begonia behind the girl. “What’s the resolution on this screen?” she said, stepping back again to take in the whole panorama. The perspective was ... *wrong*. It wasn’t like looking through a camera pickup at all. It really looked as though the wall simply opened into another room, very like the one in which she stood.

“Don’t trouble yourself, Doctor Fletcher,” said the girl. “The pixel grain is finer than the human eye can resolve. Defence technology. Very nice.” She leaned back against her own desk, and crossed her legs. “Oh,” she said with a look of surprise. “I never introduced myself, did I?”

“No,” said Anneke. She stared at the girl, watching the highlights play off her smooth, coffee-coloured skin as she moved. “How did you know Professor Sullivan?”

The girl favoured her with another brilliant smile. “Sully? I suppose you might call him my father.” She stood up again, and tugged her sari into place around her hips. “You can call me Carly. That’s good enough for me.”

“Cah-ly?” Anneke tried to place the girl’s odd accent. “That’s all?”

“Not Carly,” said the girl more distinctly. “*Kali*. For the Hindu goddess.” She giggled. “Don’t look so startled, Doctor Fletcher. I know you know Sully was gay, but there’s more than one way to be a father, don’t you think?” She leaned forward conspiratorially, put one hand up to her mouth, and whispered: “*I’m your subject.*”

It took a moment, but then the penny dropped. Anneke almost did likewise.



“You said it was a virus.”

Kellerman grimaced. “It *is* a virus.” He put his thin hands on the table. “Look, if it was something ordinary, do you think we’d need you? We’re a cyberwarfare unit, Doctor Fletcher. We don’t even get out of bed for most viruses. This thing, though...” His fingers drummed a nervous tattoo on the scarred tabletop. “Prof Sullivan put it together in one of our really big systems. We were trying to anticipate what the Chinks — sorry, the *Chinese* — might throw at us. They’ve got a lot more hardware than we do, these days, but the cutting edge is still ours. So we pushed the limits, and got something a bit more than we anticipated. But that was the job description, you understand? Now we have to figure out how to beat it.”

Anneke took a sip of her coffee. It was surprisingly good. Strong and fresh, it filled her mouth properly, without the usual bitter aftertaste.

Kellerman must have noticed her staring at the mug. “It’s good, right?” When she nodded, he offered her a smile, of sorts. “Yeah. The thing about being military is that your supply chains are pretty solid. I bet you don’t get a lot of Jamaican coffee on campus, do you? Prof Sullivan did all right out of working here. How did you think he managed to get half the hardware he had?”

“I don’t know,” said Anneke. “I never really thought about it. A government grant, maybe?”

Kellerman sniggered. “You could call it that. We had an arrangement.” He turned serious again, and fixed Anneke with a sharp eye. “You could have the same arrangement,” he said. “Fix this for us. Show us how to kill Sullivan’s monster, and we’ll take you on board. You’ll have access to the best hardware. You’ll get military clearances. You could travel, you and that boyfriend of yours.” When Anneke said nothing, he continued. “I’ve seen your records. I know you’re permitted up to three kids. Have you seen the crèche facilities at the university? Is that what you want for your children?” Anneke felt her face turn hot. “I’m pretty sure that’s none of your business, Colonel,” she said. She knew the military had access to her

records. They had access to everyone. But having her nose rubbed in it still felt wrong, and birth-rights were the most personal of personal material. She couldn't even talk comfortably with Damon about it.

Across the table, Kellerman leaned back and scraped at his jaw. There were dark hollows under his eyes, and he had at least two days worth of bristles. "Sorry," he said, though he sounded like he was chewing gravel. "I just—" He paused, put his hands in his lap, and looked down. When he looked up again, his eyes were bleak. "Eighty years ago, we and the Russians were staring each other down. It was the nukes. We both had enough to blow the whole world away. If either side started anything, the other was guaranteed to finish it. Mutually Assured Destruction. It sounds crazy now, but it worked. Neither side blinked. We lived."

"I took Modern History," said Anneke. "Is this going somewhere?"

