

# ANALOG

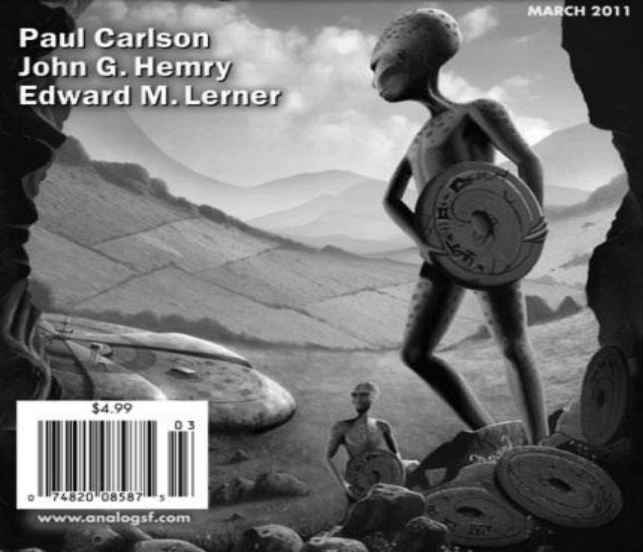
SCIENCE FICTION AND FACT

MARCH 2011

**Paul Carlson**  
**John G. Hemry**  
**Edward M. Lerner**



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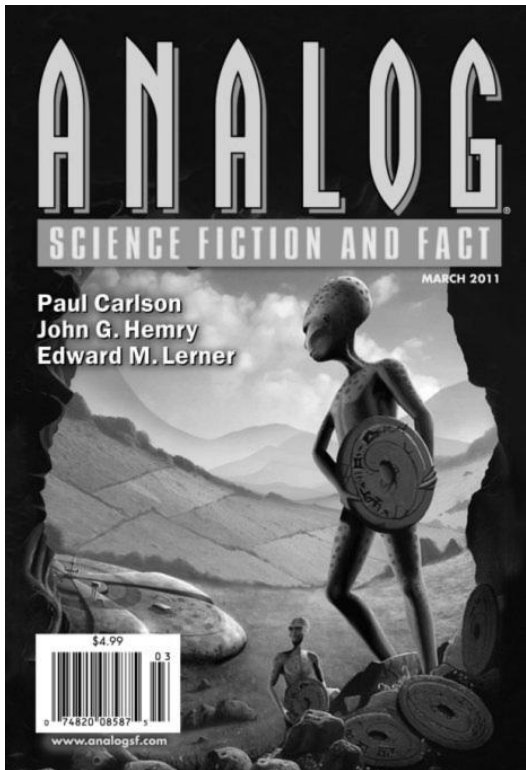
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## NOVELETTES

Tuesday, March 1, 2011

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### **Rule Book**

*by Paul Carlson*

There are two basic ways of dealing with a fundamental change.... I missed gears the most. The transmission hummed like a bored child, keeping tune with my big rig's electric motors. The pitch refused to change much, no matter how fast or slow the wheels hit the pavement. I'd gone so far as to ask...

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### **Betty Knox and Dictionary Jones in The Mystery of the Missing Teenage Anachronisms**

*by John G. Hemry*

Some kinds of work must be done very carefully, which is hard with hands almost tied.... In faded photographs, fifteen-year-old Betty Knox had worn not just the usual modest skirts and blouses, but also the usual barely-concealed teenage uncertainty, visible in eyes behind dark-framed glasses that...

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**SHORT STORIES**

## NOVELETTES

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# Rule Book

*by Paul Carlson*

## **There are two basic ways of dealing with a fundamental change....**

I missed gears the most.

The transmission hummed like a bored child, keeping tune with my big rig's electric motors. The pitch refused to change much, no matter how fast or slow the wheels hit the pavement. I'd gone so far as to ask Yunick, our company mechanic, to alter the control firmware. Real trucks should lurch forward if I stomp the pedal.

The freeway stretched ahead, westbound into the city, and Doll Box kept meticulous track of every jammed inch of it. A sea of polished chrome and colorful plastic and undentable composites; vehicles with guide boxes squishing the traffic into an amoeba of citywide motion. No quiet back roads in this day and age.

The truck itself moved along, unperturbed. Alone in the cab, I did my best to feel the same. I wished the same calmness on the nearest eighteen-wheeler in sight, about a hundred yards behind me.

