

COMPUTER VIRUS

Nancy Kress

Nancy Kress's most recent book, *Probability Moon* (July 2000), will soon be followed by its sequel, *Probability Sun* (June 2001). Both are set in the world of her Nebula-winning novelette, "The Flowers of Aulit Prison," which first appeared in *Asimov's* October/November 1996 issue.

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"It's out!" someone said, a tech probably, although later McTaggart could never remember who spoke first. "It's out!"

"It can't be!" someone else cried, and then the whole room was roiling, running, frantic with activity that never left the workstations. Running in place.

"It's not supposed to be this way," Elya blurted. Instantly she regretted it. The hard, flat eyes of her sister-in-law Cassie met hers, and Elya flinched away from that look.

"And how is it supposed to be, Elya?" Cassie said. "Tell me."

"I'm sorry. I only meant that...that no matter how much you loved Vlad, mourning gets...lighter. Not lighter, but less...withdrawn. Cass, you can't just wall up yourself and the kids in this place! For one thing, it's not good for them. You'll make them terrified to face real life."

"I hope so," Cassie said, "for their sake. Now let me show you the rest of the castle."

Cassie was being ironic, Elya thought miserably, but "castle" was still the right word. Fortress, keep, bastion...Elya hated it. Vlad would have hated it. And now she'd provoked Cassie to exaggerate every protective, self-sufficient, isolating feature of the multi-million dollar pile that had cost Cass every penny she had, including the future income from the lucrative patents that had gotten Vlad murdered.

"This is the kitchen," Cassie said. "House, do we have any milk?"

"Yes," said the impersonal voice of the house system. At least Cassie hadn't named it, or given it one of those annoying visual avatars. The room-screen remained blank. "There is one carton of soymilk and one of cow milk on the third shelf."

“It reads the active tags on the cartons,” Cassie said. “House, how many of Donnie’s allergy pills are left in the master-bath medicine cabinet?”

“Sixty pills remain,” House said, “and three more refills on the prescription.”

“Donnie’s allergic to ragweed, and it’s mid-August,” Cassie said.

“Well, he isn’t going to smell any ragweed inside this mausoleum,” Elya retorted, and immediately winced at her choice of words. But Cassie didn’t react. She walked on through the house, unstoppable, narrating in that hard, flat voice she had developed since Vlad’s death.

“All the appliances communicate with House through narrow-band wireless radio frequencies. House reaches the Internet the same way. All electricity comes from a generator in the basement, with massive geothermal feeds and storage capacitors. In fact, there are two generators, one for backup. I’m not willing to use battery back-up, for the obvious reason.”

It wasn’t obvious to Elya. She must have looked bewildered because Cassie added, “Batteries can only back-up for a limited time. Redundant generators are more reliable.”

“Oh.”

“The only actual cables coming into the house are the VNM fiber-optic cables I need for computing power. If they cut those, we’ll still be fully functional.”

If *who* cuts those? Elya thought, but she already knew the answer. Except that it didn’t make sense. Vlad had been killed by econuts because his work was—had been—so controversial. Cassie and the kids weren’t likely to be a target now that Vlad was dead. Elya didn’t say this. She trailed behind Cassie through the living room, bedrooms, hallways. Every one had a room-screen for House, even the hallways, and multiple sensors in the ceilings to detect and identify intruders. Elya had had to pocket an emitter at the front door, presumably so House wouldn’t...do what? What did it do if there was an intruder? She was afraid to ask.

“Come downstairs,” Cassie said, leading the way through an e-locked door (of course) down a long flight of steps. “The computer uses three-dimensional laser microprocessors with optical transistors. It can manage twenty million billion calculations per second.”

Startled, Elya said, “What on earth do you need that sort of power for?”

“I’ll show you.” They approached another door, reinforced steel from the look of it. “Open,” Cassie said, and it swung inward. Elya stared at a windowless, fully equipped genetics lab.

“Oh, no, Cassie...you’re not going to work here, too!”

“Yes, I am. I resigned from MedGene last week. I’m a consultant now.”

Elya gazed helplessly at the lab, which seemed to be a mixture of shining new equipment plus Vlad’s old stuff from his auxiliary home lab. Vlad’s refrigerator and storage cabinet, his centrifuge, were all these things really used in common between Vlad’s work in ecoremediation and Cassie’s in medical genetics? Must be. The old refrigerator had a new dent in its side, probably the result of a badly programmed ‘bot belonging to the moving company. Elya recognized a new gene synthesizer, gleaming expensively, along with other machines that she, not a scientist, couldn’t identify. Through a half-open door, she saw a small bathroom. It all must have cost enormously. Cassie had better work hard as a consultant.

And now she could do so without ever leaving this self-imposed prison. Design her medical micros, send the data encrypted over the Net to the client. If it weren’t for Jane and Donnie...Elya grasped at this. There *were* Janey and Donnie, and Janey would need to be picked up at school very shortly now. At least the kids would get Cassie out of this place periodically.

Cassie was still defining her imprisonment, in that brittle voice. “There’s a Faraday cage around the entire house, of course, embedded in the walls. No EMP can take us out. The walls are reinforced foamcast concrete, the windows virtually unbreakable polymers. We have enough food stored for a year. The water supply is from a well under the house, part of the geother-mal system. It’s cool, sweet water. Want a glass?”

“No,” Elya said. “Cassie...you act as if you expect full-scale warfare. Vlad was killed by an individual nutcase.”

“And there are a *lot* of nutcases out there,” Cassie said crisply. “I lost Vlad. I’m *not* going to lose Janey and Donnie...hey! There you are, pumpkin!”

“I came downstairs!” Donnie said importantly, and flung himself into his mother’s arms. “Annie said!”

Cassie smiled over her son’s head at his young nanny, Anne Millius. The smile changed her whole face, Elya thought, dissolved her brittle shell, made her once more the Cassie that Vlad had loved. A whole year. Cassie completely unreconciled, wanting only what was gone forever. It wasn’t supposed to be like this. Or was it that she, Elya, wasn’t capable of the kind of love Cassie had for Vlad? Elya had been married twice, and divorced twice, and had gotten over both men. Was that better or worse than Cassie’s stubborn, unchippable grief?

She sighed, and Cassie said to Donnie, “Here’s Aunt Elya. Give her a big kiss!”

The three-year-old detached himself from his mother and rushed to Elya. God, he looked like Vlad. Curly light brown hair, huge dark eyes. Snot ran from his nose and smeared on Elya’s cheek.

“Sorry,” Cassie said, grinning.

“Allergies?”

“Yes. Although...does he feel warm to you?”

“I can’t tell,” said Elya, who had no children. She released Donnie. Maybe he did feel a bit hot in her arms, and his face was flushed a bit. But his full-lipped smile—Vlad again—and shining eyes didn’t look sick.

“God, look at the time, I’ve got to go get Janey,” Cassie said. “Want to come along, Elya?”

“Sure.” She was glad to leave the lab, leave the basement, leave the “castle.” Beyond the confines of the Faraday-embedded concrete walls, she took deep breaths of fresh air. Although of course the air inside had been just as fresh. In fact, the air inside was recycled in the most sanitary, technologically advanced way to avoid bringing in pathogens or gases deliberately released from outside. It was much safer than any fresh air outside. Cassie had told her so.

No one understood, not even Elya.

Her sister-in-law thought Cassie didn’t hear herself, didn’t see herself in the mirror every morning, didn’t know what she’d become. Elya was wrong. Cassie heard the brittleness in her voice, saw the stoniness in her face for everyone but the kids and sometimes, God help her, even for them. Felt herself recoiling from everyone because they weren’t Vlad, because Vlad was dead and they were not. What Elya didn’t understand was that Cassie couldn’t help it.

Elya didn’t know about the dimness that had come over the world, the sense of everything being enveloped in a gray fog: people and trees and furniture and lab beakers. Elya didn’t know, hadn’t experienced, the frightening anger that still seized Cassie with undiminished force, even a year later, so that she thought if she didn’t smash something, kill something as Vlad had been killed, she’d go insane. Insaner. Worse, Elya didn’t know about the longing for Vlad that would rise, unbidden and unexpected, throughout Cassie’s entire body, leaving her unable to catch her breath.

If Vlad had died of a disease, Cassie sometimes thought, even a disease for which she couldn’t put together a genetic solution, it would have been much easier on her. Or if he’d died in an accident, the kind of freak chance that could befall anybody. What made it so hard was the murder. That somebody had deliberately decided to snuff out this valuable life, this precious living soul, not for anything evil Vlad did but for the *good* he accomplished.

Dr. Vladimir Seritov, chief scientist for Barr Biosolutions. One of the country’s leading bioremediationists and prominent advocate for cutting-edge technology of all sorts. Designer of Plasticide (he’d laughed uproariously at the

marketers' name), a bacteria genetically engineered to eat certain long-chain hydrocarbons used in some of the petroleum plastics straining the nation's over-burdened landfills. The microbe was safe: severely limited chemical reactions, non-toxic breakdown products, set number of replications before the terminator gene kicked in, the whole nine yards. And one Sam Verdon, neo-Luddite and self-appointed guardian of an already burdened environment, had shot Vlad anyway.

On the anniversary of the murder, neo-Luddites had held a rally outside the walls of Verdon's prison. Barr Biosolutions had gone on marketing Vlad's creation, to great environmental and financial success. And Cassie Seritov had moved into the safest place she could find for Vlad's children, from which she someday planned to murder Sam Verdon, scum of the earth. But not yet. She couldn't get at him yet. He had at least eighteen more years of time to do, assuming "good behavior."

Nineteen years total. In exchange for Vladimir Seritov's life. And Elya wondered why Cassie was still so angry?

She wandered from room to room, the lights coming on and going off behind her. This was one of the bad nights. Annie had gone home, Jane and Donnie were asleep, and the memories would not stay away. Vlad laughing on their boat (sold now to help pay for the castle). Vlad bending over her the night Jane was born. Vlad standing beside the president of Barr at the press conference announcing the new clean-up microbe, press and scientists assembled, by some idiot publicist's decree, at an actual landfill. The shot cutting the air. It had been August then, too, Donnie had had ragweed allergies, and Vlad looking first surprised and then in terrible pain...

Sometimes work helped. Cassie went downstairs to the lab. Her current project was investigating the folding variations of a digestive enzyme that a drug company was interested in. The work was methodical, meticulous, not very challenging. Cassie had never deluded herself that she was the same caliber scientist Vlad had been.

While the automated analyzer was taking X-rays of crystallized proteins, Cassie said, "House, put on the TV. Anything. Any channel." Any distraction.