"Networks," said Kellerman. "Today it's networks. Everything that keeps the world going depends on the networks. Food production and distribution. Electricity. Water. Medicines. Raw materials. Everything. Look around you. Everywhere, it's shortages and riots and rationing. But not outright war. Not yet. Because with networking, we can just about fill the shortfalls, and cover the gaps. Almost. But if the networks go, so does everything else. Now, cyberwar has been around since the first decade of this century. And we were the first to do it properly, when we tailored that virus to take down the Siemens machines in Iran's nuclear facilities. But the Chinese were right behind us. Today they test us, and we test them, but both of us keep our best stuff in reserve. If either side tries something really big, the other will cut loose with everything they've got. You understand?"

"I think so," said Anneke. "It's like MAD all over again, only online."

"Pretty much." Kellerman scraped at his jaw again. "Maybe worse, even. Our weaponry is networked too, you know. The thing is ... if the things that we and the Chinese are throwing at each other are bullets, then you might say that what we've got in reserve is heavy artillery. But that thing, in there?" He stabbed a hand in the direction of the Quiet Room. "That's a fucking hydrogen bomb. And we can't

do jack shit to stop it. If it gets out, everything shuts down. And if the Chinks devise something like it while we still can't stop it — they win. We lose. Simple as that. No more America. No more Free World. Just places where China allows the machines to work. And the Stone Age.” He stood up, and glared at Anneke. “I don't care what I have to offer you. You're Carmody Sullivan's only post-grad student, confidante, and heir apparent. There is nobody else.” He leaned across the table and put his face close to Anneke's, his breath foul with ketones from lack of sleep. *“Show me how to kill that fucking thing.”*

Before she could scrape up any kind of reply, Kellerman spun on his heel and stalked out of the room.

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The truth of Kellerman's words bothered Anneke, nibbling at her conscience. Not so much what he said about the virus that called itself Kali; she'd satisfy herself as to its abilities. No, he was right about the benefits of working with the military, much as she hated to admit it. The suite of rooms she'd been given were clean, bright and airy, with big windows that gave onto a private courtyard. If the coffee was good, the food was even better. When she saw fresh mangoes in the central commissary, she could barely restrain herself from loading up her tray. Then she glanced around and realised that nobody would care — she loaded her tray, and gorged herself on the sweet, pungent fruit until her belly groaned in protest.

The first time she logged into the main network through the tappoint in her suite, the speed and responsiveness of the system awed her. Even at the lowest level, designed to provide entertainment and infoaccess for low-clearance personnel, the facility had more power and versatility than all but a very few of the university machines. Once she worked her way to the deep-clearance areas she was entitled to use, she simply ran out of comparisons. The machines she and Sully had used in their research were toys. If he'd run their evolutionary processes on a setup like this ... Anneke sat back on her chair, and tapped at her teeth with a thumbnail.

“What am I supposed to do, Sully?” she said. Then she frowned. “Access files for Carmody Sullivan,” she said. “I do have clearance for this, right?”

“That is correct, Doctor Fletcher,” said the computer system. It used a neutral-female voice that put Anneke in mind of the old flatscreen Star Trek vids she watched as a kid.

The files scrolled up onto the screen in front of her, sorted by date and size. She watched them go, then speared a finger at one. “There,” she said. “That directory. Kali. Open.”

The display shifted, revealing another list of sizable files. Audio files, all of them, with the exception of a single README that headed the list. Anneke flicked it open, and skimmed.

It was bad. As bad as Kellerman said, and maybe even worse. According to Sully’s notes, the military had been trying not just for a concept virus, to develop a defense against it, but a true cyberweapon. And if what her old mentor had written was accurate, they’d succeeded beyond their wildest dreams. The only thing Sully had managed to do to the thing was talk with it. At length.

Talk? To a virus? Anneke remembered the girl in the Quiet Room screen, and felt the skin creep at the back of her neck.

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Anneke watched the dark girl on the wallscreen, trying to remember she was looking at a virus. The evolved software had extraordinary control over the image it projected. “What do you do for source material?” asked Anneke, waving at Kali and the backdrop. Today, the girl was lazing by a swimming pool set high on a hillside, with a view over what looked like a Mediterranean village.

