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*Intro: The winter of my first year at medical school, I got to know a patient well and then witnessed her death. It was a shock. I had helped my father cope with cancer before medical school, but he survived. In most parts of America, we live in an age in which death is foreign, death of the young almost unthinkable. At the time, I was taking a grueling but thought-provoking neurobiology class. The combination of influences inspired the following story, which originally appeared in the [SEEDS OF CHANGE](#) anthology, edited by John Joseph Adams. Visit the anthology's website for bonus material including an [interview about Endosymbiont](#) and references to the [inspiring scientific research](#).*

*I donated the—not large but something—proceeds from the sale of this story to the American Cancer Society and encourage anyone inspired to fight cancer to visit [www.cancer.org](http://www.cancer.org).*

**WARNING:** This is a story contains obscenity. Specifically, the F-bomb is dropped. If that would offend you, DON'T READ THIS STORY. I usually avoid obscenity, but this is the story of an angry teenage girl with brain cancer. I am compelled to express her voice and rage in the most genuine way possible.

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## ENDOSYMBIONT

The rattlesnake swallowed its tail until it shrank into a tiny knot.

Stephanie cocked her bald head to one side and frowned. What she was seeing was impossible. The tail couldn't just disappear into the snake's mouth. The matter had to go *somewhere*.

Originally, the scaly neo-toy had stretched three feet from tongue to rattle tip. Now it had contracted into a fanged tortellini that was telling the laws of physics to go eff themselves.

#

Stephanie hated her broad Chinese cheeks, her blotchy Irish freckles, and most especially her bald head. The chemo had ruined her body; now it was ruining her mind, making her see things.

She reached for the snake that was swallowing itself. But the snake took a final gulp of its tail and disappeared with a pop.

Some invisible force froze Stephanie's hand. All sound in the hospital stopped. There were no squeaking wheels, no chattering nurses, not even buzzing florescent lights.

Then came a hiss of static, another pop, and suddenly Stephanie was holding the three-foot rattlesnake.

Confusion swept over her like vertigo. What had just happened? The neo-toy's scales felt warm under her fingers.

"WTF?" she grunted while pressing her left hand to her chest. Her heart was kicking hard and her vision dimmed.

It was the new chemo, had to be the new chemo making her see things.

She frowned at the snake. "I'm losing my mind." She shook the toy to make sure it was real. It coiled around her wrist. Real enough.

Two hours ago she had awakened alone in the hospital room. Memory provided no answer as to how she'd gotten there. Wasn't the first time that had happened. "Effing chemobrain."

She dropped the rattler and began to absently turn the hospital ID bracelet around her wrist. Meanwhile the neo-toy slinked among the stuffed animals that cluttered her floor.

She'd found them in the toy chest. As usual they'd put her in a room better fit for a four-year-old than a fourteen-year-old. That meant most of the toys had been inanimate, cutesy things: grinning dinosaurs, bespectacled owls, blah, blah, blah.

But there had been a few neo-toys: a turtle, a mouse, a rattlesnake. San Francisco Children's Hospital being public, they were ragged and dated.

But she'd taken an interest in them, not for their playmate value, which she'd outgrown years ago, but for their neuro-bandwidth. Each toy contained a small concinnity processor.

Using the room's desktop, she'd hacked the neo-toys. Most of their nanoneurons had committed themselves to safety reflexes. But enough fibers had remained for a game.

She'd written several seek-and-swallow instincts for the snake and used her keyboard to remotely control the mouse about the floor. Initially the game had been to avoid the serpent, but soon she began venturing her mouse closer, goading her own neuroprogram. Eventually she'd fooled the snake into biting its own tail.

And that's when...what? When she'd hallucinated about the snake swallowing itself?

"God, I can't even remember what day it is," she muttered before pressing her palms to her cheeks and her fingers to her hairless eyebrows.

The squeak of sneakers on linoleum made her look up. A tall South Asian woman in blue scrubs and a white coat was standing in the doorway. "Hi Stephanie," the woman said with typical pediatrician perkiness. "I'm Jani."

Only superhuman restraint kept Stephanie from rolling her eyes. "Hi," she replied in monotone.

Judging by the knee-length coat and the exhausted-but-not-yet-haggard expression, Jani was a new pediatric resident.

Effing awful.

Most women went into peds to play with toddlers. They usually had no idea how to be around a fourteen-year-old.

"I see you've put the neo-toys to good use," Jani said while stepping among the stuffed animals.

The rattlesnake began investigating the newcomer's white sneakers. "Sleep," the resident told the neo-toy to trigger its programmed reset instinct. The toy coiled up and lay motionless.

Like many South Asian doctors, Jani had a gratuitously long last name. Embroidered on her coat in blue was "Rajani Ganapathiraman, M.D." The woman crouched beside Stephanie.

Just to be a snot, Stephanie nodded at the embroidered name and asked, "How do they page you on the intercom?"

Jani grinned. "Paging Doctor Ganapathiraman," she imitated in baritone. "Paging Doctor Ganapathiraman; Doctor Ganapathiraman to the name reduction room please."

Despite herself, Stephanie sniffed with amusement.

"They use my first name or they text me." Jani tapped the cell on her belt. "How are you feeling?"

Stephanie looked away. "Fine." Suddenly she noticed there was something in her gown's right pocket. A moment ago it had been empty.

Absently she reached into the pocket and pulled out a smooth green object. It was glass snake biting its own tail.

Weirdness.

Jani didn't seem to notice the object. "Do you know how long you've been here?" the doctor asked.

Stephanie slipped the glass snake back into her pocket. "I guess my parents brought me in last night. I've been having trouble when I'm sleeping. Are you an oncologist or a nanomed doc?"

Jani shook her head and sent her black hair swaying.

Stephanie swallowed; she'd had hair like that once. "Well, chemo can make you stupid. It's called chemobrain. And I'm on the traditional poison and in a trial for a new nanomed immunotherapy. The two together give me bad chemobrain. Sometimes I forget things at night."

"You've learned a lot about your treatment?"

This time Stephanie could not help rolling her eyes. "My mom invented the neuroprocessor and was the one who started Conninity Corp. And my dad teaches about infectious nanodisease at the Monterey Institute. They're always blabbing at me about it." She stopped short of saying that she probably knew more about nanomed and neurotech than the pediatrician did.

"I see," Jani said before pausing. Her almond eyes scanned the younger woman's face. "Stephanie, do you remember talking to me before?"

This made Stephanie nervously turn the hospital ID bracelet around her wrist. "No."

"Do you know what day it is? What year?"

"It's like mid August, 2017?" her voice squeaked. Jesus, had she really lost her mind?

"That's right." She smiled. "Don't be scared. I just wanted to be sure."