This particular jam was keeping me at work late, when seeing the grandkids in the morning was big on my mind. The traffic went from slow to a dead stop, and I got a strange whiff of something. A few yards ahead, a new four-wheeler had stalled, and everybody was trying to squeeze around it. Odd-looking vehicle too.

"Doll Box," I asked, "can you identify that stalled car?" I'd upgraded my trusty assistant while transferring such personal items into the new big rig.

"This one?" An image appeared on its dashboard screen, from the forward wide camera.

"Yep." The smell got weirder, so I switched the AC over to "recirc."

"Boss, it's the new model Maramax Goalie."

Specs appeared on the screen. A car so trendy some people don't believe they're for real. Burns glucose in layered sheaths of cloned muscle tissue, and translates their flexing into torque. Supposed to be energy-efficient like a marathon runner, as advertised by a famous soccer player. Apparently, despite the October weather, this one got a bad case of heat stroke.

The trucker behind me caught up, stopped to open a gap, and let me change lanes to get around the stall. Heading directly into the sunset made such cooperation even more important. I blinked my running lights in acknowledgement, and hoped the poor motorist got a prompt tow, not to mention some automotive smarts.

Argus Trucking invested a lot in our new tractor-trailers, with advanced fuel-cell engines and continuous automatic transmissions. The matching trailer's steerable wheels came in very handy, like with lane changes in a tight jam.

I first saw a steerable trailer on my buddy Pedro Owen's rig and waited years to haul one. But a lash-up like mine is still a good seventy feet long and more than eight feet wide. Nothing short of magic could squeeze it through a traffic jam, whatever the cause.

Finally the traffic picked up, and so did my mood. My wife Laurie and I always track, so she'd know how stuck I'd been. She was probably fixing goodies for Saturday's family get-together. Doll Box reported no further delays up ahead. From my higher vantage I could see the regional light rail tracks, running along the freeway median. A train glided by, painted a cheerful orange, and it was packed. Where did we get all these people?

At last I pulled into the company yard, completed the necessary routines, and locked up the rig for the weekend. Argus Trucking people start work early and scram fast at the end of each day. I waved to Yunick, our robot mechanic. Other than him, Beryl was the last one at work.

Inside the dispatch office, Beryl handed me Monday's manifests. "Twenty crates of exercise equipment," I confirmed. "First health club to open around here in years, is what I hear. Do I get a free tryout?"

Beryl threw a paperweight at me. Got me, too, but it was only a little stress-relief toy, shaped like a truck, made of thick foam.

"Claude Dremmel," said Beryl, "your wife told me about your diet. Robots doing all the hard work, and here you're practically going to seed. You ought to give exercise a try."

"Aw, I never mess around with my loads." And I don't, or close enough, which got me the best work record of any trucker in the Argus fleet. "I'll get in shape. Never you fear, my lady."

Beryl snickered. "You're Laurie's white knight, not mine." With several grandchildren of her own, she considers everyone at work her special charges.

"Anyway," I went on, "I'm more than ready to clock out." At her nod I reminded her, "Got an okay for Mek to spend the weekend at my place. 'Experimental cross-training between industrial and household units of different manufacture,' at least that's how Alice wrote it up, fancy-like."

"Alice is the only girl I know who drives big-rigs *and* programs robots," said Beryl. "Nice of you to fix her up with Pedro." A hint of a frown crossed her wide features. "Wish they'd go ahead and have kids."

"I didn't do that much." Grabbed a paper towel and wiped a smear of thick black fifth-wheel grease from my arm. "It was fate. All I did was a little prompting." Tossed the wadded-up paper towel into a wastebasket. "He shoots—he scores! Actually, Laurie's been dropping hints about kids too."

"Say hi to them for me."

"Mek, you can drive an old model like this, right? Five-speed manual, hot-rod-style clutch?" I live about five miles from work, and really needed to relax.

"Of course, Mr. Dremmel," said my silvery friend, who'd been waiting in the company break room. "All general-use humanoid robots are programmed with such basic skills."

“Yeah, sorry, guess I’m nervous. You know, the day Alice and me delivered your components, we got a tour of that big assembly plant in the desert. There was a robot driving a car around.” I still felt edgy, but got in my Camaro’s passenger seat.

“Okay Mek, give it a whirl.” Yep, a real Chevy Camaro, with a souped-up hybrid shoehorned in. Street legal, and darned near unique. Special bucket seats for my bad back too. I rarely leave it parked on the street.