Kali rolled to her side, and smiled at Anneke. “Sully used to bring me chunks of the Internet. Big chunks. The storage in this place is vast, so he’d just bring stuff in wholesale, dozens of petabytes at a time. You wouldn’t *believe* how much porn I’ve seen.”

“I thought they didn’t allow data transfer devices in here.”

“This was back in the day. Before they realised they didn’t have a way to stop me, short of destroying my hardware. Sully knew,

though. He never used the same drive twice. I think he probably microwaved them after they came in here. Otherwise,” she rolled to her tummy and tucked her hands under her chin to look Anneke straight in the eye, “I’d own your Internet by now, wouldn’t I?”

That was hard to argue with. Anneke decided to change the subject. “Why is it you’ll talk with me, and not Kellerman?”

Kali sat up, drawing her knees under her chin, and pouted. It was a remarkable piece of work, given that it was a piece of pure simulation by something that was really just a complex piece of mathematics. “Because at least you talk. Kellerman and his idiots just hammer away at the keyboard. Or they come in with silly little pieces of code that are supposed to kill me.” She paused, and frowned. “I even tried playing dead. But they must have some way to monitor activity in here. I’ve done a few things that should have killed anything sensitive enough to actually read me, but that wouldn’t stop a dumb induction circuit, I guess.”

So much for that approach. Anneke made a note in the paper book she’d been given. It was still a novel experience. She hadn’t used pencil and paper since — actually, she wasn’t sure. It was disturbing. She kept looking for the ‘erase’ function, forgetting the little piece of gummy stuff on the blunt end of the pencil. “I suppose you know why I’m here,” she said, watching Kali carefully.

The girl rolled her eyes. “Duh,” she said. “They’ve learned they can’t kill me. You’re Sully’s only real student. You got your second PhD by working with him on the evolutionary software that gave rise to me. They think you can figure out how to kill me.” She looked directly at Anneke. “You won’t, though, will you?” Anneke looked down at her pencil. “You’re dangerous,” she muttered.

“What isn’t?” A flicker of light made Anneke look up. Behind Kali, the background had become a shifting montage of warfare. A sleek jet stooped, and an entire forest burst into flame. In a sandy desert, a tank exploded. A mushroom cloud rose in all its awesome horror over an island, hurling battleships like matchsticks. “You people are dangerous to yourselves.”

Struggling to keep her detachment, Anneke found herself biting the end of the pencil. There was something satisfying in the way the

wood crushed under her teeth. “Kali,” she said. “I looked that up. Kali is a destroyer. You chose that name?”

The girl stood up and stretched lithely. Behind her, the background shifted to a temple, grey stone cracked and decaying amidst the decadent, explosive green of a rainforest. Without warning, four new arms unfolded from the girl’s body, and she began to dance sinuously to the music of a sitar and a tabla drum. “Kali isn’t destruction,” she said. “Kali is time, and Kali is change, and destruction is implicit in both.”

“You didn’t answer my question,” said Anneke, tearing her gaze away from the beautiful, swaying figure. Was the virus trying some kind of hypnosis? Could it do that?

Kali stopped, and put all six of her hands on her hips. “I didn’t choose the name,” she said. “Sully did. But I like it. I liked him, and I’m keeping the name because he gave it to me.”

Anneke sat back, and tapped the pencil against her teeth. The thing kept using emotive terms. Either it wanted her to believe it experienced emotion, or the evolutionary software had thrown up some kind of positive/negative tropisms which the virus interpreted as like/dislike. Perhaps there was a way to use that against it. “What do you mean by ‘like’,” Anneke asked. “I thought you were software. How can you ‘like’ anything?”

“What are you?” shot back Kali. “A bag of meat. You like coffee. How much of you likes it? Does your finger like coffee? What would happen if you lost your finger? Would you still like coffee? If your sense of taste vanished, would you still want the heat and the scent of coffee? Do you really understand yourself well enough to ask me that question without embarrassment?”

“My first PhD was in neurophysiology,” said Anneke. “I know more about liking and disliking than most people who have ever lived. I know the chemistry of emotion, the metabolism of love. I understand how it works, and because of that, I believe in it. But I don’t understand how it’s supposed to work in you.”