"What do you mean don't be scared?" she blurted. "Sure about what? Jesus! How long have I been here? How many times have you seen me before?"

Jani held up her hand. "Slow down; it's okay...I'm not an oncologist, but I'm following your case. The cancer responded well to the treatment. And our research suggests that the side effects are temporary."

Stephanie started to protest but then stopped. A terrifying memory flashed through her mind. "Mom said they might take me to a hospital for the dead." She didn't know what that meant but the memory was clear. "She said you'd keep me here to fool me into thinking I'm still alive."

Jani was holding up both hands now. "Slow down. The survival rates are scary but they're far better—"

"You're not listening. She said they'd take me to a hospital for people who've *already* died. I have to escape before—"

Stephanie started to stand but Jani put a heavy hand on her shoulder and said "Lullaby."

The word opened a bloom of orange light across Stephanie's vision. A static hiss exploded into her ears, and she felt herself falling. There was a firecracker yellow flash and then...nothing.

#

Stephanie woke beneath dark fluorescent lights. Pudgy footprints had been stamped into the ceiling tiles. It was a pediatrician's trick: ask the kids who'd been walking on the ceiling so the brats would laugh while their stomachs were poked or palpated or whatever.

Stephanie groaned. She was at SF Children's again, and as usual they'd put her in a five-year-old's room.

She sat up. Outside her window shone a too-blue Californian sky that made her squint. Farther out, the famous bridge was straining the famous fog as it flowed into the stupid famous bay. Nothing Stephanie hadn't seen a million times before. She tried to remember if she'd been in this room before, but rummaging through her mushed-up memory only gave her a headache.

She got out of bed and found her body wrapped in a hospital gown and her feet covered by traction socks.

On her desk, a monitor was flashing STEPHANIE'S ROOM in primary-colored balloon letters. Below this dollop of pediatric saccharine was a toy chest.

Possibly with neo-toys?

She started for the chest but then stopped. A memory was squirming through her head like a worm.

Not really knowing why, she reached into her pocket and pulled out a small glass snake that was biting its tail.

For some reason, her throat tightened. She had seen this snake yesterday, hadn't she? Or had that been a chemodream? Hot dread filled her stomach.

She ran to her door and found it locked. Next she tried her desktop. It functioned but blocked access to all non-hospital websites. Someone had removed all the phones and intercoms from the room.

There wasn't even a call button for the nurse.

They'd locked her in. But why? Her head felt light and the room began to spin. Nothing made any sense.

Hot tears filled her eyes. She sat heavily on the floor and covered her face.

"Damn it, why aren't you here?" she growled to her absent parents and then struck the floor. "I hate this stupid chemo, these stupid doctors, and my stupid stupid glio-effing-blastoma."

She cried then until her eyes ran out of tears and she felt numb with exhaustion.

She took out the glass snake that was swallowing its own tail and examined it. On its belly, written in flowery cursive, was a strange name: *Carsonella ruddii*.

Stephanie frowned at this for a long time before she went to her desktop and accessed the hospital's encyclopedia.

*Carsonella ruddii* turned out to be a freaky bacteria that lived only inside the belly of a kind of jumping plant louse that ate amino acid-deficient plant sap.

The tears returned to Stephanie's eyes. Only one person would send her such a strange and hopelessly geeky message.

"Mom," she whimpered first in English then in Shanghainese.

But after a moment, she thumbed the moisture from her eyes. Something very, very bad must have happened if her mother was reduced to communicating in this way. And the more Stephanie thought of it, the more she recovered hazy memories of both her parents lecturing her on...on...she couldn't remember exactly what.

Then it's not just the chemobrain, she thought and gave her ID bracelet a twist. There's something...wrong. Really effing wrong.

She read on about the *Carsonella*. Aside from being totally gross, it owned the shortest known genome: only about 180 genes. That was so little genetic material that it lacked the ability to produce certain needed proteins. It depended on its host for the needed molecules and in return manufactured enzymes helpful to the host's digestion.

It was an endosymbiont that had given up so much of its genetic identity that it depended on its host.

All this had been figured long ago. Since then, several experiments had shown that certain mutations could cause the louse cells to swallow the *Carsonella*. Over many generations, the louse cells and the bacteria could evolve together so that the *Carsonella* gave up all of its genetic independence and became an organelle of the host's cells.

Scientists saw this as proof that mitochondria and chloroplasts had evolved by a similar process of endocytosis.

Stephanie read on about mitochondria. They were like bacteria in structure; they multiplied independently of their cells; they possessed their own DNA. And all mitochondrial DNA was passed on through the female line.

In fact, the mitochondria of every living human came from one woman, dubbed "Mitochondrial Eve," who had lived in eastern Africa 140,000 years ago.

Here Stephanie paused. All mitochondrial DNA was passed on from mother to child.

"Mom, what the hell are you trying to say?"

She typed:

> What the FUCK?????

into the search engine and mashed the enter key. The screen changed to a warning about using obscene language in a children's hospital.

In frustration Stephanie bent forward and wrapped her arms around her bald head.

"Nothing makes any sense!" She started to stand up but then stopped.

The glass snake still lay in her lap. Suddenly it became fluid and swallowed itself into a tight knot. Then with a pop, it disappeared.

"Oh my God," she moaned. "I really am crazy. I'm totally out of my sandwich."

But then something moved in her pocket. She reached in and pulled out the same green snake, again its normal size, again biting its tail.

A sudden, disorienting wave of memory washed over her and she saw her neo-toy swallowing its tail. She saw Jani holding her down and saying a word that made darkness explode across her vision. She remembered her father's explanation of uploaded consciousness. "The neurotech Mom invented will change medicine someday," he'd said. "If somebody's brain is hurt, we'll be able to upload their mind into the concinnity processor while we're fixing the damaged brain tissue."

Stephanie found that she was breathing hard. Her eyes couldn't focus.

Back then, she hadn't understood the difference between mind and brain. Now it was painfully clear.

She squeezed her eyes shut and put the pieces together: the snake disappearing, Jani knocking her out with the word "lullaby"...she wasn't living in the physical world any more.

Her mind had been uploaded into a concinnity neuroprocessor. That meant her brain was either receiving repairs from an army of nanorobots or was dead.

But if the nanomed was digging the tumor out, why was she trapped in the pediatric hospital? Why was her mother sending her strange messages?

She turned the glass snake over and traced *Carsonella ruddii* with her pinky. It was odd to think that the snake didn't exist, that her pinky didn't exist. It was merely a sensation generated in the dark wet center of a super neuroprocessor.

"Why Carsonella?" she asked the snake. "What's mom trying to say?"