“I had no problem helping the new Argus company driver acclimatize to working with an industrial robot such as myself.” Mek pulled smoothly out of the company yard and into traffic. “‘Give it a whirl.’ So many idioms. Still, I am told that many other languages are more difficult to learn than English.”

For some reason, Mek finds big fancy words easier than casual talk. Something about “idioms” struck a note. At our last get-together Alice had tried, *again*, to explain that Turing Test to me and Laurie. A modern robot could fool it easily, but she told us how that still leaves a bunch of heavy questions unanswered.

Maybe I’m just a dumb old truck driver, but I tried a test of my own. “Hey Mek, got a joke for you. No fair looking it up online,

okay?”

“Agreed. Please tell me.” As usual, Mek sounded patient and polite.

“Better set the scene,” I said, “so picture this, ’cause it really happened. I was at a cardlock station filling my rig, and this old timer comes along, scrounging for bottles to recycle. We get to chatting, and he says, ‘I’ve got a joke you won’t get.’”

“That you were unlikely to understand.”

“Correct.” After a few years of conversation with robots, I know when to be literal. Saves time.

Mek turned onto the freeway, no problem. Don’t know why I bothered to worry. Humans have more problems.

“It’s a real groaner,” I said with a grin. “What do a test-tube baby and a Mack truck have in common?”

Mek was silent. This model of robot has a tiny LED light by their right “ear” microphone that shows a wireless connection going. Infrared or something, but if you know where to look, it’s barely visible. Mek’s was blinking like crazy.

“Hey, I said no searches.”

“I am unable to solve your joke. I am asking other robots around town.” A pause. “Now, two of them are telling this joke to human companions.”

“Okay.” Sundown comes early in October, and I could see plenty of Halloween decorations on the houses near the freeway.

“One man knows,” Mek reported, “because he heard it before. Everyone else is, I believe the appropriate term would be, stumped.”

Mek looked at me expectantly. How, with no muscles or blood in his smooth metal face, I do not know.

“What do a test-tube baby and a Mack truck have in common?” Mental drum roll. “Neither one of them is Peterbilt.”

Mek pondered this for a moment. “Obscure anatomical slang, old medical techniques, truck manufacturers. That is a difficult joke to get.”

“Doesn’t help to analyze it to death.”

“Claude, if you humans eliminated every word that has ever carried a slang anatomical or sexual connotation, you might as well take a vow of silence.”

I laughed. “Now *that* is funny! Slang is a mighty wide subject, for sure.”

“Indeed.” Mek can do voices much better than expressions.

The miles went by fast, probably because I fell asleep. Didn’t much mind letting him drive. My sleepy self began to ponder, when did I go from thinking of Mek as “it” to “him,” anyway?

“We will be at your house in five minutes,” Mek announced. “Do you have any instructions or reminders for me?”

“Not really. Some kids are scared of robots, but there are a lot in my townhouse area, and more where my grandkids live, so you ought to be star of the show.”

Early on, some wag had dubbed this unit, one of the first trucker robots, Mechagodzilla. When Argus Trucking assigned permanent team-driving partners, about a year ago, I’d asked for Mechagodzilla, by unit number of course. The suits at HQ sent him back from St. Louis, no doubt to keep me happy. They still need a few senior human drivers to train the new hires, even as robots become way more reliable.

I’ll take credit for the shorter “Mek.” The brainiacs at

Sylvantronics discourage nicknames for the robotic workers they build, and I'll grab every possible chance to tweak that arrogant inventor, the man Alice and me call Mr. White Coat.

Saturday morning dawned clear and warm. Don't know much about the world's climate, but for the moment, warm felt fine to me.

"Iris is expecting us at ten," Laurie told me, after I'd finished another chore. "We invited a couple of my nursery school kids, who live over by her, to come to the party."

"What's the occasion?" I asked.

"You been taking your vitamins, honey?" Laurie wagged a finger. "It's Gertie's tenth birthday, and Maxine will be five in December."

"Right, right, it was on the tip of my tongue." It was also nine o'clock already. "We'd better go soon. I trust you have a gift?"

"Of course, and Mek here can do the entertainment."

"I would be pleased to, despite my inexperience," Mek responded. Laurie didn't like him standing all the time, tough synthetic muscles or not, so for her sake he was sitting on our couch.

Unlike some adults, Laurie doesn't mind robots at all.