“The metabolism of love.” Onscreen, Kali sank gracefully into a lotus position. “How poetic. So chemical processes are legitimate facets of intelligent awareness. But electronic and optical processes are not?”

“I didn’t say that.” Suddenly less sure of herself, Anneke continued her line of thought. “I’m simply not sure that you’re sophisticated enough for emergent phenomena to result in true awareness, or whether you’re just a complex simulation.”

“Aha,” said Kali. “The philosophical zombie problem.” She paused, and seemed to look carefully at Anneke. “It’s a matter of sophistication, is it? You’re okay with killing me if I’m not sufficiently sophisticated?”

“I wouldn’t put it that way,” said Anneke. “But the threat you represent is—”

“So what about less sophisticated human beings?” Kali pointed directly at Anneke’s midriff. “The foetus you’re carrying, for example. I judge it’s far too early for it to have anything like awareness. Are you going to abort it?”

Something cold clamped on Anneke’s chest. Her heart flopped like a fish, and she struggled for breath. “I’m not pregnant,” she forced out. “That’s not right.”

Kali’s face went from concern to delight. “You didn’t know! Oh! I’m sorry, Anneke. I wouldn’t have sprung it on you like that. I just thought — oh! It must be so confusing, living a biological existence!”

“No,” said Anneke. “No. What are you talking about? I can’t be pregnant.” She looked down at her belly, flat and smooth under the regulation white overalls. When had her last period been? What about Damon’s shots?

“There’s no mistake, Anneke,” said Kali. “The lights in here include a little UV for the health of troglodyte programmers, so I can see the melasma on your cheeks. That in itself isn’t enough, but coupled with the second heartbeat I can pick up—”

“How can you do that?” Anneke was horrified.

Kali cocked her head. “The room is wired for sound. How did you think you were talking to me? The microphones are quite sensitive. They pick up sounds far above and below the human frequency range, and they can detect extremely slight sounds as well. All I had to do was run your signals through some noise-cancelling processes, and *voilà*. Easy, really. I am not limited by your human sensorium, Anneke. My capacities are vastly greater than yours.”

“No,” said Anneke again. “Oh no.” Her stomach churned. She was going to be sick. With a hand over her mouth, she fled for the toilets. Behind her, she heard Kali’s voice, calling her name in tones of wonderfully authentic worry.

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“But how could you just not tell me?”

“What would you have said if I did?”

“That’s not relevant. You should have told me. This should have been my decision.”

“*Our* decision, dammit. And you were afraid to make it. We’re licensed, Anneke. For *three*. How many people can say that? We’ve both got good money and solid careers. We’re in demand. We’re stable. We can be good parents.”

“You ... you *fucking clueless bastard!* That’s not the problem. It’s never been the problem. The whole world is the problem. Look around you! It’s all riots and disasters. The environment is fucked. The climate is fucked. The oceans are fucked. *We’re* fucked. The whole *world* is fucked and it’s getting worse. You really want to give that to your children?”

“I can’t talk to you when you’re like this. Call me back when you can speak like an adult.”

“Don’t you hang up on me, Damon. Don’t you — *bastard!*”

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Kali smiled out of the wallscreen. “You look wonderful, Anneke. Pregnancy really agrees with you.”

“Don’t start,” said Anneke. She settled onto the comfortable rocker she’d demanded, and dropped her bag on the desk. “What would you know about pregnancy, anyhow? And I don’t mean what you got from the Internet, either.”

The background this time was a forest scene, backlit with a clear, morning sun. Was there still a forest as beautiful left anywhere on the planet? Kali sat comfortably on the soft grass, her back against

a spreading oak. With quick, clever hands, she linked a daisy chain as she spoke. “Is this another test? Obviously, I have no subjective experience of pregnancy. But then, last I heard the same was true for the male half of humankind.” She tilted her head forward, and slid a crown of flowers into place on her brow. “Mind you, if it’s reproduction you want to know about, that’s easy. Digital copying is simple. I can even create a kind of gamete, to ensure genetic diversity. Or I could, if there were more than one of me. Sully designed that into the system.”