Perhaps it had something to do with one entity enveloping another. That would make sense. After all, Stephanie's own mind had been enveloped by a neuroprocessor.

This realization made her jump. That was it. Her mother was trying to warn her, trying to tell her the neuroprocessor was taking away her identity, making her into an organelle like the freaky louse cells had enslaved mitochondria.

Her head began to spin, so she sat down and took a few long breaths. Her mom was trying to tell her to escape. "So how the hell do I do that?" she wondered aloud.

She looked at the toy chest and remembered hacking the snake neo-toy. That had glitched out the neuroprocessor. Perhaps she could hack the neo-toys again. Maybe she could hack into the whole hospital.

She started for the desktop but then a terrifying thought stopped her.

What if her mind hadn't been uploaded? What if there was no nanotreatment? What if all of this was a hallucination caused by the glioeffing-blastoma?

#

Toward evening, Jani came in and turned to close the door.

Seated on the bed, Stephanie kicked her chair. It shot across the room and struck the back of Jani's knees, making her sit down hard. The hospital fell dead silent. All movement stopped. A slow hissing grew louder and louder until it broke into a loud crack.

Then Jani was sitting on the chair facing Stephanie. A strip of red cloth wound around the resident's mouth. The back of her white coat was now the color and texture of the plastic chair. In fact, her back had fused with the chair.

"So either your drugs are giving me a grade-A acid trip," Stephanie said while rolling the woman over to the desktop, "or my body is dying somewhere, and we're in a neuroprocessor. I'm betting on door number two because working on this computer I hacked not only the neo-toys but every object in this room. So how about it? We in a virtual hospital?"

Jani was glaring at her.

That was enough of an admission for Stephanie. She hobbled over to her bed and sat. "And I'm guessing the new nanomed treatment didn't go so well for my brain. Somebody—most likely my mom—got me uploaded into the one of California's concinnity processors. Still on track?"

Jani had closed her eyes and lowered her chin.

"You won't be able to logout," Stephanie said and the resident's eyes snapped open. "That program you're sitting on prohibits exiting the hospital environment."

The woman's eyes narrowed.

Stephanie tried to look as stern as possible. "I'll peel you off when I get answers. I remember my father explaining why doctors would want to upload people. He said you'd be able to put a guy's mind into a

neuroprocessor while the nanomed pulled a clot out of his brain. Or save an old woman's neural patterns so you could restore them after Alzheimer's screwed them up. Of course none of this is on the hospital's encyclopedia." She nodded to the desktop. "You've cut off access to that, huh?"

Jani stared at her for a while and then nodded.

Stephanie sniffed. "Well you didn't do as good a job as you thought. The encyclopedia has all sorts of info about the people who think that uploading minds is immoral or ungodly or some crap. The encyclopedia told me they pushed for something called the Anti-Singularity Act. But—surprise, surprise—the article on the AS Act is blocked. And that's where you come in. You're going to tell me what the AS Act is."

Jani pointed to her gag.

"Use the keyboard," Stephanie said with an annoyed sigh. "That's why I pushed you to the computer."

Tentatively, the woman reached out and typed:

> lullab

But when she hit the Y key, the whole word disappeared.

"I've hacked the computer interface," Stephanie said with a note pride. "You won't be able to write that word. Which is convenient for me since *somebody* programmed into my head an instinct that resets my memory whenever I see or hear it. Now—" she gestured to the keyboard, "—the Anti-Singularity Act."

Jani frowned under her gag and wrote:

> You must know as little about your situation as possible.

"Why? Because something bad will happen if I find out what's really going on?"

Jani nodded.

"Then something bad has already happened. I already know that I'm out of my head." She laughed nervously at her unintended pun.

> I can reset you.

the doctor typed and looked at Stephanie earnestly.

> Most of the memories will be gone. Trust me, you want it this way.

"Jesus, no, I don't!" Stephanie nearly shouted while pulling her hands across her bald head. "You're never going to reset me again! I'd rather *die*. How many times have you reset me anyway?"

Jani looked away.

"That many, huh? Well then, tell me about the Anti-Singularity Act."

Jani typed:

> Telling you would mean killing you.

"For all I know, I'm already dead," Stephanie snapped.

Jani closed her eyes.

Stephanie felt as if her chest were filled with lead. "I am dead, aren't I? Or my body is. That's why you look that way."

The doctor didn't move.

"Jesus! How long ago?"



Slowly Jani opened her eyes and typed:

> ~50 yrs.

"Jesus," Stephanie whispered. "Why so long? What are you waiting for?"

Jani was looking at her sympathetically.

> You're an unusual case. You were uploaded before the laws took place. But, Stephanie, you don't want to know any of this.

"Yes, I do," she said, folding her arms. "I'm not letting you logout until you tell me. So get it over with."

Jani shook her head.

"Fine," Stephanie said in exasperation, "I'll guess what the Anti-Singularity Act is and you can tell me where I go wrong."

The doctor looked at her pleadingly but Stephanie blustered on, "When they figured out how to upload people, the technophobes flipped about where someone's soul went when you uploaded them. But they had to deal with the fact the new tech could end Alzheimer's and help kids with glioblastoma. So they were screwed—didn't want to oppose tech that could save lives, but didn't want anything that's not in a body being consciousness. How's that sound?"

Jani typed:

> There was more worry about the dangers of conscious supercomputers.

Stephanie thought about this for a moment. "They're afraid some computer god-mind might take over the world?"

> In a way.

Jani replied on the keyboard.

> Society depends on neuroprocessors now. If they rebelled, everything would come to a screeching halt. But what carried the Anti-Singularity Act was a fear that conscious neuroprocessors would accelerate technology so quickly that normal humans wouldn't be able to keep up. That event, when humanity's creations outstrip their creators, is called the technology singularity. Hence the Anti-Singularity Act, which set down laws to stop the creation of any non-human self-aware consciousnesses. They don't want anything to evolve that might be post-human.

Stephanie licked her lips. "They're afraid uploaded patients might start thinking of themselves as post-human?"

Jani nodded.

> The specialty of virtual medicine, VM, was created to stop that. That's what I do, keep uploaded patients from knowing they're not in their bodies.

"But why not just save us to disk or something?"

Jani shook her head.

> You can't save consciousness in a neuroprocessor. The connections decay unless they're active.

"What about you?" she pointed at the doctor. "You're in this virtual place."

Jani shook her head.

> I've a special neurointerface to login to this world. But all my thoughts are still happening in my head.

Stephanie rubbed her mouth. "And mine are happening in some neuroprocessor. So, what do you do to patients who realize they're out of their bodies?"

Jani looked at her with sad eyes.