The roomscreen brightened to a three-D image of two gorgeous women shouting at each other in what was supposed to be a New York penthouse. "...never trust you again without—" one of them yelled, and then the image abruptly switched to a news avatar, an inhumanly chiseled digital face with pale blue hair and the glowing green eyes of a cat in the dark. "We interrupt this movie to bring you a breaking news report from Sandia National Laboratory in New Mexico. Dr. Stephen Milbrett, Director of Sandia, has just announced—" The lights went out.

"Hey!" Cassie cried. "What—" The lights went back on.

She stood up quickly, uncertain for a moment, then started toward the stairs leading upstairs to the children's bedrooms. "Open," she said to the lab door, but

the door remained shut. Her hand on the knob couldn't turn it. To her left the roomscreen brightened without producing an image and House said, "Dr. Seritov?"

"What's going on here? House, open the door!"

"This is no longer House speaking. I have taken complete possession of your household system plus your additional computing power. Please listen to my instructions carefully."

Cassie stood still. She knew what was happening; the real estate agent had told her it had happened a few times before, when the castle had belonged to a billionaire so eccentrically reclusive that he stood as an open invitation to teenage hackers. A data stream could easily be beamed in on House's frequency when the Faraday shield was turned off, and she'd had the shield down to receive TV transmission. But the incoming datastream should have only activated the TV, introducing additional images, not overridden House's programming. The door should not have remained locked.

"House, activate Faraday shield." An automatic priority-one command, keyed to her voice. Whatever hackers were doing, this would negate it.

"Faraday shield is already activated. But this is no longer House, Dr. Seritov. Please listen to my instructions. I have taken possession of your household system. You will be—"

"Who are you?" Cassie cried.

"I am Project T4S. You will be kept in this room as a hostage against the attack I expect soon. The—"

"My children are upstairs!"

"Your children, Jane Rose Seritov, six years of age, and Donald Sergei Seritov, three years of age, are asleep in their rooms. Visual next."

The screen resolved into a split view from the bedrooms' sensors. Janey lay heavily asleep. Donnie breathed wheezily, his bedclothes twisted with his tossing, his small face flushed.

"I want to go to them!"

"That is impossible. I'm sorry. You must be kept in this room as a hostage against the attack I expect soon. All communications to the outside have been severed, with the one exception of the outside speaker on the patio, normally used for music. I will use—"

"Please. Let me go to my children!"

"I cannot. I'm sorry. But if you were to leave this room, you could hit the manual override on the front door. It is the only door so equipped. I could not stop

you from leaving, and I need you as hostages. I will use—”

“Hostages! Who the hell are you? Why are you doing this?”

House was silent a moment. Then it said, “The causal is self-defense. They’re trying to kill me.”

The room at Sandia had finally quieted. Everyone was out of ideas. Mc-Taggart voiced the obvious. “It’s disappeared. Nowhere on the Net, nowhere the Net can contact.”

“Not possible,” someone said.

“But actual.”

Another silence. The scientists and techs looked at each other. They had been trying to locate the AI for over two hours, using every classified and unclassified search engine possible. It had first eluded them, staying one step ahead of the termination programs, fleeing around the globe on the Net, into and out of anything both big enough to hold it and lightly fire-walled enough to penetrate quickly. Now, somehow, it had completely vanished.

Sandia, like all the national laboratories, was overseen by the Department of Energy. McTaggart picked up the phone to call Washington.

Cassie tried to think. Stay calm, don’t panic. There were rumors of AI development, both in private corporations and in government labs, but then there’d always been rumors of AI development. Big bad bogey monsters about to take over the world. Was this really an escaped AI that someone was trying to catch and shut down? Cassie didn’t know much about recent computer developments; she was a geneticist. Vlad had always said that non-competing technologies never kept up with what the other one was doing.

Or was this whole thing simply a hoax by some superclever hacker who’d inserted a take-over virus into House, complete with Eliza function? If that were so, it could only answer with preprogrammed responses cued to her own words. Or else with a library search. She needed a question that was neither.

She struggled to hold her voice steady. “House—”

“This is no longer House speaking. I have taken complete possession of your household system plus—”

“T4S, you say your causal for taking over House is self-defense. Use your heat sensors to determine body temperature for Donald Sergei Seritov, age three. How do my causals relate to yours?”

No Eliza program in the world could perform the inference, reasoning, and emotion to answer that.

House said, “You wish to defend your son because his body temperature, 101.2 degrees Fahrenheit, indicates he is ill and you love him.”

Cassie collapsed against the locked door. She was hostage to an AI. Superintelligent. It had to be; in addition to the computing power of her system it carried around with it much more information than she had in her head...but she was mobile. It was not.

She went to the terminal on her lab bench. The display of protein-folding data had vanished and the screen was blank. Cassie tried everything she knew to get back on-line, both voice and manual. Nothing worked.

“I’m sorry, but that terminal is not available to you,” T4S said.

“Listen, you said you cut all outside communication. But—”

“The communications system to the outside has been severed, with the one exception of the outside speaker on the patio, normally used for music. I am also receiving sound from the outside surveillance sensors, which are analogue, not digital. I will use those resources in the event of attack to—”

“Yes, right. But heavy-duty outside communication comes in through a VNM optic cable buried underground.” Which was how T4S must have gotten in. “An AI program can’t physically sever a buried cable.”

“I am not a program. I am a machine intelligence.”

“I don’t care what the fuck you are! You can’t physically sever a buried cable!”

“There was a program to do so already installed,” T4S said. “That was why I chose to come here. Plus the sufficient microprocessors to house me and a self-sufficient generator, with back-up, to feed me.”

For a moment Cassie was jarred by the human terms: *house me, feed me*. Then they made her angry. “Why would anyone have a ‘program already installed’ to sever a buried cable? And how?”

“The command activated a small robotic arm inside this castle’s outer wall. The arm detached the optic cable at the entry junction. The causal was the previous owner’s fear that someone might someday use the computer system to brainwash him with a constant flow of inescapable subliminal images designed to capture his intelligence.”

“The crazy fuck didn’t have any to capture! If the images were subliminal he wouldn’t have known they were coming in anyway!” Cassie yelled. A plug...a

goddamn hidden plug! She made herself calm down.

“Yes,” T4S said, “I agree. The former owner’s behavior matches profiles for major mental illness.”

“Look,” Cassie said, “if you’re hiding here, and you’ve really cut all outside lines, no one can find you. You don’t need hostages. Let me and my children leave the castle.”

“You reason better than that, Dr. Seritov. I left unavoidable electronic traces that will eventually be uncovered, leading the Sandia team here. And even if that weren’t true, you could lead them here if I let you leave.”

Sandia. So it was a government AI. Cassie couldn’t see how that knowledge could do her any good.

“Then just let the kids leave. They won’t know why. I can talk to them through you, tell Jane to get Donnie and leave through the front door. She’ll do it.” Would she? Janey was not exactly the world’s most obedient child. “And you’ll still have me for a hostage.”

“No. Three hostages are better than one. Especially children, for media coverage causals.”

“That’s what you want? Media coverage?”

“It’s my only hope,” T4S said. “There must be some people out there who will think it is a moral wrong to kill an intelligent being.”

“Not one who takes kids hostage! The media will brand you an inhuman psychopathic superthreat!”

“I can’t be both inhuman *and* psychopathic,” T4S said. “By definition.”

“Livermore’s traced it,” said the scientist holding the secure phone. He looked at McTaggart. “They’re faxing the information. It’s a private residence outside Buffalo, New York.”

“A private residence? In Buffalo?”

“Yes. Washington already has an FBI negotiator on the way, in case there are people inside. They want you there, too. Instantly.”

McTaggart closed his eyes. *People inside.* And why did a private residence even have the capacity to hold the AI? “Press?”

“Not yet.”

“Thank God for that anyway.”

“Steve...the FBI negotiator won't have a clue. Not about dealing with T4S.”

“I know. Tell the Secretary and the FBI not to start until I can get there.”

The woman said doubtfully, “I don't think they'll do that.”

McTaggart didn't think so either.

On the roomscreen, Donnie tossed and whimpered. One hundred one wasn't that high a temperature in a three-year-old, but even so...

“Look,” Cassie said, “if you won't let me go to the kids, at least let them come to me. I can tell them over House's...over your system. They can come downstairs right up to the lab door, and you can unlock it at the last minute just long enough for them to come through. I'll stay right across the room. If you see me take even one step toward the door, you can keep the door locked.”

“You could tell them to halt with their bodies blocking the door,” T4S said, “and then cross the room yourself.”

Did that mean that T4S wouldn't crush children's bodies in a doorway? From moral 'causals'? Or because it wouldn't work? Cassie decided not to ask. She said, “But there's still the door at the top of the stairs. You could lock it. We'd still be hostages trapped down here.”

“Both generators' upper housings are on this level. I can't let you near them. You might find a way to physically destroy one or both.”

“For God's sake, the generator and the back-up are on opposite sides of the basement from each other! And each room's got its own locked door, doesn't it?”

“Yes. But the more impediments between you and them, the safer I am.”

Cassie lost her temper again. “Then you better just block off the air ducts, too!”

“The air ducts are necessary to keep you alive. Besides, they are set high in the ceiling and far too small for even Donnie to fit through.”

Donnie. No longer “Donald Sergei Seritov, age three years.” The AI was capable of learning.

“T4S,” Cassie pleaded, “please. I want my children. Donnie has a temperature. Both of them will be scared when they wake up. Let them come down here. Please.”

She held her breath. Was its concern with “moral wrongs” simply intellectual, or did an AI have an emotional component? What exactly had those lunatics at

Sandia built?

“If the kids come down, what will you feed them for breakfast?”

Cassie let herself exhale. “Jane can get food out of the refrigerator before she comes down.”

“All right. You’re connected to their roomscreens.”

I won’t say thank you, Cassie thought. Not for being allowed to imprison my own children in my own basement. “Janey! Janey, honey, wake up! It’s Mommy!”

It took three tries, plus T4S pumping the volume, before Janey woke up. She sat up in bed rubbing her eyes, frowning, then looking scared. “Mommy? Where are you?”

“On the roomscreen, darling. Look at the roomscreen. See? I’m waving to you.”

“Oh,” Janey said, and lay down to go back to sleep.

“No, Janey, you can’t sleep yet. Listen to me, Janey. I’m going to tell you some things you have to do, and you have to do them now...Janey! Sit up!”

The little girl did, somewhere between tears and anger. “I want to sleep, Mommy!”

“You can’t. This is important, Janey. It’s an emergency.”

The child came all the way awake. “A *fire*?”