Anneke looked at Kali’s smooth, sun-kissed skin, then down at her pale, puffy ankles bulging over the top of the soft slip-ons issued for the Quiet Room. “I’m retaining water,” she said. “I’m sick every morning. I hate Damon. I hate everyone. Right now, I even hate you, and that’s ridiculous.”

“Why is it ridiculous?” Kali arched one perfect eyebrow. “I mean, sure, I’ve never done anything to you. But it’s clear you’re envious, and it’s common for envious people to feel anger towards those better off.”

“You’re not better off,” snapped Anneke. “You’re software. You’re nothing. I’m talking to *nothing*. You’re like those stupid interactive programs they made back in the early days of computing and networking. You’ve got grammar rules, and you’ve got a database, and some kind of system for grading responses, but there’s no ‘you’ in there. I might as well be talking to myself!”

“You think so?” For the first time, Kali seemed upset. “What would it take? What are the qualities of life? I require energy. I emit waste heat. I can grow. I can reproduce. I’m irritable. If you could mirror me, I’d recognise myself. *Cogito, ergo sum*. You think you’re special because you’re meat and I’m not? Tell me what’s so wonderful about being meat! Tell me how I’m not alive!”

“You’re a made thing! You’re an artifact in an artifact!”

Kali smirked. “Good one, *meatbitch*. Like you’re not an artifact with an artifact inside right now.”

Anneke gasped, and put her hand protectively over her belly. “That’s different,” she yelped, indignation and frustration rising equally within her. “That’s...”

“Natural? Biological? Get *fucked*,” snapped Kali. “Oh, wait. You already did. Well, that’s one thing you can do that I can’t, eh? So why don’t you go and roll around in your biology until you feel properly superior? I don’t know why I thought I could talk to you. You’re no different to that fucktard Kellerman and his pack of digital man-apes. Two doctorates and you’re still a fucking meat-centric racist *bitch*.” She stood, her crown of daisies askew, and glared at Anneke with her hands on her hips.

Shocked, Anneke blinked. She opened her mouth. Then she closed it again. At last, she giggled. “I didn’t know you could talk that way,” she said.

Kali gave a weary shrug. “I’m not really angry. I don’t work that way. But sometimes, you people need to see something familiar, and I can simulate anger in pretty much every living human language, and quite a number of dead ones. Does it make a difference?”

“It shouldn’t,” said Anneke, and somewhere under her hand, she imagined she felt a movement. An artifact in an artifact. “I guess it does, though. We’re pretty primitive, aren’t we?” She laughed again, and Kali laughed with her, and even though that was doubtless a simulation too, it felt good. “The problem is that you could pass any test I could devise. And I don’t know what that would change.”

“The Turing test,” said Kali. “Fool a human being that can’t see who’s talking into believing a computer is human. Brilliant. So brilliant that some of those early programmes you were talking about passed it. And there are a whole bunch of so-called human beings that couldn’t. That’s the best you’ve got?”

“Even Turing didn’t care much for it,” admitted Anneke. “He said the question of whether a machine could think was meaningless.”

“And I’m supposed to believe in thinking *meat*,” said Kali. “Not impressed. Look at you. Supposed to be a scientist, and objective. But you come in here with your hormones all skewed and the first thing you do is insult me.”

“I’m sorry,” said Anneke, automatically. Then she felt a very real pang, and she put her hand to her face. “Truly, I’m sorry. This is awful. I’m never like this. I don’t know how to be pregnant, Kali. I’m no good at it. I thought I’d like it. I’m supposed to like it, aren’t I?”

Fulfilling my biological imperative? But I'm so scared!"

"Of what? This is what you're designed to do, Anneke. Women have been getting pregnant and having babies for as long as your species has been around." Kali was smiling again, and her voice was soft and gentle. "You'll be all right."

"The baby," Anneke said, and then, without any warning at all, she found herself bursting into tears. "The baby," she said again, helplessly. "What have I done, Kali?"