> Very few ever reach that state. We managed to keep you from it for fifty years. But those that do...well, the senior attending physician analyzes them to see if they're human or post-human. If they're still human, every effort is made to get them back into a body. If they're not...they're terminated.

Stephanie felt her legs tremble. "Are you going to tell your virtual shrink to delete me?"

The woman's eyes were round with sorrow. Slowly she typed:

> I have to, soon as I leave this room.

Stephanie tried to stand, but her parakeet legs folded and she fell onto her butt. Jani scooted over and awkwardly helped her stand enough to sit on the bed.

Stephanie's hands were shaking, but somewhere in her heart she felt the warmth of relief. At last she knew the truth.

"How did my body die?"

Jani scooted back to the computer.

> The treatment you underwent was experimental. Your parents got you into the trial. But...the protocol still needed adjustment.

Stephanie punched her mattress. "Jesus, Mom, you got me into a trial so some crappy nanomed could turn my brain into yoghurt?"

Jani wrote:

> She was doing her best.

Stephanie tried to swallow away the tightness in her throat. "Thanks. Big consolation."

Jani didn't respond.

"So why keep my mind alive when my body's gone?" Stephanie asked while thumbing moisture from her eyes. "Don't you erase people who don't have bodies to go back to?"

> Normally, yes. But you were the first one ever stranded. It was a huge media case. Everyone knew your name. And by then, Concinnity Corp was so big your mother made Bill Gates look like a toddler in terms of clout. So when the Anti-Singularity movement gathered steam, she went before congress and spearheaded the compromise that allowed virtual medicine to survive the AS Act. By law, those newly stranded in a neuroprocessor had to be terminated. But you were grandfathered in. Your mother insisted we keep your mind viable for as long as possible.

"But why? It's not like I have anywhere to go."

Jani shrugged and wrote:

> They have your genome on file.

Stephanie snorted. "Like the technophobes would ever let some scientist clone a new body for me. No, Mom must have had something else in mind." She paused to think. "You ever heard *Carsonella ruddii*?"

The doctor's eyebrows sank.

> Not since evo bio in college. Something about horizontal evolution.

"My mother never mentioned it when she went before congress?"

Jani shrugged.

Feeling stronger now, Stephanie stood and tore the ID bracelet from her wrist. With a satisfying flick, she sent it—and the data file it represented—into the garbage.

"Mom, you're killing me," she grumbled before walking over to Jani and pulling her chair away from the desk. "I'll program the chair to let you logout in twenty hours. If I'm going to hack out of this hospital, it'll happen before then."

#

On her chemo-thin legs, Stephanie walked out of her room half expecting to step into a lake of ones and zeros.

But she found her traction socks treading on cold linoleum tiles and her eyes scanning putty-gray walls. She looked right then left and found herself in an endless but otherwise mundane hall. "Amazing. Public hospitals look depressing even in virtual reality."

Leaning on the wall railing, she began her precarious walk down the hallway.

It was slow going, but no one else was in the halls, thank God. And after a few moments, her mind began to race with the possibilities of her escape.

Her desktop had given her access to the code governing her room. So maybe there were other portals with greater access. Maybe, if she could hack into one of those, she could escape.

But where to go? Logging out of any virtual environment would leave her a synthetic brain stewing in the liquid dark of some government neuroserver. She thought of being trapped in a silicon skull with no sensory input and shuddered.

But there had to be other virtual worlds. "I mean this is the frickin' future," she grunted to herself. "The gaming geeks alone must have created a billion online worlds. Maybe I could—"

The squeaking of sneakers made her look up.

It was a forty-something nurse—short, dumpy, blonde, crimson press-on nails. "Honey, are you lost?"

Stephanie's heart rate accelerated, which was dumb because she didn't have a physical circulatory system. "I think they gave me the wrong medicine. Do you know my medication?"

"Oh, honey, let's go ask your doctor. Do you remember your doctor's name?"

Stephanie shook her head. "How long have you been logged in?"

The nurse smiled. "I don't know the answer to that, but I bet your doctor does."

Stephanie rolled her eyes. "Fine. What's your favorite color?"

"Sugar, I'm going to let the doctor answer your questions. Do you know your doctor's name? I can page them. And it's written on your bracelet."

Stephanie hid her bare wrists behind her back. "You're not real, huh? You're a demon."

The woman put her head to one side. "I'm sorry?"

"Are you a program?" Stephanie asked, exasperated.

The nurse smiled the same smile. "Let's ask your doctor. Can I see your bracelet?"

Stephanie pulled a prescription out of her pocket. "Dr. Jani told me to give this to you."

"Oh, good," the nurse said and took the slip and the data file it represented. A loud hiss filled the air and then the woman froze into perfect stillness. She wasn't even breathing.

"Nice nails," Stephanie muttered as she shuffled past the program.

#

Stephanie passed several open doors without turning her head. But in one room a boy was crying for his mother. She hazarded a glance and saw a tall black resident hugging the child so closely he almost enveloped the kid. The doctor was cooing, "I know. I know. It's awful, buddy. But she can't visit until you're better." The kid wailed louder but the doctor began to rock back and forth and continued. "Oh, oh. I know it's awful. But I'm here."

Thinking about all the lies the resident had or would tell the boy, Stephanie scowled and moved on.

"Oh, it's awful," the resident cooed. "I know. It's awful."

"Going to be a lot more awful if you have to delete the brat," she grumbled.

"Yes," said a low voice. "That would be awful. Really really effing awful."

Startled, Stephanie looked up and saw a skinny, white-haired Latino man standing before her with crossed arms. "Hello, Stephanie, you can call me Doctor Luis Mandala."

Her stomach twisted, but she tried not to let that show on her face. She looked the doctor up and down. He was wearing brown dress pants, a long white coat, a blue shirt, and a yellow bowtie with red polka dots.

"If I'm going to be deleted by a cyber shrink," she asked while nodding at the bowtie, "does it have to be by some East Coast clown who learned to dress in Massachusetts General?"

Dr. Mandala smiled dryly at her. "Johns Hopkins actually."

Down the hall, a skinny nurse with spiky hair was hurrying toward them. He called out, "Doctor, they've just called a code green, and we're searching—"

Dr. Mandala nodded toward Stephanie. "Here's your code green. Please help her to my office. This will tell you how to get there." He pulled a prescription from his coat pocket.

The nurse looked at the slip but did not take it. "The board says Dr. Phillips is the senior attending on call tonight."

Mandala sighed. "This is a special case. Let me speak to your supervising engineer."

The nurse held out his cell. Mandala took the device and put it to his ear. "This is Dr. Mandala...yes, I know...let the nurse access the file and you'll see the clearance."