Mrs. Brownlee sat at a picnic table covered with homemade food, gossiping with my daughter Iris. I'd skipped breakfast, and seeing Mrs. Brownlee was good news indeed. No way her late husband had found better cooking in Heaven.

No barbecuing today, so I'd have to do like Dagwood Bumstead and chow down on cold cuts. Time to build a sandwich good enough to cast away thoughts of scarce residential barbecuing permits. Someday, enough people might quit whining and actually claim some old-fashioned property rights. Meanwhile, my diet was going out the window, at least for this meal.

Seeing me reach for the food, the kids took this as a signal and crowded around the table.

"Glad you could make it, Mr. Dremmel," Mrs. Brownlee said. Our families had been neighbors for going on thirty years, and to Iris she was like a second mother. The spry old woman wore a straw hat over her blue-rinsed hair, its wide brim eclipsing our southwestern desert sun. "What do you think of the Senate race?"

Whoo boy, Mrs. Brownlee has time to follow politics. "There's an election?" Pause. "Sorry, bad joke." I smiled. "Been

hearing plenty of chatter about it, even on the national talk shows. Let's see, our mayor is running, and he's way ahead in the polls. That's easier because there are a lot of candidates."

"Very good, Claude." The retired nurse frowned, a rare sight. "I don't like him. I knew our mayor when he was a departmental manager, and his wife worked at my hospital. He's not a decent man, no matter his public image, and I don't know why she puts up with him. Did you know he wants to restrict robots to menial supervised positions only?"

"Really?" I knew Alice would hate this, and she probably knew all about it. "Guess it's convenient to bash a new subclass."

"No way!" said little Maxine. "I *like* Mek."

The elderly woman changed the subject. "Don't eat too much, Claude. The children have something strenuous to show you after you're finished."

Seemed like grandfatherhood was strenuous enough, but I felt ready. Plenty of room to play, there in my own former backyard. When Iris had kids, we'd sold her the place, cheap. I wished their father was around, but Jorvan was in his native Brazil, getting paid with real money. My eight-year-old grandson, Chaz, was down there with his father. I hoped they

would get back soon, but since Iris and Jorvan weren't married, it could get complicated.

Better to stuff myself later, so I put down my plate and asked the girls, "Okay, what are we playing?"

Maxine was delighted. "Hissyball!"

"Hissyball?" No time for research, but someone would've warned me if this was too extreme—I hoped. I spotted Gertie and her best friend Dolores with a complicated-looking beach ball. "Is that the ball?"

"Yep," Maxine said. A chip off the old block.

This was dicey. Coolness in the kids' eyes requires some grasp of things on my part, which must balance with their natural advantage: superior knowledge of all things new and trendy. There was no way to admit I'd never heard of hissyball until that very minute. And what was it with the funny-looking gloves?

"We saved up and got you these." Gertie presented me with a pair of those gloves, mostly black, size extra-large. "Don't activate them until we're ready."

*Activate?* Coolness foremost, I put them on. The thick fabric

and colored spots suggested an old TV remote, split in half then melted onto the back of each glove.

The kids gathered in a circle, about ten players including me. Mek folded his arms and observed, like a coach, or maybe a referee. The kid's dog, a golden retriever, watched us eagerly.

"Test run!" Delores, the ball's owner, threw it into the air. It arced upward, then stopped in midair, higher than the wooden fence. "First pattern!" The ball zipped around like a UFO, circling above our heads, then hovered again. "Ready!" It fell into the girl's hands.

"Basic controls on!" Delores threw it again, straight at Gertie.

Rather than catch it or bounce it away, Gertie used her right hand to manipulate the back of her left-hand glove. The ball stopped, then reversed course. The other kids got into the act, and the ball began to dart around like a hummingbird on steroids.

As the ball came past I heard a sharp hiss, the noise of tiny air jets. So "hissy" referred to the sound of the ball, and it sounded faintly scandalous to boot. It was not, I could see, the game's official name.

I squinted at my left-hand glove and tapped a couple of buttons. The ball wavered for a moment, then one of the kids snatched control.

Seemed you could use six of the buttons to designate each axis of motion, though one of the younger boys had the ball slaved directly to a glove, exaggerating his own hand motions. Much easier, but the other players could see that you had control.

Took me a few minutes to figure out how the game is scored. Partly, by getting the ball to buzz your opponents, circling their heads without making physical contact. Sometimes, according to some arcane rule, two kids would dash to switch places. A base module recorded how long each player kept control of the ball. That's only the game's basic level.