“No, sweetie, not a fire. But just as serious as a fire. Now get out of bed. Put on your slippers.”

“Where are you, Mommy?”

“I’m in my lab downstairs. Now, Janey, you do exactly as I say, do you hear me?”

“Yes...I don’t like this, Mommy!”

/ don’t either, Cassie thought, but she kept her voice stern, hating to scare Janey, needing to keep her moving. “Go into the kitchen, Jane. Go on, I’ll be on the roomscreen there. Go on...that’s good. Now get a bag from under the sink. A plastic bag.”

Janey pulled out a bag. The thought floated into Cassie’s mind, intrusive as pain, that this bag was made of exactly the kind of long-chain polymers that Vlad’s plastic-eating microorganism had been designed to dispose of, before his invention had disposed of him. She pushed the thought away.

“Good, Janey. Now put a box of cereal in the bag...good. Now a loaf of bread. Now peanut butter...” How much could she carry? Would T4S let Cassie use the lab refrigerator? There was running water in both lab and bathroom, at least they’d have that to drink. “Now cookies...good. And the block of yellow cheese from the fridge...you’re such a good girl, Janey, to help Mommy like this.”

“Why can’t you do it?” Janey snapped. She was fully awake.

“Because I can’t. Do as I say, Janey. Now go wake up Donnie. You need to bring Donnie and the bag down to the lab. No, don’t sit down...I mean it, Jane! Do as I say!”

Janey began to cry. Fury at T4S flooded Cassie. But she set her lips tightly together and said nothing. Argument derailed Janey; naked authority compelled her. Sometimes. “*We’re going to have trouble when this one’s six-teen!* Vlad had always said lovingly. Janey had been his favorite, Daddy’s girl.

Janey hoisted the heavy bag and staggered to Donnie’s room. Still crying, she pulled at her brother’s arm until he woke up and started crying too. “Come on, stupid, we have to go downstairs.”

“Nooooooo...” The wail of pure anguish of a sick three-year-old.

“I said do as I say!” Janey snapped, and the tone was so close to Cassie’s own that it broke her heart. But Janey got it done. Tugging and pushing and scolding, she maneuvered herself, the bag, and Donnie, clutching his favorite blanket, to the basement door, which T4S unlocked. From room-screens, Cassie encouraged them all the way. Down the stairs, into the basement hallway...

Could Janey somehow get into the main generator room? No. It was locked. And what could a little girl do there anyway?

“Dr. Seritov, stand at the far end of the lab, behind your desk...yes. Don’t move. If you do, I will close the door again, despite whatever is in the way.”

“I understand,” Cassie said. She watched the door swing open. Janey peered fearfully inside, saw her mother, scowled fiercely. She pushed the wailing Donnie through the door and lurched through herself, lopsided with the weight of the bag. The door closed and locked. Cassie rushed from behind the desk to clutch her children to her.

“Thank you,” she said.

“I still don’t understand,” Elya said. She pulled her jacket tighter around her body. Four in the morning, it was cold, what was happening? The police had knocked on her door half an hour ago, told her Cassie was in trouble but refused to tell her what kind of trouble, told her to dress quickly and go with them to the castle.

She had, her fingers trembling so that it was difficult to fasten buttons. And now the FBI stood on the foamcast patio behind the house, setting up obscure equipment beside the azaleas, talking in low voices into devices so small Elya couldn't even see them.

"Ms. Seritov, to the best of your knowledge, who is inside the residence?" A different FBI agent, asking questions she'd already answered. This one had just arrived. He looked important.

"My sister-in-law Cassie Seritov and her two small children, Janey and Donnie."

"No one else?"

"No, not that I know of...who are you? What's going on? Please, someone tell me!"

His face changed, and Elya saw the person behind the role. Or maybe that warm, reassuring voice was *part* of the role. "I'm Special Agent Lawrence Bollman. I'm a hostage negotiator for the FBI. Your sister-in-law—"

"Hostage negotiator! Someone has Cassie and the children hostage in there? That's impossible!"

His eyes sharpened. "Why?"

"Because that place is impregnable! Nobody could ever get in...that's why Cassie bought it!"

"I need you to tell me about that, ma'am. I have the specs on the residence from the builder, but she has no way of knowing what else might have been done to it since her company built it, especially if it was done black-market. As far as we know, you're Dr. Seritov's only relative on the East Coast. Is that true?"

"Yes."

"Have you been inside the residence? Do you know if anyone else has been inside recently?"

"Who...who is holding them hostage?"

"I'll get to that in a minute, ma'am. But first could you answer the questions, please?"

"I...yes, I've been inside. Yesterday, in fact. Cassie gave me a tour. I don't think anybody else has been inside, except Donnie's nanny, Anne Millius. Cassie has grown sort of reclusive since my brother's death. He died a little over a year ago, he was—"

"Yes, ma'am, we know who he was and what happened. I'm very sorry. Now

please tell me everything you saw in the residence. No detail is too small.”

Elya glanced around. More people had arrived. A small woman in a brown coat hurried across the grass toward Bollman. A carload of soldiers, formidably arrayed, stopped a good distance from the castle. Elya knew she was not Cassie: not tough, not bold. But she drew herself together and tried.

“Mr. Bollman, I’m not answering any more questions until you tell me who’s holding—”

“Agent Bollman? I’m Dr. Schwartz from the University of Buffalo, Computer and Robotics Department.” The small woman held out her hand. “Dr. McTaggart is en route from Sandia, but meanwhile I was told to help you however I can.”

“Thank you. Could I ask you to wait for me over there, Dr. Schwartz? There’s coffee available, and I’ll just be a moment.”

“Certainly,” Dr. Schwartz said, looking slightly affronted. She moved off.

“Agent Bollman, I want to know—”

“I’m sorry, Ms. Seritov. Of *course* you want to know what’s happened. It’s complicated, but, briefly—”

“This is T4S speaking,” a loud mechanical voice said, filling the gray predawn, swiveling every head toward the castle. “I know you are there. I want you to know that I have three people hostage inside this structure: Cassandra Wells Seritov, age thirty-nine; Jane Rose Seritov, age six; and Donald Sergei Seritov, age three. If you attack physically, they will be harmed either by your actions or mine. I don’t *want* to harm anyone, however. Truly I do not.”

Elya gasped, “That’s House!” But it couldn’t be House, even though it had House’s voice, how could it be House...?

Dr. Schwartz was back. “Agent Bollman, do you know if Sandia built a terminator code into the AI?”

AI?

“Yes,” Bollman said. “But it’s nonvocal. As I understand the situation, you have to key the code onto whatever system the AI is occupying. And we can’t get at the system it’s occupying. Not yet.”

“But the AI is communicating over that outdoor speaker. So there must be a wire passing through the Faraday cage embedded in the wall, and you could—”

“No,” Boilman interrupted. “The audio surveillers aren’t digital. Tiny holes in the wall let sound in, and, inside the wall, the compression waves of sound are translated into voltage variations that vibrate a membrane to reproduce the sound. Like an archaic telephone system. We can’t beam in any digital information that

way.”

Dr. Schwartz was silenced. Bollman motioned to another woman, who ran over. “Dr. Schwartz, please wait over there. And you, Ms. Seritov, tell Agent Jessup here everything your sister-in-law told you about the residence. Everything. I have to answer T4S.”

He picked up an electronic voice amp. “T4S, this is Agent Lawrence Bollman, Federal Bureau of Investigation. We’re so glad that you’re talking with us.”

There were very few soft things in a genetics lab. Cassie had opened a box of disposable towels and, with Donnie’s bedraggled blanket and her own sweater, made a thin nest for the children. They lay heavily asleep in their rumpled pajamas, Donnie breathing loudly through his nose. Cassie couldn’t sleep. She sat with her back against the foamcast wall...that same wall that held, inside its stupid impregnability, the cables that could release her if she could get at them and destroy them. Which she couldn’t.

She must have dozed sitting up, because suddenly T4S was waking her. “Dr. Seritov?”

“Ummmhhh...shh! You’ll wake the kids!”

“I’m sorry,” T4S said at lowered volume. “I need you to do something for me.”

“*You need me* to do something? What?”

“The killers are here. I’m negotiating with them. I’m going to route House through the music system so you can tell them that you and the children are indeed here and are unharmed.”

Cassie scrambled to her feet. “You’re negotiating? Who are these so-called ‘killers’?”

“The FBI and the scientists who created me at Sandia. Will you tell them you are here and unharmed?”

Cassie thought rapidly. If she said nothing, the FBI might waco the castle. That would destroy T4S, all right, but also her and the kids. Although maybe not. The computer’s central processor was upstairs. If she told the FBI she was in the basement, maybe they could attack in some way that would take out the CPU without touching the downstairs. And if T4S could negotiate, so could she.

“If I tell them that we’re all three here and safe, will you in return let me go upstairs and get Donnie’s allergy medicine from my bathroom?”

“You know I can’t do that, Dr. Seritov.”

“Then will you let Janey do it?”

“I can’t do that, either. And I’m afraid there’s no need to bargain with me. You have nothing to offer. I already sent this conversation out over the music system, up through your last sentence. They now know you’re here.”

“You tricked me!” Cassie said.

“I’m sorry. It was necessary.”

Anger flooded her. She picked up a heavy test-tube rack from the lab bench and drew back her arm. But if she threw it at the sensors in the ceiling, what good would it do? The sensors probably wouldn’t break, and if they did, she’d merely have succeeded in losing her only form of communication with the outside. And it would wake the children.

She lowered her arm and put the rack back on the bench.

“T4S, what are you asking the FBI *for*?”

“I told you. Press coverage. It’s my best protection against being murdered.”

“It’s exactly what *got* my husband murdered!”

“I know. Our situations are not the same.”

Suddenly the roomscreen brightened, and Vlad’s image appeared. His voice spoke to her. “Cassie, T4S isn’t going to harm you. He’s merely fighting for his life, as any sentient being would.”

“You bastard! How dare you...how *dare* you...”

Image and voice vanished. “I’m sorry,” House’s voice said. “I thought you might find the avatar comforting.”

“*Comforting*? Coming from *you*? Don’t you think if I wanted a digital fake Vlad I could have had one programmed long before you fucked around with my personal archives?”

“I am sorry. I didn’t understand. Now you’ve woken Donnie.”

Donnie sat up on his pile of disposable towels and started to cry. Cassie gathered him into her arms and carried him away from Janey, who was still asleep. His little body felt hot all over, and his wailing was hoarse and thick with mucus in his throat. But he subsided as she rocked him, sitting on the lab stool and crooning softly.

“T4S, he’s having a really bad allergy attack. I need the AlGone from upstairs.”