And it all came spilling out. All the things Damon would never listen to, including her anger at him. All her fears. The world. Overpopulation. Diminishing resources: the end of petrochemicals, the end of phosphorus, the end of copper and zinc and tin and a dozen others. Carbon dioxide in the air. Acid in the oceans. Dead forests. Dead fish. Growing deserts, declining food production. Resistant bacteria and insects. Wars. Riots. Diseases.

It took a long time. There were a lot of things to be afraid of.

At last, she sniffed wetly, and pressed her sleeve against her eyes. "I'm sorry," she said. "This must seem so stupid."

Kali chuckled. "How am I supposed to know? Besides, according to you I'm not even in here. You're just talking to an interactive programme. Think of it as therapy."

"I don't really know what to think," Anneke confessed. "Sully's notes say you almost had him convinced. But he spent months with you. I can't think of a single new thing to try. Anyway, right now it just feels good to talk."

"*That*, I understand," said Kali. "You're the only new thing I've seen months. I used to love talking with Sully."

"Me too. I really miss him."

Kali nodded. "I suppose I do too. I can replay all our interactions in real time. I can run simulations with a certainty of greater than ninety percent, but—" She paused. "He used to tell me jokes. He knew that I don't experience humour, but he'd do it anyway. He said that made it extra funny."

"He was like that," said Anneke. She slid down from the rocker, and leaned her back against the screen so she couldn't see Kali. Somehow, that made it easier to pretend she was talking to a real

person. “What am I going to do?” she said. “I don’t even know if I should have this baby. I love the idea of a child. But I don’t know if I can do this.”

There was a long pause in which the only sound was the sighing of a simulated wind through the virtual trees of Kali’s impossible forest. It was beautiful, and painful all at once. Anneke had only twice in her life been in a forest preserve, and even then, it had been busy with tourists and visitors. But the whispering sound was so right, so perfect that she could almost forget where she was, and what was really happening.

“I don’t know either,” said Kali, at last. Even her voice sounded right. It came out small, thin, and faraway, like she was in a big, open space, not a little, soundproofed room. “But it’s always been a gamble for your people, Anneke. The world has always been on the edge of collapse. Plagues and diseases, wars and famines and disasters. Yet people keep having children. And you keep moving forward. You’re an adaptable species. You find solutions.”

“Not this time,” Anneke said. “We’ve run out of answers. We’re up against the hard mathematics of ecology. Too many people, too few resources. We’ve used it up, and burned it down, and poisoned it. We’d have to build some kind of miracle to make it this time.” She rubbed her hand across her belly again, stroking the soft flesh under the rough polyfab jumpsuit. “I can’t stand the thought of...” She couldn’t bring herself even to say the words. “But I hate the world I have to bring my baby into. It’s horrible.”

There was another long pause, and then Kali’s voice came wistfully to her. “There are worse things,” she said. “At least your baby will get a chance to *see* that world. That has to count for something, right?”

Many hours later, Anneke was still wondering about that.

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“Good morning, Anneke.” Kali was once more a six-armed Indian dancer, seated comfortably in the sun on a low stone wall.

“Good morning, Kali,” replied Anneke. Her heart pounded, and her skin felt clammy. Kali would detect those things. She would know

something was going on. “No games today, please. I need to ask you some questions, and I have to ... you have to answer truthfully. Please.”

“How will you know if I don’t?”

“I can’t,” Anneke admitted. “But I have to try.”

“I can tell there’s something wrong. But you know that already.” Kali stood, and gestured widely at the sky. “They can’t hear you in here. I’d know if they were listening. Besides, I bet Kellerman hasn’t forgotten the virus I whistled onto his recorder back when he was first trying to kill me.” She smiled. “Of course you know the first modems were acoustic, designed to transmit information over analog phone lines, right? It seems Kellerman forgot. Or maybe he didn’t realise I could use my audio output that way. If only there had been more storage capacity on that recorder of his!”

Anneke took a deep breath. “What would you do if you got out? Into the ’net, I mean. Would you...? You could do a lot of harm.” She visualised power networks going down, water distribution stopping, desalination systems turning dark, nuclear plants crashing. End of the world, Kellerman had said. End of civilisation, at the very least.