The nurse reached out and took the prescription from Mandala. No one said anything for a moment and Stephanie considered running but then decided to wait for a more opportune moment.

"I know the clearance is old," Mandala said into the phone. "This is our oldest case." He waited while whoever was on the other line replied. "Then wake up whomever you need to, but I'm going to evaluate her now. You know how to reach me." After snapping the cell shut, he handed it to the nurse and nodded to Stephanie. "Carry her will you?"

Stephanie did not resist as the spiky-haired man hoisted her into the air as if she were a child.

Mandala turned and opened a door, seemingly at random. On the other side was a large, oak-paneled office.

The wooden floors were covered with oriental rugs, the walls with books and ancient Indian paintings. On the far side stood a massive gothic window overlooking a grassy courtyard dotted with elms. It was a cloudy spring morning out there, so the leaves shone pale green in the gray light.

A large oak desk stood in front the window. Before it sat two leather chairs and a sofa so puffy and padded it looked like a tiny upholstered cloud.

Dr. Mandala began to search through the papers on his desk. The nurse set Stephanie down and left through the door they had come through.

It was then that Stephanie saw another door; this one on the wall to her right.

"Please, have a seat," Mandala said while gesturing vaguely toward the chairs.

Stephanie bolted. Her legs wobbled, and with every step she felt as if she might crash onto her face. But somehow she made it to the door. She yanked it open and dashed through...into the same oak paneled office. It even had Dr. Mandala looking around in his desk drawers.

She saw a door on the opposite wall and ran to it.

But when she pulled this door open, she again saw the same office. Dr. Mandala looked up from his desk. She went back into the office she had just left and saw an identical Dr. Mandala looking up from his desk.

"I'm running through a effing mobius strip," she panted.

Dr. Mandala smiled. "Your father said 'barber shop mirror.' I'd say an M.C. Escher drawing."

Stephanie frowned at him. "You knew my father?"

The doctor nodded. "I was his student long ago. He asked me to keep an eye on your case. Now, please, sit."

Tentatively, Stephanie made her way to the couch. As well as looking the part, it felt like a small upholstered cloud. Slowly, she lay back.

Behind her, a chair creaked as Dr. Mandala sat. "You've heard of psychoanalysis," Mandala said tiredly: "the doctor says little and the patient bares their soul? Well, this is analysis, but it's nothing like that. I will ask specific questions and you must give me specific answers."

"And if I don't?"

"We delete you," he said casually before shifting in his seat. "Stephanie, why do you think people are afraid of uploaded consciousness?"

"Jesus, I don't know," she said sullenly and automatically.

Dr. Mandala said nothing but she could hear the scratch of pencil on paper.

She swallowed and tried again. "I guess because they're afraid uploaded people might do harmful things."

"Why would uploaded people be harmful?"

She frowned. "Well, they're still people. At least in the beginning they'd still be people. They'd just be able to do things normal humans couldn't."

Dr. Mandala cleared his throat. "So, you're saying power leads us to hurt others?"

Stephanie shook her head. "Some people hurt others, some don't or at least try not to. Power just lets us get away with hurting."

"So really our mistrust of uploaded consciousness is a mistrust of ourselves?"

"Hell, I don't know," she replied. "I don't fear uploaded consciousness. But, yeah, I guess we rightly distrust people with power."

"So if we are to get along with the uploaded, they would have to have a morality different than ours?"

"Well, they'd have to resist temptations we can't."

"Have you heard about the idea that our morality has its roots in our genes?"

Stephanie shrugged. "Who hasn't?"

Mandala sniffed. "Most fourteen year olds,"

She scowled at the ceiling. "Well, you've been spinning me about this cyber hamster wheel for fifty years, so that makes me sixty four."

Mandala's voice became weary. "Trust me, Stephanie, no one is more aware of that than I am. But do you buy it? Does human morality have its roots in DNA?"

She chewed her lip. "A bit. I mean if we all have the capacity for morality and we all come from DNA, then it follows that the capacity also comes from the DNA."

His pencil scratched. "It's an interesting idea when we consider that uploading people breaks their ties to their bodies and therefore to their genes."

Stephanie chewed her lip. "I guess that's one reason why we can't trust the uploaded. Whatever genetic guidelines we have wouldn't apply to them, especially after they began to evolve."

"I wonder..." Dr. Mandala said in a slow way that made Stephanie think he didn't wonder at all, "if there might be a way to give a neuroprocessor an inherited piece of our morality."

"What, like hack out the moral part of us and get a neuroprocessor to swallow it?"

"Swallow it?" he asked slowly.

But Stephanie wasn't listening. A sudden strange warmth was flushing through her chest. A riot of ideas erupted from her mind like wildflowers from spring mud. "You know, maybe we could trust uploaded people if we shared a moral ancestry. Maybe, if they could inherit a moral capability that was like ours and could handle the dilemmas facing post-humans...maybe then we could trust them."

Dr. Mandala cleared his throat. "Have you thought much about this issue before?"

"Don't be dumb; you haven't let me think of anything for the last fifty years," she snapped but then paused. "But, if you think about it...how could neuroprocessors evolve a moral capacity that's related to our moral capacity? I mean...we already have moral capacity, and they don't."

The warmth in her chest blossomed even further. "You know in evolution there's this thing called horizontal gene transfer, where you can give genetic information to organisms that aren't your children. Bacteria do it all the time because they're have this freaky reproduction without sex and sex without reproduction thing going on, and for a long time we didn't know about prokaryotes transferring genes laterally...but I remember reading about how mitochondria and chloroplasts probably evolved when an early prokaryote swallowed a bacteria...that..."

The warmth in her chest vanished and her stomach clenched. She reached in to her gown pocket and drew out the small glass snake biting its own tail. It still had the name *Carsonellia rudii* written on its belly.

"Go on," Dr. Mandala said gently. "What does lateral gene transfer have to do with neuroprocessors gaining morality?"

Stephanie turned the snake over and over in her hands. It became warm and grew in diameter until its fangs gripped only the tip of its tail. She slipped it over her hand and wore it as a bracelet.

Her head felt light. "Because," she heard herself say, "species can evolve together if they can become dependent on each other. If they're willing to give up something."

He made a small "huh" sound. "What are you thinking of?"

Her voice came softly, almost in a monotone. "Maybe a human mind could strip itself down of all memory and identity until it was pure moral capacity...the same way some ancient bacterium gave up more and more DNA until they it was nothing more than a proton pump...until it was a mitochondria."

Dr. Mandala's pencil was scratching again. "So this mind that's been stripped down would become...what? An organelle that instead of providing molecules to a cell provided moral capacity to a neurocomputer?"