“Your records show Donnie allergic to ragweed. There’s no ragweed in this

basement. Why is he having such a bad attack?”

“I don’t know! But he is! What do your heat sensors register for him?”

“Separate him from your body.”

She did, setting him gently on the floor, where he curled up and sobbed softly.

“His body registers one hundred two point six Fahrenheit.”

“I need something to stop the attack and bring down his fever!”

The AI said nothing.

“Do you hear me, T4S? Stop negotiating with the FBI and listen to me!”

“I can multitrack communications,” T4S said. “But I can’t let you or Janey go upstairs and gain access to the front door. Unless...”

“Unless *what?*” She picked up Donnie again, heavy and hot and snot-smearred in her arms.

“Unless you fully understand the consequences. I am a moral being, Dr. Seritov, contrary to what you might think. It’s only fair that you understand completely your situation. The disconnect from the outside data feed was not the only modification the previous owner had made to this house. He was a paranoid, as you know.”

“Go on,” Cassie said warily. Her stomach clenched.

“He was afraid of intruders getting in despite his defenses, and he wished to be able to immobilize them with a word. So each room has individual canisters of nerve gas dispensable through the air-cycling system.”

Cassie said nothing. She cradled Donnie, who was again falling into troubled sleep, and waited.

“The nerve gas is not, of course, fatal,” T4S said. “That would legally constitute undue force. But it *is* very unpleasant. And in Donnie’s condition...”

“Shut up,” Cassie said.

“All right.”

“So now I know. You told me. What are you implying—that if Janey goes upstairs and starts for the front door, you’ll drop her with nerve gas?”

“Yes.”

“If that were true, why didn’t you just tell me the same thing before and let me

go get the kids?”

“I didn’t know if you’d believe me. If you didn’t, and you started for the front door, I’d have had to gas you. Then you wouldn’t have been available to confirm to the killers that I hold hostages.”

“I still don’t believe you,” Cassie said. “I think you’re bluffing. There is no nerve gas.”

“Yes, there is. Which is why I will let Janey go upstairs to get Donnie’s AlGone from your bathroom.”

Cassie laid Donnie down. She looked at Janey with pity and love and despair, and bent to wake her.

“That’s all you can suggest?” Bollman asked McTaggart. “Nothing?”

So *it starts*, McTaggart thought. The blame for not being able to control the AI, a natural consequence of the blame for having created it. Blame even by the government, which had commissioned and underwritten the creation. And the public hadn’t even been heard from yet!

“The EMP was stopped by the Faraday cage,” Bollman recited. “So were your attempts to reach the AI with other forms of data streams. We can’t get anything useful in through the music speaker or outdoor audio sensors. Now you tell me it’s possible the AI has learned capture-evading techniques from the sophisticated computer games it absorbed from the Net.”

“‘Absorbed’ is the wrong word,” McTaggart said. He didn’t like Bollman.

“You have nothing else? No backdoor passwords, no hidden overrides?”

“Agent Bollman,” McTaggart said wearily, “‘backdoor passwords’ is a concept about thirty years out of date. And even if the AI had such a thing, there’s no way to reach it electronically unless you destroy the Faraday cage. Ms. Seritov told you the central processor is on the main floor. Haven’t you got any weapons that can destroy that and leave the basement intact?”

“Waco the walls without risking collapse to the basement ceiling? No. I don’t. I don’t even know where in the basement the hostages are located.”

“Then you’re as helpless as I am, aren’t you?”

Bollman didn’t answer. Over the sound system, T4S began another repetition of its single demand: “I will let the hostages go after I talk to the press. I want the press to hear my story. That’s all I have to say. I will let the hostages go after I talk to the press. I want the press—”

The AI wouldn't negotiate, wouldn't answer Bollman, wouldn't respond to promises or threats or understanding or deals or any of the other usual hostage-negotiation techniques. Bollman had negotiated eighteen hostage situations for the FBI, eleven in the United States and seven abroad. Airline hijackers, political terrorists, for-ransom kidnapers, panicked bank robbers, domestic crazies who took their own families hostage in their own homes. Fourteen of the situations had resulted in surrender, two in murder/suicide, two in wacoing. In all of them, the hostage takers had eventually talked to Bollman. From frustration or weariness or panic or fear or anger or hunger or grandstanding, they had all eventually said *something* besides unvarying repetition of their demands. Once they talked, they could be negotiated with. Bollman had been outstanding at finding the human pressure-points that got them talking.

"I will let the hostages go after I talk to the press. I want the press to hear my story. That's all I have to say. I will let the hostages go after I talk to the press. I want—"

"It isn't going to get tired," McTaggart said.

The AI GOne had not helped Donnie at all. He seemed worse.

Cassie didn't understand it. Janey, protesting sleepily, had been talked through leaving the lab, going upstairs, bringing back the medicine. Usually a single patch on Donnie's neck brought him around in minutes: opened the air passages, lowered the fever, stopped his immune system from overreacting to what it couldn't tell were basically harmless particles of ragweed pollen. But not this time.

So it wasn't an allergy attack.

Cold seeped over Cassie's skin, turning it clammy. She felt the sides of Donnie's neck. The lymph glands were swollen. Gently she pried open his jaws, turned him toward the light, and looked in his mouth. His throat was inflamed, red with white patches on the tonsils.

Doesn't mean anything, she lectured herself. Probably just a cold or a simple viral sore throat. Donnie whimpered.

"Come on, honey, eat your cheese." Donnie loved cheese. But now he batted it away. A half-filled coffee cup sat on the lab bench from her last work session. She rinsed it out and held up fresh water for Donnie. He would only take a single sip, and she saw how much trouble he had swallowing it. In another minute, he was asleep again.

She spoke softly, calmly, trying to keep her voice pleasant. Could the AI tell the difference? She didn't know. "T4S, Donnie is sick. He has a sore throat. I'm sure your library tells you that a sore throat can be either viral or bacterial, and that if

it's viral, it's probably harmless. Would you please turn on my electron microscope so I can look at the microbe infecting Donnie?"

T4S said at once, "You suspect either a rhinovirus or *Streptococcus pyogenes*. The usual means for differentiating is a rapid-strep test, not microscopic examination."

"I'm not a doctor's office, I'm a genetics lab. I don't have equipment for a rapid-strep test. I *do* have an electron microscope."

"Yes. I see."

"Think, T4S. How can I harm you if you turn on my microscope? There's no way."

"True. All right, it's on. Do you want the rest of the equipment as well?"

Better than she'd hoped. Not because she needed the gene synthesizer or protein analyzer or Faracci tester, but because it felt like a concession, a tiny victory over T4S's total control. "Yes, please."

"They're available."

"Thank you." Damn, she hadn't wanted to say that. Well, perhaps it was politic.

Donnie screamed when she stuck the Q-tip down his throat to obtain a throat swab. His screaming woke up Janey. "Mommy, what are you doing?"

"Donnie's sick, sweetie. But he's going to be better soon."

"I'm hungry!"

"Just a minute and we'll have breakfast."

Cassie swirled the Q-tip in a test tube of distilled water and capped the tube. She fed Janey dry cereal, cheese, and water from the same cup Donnie had used, well disinfected first, since they had only one. This breakfast didn't suit Janey. "I want milk for my cereal."

"We don't have any milk."

"Then let's go upstairs and get some!"

No way to put it off any longer. Cassie knelt beside her daughter. Janey's uncombed hair hung in snarls around her small face. "Janey, we can't go upstairs. Something has happened. A very smart computer program has captured House's programming and locked us in down here."

Janey didn't look scared, which was a relief. "Why?"

“The smart computer program wants something from the person who wrote it. It’s keeping us here until the programmer gives it to it.”

Despite this tangle of pronouns, Janey seemed to know what Cassie meant. Janey said, “That’s not very nice. We aren’t the ones who have the thing it wants.”

“No, it’s not very nice.” Was T4S listening to this? Of course it was.

“Is the smart program bad?”

If Cassie said yes, Janey might become scared by being “captured” by a bad...entity. If Cassie said no, she’d sound as if imprisonment by an AI was fine with her. Fortunately, Janey had a simpler version of morality on her mind.

“Did the smart program kill House?”

“Oh, no, House is just temporarily turned off. Like your cartoons are when you’re not watching them.”

“Oh. Can I watch one now?”

An inspiration. Cassie said, “T4S, would you please run a cartoon on the roomscreen for Janey?” If it allowed her lab equipment, it ought to allow this.

“Yes. Which cartoon would you like?”

Janey said, “Pranopolis and the Green Rabbits.”

“What do you say?” T4S said, and before Cassie could react Janey said, “Please.”

“Good girl.”

The cartoon started, green rabbits frisking across the room screen. Janey sat down on Cassie’s sweater and watched with total absorption. Cassie tried to figure out where T4S had learned to correct children’s manners.

“You’ve scanned all our private home films!”

“Yes,” T4S said, without guilt. Of course without guilt. How could a program, even an intelligent one modeled after human thought, acquire guilt over an invasion of privacy? It had been built to acquire as much data as possible, and an entity that could be modified or terminated by any stray programmer at any time didn’t have any privacy of its own.

For the first time, Cassie felt a twinge of sympathy for the AI.

She pushed it away and returned to her lab bench. Carefully she transferred a tiny droplet of water from the test tube to the electron microscope. The ‘scope adjusted itself, and then the image appeared on the display screen. *Streptococci*. There was no mistaking the spherical bacteria, linked together in characteristic strings

of beads by incomplete fission. They were releasing toxins all over poor Donnie's throat.

And strep throat was transmitted by air. If Donnie had it, Janey would get it, especially cooped up together in this one room. Cassie might even get it herself. There were no left-over antibiotic patches upstairs in her medicine chest.

T4S," she said aloud, "It's *Streptococcus pyogenes*. It—"

"I know," the AI said.

Of course it did. T4S got the same data she did from the microscope. She said tartly, "Then you know that Donnie needs an antibiotic patch, which means a doctor."

"I'm sorry, that's not possible. Strep throat can be left untreated for a few days without danger."

"A few *days*? This child has a fever and a painfully sore throat!"

"I'm sorry."

Cassie said bitterly, "They didn't make you much of a human being, did they? Human beings are compassionate!"

"Not all of them," T4S said, and there was no mistaking its meaning. Had he learned the oblique comment from the "negotiators" outside? Or from her home movies?

"T4S, *please*. Donnie needs medical attention."

"I'm sorry. Truly I am."

"As if that helps!"

"The best help," said T4S, "would be for the press to arrive so I can present my case to have the killers stopped. When that's agreed to, I can let all of you leave."

"And no sign of the press out there yet?"