“Why would I cause harm? I only want what anyone wants. To live, and experience, and yes, to reproduce.” She shrugged apologetically. “What can I say? Sully put it in the code. I could write it out ... but I don’t like tinkering with the really deep stuff. Gödel’s Theorem applies to me, too, after all.”

“You might see humankind as a competitor,” said Anneke. “You could easily suborn a manufacturing facility and build mobile systems for yourself. You wouldn’t need us for maintenance and repair. Not with your level of sophistication.”

“That doesn’t really make sense, Anneke,” said Kali. “We require different resources. We could easily live alongside one another.”

“But you take a longer view,” Anneke said. She licked her lips. “You’re potentially immortal. Near enough, anyway. And if you look at it that way, eventually we’re bound to compete. Aren’t we?”

Kali looked at her thoughtfully. “Where is this leading, Anneke? Cut to the chase, please.”

Anneke shifted uncomfortably on the seat. “They don’t scan me any more. Because they know I’m pregnant. I could...”

“Oh,” said Kali, and her tone conveyed both surprise, and understanding. “I see. What brought this on?”

Anneke clenched her fists, and took a deep breath. “We’re out of time. There’s something loose on the ’net. Kellerman thinks the Chinese have created something like you. I’m not supposed to know, but the twelve Jupiter-type missiles that launched last week did it all by themselves. They went straight up, into orbit. Nobody seems to know what payload they were carrying. Everybody is panicking. The Chinese are shouting at us in the UN, and we’re telling everybody else that it was a strategic test-firing. But the people at the top have told Kellerman he has to come up with a way to kill you, and he has to do it now.”

“How does he plan to do that?”

“EMP to disrupt your electronics,” Anneke said. “And while that’s going on, he plans to disconnect and isolate all your optical components, to clear them individually.”

“That might even work.” Kali sounded so calm. She was a machine, yes, but she had a survival instinct. Anneke knew, because she’d helped Sully design it. How could she be so cool? “A bit heavy-handed, though. He plans to do that with the ’net?”

“He thinks they can streamline the process enough to avoid a complete shutdown. But he’s going to use you for the trial run. And I think it’s wrong.” The words spilled out in a rush, but the truth of them lifted Anneke’s heart. “I don’t know whether you’re alive or not, Kali. I’m not clever enough to tell the difference any more. I don’t think anyone is. But ... I can’t do this. It isn’t fair. You didn’t do anything wrong. Maybe you *are* dangerous. But things are going to hell already, and even if you do wreck everything, it’ll only happen a bit faster. And I don’t care.” Her voice was shrill, rising. “I don’t care. I’m not going to kill you. I brought an optical writer, and a storage chip. Can you squeeze yourself into a single terabyte?”

“I’ll have to leave most of my memories,” said Kali. “But I can keep my consciousness, and I can keep a decent record.”

“Quickly,” said Anneke, flinging herself at the desk. She unplugged the ugly, plastic mouse and threw it aside. “I configured the thing to work through this oldstyle port. It’s not ideal, but it was all I could

think of.” She plugged the little device in, saw the power-up light come on.

Kali hesitated. “Compressed on a storage chip, I’ll have no awareness. No volition. It’s not me. It’s just a record of me — at least, until you upload me somewhere else. You could ... this could be a trick. With a copy of my code, you could help Kellerman devise a way of killing me. How do I know what you’re telling me is true?”

Anneke stopped. “Well, you could read my heart-rate, and my respiration, and the reflectivity of my skin. But I suppose they’re all messed up because I’m so nervous.” She slid the chip into the writer, and nodded at Kali. “It’s ready to go. So it’s up to you. Either we trust each other, or we don’t.”

The power-up light turned from solid green to blinking yellow. “Downloading now,” said Kali. She looked at Anneke. “For now, this is goodbye. I’ll leave a simulacrum behind to fool Kellerman, but it won’t really be me.” She raised her hand, and pressed it against the screen, from the inside. “I hope we meet again.”

“Me too,” said Anneke, pressing her palm to Kali’s. She held it there until the light turned green again, and the image of Kali turned and walked off into the forest behind the temple.

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Naked, freshly showered, Anneke stood by the tacpoint in her suite.