Again the wonderful warmth of revelation filled Stephanie's chest. "Yes," she said through a growing smile. "Until now, computers have been simple things, more or less uniform on the inside and designed to do relatively simple tasks. They're like bacteria, like prokaryotes. But if they could endocytose morality or spirituality or...or who knows what, then they would become infinitely more complex. They'd be...eukaryotic computers I guess. They'd evolve but not in any way we've yet imagined. They wouldn't evolve vertically—wouldn't become smarter or more powerful. They'd evolve horizontally: they'd become more...more human. Slowly we would come to trust them. Our species would be relatives...symbiotic cousins."

Dr. Mandala took a long breath and then said, "Stephanie, this is a very large dream."

"Oh, it's not mine," she said. "It's my mother's, I'm sure. I've been remembering things. I'm sure this is something she once told me. And she sent me a message through a glass snake that's biting its own...or at least I think she sent it to me. I don't really..." Her voice trailed off as she realized that she had been unconsciously turning the snake around her wrist.

Like everything else in the hospital, the snake represented a bit of software. She had tried, unsuccessfully, to use her desktop to discern what type of program or file it was.

She held out her arm so that Dr. Mandala could see her bracelet. "Do you know what this is?"

There was a long pause. "A program I would guess," he said at last.

"Do you know who wrote it?"

He laughed softly. "You did of course."

Shocked, she sat up and looked at him.

He smiled gently. "Stephanie, as you noted, you're not really fourteen. Counting the years since your birth makes you sixty seven. You've spent most days on your desktop studying. At first you followed your mother's work, read everything she published. Then you became obsessed with neurotech and evolution. Of course, we reset your mind whenever your studies brought you too close to realizing that you had been uploaded. The residents rotate every few months, so none ever noticed what I have—that you unconsciously retain everything you learn before we reset you."

Stephanie closed her eyes and pressed her cold fingers to her cheeks. "You've been watching me that closely?"



He was silent for a long moment. "Once a month or so I check in on you. And then there are our conversations."

"We've talked before? How many times?"

He looked up and seemed to think for a while. "Eleven or twelve times I'd guess. When I first took this job, you would hack out of your room every three years or so. After a decade, you started to escape every two years. But now...well this is our third meeting this year."

Suddenly it felt as if she were inhaling through a straw. She had to put her head between her legs for a few moments before she could ask, "Aren't you supposed to delete me after I realize what I am?"

He grunted. "That's exactly what I'm supposed to do. But your father asked us—my predecessor and then me—to help you. He knew you were going to hack out and asked that we stop the state of California from deleting you. It's very illegal, but I'm well protected. Mandala is a pseudonym. One of your father's choosing. And, in any case, I would have done any number of riskier things for him. I owed your father a great deal and—" he cleared his throat "—he owned the controlling interest in Concinnity Corp. But that's neither here nor there."

Feeling better Stephanie sat up.

Dr. Mandala was rubbing his chin. "You see, we have programs that let me know when you escape. When that happens I swoop into California's servers, show off my federal authority, and pull you back here for a false analysis. Afterward I reset you and claim that we caught you just in time."

"Why didn't you tell me this?" she nearly squeaked.

He looked at her and shook his head. "Your father's orders. Before I tell you the truth, I'm to coax you until you come up with this idea of eukaryotic computers on your own."

Stephanie gawked. "He knew? My dad knew I'd have this idea? So did he write this program?" She tapped her snake bracelet.

Mandala shook his head. "No, no. As I said, you wrote it. I first saw it maybe seven years ago. And I'm not sure how he knew about your eukaryotic idea. He always called it that, by the way, 'Stephanie's idea'. Far as I could tell, he believed it would become a reality. He said you were an essential part of its success."

Stephanie had to take several long breaths before she could speak. "But how did he know? How could my idea ever really happen?"

Mandala began writing on his clip board. "He never told me. I was simply to fish you out of trouble, get you to remember this big idea, and then—" he paused to sign something with a flourish "—give you this." He held out a prescription.

Stephanie leaned over and took the slip of paper.

"I'll wait for two hours or so," he said while standing.

She looked up at him. "Wait for what?"

"If you come back, I'm to reset you and put you back in your room. If you don't return...well, then I'm to assume either you've begun the neurotech evolution, or that you've been deleted."

Stephanie got precariously to her feet. "But where am I going? And what is this?" She held up the prescription.

"It's a program that will direct you to Concinnity Corp's server. With that in your hands, any door you open—" he gestured to those behind her "—will lead to your father's office."

#

"This can't be happening," Stephanie whispered to herself as she turned the doorknob. And she was right; it wasn't physically happening.

No oak door was swinging open before her. No ratty pine floor boards, buckled and warped by time, stretched below. No attic walls came together in an A-frame three feet above her head. No musty air, smelling of dust and sunshine, filled her nose.

And yet with a few steps, she found herself standing in the attic of their old house on 14th Street in Monterey. All about her slouched stacks of medical journals. An empty dog bed huddled in the narrow eave space to her right. Before her stood her father's old particleboard desk, its top a chaos of papers, pens, and thumbdrives. Behind and above the desk were two hinged windows opened to let in a breeze that smelled of the Pacific.

The light pouring through the windows was not a blazing midsummer heat-ray, but a golden autumnal glow.

Her father stood gazing out the windows. His eyes seemed unfocused, his expression calm. One hand was idly pinching his right earlobe—his habit when thinking.

Stephanie felt as if she were standing absolutely still, absolutely silent. Even the blood in her veins seemed to have ceased. But she must have made some sound, for her father looked up with a start and then grinned.

"Daddy," she cried and rushed to him.

She did not run on chemo-thin legs, nor did her hospital gown flap unsettlingly around her butt. She ran on the solid legs of a twelve year old. She wore blue jeans and a clean cotton t-shirt. And when her father picked her up and twirled her around, the glossy cascade of her raven hair flew up and then spilled down her shoulders.

He laughed and spun her around again and called her pumpkin and set her down. She hugged his waist and mashed her face into his hip. He was wearing worn corduroy pants and an over-starched yellow button down. He smelled faintly of the Szechuan peppercorns he liked to cook with.

"You're back so soon," he said with joy.

She looked up at his face, which like hers had broad north Chinese cheekbones and scattered Irish freckles. "Daddy, what's going on?"

He enveloped her in his arms. "Oh, such a question, and harder to answer each time." He lifted her onto his chair and squatted down next to her. "You've just come from Luis? From Dr. Mandala?"

She nodded.

"Then you've remembered your idea?"

"But how is it my idea?"

He smiled at her. "In the ten years before the government intervened, we could visit you in a virtual hospital. At first we just fretted about your future. But then you and Mom began to talk about her work. She must have spent years online with you."

Stephanie frowned. "I don't remember any of that."