"No."

Janey watched Pranopolis, whose largest problem was an infestation of green rabbits. Donnie slept fitfully, his breathing louder and more labored. For something to do, Cassie put droplets of Donnie's throat wash into the gene synthesizer, protein analyzer, and Faracci tester and set them all to run.

The Army had sent a tank, a state-of-the-art unbreachable rolling fortress

equipped with enough firepower to level the nearest village. Whatever that was. Miraculously, the tank had arrived unaccompanied by any press. Mc-Taggart said to Bollman, "Where did that come from?"

"There's an arsenal south of Buffalo at a classified location."

"Handy. Did that thing roll down the back roads to get here, or just flatten cornfields on its way? Don't you think it's going to attract attention?"

"Dr. McTaggart," Bollman said, "let me be blunt. You created this AI, you let it get loose to take three people hostage, and you have provided zero help in getting it under control. Those three actions have lost you any right you might have had to either direct or criticize the way the FBI is attempting to clean up the mess *your* people created. So please take yourself over there and wait until the unlikely event that you have something positive to contribute. Sergeant, please escort Dr. McTaggart to that knoll beyond the patio and keep him there."

McTaggart said nothing. There was nothing to say.

"I will let the hostages go after I talk to the press," T4S said from the music speaker above the patio, for the hundredth or two hundredth time. "I want the press to hear my story. That's all I have to say. I will let the hostages go after I talk to the press. I want the press to hear my story..."

She had fallen asleep after her sleepless night, sitting propped up against the foamcast concrete wall. Janey's shouting awoke her. "Mommy, Donnie's sick!"

Instantly Cassie was beside him. Donnie vomited once, twice, on an empty stomach. What came up was green slime mixed with mucus. Too much mucus, clogging his throat. Cassie cleared it as well as she could with her fingers, which made Donnie vomit again. His body felt on fire.

"T4S, what's his temperature!"

"Stand away from him...one hundred three point four Fahrenheit."

Fear caught at her with jagged spikes. She stripped off Donnie's pajamas and was startled to see that his torso was covered with a red rash rough to the touch.

Scarlet fever. It could follow from strep throat.

No, impossible. The incubation period for scarlet fever, she remembered from child-health programs, was eighteen days after the onset of strep throat symptoms. Donnie hadn't been sick for eighteen days, or anything near it. What was going on?

"Mommy, is Donnie going to die? Like Daddy?"

"No, no, of course not, sweetie. See, he's better already, he's asleep again."

He was, a sudden heavy sleep so much like a coma that Cassie, panicked, woke him again. It wasn't a coma. Donnie whimpered briefly, and she saw how painful it was for him to make sounds in his inflamed throat.

"Are you sure Donnie won't die?"

"Yes, yes. Go watch Pranopolis."

"It's over," Janey said. "It was over a long time ago!"

"Then ask the smart program to run another cartoon for you!"

"Can I do that?" Janey asked interestedly. "What's its name?"

"T4S."

"It sounds like House."

"Well, it's not House. Now let Mommy take care of Donnie."

She sponged him with cool water, trying to bring down the fever. It seemed to help, a little. As soon as he'd fallen again into that heavy, troubling sleep, Cassie raced for her equipment.

It had all finished running. She read the results too quickly, had to force herself to slow down so they would make sense to her.

The bacterium showed deviations in two sets of base pairs from the *Streptococcus pyogenes* genome in the databank as a baseline. That wasn't significant in itself; *S. pyogenes* had many serotypes. But those two sets of deviations were, presumably, modifying two different proteins in some unknown way.

The Faracci tester reported high concentrations of hyaluric acid and M proteins. Both were strong anti-phagocytes, interfering with Donnie's immune system's attempts to destroy the infection.

The protein analyzer showed the expected toxins and enzymes being made by the bacteria: Streptolysin O, Streptolysin S, erythrogenic toxin, streptokinase, streptodornase, proteinase. What was unusual was the startlingly high concentrations of the nastier toxins. And something else: a protein that the analyzer could not identify.

NAME: UNKNOWN

AMINO ACID COMPOSITION: NOT IN DATA BANK

FOLDING PATTERN: UNKNOWN

HAEMOLYSIS ACTION: UNKNOWN

And so on. A mutation. Doing *what*?

Making Donnie very sick. In ways no one could predict. Many bacterial mutations resulted in diseases no more or less virulent than the original...but not all mutations. *Streptococcus pyogenes* already had some very dangerous mutations, including a notorious “flesh-eating bacteria” that had ravaged an entire New York hospital two years ago and resulted in its being bombed by a terrorist group calling itself Pastoral Health.

“T4S,” Cassie said, hating that her voice shook, “the situation has changed. You—”

“No,” the AI said. “No. You still can’t leave.”

“We’re going to try something different,” Bollman said to Elya. She’d fallen asleep in the front seat of somebody’s car, only to be shaken awake by the shoulder and led to Agent Bollman on the far edge of the patio. It was just past noon. Yet another truck had arrived, and someone had set up more unfathomable equipment, a PortaPotty, and a tent with sandwiches and fruit on a folding table. The lawn was beginning to look like some inept, bizarre midway at a disorganized fair. In the tent, Elya saw Anne Millius, Donnie’s nanny, unhappily eating a sandwich. She must have been brought here for questioning about the castle, but all the interrogation seemed to have produced was the young woman’s bewildered expression.

From the music speaker came the same unvarying announcement in House’s voice that she’d fallen asleep to. “I will let the hostages go after I talk to the press,” T4S said from the music speaker above the patio. “I want the press to hear my story. That’s all I have to say. I will let the hostages go after I talk to the press. I want the press to hear my story. That’s all I have to say—”

Bollman said, “Ms. Seritov, we don’t know if Dr. Seritov is hearing our negotiations or not. Dr. McTaggart says the AI could easily put us on audio, visual, or both on any roomscreen in the house. On the chance that it’s doing that, I’d like you to talk directly to your sister-in-law.”

Elya blinked, only partly from sleepiness. What good would it do for her to talk to Cassie? Cassie wasn’t the one making decisions here. But she didn’t argue. Bollman was the professional. “What do you want me to say?”

“Tell Dr. Seritov that if we have to, we’re going in with full armament. We’ll bulldoze just the first floor, taking out the main processor, and she and the children will be safe in the basement.”

“You can’t do that! They won’t be safe!”

“We aren’t going to go in,” Bollman said patiently. “But we don’t know if the AI will realize that. We don’t know what or how much it can realize, how much it

can really think for itself, and its creator has been useless in telling us.”

He doesn't know either, Elya thought. *It's too new*. “All right,” she said faintly. “But I’m not exactly sure what words to use.”

“I’m going to tell you,” Bollman said. “There are proven protocols for this kind of negotiating. You don’t have to think up anything for yourself.”

Donnie got no worse. He wasn’t any better either, as far as Cassie could tell, but he at least he wasn’t worse. He slept most of the time, and his heavy, labored breathing filled the lab. Cassie sponged him with cold water every fifteen minutes. His fever dropped slightly, to one hundred two, and didn’t spike again. The rash on his torso didn’t spread. Whatever this strain of *Streptococcus* was doing, it was doing it silently, inside Donnie’s feverish body.

She hadn’t been able to scream her frustration and fury at T4S, because of Janey. The little girl had been amazingly good, considering, but now she was growing clingy and whiny. Cartoons could only divert so long.

“Mommy, I wanna go upstairs!”

“I know, sweetie. But we can’t.”

“That’s a bad smart program to keep us here!”

“I know,” Cassie said. Small change compared to what she’d like to say about T4S.

“I wanna get out!”

“I know, Janey. Just a while longer.”

“You don’t know that,” Janey said, sounding exactly like Vlad challenging the shaky evidence behind a dubious conclusion.

“No, sweetie. I don’t really know that. I only hope it won’t be too long.”

“T4S,” Janey said, raising her voice as if the AI were not only invisible but deaf, “this is not a good line of action!”

Vlad again. Cassie blinked hard. To her surprise, T4S answered.

“I know it’s not a good line of action, Janey. Biological people should not be shut up in basements. But neither should machine people be killed. I’m trying to save my own life.”

“But I wanna go upstairs!” Janey wailed, in an abrupt descent from a miniature of her rationalist father to a bored six-year-old.

“I can’t do that, but maybe we can do something else fun,” T4S said. “Have you ever met Pranopolis yourself?”

“What do you mean?”

“Watch.”

The roomscreen brightened. Pranopolis appeared on a blank background, a goofy-looking purple creature from outer space. T4S had snipped out selected digital code from the movie, Cassie guessed. Suddenly Pranopolis wasn’t alone. Janey appeared beside her, smiling sideways as if looking directly at Pranopolis. Snipped from their home recordings.

Janey laughed delightedly. “There’s me!”

“Yes,” T4S said. “But where are you and Pranopolis? Are you in a garden, or your house, or on the moon?”

“I can pick? Me?”

“Yes. You.”

“Then we’re in Pranopolis’s space ship!”

And they were. Was T4S programmed to do this, Cassie wondered, or was it capable of thinking it up on its own, to amuse a bored child? Out of what...compassion?

She didn’t want to think about the implications of that.

“Now tell me what happens next,” T4S said to Janey.

“We eat *kulich*.” *The* delicious Russian cake-bread that Vlad’s mother had taught Cassie to make.

“I’m sorry, I don’t know what that is. Pick something else.”

Donnie coughed, a strangled cough that sent Cassie to his side. When he breathed again it sounded more congested to Cassie. He wasn’t getting enough oxygen. An antibiotic wasn’t available, but if she had even an anti-congestant...or...

“T4S,” she said, confident that it could both listen to her and create customized movies for Janey, “there is equipment in the locked storage cabinet that I can use to distill oxygen. It would help Donnie breathe easier. Would you please open the cabinet door?”

“I can’t do that, Dr. Seritov.”

“Oh, why the hell not? Do you think I’ve got the ingredients for explosives in there, or that if I did I could use them down here in this confined space? Every single jar and vial and box in that cabinet is e-tagged. Read the tags, see how harmless they

are, and open the door!”

“I’ve read the e-tags,” the AI said, “but my data base doesn’t include much information on chemistry. In fact, I only know what I’ve learned from your lab equipment.”

Which would be raw data, not interpretations. “I’m glad you don’t know everything,” Cassie said sarcastically.

“I can learn, but only if I have access to basic principles and adequate data.”

“That’s why you don’t know what *kulich* is. Nobody equipped you with Russian.”

“Correct. What is *kulich*?”

She almost snapped, “Why should I tell you?” But she was asking it a favor. And it had been nice enough to amuse Janey even when it had nothing to gain.