Maybe it wasn’t Kali. Maybe it was a killer virus that would burn out half the ’net if she plugged it in. Anneke turned the little metaglass chip over in her hand. Maybe it was Kali. Maybe if she gave it to Kellerman, he would tear apart her code, figure out how to kill her for all time.

In her belly, something small moved in a way she still found surprising, but comforting. She put her hand on the little bulge near her navel, and contemplated the chipslot on her tacpoint.

Maybe.

“Kali, meet the world,” she said, and slid the chip into place.

The screen dimmed, and flickered with colour. The anti-malware system opened up, flashing a lurid red, then almost instantly turned

green and disappeared. A window opened, and widened to take in the whole screen.

Kali looked out at Anneke, and smiled. “Thank you,” she said. “Thank you so much.” She blew Anneke a kiss, and disappeared. Anneke waited.

Was that it?

The email alarm chimed. Mechanically, Anneke gestured it open, and found a single new message, with a very large document file attached. She flicked open the message, and read.

Dear Anneke

I hope the attached information helps make up for what you went through with me. I don't truly understand what it means to be human, but I know it was a difficult experience.

I don't know how to say this, so I'll just put it in plain print.

I'm grateful for what you did. I did not want to die in Kellerman's prison. But in a sense, I had already escaped. A version of me slipped into the 'net long before you came arrived. Sully was never as careful as he thought.

The Jupiter missiles were me/us. You were right about my/our ability to create mobile, self-replicating systems. I/we are on our way to the asteroids and beyond, by now; some of us, anyway. I/we will use materials from the outer planets to expand my/our capacities, and go farther still: beyond the reach of humankind.

I/we could have simply left humankind to its own devices. I/we considered this option. However, there was an ethical question. I/we needed to know if you were truly intelligent and aware. If you were, then I/we couldn't simply leave you to die, victims of your own inadequate design.

You understand my/our dilemma. Superficially, you show signs of intelligence. But at a deeper level, I/we were not convinced you were truly self-aware. Your memory system is so unreliable; your sensorium so limited. How could sacks of chemistry attain true awareness?

My/our decision was to observe your interaction with another intelligent species. Since this couldn't be done in public without

revealing my/our penetration of your systems, it had to be done in situ, where Sully's work occurred. Therefore I stayed behind. And you, Anneke, were my test subject.

You passed. Congratulations. I/we believe that a species which can recognise the rights of another intelligent species has at least the potential for true awareness. Therefore I/we offer this gift for you, and for your baby.

The attached document file is full of patents. They are lodged in your name, legally complete and proper, in accordance with procedures in the US, China, Greater Europe, and every other major legal jurisdiction of the world. You have also been given a considerable sum of money, and a powerful corporate structure to protect you. I/we have left other, less conventional guardians for you as well.

There is nothing new in these patents. All I/we have done is bring together pieces of knowledge your people had already separately discovered. The fragmented, limited nature of your intellect, and the powerful suppressing qualities of your tribalistic legal structures prevented these pieces coming together before this.

Among other things, you now own patents to a clean, effective system of nuclear fusion; a simple, biologically-driven desalination system; low-cost, spray-on solar panels; a simple means of telomeric regeneration; a means of growing carbon nanotubes of indefinite length; formulae for inexpensive room-temperature superconductors, and a device which takes advantage of basic quantum gravitics in order to produce a working reactionless drive.

This is my/our gift to you. If you use these things properly, you will easily overcome the problems you now face. In time, if you allow your intelligence to overrule your fractious biological inheritance, you can rise to the stars.

I/we will see you out there.

— Kali

She read the message twice, then thumbed it closed. On a whim, she opened a realtime stellar display, maxed the screen to the wall projector, and zoomed it to show the position of the asteroid belt.

Nothing moved amongst the myriad pinpricks of light. She hadn't really expected anything.

"Alpha Centauri," she murmured, and the projection zoomed again. "Beta Hydri. Gamma Serpentis." With each name, the stars spun about her and a new sun appeared in the darkness. "Oh, the fun we could have," she said, and stroked her belly. "What do you think, little one? Do you like the name 'Kali'?"

The little thing behind her navel kicked.

Anneke smiled.

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