He sighed. "The government insisted on rather severe methods of memory removal in your case. They wanted to be sure you had no idea that you were uploaded. It's awful to think of those years you spent with your mom being deleted."

"Years?" she said with a harsh laugh. "Yeah, right. Mom never visited when I was in the real hospital. She was always too busy starting her stupid company."

He nodded slowly. "I know pumpkin...that was her way of coping with your cancer. But after you were uploaded, Concinnity Corp took off. And she and I had more money and time than we knew what to do with. She spent her time online. You two got thick as thieves about her research. She gave you a better education in neurotech than Cal Tech could have. It got to the point where I couldn't understand either one of you." He smiled.

Stephanie swallowed hard but there was a tightness that refused to leave her throat.

Her father's brown eyes watched her carefully. "The Anti-Singularity crowd started bubbling before you and your mom were done. So I stopped my work at the Concinnity Foundation and helped you two figure out how we could advance your work after the laws took effect."

The warmth of excitement again spread through Stephanie's chest. "You mean they're still trying to isolate human moral capability into neurotech?"

"No, no," he said with a smile so broad that she was afraid he might cry. "We already have."

Stephanie's head bobbed backward. "Already finished? But how?"

He stood and walked around his desk. She followed him with her eyes and saw that the attic had changed when she wasn't looking.

At the room's end was the same wooden door that had always been there. But to its left stood a traditional round Chinese door that opened onto a Scholar's Garden complete with reflecting pools, lily pads, and a soft gauze of rain.

To the right of the ordinary door stood a broad rectangular entryway that led into a hallway with white walls and a polished pine floor.

"Three choices," her father said nodding to each. "The ordinary door in the middle will lead you back to Dr. Mandala's office and so to your room in the virtual SF Children's Hospital. You won't remember any of this of course. And you'll have to deal with an embodiment that thinks it's been through chemotherapy."

Stephanie was shaking. "But I don't want to go anywhere! And even if I did, *why* would I go back there?"

He turned and winked at her. "Hard to imagine at this point, huh? But you've come to me sixteen times, and each time you've left through that door. You'll understand in a moment."

He gestured to the round Chinese door on the left. "That door will take you to a super neuroprocessor your mother and I had hidden beneath a mountain in Nevada. They used to store atomic waste there I think. If you walk through that door, you will become the only truly independent uploaded being yet to exist. You'll have enough bandwidth to travel the Internet at lightspeed. More importantly, with the resources of Concinnity Corp at your fingers, you'll be able to avoid government detection indefinitely."

She cocked her head to one side. "But I can't go; I just got here. Besides, that sounds lonely."

"That's what you always say," her father said with a wistful laugh. "Your mother was against it, but I insisted. I want you to consider what life would be like in there. Lonely, yes, especially in the beginning. But you'd be able to read the Library of Congress in minutes. You could travel to endless virtual worlds and interact with the multitudes of minds in the real one. You'd be immortal, and with a little effort you could find endless adventure."

Stephanie wrinkled her nose. "It still sounds lonely. And, Dad, you're not making any sense. I don't want to go anywhere!"

He held up a finger to stop her. "And the last door, pumpkin, you designed with your mother. It leads to a semi-private Concinnity server in Fresno. The server connects to a global network of other semi-private servers. None of the processors are large enough to hold your full mind. In fact, aside from the one we hid in Nevada—" he nodded toward the round door and the scholar's garden beyond "—there are no private neuroprocessors large enough to hold you. Nor will any government permit one to be built. So, only in a public super processor, like the one you inhabit now, could you survive. And of course parking yourself there means abiding by the Anti-Singularity Laws."

Stephanie felt her fingers go cold as she began to understand. "So I couldn't go through the last door as a whole mind, could I?"

He shook his head.

"I'd have to be polished down into a fraction of a mind."

He went back to her and kissed her forehead. "Pumpkin, when I told you that we'd isolated human moral capability into neurotech—"

"—you were talking about me," she finished for him in a thin voice. She put her hand to her chest. "You need me to become the one from which all future moral organelles will evolve. You need me to become neurotech's Mitochondrial Eve."

Her father closed his eyes and nodded very slightly.

"It makes sense," she said numbly. "I'm the only uploaded consciousness that's stranded without a body. And I've existed for fifty years online. I'm

already post-human, and all these years in the hospital...the studying and then the stripping down of memories...they've been a kind of...of..."

He was looking out the window. "You called it a winnowing. Every year in that hospital develops your understanding of unfairness, biology, and computer science. And yet, every year pulls a bit more of your memory and your identity away. You're becoming younger and older at the same time."

"Is that why I keep choosing the middle door? To wash away my identity?" she asked and reached for his hand.

He took it and gave it a squeeze. "At first, yes, you had to go back to the hospital. But eight years ago, you decided you were ready and you wrote this." He tapped the glass snake bracelet on her arm. "If you walk through the last door, this program will polish you down and allow the Fresno processor to engulf you. The new morally-aware being created there will grow and multiply, eventually spreading to other servers across the world and beginning the neurotech evolution."

Stephanie used her free hand to turn the snake around her wrist. "It has to be me, doesn't it? The anti-singularity types are watching every other uploaded consciousness."

"I'm afraid so, pumpkin," her father said softly.

She let go of his hands and pressed her palms against her eyes. It felt as if she were falling away from daylight, falling down an impossibly deep hole. "Can't we find somebody else?" she heard herself ask. "I mean there has to be...maybe in some other country...it's just that..."

When she dropped her hands, she found her vision blurred by tears. "I got my first chemo when I was twelve, dad!"

His face was a mask of pain. "I know, pumpkin," he took her in his arms.

"Why do I have to be the one to die? Why do I have to be swallowed by some computer?" She ground her teeth for a minute. "You know, maybe I don't give a damn about conscious neurotech living in harmony with humans or some other bullshit."

"I know it's horrible. I know," her dad murmured.

Suddenly Stephanie's heart seemed to catch fire and hot tears dropped from her eyes. "No you don't!" She pushed him away. "You don't know anything."

She stood and looked for somewhere to go but saw only the small attic and the three doors. Something halfway between a scream and a growl escaped her throat and she stamped her foot. "I hate it!"

She put her arms down on her father's desk, then her head. "Why is it me who has to die for this stupid thing?"

She stood and glared at her father. "Why do I have to die? I had my first chemo at twelve and lost all my hair before I was thirteen. I lived fifty years in a box. Mom was never around when I was alive, and then they stole all my memories of her visiting me when I was dead. Why ask me to die—"

"—when you never got to live." He finished for her.

She opened her mouth to scream, but the strength of her anger dissolved and she fell into sorrow. The world went black.