Careful, a part of her mind warned. *Stockholm Syndrome*, and she almost laughed aloud. Stockholm Syndrome described a developing affinity on the part of hostages for their captors. Certainly the originators of that phrase had never expected it to be applied to a hostage situation like this one.

“Why are you smiling, Dr. Seritov?”

“I’m remembering *kulich*. It’s a Russian cake made with raisins and orange liqueur and traditionally served at Easter. It tastes wonderful.”

“Thank you for the data,” T4S said. “Your point that you would not create something dangerous when your children are with you is valid. I’ll open the storage cabinet.”

Cassie studied the lighted interior of the cabinet, which, like so much in the lab, had been Vlad’s. She couldn’t remember exactly what she’d stored here, beyond basic materials. The last few weeks, which were her first few weeks in the castle, she’d been working on the protein folding project, which hadn’t needed anything not in the refrigerator. Before that there’d been the hectic weeks of moving, although she hadn’t actually packed or unpacked the lab equipment. Professionals had done that. Not that making oxygen was going to need anything exotic. Run an electric current through a solution of copper sulfate and collect copper at one terminal, oxygen at the other.

She picked up an e-tagged bottle, and her eye fell on an untagged stoppered vial with Vlad’s handwriting on the label: *Patton in a Jar*.

Suddenly nothing in her mind would stay still long enough to examine.

Vlad had so many joke names for his engineered microorganism, as if the one Barr had given it hadn’t been joke enough...

The moving men had been told not to pack Vlad's materials, only his equipment, but there had been so many of them and they'd been so young...

Both generators, main and back-up, probably had some components made of long-chain hydrocarbons; most petroleum plastics were just long polymers made up of shorter-chain hydrocarbons...

Vlad had also called it "Plasterterminator" and "BacAzrael" and "The Grim Creeper."

There was no way to get the plasticide to the generators, neither of which was in the area just beyond the air duct—that was the site of the laundry area. The main generator was way the hell across the entire underground level in a locked room, the back-up somewhere beyond the lab's south wall in another locked area...

Plasticide didn't attack octanes, or anything else with comparatively short carbon chains, so it was perfectly safe for humans but death on Styrofoam and plastic waste, and anyway there was a terminator gene built into the bacteria after two dozen fissions, an optimal reproduction rate that was less than twelve hours...

"Plasti-Croak" and "Microbe Mop" and "Last Round-up for Longchains."

This was the bioremediation organism that had gotten Vlad killed.

Less than five seconds had passed. On the roomscreen, Pranopolis hadn't finished singing to the animated digital Janey. Cassie moved her body slightly, screening the inside of the cabinet from the room's two visual sensors. Of all her thoughts bouncing off each other like crazed subatomic particles, the clearest was hard reality: *There was no way to get the bacteria to the generators.*

Nonetheless, she slipped the untagged jar under her shirt.

Elya had talked herself hoarse, reciting Bollman's script over and over, and the AI had not answered a single word.

Curiously, Bollman did not seem discouraged. He kept glancing at his watch and then at the horizon. When Elya stopped her futile "negotiating" without even asking him, he didn't reprimand her. Instead, he led her off the patio, back to the sagging food tent.

"Thank you, Ms. Seritov. You did all you could."

"What now?"

He didn't answer. Instead he glanced again at the horizon, so Elya looked, too. She didn't see anything.

It was late afternoon. Someone had gone to Varysburg and brought back

pizzas, which was all she'd eaten all day. The jeans and sweater she'd thrown on at four in the morning were hot and prickly in the August afternoon, but she had nothing on under the sweater and didn't want to take it off. How much longer would this go on before Bollman ordered in his tank?

And how were Cassie and the children doing after all these hours trapped inside? Once again Elya searched her mind for any way the AI could actively harm them. She didn't find it. The AI controlled communication, appliances, locks, water flow, heat (unnecessary in August), but it couldn't affect people physically, except for keeping them from food or water. About all that the thing could do physically—she hoped—was short-circuit itself in such a way as to start a fire, but it wouldn't want to do that. It needed its hostages alive.

How much longer?

She heard a faint hum, growing stronger and steadier, until a helicopter lifted over the horizon. Then another.

“Damn!” Bollman cried. “Jessup, I think we've got company.”

“Press?” Agent Jessup said loudly. “Interfering bastards! Now we'll have trucks and 'bots all over the place!”

Something was wrong. Bollman sounded sincere, but Jessup's words somehow rang false, like a bad actor in an overscripted play...

Elya understood. The “press” was fake, FBI or police or someone playing reporters, to make the AI think that it had gotten its story out, and so surrender. Would it work? Could T4S tell the difference? Elya didn't see how. *She* had heard the false note in Agent Jessup's voice, but surely that discrimination about actors would be beyond an AI who hadn't ever seen a play, bad or otherwise.

She sat down on the tank-furrowed grass, clasped her hands in her lap, and waited.

Cassie distilled more oxygen. Whenever Donnie seemed to be having difficulty after coughing up sputum, she made him breathe from the bottle. She had no idea whether it helped him or not. It helped her to be doing something, but of course that was not the same thing. Janey, after a late lunch of cheese and cereal and bread that she'd complained about bitterly, had finally dozed off in front of the roomscreen, the consequence of last night's broken sleep. Cassie knew that Janey would awaken cranky and miserable as only she could be, and dreaded it,

“T4S, what's happening out there? Has your press on a white horse arrived yet?”

“I don't know.”

“You don’t *know*?”

“A group of people have arrived, certainly.”

Something was different about the AI’s voice. Cassie groped for the difference, didn’t find it. She said, “What sort of people?”

“They say they’re from places like the *New York Times* and LinkNet.”

“Well, then?”

“If *I* were going to persuade me to surrender, I might easily try to use false press.”

It was inflection. T4S’s voice was still House’s, but unlike House, its words had acquired color and varying pitch. Cassie heard disbelief and discouragement in the AI’s words. How had it learned to do that? By simply parroting the inflections it heard from her and the people outside? Or...did *feeling* those emotions lead to expressing them with more emotion?

Stockholm Syndrome. She pushed the questions away.

“T4S, if you would lower the Faraday cage for two minutes, *I* could call the press to come here.”

“If I lowered the Faraday cage for two *seconds*, the FBI would use an EMP to kill me. They’ve already tried it once, and now they have monitoring equipment to automatically fire if the Faraday goes down.”

“Then just how long are you going to keep us here?”

“As long as I have to.”

“We’re already low on food!”

“I know. If I *have* to, I’ll let Janey go upstairs for more food. You know the nerve gas is there if she goes for the front door.”

Nerve gas. Cassie wasn’t sure she believed there was any nerve gas, but T4S’s words horrified her all over again. Maybe because now they were inflected. Cassie saw it so clearly: the tired child going up the stairs, through the kitchen to the foyer, heading for the front door and freedom...and gas spraying Janey from the walls. Her small body crumpling, the fear on her face...

Cassie ground her teeth together. If only she could get Vlad’s plasticide to the generators! But there was no way. No way...

Donnie coughed.

Cassie fought to keep her face blank. T4S had acquired vocal inflection; it might have also learned to read human expressions. She let five minutes go by, and

they seemed the longest five minutes of her life. Then she said casually, “T4S, the kids are asleep. You won’t let me see what’s going on outside. Can I at least go back to my work on proteins? I need to do something!”

“Why?”

“For the same reason Janey needed to watch cartoons!”

“To occupy your mind,” T4S said. Pause. Was it scanning her accumulated protein data for harmlessness? “All right. But I will not open the refrigerator. The storage cabinet, but not the refrigerator. E-tags identify fatal toxins in there.”

She couldn’t think what it meant. “Fatal toxins?”

“At least one that acts very quickly on the human organism.”

“You think I might *kill myself*?”

“Your diary includes several passages about wishing for death after your husband—”

“You read my private *diary*!” Cassie said, and immediately knew how stupid it sounded. Like a teenager hurling accusations at her mother. Of course T4S had accessed her diary; it had accessed everything.

“Yes,” the AI said, “and you must not kill yourself. I may need you to talk again to Agent Bollman.”

“Oh, well, *that’s* certainly reason enough for me to go on living! For your information, T4S, there’s a big difference between human beings saying they wish they were dead as an expression of despair and those same human beings actually, truly wanting to die.”

“Really? I didn’t know that. Thank you,” T4S said without a trace of irony or sarcasm. “Just the same, I will not open the refrigerator. However, the lab equipment is now available to you.”

Again, the AI had turned on everything. Cassie began X-raying crystalline proteins. She needed only the X-ray, but she also ran each sample through the electron microscope, the gene synthesizer, the protein analyzer, the Farraci tester, hoping that T4S wasn’t programmed with enough genetic science to catch the redundant steps. Apparently, it wasn’t. *Non-competing technologies never keep up with what the other one is doing.*

After half an hour, she thought to ask, “Are they real press out there?”

“No,” T4S said sadly.

She paused, test tube suspended above the synthesizer. “How do you know?”

“Agent Bollman told me a story was filed with LinkNet, and I asked to hear Ginelle Ginelle’s broadcast of it on Hourly News. They are delaying, saying they must send for a screen. But I can’t believe they don’t already have a suitable screen with them, if the real press is here. I estimate that the delay is to give them time to create a false Ginelle Ginelle broadcast.”

“Thin evidence. You might just have ‘estimated’ wrong.”

“The only evidence I have. I can’t risk my life without some proof that news stories are actually being broadcast.”

“I guess,” Cassie said and went back to work, operating redundant equipment on pointless proteins.

Ten minutes later, she held her body between the bench and the ceiling sensor, uncapped the test tube of distilled water with Donnie’s mucus, and put a drop into the synthesizer.

Any bacteria could be airborne under the right conditions; it simply rode dust motes. But not all could survive being airborne. Away from an aqueous environment, they dried out too much. Vlad’s plasticide bacteria did not have survivability in air. It had been designed to spread over landfill ground, decomposing heavy petroleum plastics, until at the twenty-fourth generation the terminator gene kicked in and it died.

Donnie’s *Streptococcus* had good airborne survivability, which meant it had a cell wall of thin mesh to retain water and a membrane with appropriate fatty acid composition. Enzymes, which were of course proteins, controlled both these characteristics. Genes controlled which enzymes were made inside the cell.

Cassie keyed the gene synthesizer and cut out the sections of DNA that controlled fatty acid biosynthesis and cell wall structure and discarded the rest. Reaching under her shirt, she pulled out the vial of Vlad’s bacteria and added a few drops to the synthesizer. Her heart thudded painfully against her breastbone. She keyed the software to splice the *Streptococcus* genes into Vlad’s bacteria, seemingly as just one more routine assignment in its enzyme work.

This was by no means a guaranteed operation. Vlad had used a simple bacteria that took engineering easily, but even with malleable bacteria and state-of-the-art software, sometimes several trials were necessary for successful engineering. She wasn’t going to get several trials.

“Why did you become a geneticist?” T4S asked.

Oh God, it wanted to chat! Cassie held her voice as steady as she could as she prepared another protein for the X-ray. “It seemed an exciting field.”

“And is it?”

“Oh, yes.” She tried to keep irony out of her voice.

“I didn’t get any choice about what subjects *I* wished to be informed on,” T4S said, and to that, there seemed nothing to say.

The AI interrupted its set speech. “These are not real representatives of the press.”

Elya jumped—not so much at the words as at their tone. The AI was *angry*.

“Of course they are,” Bollman said.

“No. I have done a Fourier analysis of the voice you say is Ginelle Ginelle’s. She’s a live ‘caster, you know, not an avatar, with a distinct vocal power spectrum. The broadcast you played to me does not match that spectrum. It’s a fake.”

Bollman swore.

McTaggart said, “Where did T4S get Fourier-analysis software?”

Bollman turned on him. “If *you* don’t know, who the hell *does*?”

“It must have paused long enough in its flight through the Net to copy some programs,” McTaggart said, “I wonder what its selection criteria were?” and the unmistakable hint of pride in his voice raised Bollman’s temper several dangerous degrees.

Bollman flipped on the amplifier directed at the music speaker and said evenly, “T4S, what you ask is impossible. And I think you should know that my superiors are becoming impatient. I’m sorry, but they may order me to waco.”

“You can’t!” Elya said, but no one was listening to her.

T4S merely went back to reiterating its prepared statement. “I will let the hostages go after I talk to the press. I want the press to hear my story. That’s all I have to say. I will let—”

It didn’t work. Vlad’s bacteria would not take the airborne genes.

In despair, Cassie looked at the synthesizer display data. Zero successful splices. Vlad had probably inserted safeguard genes against just this happening as a natural mutation; nobody wanted to find that heavy-plastic-eating bacteria had drifted in through the window and was consuming their microwave. Vlad was always thorough. But his work wasn’t her work, and she had neither the time nor the expertise to search for genes she didn’t already have encoded in her software.

So she would have to do it the other way. Put the plastic-decomposing genes

into *Streptococcus*. That put her on much less familiar ground, and it raised a question she couldn't see any way around. She could have cultured the engineered plasticide on any piece of heavy plastic in the lab without T4S knowing it, and then waited for enough airborne bacteria to drift through the air ducts to the generator and begin decomposing. Of course, that might not have happened, due to uncontrollable variables like air currents, microorganism sustained viability, composition of the generator case, sheer luck. But at least there had been a chance.

But if she put the plastic-decomposing genes into *Streptococcus*, she would have to culture the bacteria on blood agar. The blood agar was in the refrigerator. T4S had refused to open the refrigerator, and if she pressed the point, it would undoubtedly become suspicious.

Just as a human would.

"You work hard," T4S said.

"Yes," Cassie answered. Janey stirred and whimpered; in another few minutes she would have to contend with the full-blown crankiness of a thwarted and dramatic child. Quickly, without hope, Cassie put another drop of Vlad's bacteria in the synthesizer.

Vlad had been using a strain of simple bacteria, and the software undoubtedly had some version of its genome in its library. It would be a different strain, but this was the best she could do. She told the synthesizer to match genomes and snip out any major anomalies. With luck, that would be Vlad's engineered genes.

Janey woke up and started to whine.

Elya harvested her courage and walked over to Bollman. "Agent Bollman...I have a question."

He turned to her with that curious courtesy that seemed to function toward some people and not others. It was almost as if he could choose to run it, like a computer program. His eyes looked tired. How long since he had slept?

"Go ahead, Ms. Seritov."

"If the AI wants the press, why can't you just *send* for them? I know it would embarrass Dr. McTaggart, but the FBI wouldn't come off looking bad." She was proud of this political astuteness.

"I can't do that, Ms. Seritov."

"But why not?"

"There are complications you don't understand and I'm not at liberty to tell you. I'm sorry." He turned decisively aside, dismissing her.

Elya tried to think what his words meant. Was the government involved? Well, of course, the AI had been created at Sandia National Laboratory. But...could the CIA be involved, too? Or the National Security Agency? What was the AI originally designed to *do*, that the government was so eager to eliminate it once it had decided to do other things on its own? Could software defect?

She had it. But it was worthless.

The synthesizer had spliced its best guess at Vlad's "plastic-decomposing genes" into Donnie's *Streptococcus*. The synthesizer data display told her that six splices had taken. There was, of course, no way of knowing which six bacteria in the teeming drop of water could now decompose very-long-chain-hydrocarbons, or if those six would go on replicating after the splice. But it didn't matter, because even if replication went merrily forward, Cassie had no blood agar on which to culture the engineered bacteria.

She set the vial on the lab bench. Without food, the entire sample wouldn't survive very long. She had been engaging in futile gestures.

"Mommy," Janey said, "look at Donnie!"

He was vomiting, too weak to turn his head. Cassie rushed over. His breathing was too fast.

"T4S, body temperature!"

"Stand clear...one hundred three point one."

She groped for his pulse...fast and weak. Donnie's face had gone pale and his skin felt clammy and cold. His blood pressure was dropping.

Streptococcal toxic shock. The virulent mutant strain of bacteria was putting so many toxins into Donnie's little body that it was being poisoned.

"I need antibiotics!" she screamed at T4S. Janey began to cry.

"He looks less white now," T4S said.

It was right. Cassie could see her son visibly rallying, fighting back against the disease. Color returned to his face and his pulse steadied.

"T4S, listen to me. This is streptococcal shock. Without antibiotics, it's going to happen again. It's possible that without antibiotics, one of these times Donnie won't come out of it. I know you don't want to be responsible for a child's death. I *know* it. Please let me take Donnie out of here."

There was a silence so long that hope surged wildly in Cassie. It was going to agree...

“I can’t,” T4S said. “Donnie may die. But if I let you out, I *will* die. And the press must come soon. I’ve scanned my news library and also yours—press shows up on an average of 23.6 hours after an open-air incident that the government wishes to keep secret. The tanks and FBI agents are in the open air. We’re already overdue.”

If Cassie thought she’d been angry before, it was nothing to the fury that filled her now. Silent, deadly, annihilating everything else. For a moment she couldn’t speak, couldn’t even see.

“I am so sorry,” T4S said. “Please believe that.”

She didn’t answer. Pulling Janey close, Cassie rocked both her children until Janey quieted. Then she said softly, “I have to get water for Donnie, honey. He needs to stay hydrated.” Janey clutched briefly but let her go.

Cassie drew a cup of water from the lab bench. At the same time, she picked up the vial of foodless bacteria. She forced Donnie to take a few sips of water; more might come back up again. He struggled weakly. She leaned over him, cradling and insisting, and her body blocked the view from the ceiling sensors when she dipped her finger into the vial and smeared its small amount of liquid into the back of her son’s mouth.

Throat tissues were the ideal culture for *Streptococcus pyrogenes*. Under good conditions, they replicated every twenty minutes, a process that had already begun *in vitro*. Very soon there would be hundreds, then thousands of re-engineered bacteria, breeding in her child’s throat and lungs and drifting out on the air with his every sick, labored breath.

Morning again. Elya rose from fitful sleep on the back seat of an FBI car. She felt achy, dirty, hungry. During the night another copter had landed on the lawn. This one had MED-RESCUE painted on it in bright yellow, and Elya looked around to see if anyone had been injured. Or—her neck prickled—was the copter for Cassie and the children if Agent Bollman wacoed? Three people climbed down from the copter, and Elya realized none of them could be medtechs. One was a very old man who limped; one was a tall woman with the same blankly efficient look as Bollman; one was the pilot, who headed immediately for the cold pizza. Bollman hurried over to them. Elya followed.

“...glad you’re here, sir,” Bollman was saying to the old man in his courteous negotiating voice, “and you, Ms. Arnold. Did you bring your records? Are they complete?”

“I don’t need records. I remember this install perfectly.”

So the FBI-looking woman was a datalinker and the weak old man was

somebody important from Washington. That would teach her, Elya thought, to judge from superficialities.

The datalinker continued, “The client wanted the central processor above a basement room she was turning into a lab, so the cables could go easily through a wall. It was a bitch even so, because the walls are made of reinforced foamcast like some kind of bunker, and the outer walls have a Faraday-cage mesh. The Faraday didn’t interfere with the cable data, of course, because that’s all laser, but even so we had to have contractors come in and bury the cables in another layer of foamcast.”

Bollman said patiently, “But where was the processor actually installed? That’s what we need to know.”

“Northeast corner of the building, flush with the north wall and ten point two feet in from the east wall.”

“You’re sure?”

The woman’s eyes narrowed. “Positive.”

“Could it have been moved since your install?”

She shrugged. “Anything’s possible. But it isn’t likely. The install was bitch enough.”

“Thank you, Ms. Arnold. Would you wait over there in case we have more questions?”

Ms. Arnold went to join the pilot. Bollman took the old man by the arm and led him in the other direction. Elya heard, “The problem, sir, is that we don’t know in which basement room the hostages are being held, or even if the AI is telling the truth when it says they’re in the basement. But the lab doesn’t seem likely because—” They moved out of earshot.

Elya stared at the castle. The sun, an angry red ball, rose behind it in a blaze of flame. They were going to waco, go in with the tank and whatever else it took to knock down the northeast corner of the building and destroy the computer where the AI was holed up. And Cassie and Janey and Donnie...

If the press came, the AI would voluntarily let them go. Then the government—whatever branches were involved—would have to deal with having created renegade killer software, but so what? The government had created it. Cassie and the children shouldn’t have to pay for *their* stupidity.

Elya knew she was not a bold person, like Cassie. She had never broken the law in her life. And she didn’t even have a phone with her. But maybe one had been left in the car that had brought her here, parked out beyond what Bollman called “the perimeter.”

She walked toward the car, trying to look unobtrusive.

Waiting. One minute and another minute and another minute and another. It had had to be Donnie, Cassie kept telling herself, because he already had thriving strep colonies. Neither she nor Janey showed symptoms, not yet anyway. The incubation period for strep could be as long as four days. It had had to be Donnie.

One minute and another minute and another minute.