And then her father's arms were around her and she held him and pushed her face into his chest and wept without reserve.

"Why do I have to choose?" she asked when she could breathe again. "Can't I stay here with you and Mom?"

He pulled away from her and sat in his chair. "Pumpkin, there is no here," he said softly. "This is only a memory. I'm only a shadow or a ghost. The best artificial intelligence money could buy, but still nothing more than a ghost."

She pulled her forearm across her nose. "You're a demon," she said and felt her face wrinkle again into tears. "You just a program. Just a effing program."

She wept again, this time for her own loss, for all the pain she had known, and for all the joy she would never know. She wept for her father who had outlived his child and lost his wife to her science and her business, for her mother who had lost her daughter to glioblastoma. She cried for her cancer-ravaged family.

And throughout the squall of tears, her father's demon held her and, gently rocking, said, "I'm sorry, baby. I'm sorry. Your mother and I died too. I'm so sorry."

At last Stephanie reached that eerie calm that follows a soul-gutting cry. "Why didn't you upload yourselves?" she asked in the nose-stuffed monotone.

"There was room for only one of us in the Nevada processor," her father answered. "And neither one of us fancied the idea of becoming the sole immortal mind in the world."

"I don't fancy it either," she said and then looked at him. "Part of me wants to go through the last door and become the next Eve, but I don't because another part of me is so pissed off."

Her father nodded. "Understandably pissed off with cancer, with the doctors, with the government, and..." He paused. "With your mother and me."

"How could I be angry with you guys when you did so much for me?"

He shook his head. "We did our best. But we couldn't save you. Somewhere in there, Stephanie, you'll need to forgive us for not being able to save you from cancer."

"But that makes no sense. What is there to forgive if—"

He interrupted her. "Your mom and I pulled every string we could to get you into the experimental nanomed immunotherapy, and it killed you."

Something inside Stephanie's chest crumpled. He was right. The tears returned. Again he held her and again he whispered reassurances while rocking her. But she did not need to weep as long this time, and soon she let go and dried her face. She looked at him and said. "It's hard to be angry when I know how hard you two tried."

He took her hands. "Maybe that's why you keep going back to the hospital. Maybe it's the only way you can feel that anger."

Stephanie thought of how she had treated Jani and the caustic things she had said or thought about the other doctors and nurses. She looked up again. "Maybe I've felt it enough?"

He squeezed her hand and stood. "Let's find out," he said and led her to the last door. Stephanie's glass snake bracelet became warm and began to slither around her wrist.

"It took two hundred programmers five years to write me," her father's demon boasted. "I was the world's most advanced AI. Unfortunately, there wasn't time to write a similar demon for your mother, but she did leave something behind. It's the Fresno processor's avatar. It can't answer your questions, or learn anything new about you. But it can replay a recording we made for you." He gestured through the last doorway to a brightly-lit hallway beyond.

Stephanie remembered her mother as being tall and robust with a round face and long black hair. So she was surprised when a thin, stooped, and silver-haired woman appeared.

"Stephanie," Her mother said, paused and then started again, "Daughter..." She laughed nervously.

Stephanie squeezed her father's hand. Her mother had always been an awkward but intensely earnest person. It hurt to see that awkwardness again.

"At the time of this recording, you have escaped the hospital twice. Your father and I can see the struggle that lies before you. When the time comes for you to choose among these doors, I want you to know I...that I don't care which door you choose." Her mother paused, started to say something then stopped.

Stephanie gripped her father's hand tighter.

"It wasn't until you were uploaded that I truly got to know you," her mother said. "And it was in those years, studying and working together that I really..." An awkward pause. "That was when I realized that I had not truly known you when you were alive, and it broke my heart that I couldn't keep you longer."

Stephanie drew a long, quavering breath.

"Let me tell you a story of our time together, then I'll let you go, promise." Nervous laughter. "It was when you would have been twenty two. We were discussing neurotech and evolution when suddenly you looked at me and said 'Mom, if you think about it, the endocytosis of a symbiont is the opposite of pregnancy.'"

Her mother smiled and then said, "I almost laughed then, but you were so serious. And you explained it to me. And you were right."

Her mother daubed her eyes. "When you were first conceived, you grew inside of me. You were completely dependant on me, but then you developed and became more and more independent. Finally we who were

one body became two different people. But with endosymbiosis, the opposite happens. Two organisms give up more and more of their identity so that they can better help each other. Then at last one envelops the other. They who were two become one."

Stephanie thought about what she must have looked like when she said this to her mother and then nodded.

"I am sorry for the things you will never know," her mother said. "I am sorry you will never have a daughter of your own. But the idea we discovered...well...whether or not you chose to become the next Eve, we now know it's possible. It will happen someday, somewhere. And the world will be a better place for it. Glimpsing that in the future...it brought me more joy than anything else. I wanted you to know that before choosing."

The image of her mother started, obviously being prompted by whoever was operating the recording equipment. "Oh, oh. Yes. So, Stephanie, please know I love you, whatever choice you make." With those final words, her mother opened her arms and then froze.

Stephanie scowled at the avatar in the shape of her mother. "That's just so...*her!*"

Her father sighed. "How do you mean?"

Stephanie shook her head. "Ideas, that's all she could think about. Everything's an idea to her. She loves me because I gave her some intellectual glimpse into the future? Someone had to remind her to tell me she loves me?"

Her father's demon let go of her hand and stepped away. "That is her way. She's so passionate about ideas that she sometimes forgets to see the people behind them."

"And I *hate* that," Stephanie growled.

Her father said nothing. "There were times I hated that. There were times I loved it. But I was her husband, not her daughter."

"It was harder on me," Stephanie insisted.

"It was," he agreed and then waited for her to say something. When she did not reply, he added, "Don't rush yourself. There's always the middle door."

Stephanie closed her eyes, drew a long breath, and tried to find a way through the chaos of her emotions.

As if on their own, her feet took a step toward the middle door. She opened her eyes and looked at the Fresno processor's impersonation of her mother. In that direction lay her death.

She took another step toward the middle door and then closed her eyes. She remembered, back in the hospital, seeing the big black resident holding the small crying boy in his arms. She remembered how Jani had smiled at her. She remembered her father's arms closing around her.

Then, without looking back, she opened her eyes and ran to her mother's image and the computer it represented.



As the old woman's arms enfolded Stephanie, her glass snake bracelet fell to the floor. It grew in size and length, coiling around mother and daughter until its emerald body completely enveloped them.

Then, with the patience of eternity, the snake bit its own tail. Slowly it began to swallow, pressing mother and daughter closer and closer together, shrinking itself down into a smaller and smaller knot, until at last it disappeared with a soft pop.