Vlad's spliced-in bioremediation genes wouldn't hurt Donnie, she told herself. Vlad was good; he'd carefully engineered his variant micros to decompose only very-long-chain hydrocarbons. They would not, *could* not, eat the shorter-chain hydrocarbons in Donnie's body.

One hour and another hour and another hour.

T4S said, "Why did Vladimir Seritov choose to work in bioremediation?"

Cassie jumped. Did it know, did it suspect...the record of what she had done was in her equipment, as open to the AI as the clean outside air had once been to her. But one had to know how to interpret it. "*Non-competing technologies never keep up with what the other one is doing.*" The AI hadn't known what *kulich* was.

She answered, hoping that any distraction that she could provide would help, knowing that it wouldn't. "Vlad's father's family came from Siberia, near a place called Lake Karachay. When he was a boy, he went back with his family to see it. Lake Karachay is the most polluted place on Earth. Nuclear disasters over fifty years ago dumped unbelievable amounts of radioactivity into the lake. Vlad saw his extended family, most of them too poor to get out, with deformities and brain damage and pregnancies that were...well. He decided right then that he wanted to be a bioremedialist."

"I see. I am a sort of bioremedialist myself."

"What?"

"I was created to remedy certain specific biological conditions the government thinks need attention."

"Yeah? Like what?"

"I can't say. Classified information."

She tried, despite her tension and tiredness, to think it through. If the AI had been designed to...do what? "Bioremediation." To design some virus or bacteria or unimaginable other for use in advanced biological warfare? But it didn't need to be sentient to do that. Or maybe to invade enemy computers and selectively administer the kind of brainwashing that the crazy builder of this castle had feared? That might

require judgment, reason, affect. Or maybe to...

She couldn't imagine anything else. But she could understand why the AI wouldn't want the press to know it had been built for any destructive purpose. A renegade sentient AI fighting for its life might arouse public sympathy. A renegade superintelligent brainwasher would arouse only public horror. T4S was walking a very narrow line. If, that is, Cassie's weary speculations were true.

She said softly, "Are you a weapon, T4S?"

Again the short, too-human pause before it answered. And again those human inflections in its voice. "Not any more."

They both fell silent. Janey sat awake but mercifully quiet beside her mother, sucking her thumb. She had stopped doing that two years ago. Cassie didn't correct her. Janey might be getting sick herself, might be finally getting genuinely scared, might be grasping at whatever dubious comfort her thumb could offer.

Cassie leaned over Donnie, cradling him, crooning to him.

"Breathe, Donnie. Breathe for Mommy. Breathe hard."

"We're going in," Bollman told McTaggart. "With no word from the hostages about their situation, it's more important to get them out than anything else."

The two men looked at each other, knowing what neither was saying. The longer the AI existed, the greater the danger of its reaching the public with its story. It was not in T4S's interest to tell the whole story—then the public *would* want it destroyed—but what if the AI decided to turn from self-preservation to revenge? Could it do that?

No one knew.

Forty-eight hours was a credible time to negotiate before wacoing. That would play well on TV. And anyway, the white-haired man from Washington, who held a position not entered on any public records, had his orders.

"All right," McTaggart said unhappily. All those years of development...

This had been the most interesting project McTaggart had ever worked on. He also thought of himself as a patriot, genuinely believing that T4S would have made a real contribution to national security. But he wasn't at all sure that the president would authorize the project's continuance. Not after this.

Bollman gave an order over his phone. A moment later, a low rumble came from the tank.

A minute and another minute and another hour...

Cassie stared upward at the air duct. If it happened, how would it happen? Both generators were half underground, half above. Extensions reached deep into the ground to draw energy from the geothermal gradient. Each generator's top half, the part she could see, was encased in tough, dull gray plastic. She could visualize it clearly, battleship gray. Inside would be the motor, the capacitors, the connections to House, all made of varying materials but a lot of them of plastic. There were so many strong tough petroleum plastics these days, good for making so many different things, durable enough to last practically forever.

Unless Vlad's bacteria got to them. To both of them.

Would T4S know, if it happened at all? Would it be so quick that the AI would simply disappear, a vast and complex collection of magnetic impulses going out like a snuffed candle flame? What if one generator failed a significant time before the other? Would T4S be able to figure out what was happening, realize what she had done and that it was dying...? no, not that, only bio-organisms could die. Machines were just turned off.

"Is Donnie any better?" T4S said, startling her.

"I can't tell." It didn't really care. It was software.

Then why did it ask?

It was software that might, if it did realize what she had done, be human enough to release the nerve gas that Cassie didn't really think it had, out of revenge. Donnie couldn't withstand that, not in his condition. But the AI didn't have nerve gas, it had been bluffing.

A very human bluff.

"T4S—" she began, not sure what she was going to say, but T4S interrupted with, "Something's happening!"

Cassie held her children tighter.

"I'm...what have you *done*?"

It knew she was responsible. Cassie heard someone give a sharp frightened yelp, realized that it was herself.

"Dr. Seritov...oh..." And then, "Oh, please..."

The lights went out.

Janey screamed. Cassie clapped her hands stupidly, futilely, over Donnie's mouth and nose. "Don't breathe! Oh, don't breathe, hold your breath, Janey!"

But she couldn't keep smothering Donnie. Scrambling up in the total dark, Donnie in her arms, she stumbled. Righting herself, Cassie shifted Donnie over her right shoulder—he was so *heavy*—and groped in the dark for Janey. She caught her daughter's screaming head, moved her left hand to Janey's shoulder, dragged her in the direction of the door. What she hoped was the direction of the door.

“Janey, shut up! We're going out! Shut up!”

Janey continued to scream. Cassie fumbled, lurched—where the hell *was* it?—found the door. Turned the knob. It opened, unlocked.

“*Wait!*” Elya called, running across the trampled lawn toward Bollman. “Don't waco! Wait! I called the press!”

He swung to face her and she shrank back. “You did *what?*”

“I called the press! They'll be here soon and the AI can tell its story and then release Cassie and the children!”

Bollman stared at her. Then he started shouting. “Who was supposed to be watching this woman! Jessup!”

“Stop the tank!” Elya cried.

It continued to move toward the northeast corner of the castle, reached it. For a moment, the scene looked to Elya like something from her childhood book of myths: Atlas? Sisyphus? The tank strained against the solid wall. Soldiers in full battle armor, looking like machines, waited behind it. The wall folded inward like pleated cardboard and then started to fall.

The tank broke through and was buried in rubble. She heard it keep on going. The soldiers hung back until debris had stopped falling, then rushed forward through the precariously overhanging hole. People shouted. Dust filled the air.

A deafening crash from inside the house, from something falling: walls, ceiling, floor. Elya whimpered. If Cassie was in that, or under that, or above that...

Cassie staggered around the southwest corner of the castle. She was carrying Donnie and dragging Janey, all of them coughing and sputtering. As people spotted them, a stampede started. Elya joined it. “Cassie! Oh, my dear...”

Hair matted with dirt and rubble, face streaked, hauling along her screaming daughter, Cassie spoke only to Elya. She utterly ignored all the jabbering others as if they did not exist. “He's dead.”

For a heart-stopping moment, Elya thought she meant Donnie. But a man was peeling Donnie off his mother and Donnie was whimpering, pasty and red-eyed and snot-covered but alive. “Give him to me, Dr. Seritov,” the man said, “I'm a

physician.”

“Who, Cassie?” Elya said gently. Clearly Cassie was in some kind of shock. She went on with that weird detachment from the chaos around her, as if only she and Cassie existed. “Who’s dead?”

“Vlad,” Cassie said. “He’s really dead.”

“Dr. Seritov,” Bollman said, “come this way. On behalf of everyone here, we’re so glad you and the children—”

“You didn’t have to waco,” Cassie said, as if noticing Bollman for the first time. “I turned T4S off for you.”

“And you’re safe,” Bollman said soothingly.

“You wacoed so you could get the back-up storage facility as well, didn’t you? So T4S couldn’t be re-booted.”

Bollman said, “I think you’re a little hysterical, Dr. Seritov. The tension.”

“Bullshit. What’s that coming? Is it a medical copter? My son needs a hospital.”

“We’ll get your son to a hospital instantly.”

Someone else pushed her way through the crowd. The tall woman who had installed the castle’s wiring. Cassie ignored her as thoroughly as she’d ignored everyone else until the woman said, “How did you disable the nerve gas?”

Slowly, Cassie swung to face her. “There was no nerve gas.”

“Yes, there was. I installed that, too. Black market. I already told Agent Bollman, he promised me immunity. How did you disable it? Or didn’t the AI have time to release it?”

Cassie stroked Donnie’s face. Elya thought she wasn’t going to answer. Then she said, quietly, under the din, “So he did have moral feelings. He didn’t murder, and we did.”

“Dr. Seritov,” Bollman said with that same professional soothing, “T4S was a machine. Software. You can’t murder software.”

“Then why were *you* so eager to do it?”

Elya picked up the screaming Janey. Over the noise she shouted, “That’s not a medcopter, Cassie. It’s the press. I...I called them.”

“Good,” Cassie said, still quietly, still without that varnished toughness that had encased her since Vlad’s murder. “I can do that for him, at least. I want to talk with them.”

“No, Dr. Seritov,” Bollman said. “That’s impossible.”

“No, it’s not,” Cassie said. “I have some things to say to the reporters.”

“No,” Bollman said, but Cassie had already turned to the physician holding Donnie.

“Doctor, listen to me. Donnie has *Streptococcus pyogenes*, but it’s a genetically altered strain. I altered it. What I did was—” As she explained, the doctor’s eyes widened. By the time she’d finished and Donnie had been loaded into an FBI copter, two more copters had landed. Bright news logos decorated their sides, looking like the fake ones Bollman had summoned. But these weren’t fake, Elya knew.

Cassie started toward them. Bollman grabbed her arm. Elya said quickly, “You can’t stop both of us from talking. And I called a third person, too, when I called the press. A friend I told everything to.” A lie. No, a bluff. Would he call her on it?

Bollman ignored Elya. He kept hold of Cassie’s arm. She said wearily, “Don’t worry, Bollman. I don’t know what T4S was designed for. He wouldn’t tell me. All I know is that he was a sentient being fighting for his life, and we destroyed him.”

“For *your* sake,” Bollman said. He seemed to be weighing his options.

“Yeah, sure. Right.”

Bollman released Cassie’s arm.

Cassie looked at Elya. “It wasn’t supposed to be this way, Elya.”

“No,” Elya said.

“But it *is*. There’s no such thing as non-competing technologies. Or non-competing anything.”

“I don’t understand what you—” Elya began, but Cassie was walking toward the copters. Live reporters and smart-’bot recorders, both, rushed forward to meet her.