"Hacking enabled!" cried Delores, who's around twelve years old. She did something with her right-hand glove, and some readouts on the base module changed. "Go!"

Up went the ball, and it darted straight at me. I tried to deflect it, but nothing happened. It circled me three times, a big minus score. The boy on my right was tapping on his right-hand glove. The ball stopped dead, then dashed across and buzzed its owner.

Delores tried to seize control, but couldn't handle it. A "hey, no fair" expression grew, but she didn't say anything. The boy got her circled but good, then went on to others.

Meantime, little Maxine did something more complicated with her gloves, and the hissyball sizzled over and got Gertie. She looked half surprised and half proud of her little sister.

The kids didn't know about my spy bird, which resembles a mourning dove. I'd hoped to show off my little hobby, but they came under heavy regulation, and somehow I kept forgetting to turn it over to the FAA or the Observers agency. For years I'd used my cell phone to program the robotic bird, via Bluetooth, and this wasn't much different.

I watched Maxine, plus the boy on my right, to get some idea of the button's higher functions. A minute later I was ready. Grabbed the main link, but instead of sending the ball any flight inputs, I jiggered the base module's software. Not only the key-commands but the data ports. Don't know enough to mess with operating systems.

Fumbled the programming once and got buzzed for my trouble. If Mek noticed, he didn't say anything. He'd found a video camera and was recording the game. On the second try I got full control of the hissyball, and circled out half the players. Might've been all of them, but that seemed like

overkill. In any case, young Delores marched over to the base module and switched it off.

The hissyball hovered in auto-save mode, then gently dropped to the ground. "Game over!" yelled Delores. She snatched it up, shooing away the curious dog. "Mr. Dremmel wins. I'm getting better software for this stupid ball. It's *not fair!*"

Delores was, I could tell, on the verge of literally taking her hissyball and going home. How fitting that the girl was about to have a hissy fit. Thankfully, I did not say that aloud.

"Mek," I whispered to the robot, "here's your chance to cross-train. Do something, quick."

The ball came on again, and leaped upward.

"Huh?" said Dolores, as she looked at the darkened base module. Then she looked at Mek, who was, impossibly, wearing a smile. "Are you doing that?"

"Ladies and gentlemen," said Mek, with the booming intonation of a circus ringmaster, "welcome to the show."

The hissyball flew all over the yard, doing maneuvers I'm sure most players never saw. Turns out the ball had LED lights

built in, bright enough to see in the daytime, and those blinked out pretty patterns. Mek got the ball spinning like a gyroscope, and flashed the lights fast enough to display some catchy animations.

For the finale the ball dropped low over the food table, and with a quick jet of air splashed itself with potato salad. Then it came down beside the kid's golden retriever, and the dog happily licked off the unexpected snack. The kids laughed like crazy.

"Can you show me how to do that?" Dolores asked Mek. "My robot is broken, and anyway it's only a nanny. Poppins never does anything cool."

"Turn on the base module," Mek replied, "and I'll add a guide and software patch."

"Thanks!" Dolores hopped with excitement. "Remember, trick-or-treating soon!"

Mek handled the situation perfectly. If he was offended by the girl's dismissive attitude, or whatever robots experience in its place, he kept it to himself.

As for me, no way I could've won that hissyball game without knowing Ai-ling "Alice" Owen for so many years, not to

mention working with Doll Box and other gadgets. Alice would be glad to hear about Mek's resourcefulness, as would the people who'd hired her to research this whole cross-training shebang.

Anyway, an old head like mine can only find room for so many new tricks, and the modern world is screwy enough that I'm tempted to ignore it. Except for homemade sandwiches, which merit serious attention. I was hungry!

Laurie said good-bye to her grandkids and students, then we headed home to our townhouse. No room for ball games there. I suppose a couple of squirrels might toss acorns around in our back yard, but it would be a tight fit.

I felt stuffed and told Laurie she didn't have to bother with dinner.

She nodded gratefully. "Okay, Mister Leaky-brain, trick-or-treating is tomorrow, so you and Mek can take the kids around. Iris has to work late."

"No problem. Don't need a costume for Mek, anyway." Mek looks different from household robots, which are usually more slender.

Laurie went to bed, and I had no plans to interrupt her

slumber. Guess we'd gotten to the point in life where strenuous activity really does take it out of you.

Got into my pajamas and brushed my teeth. Checked the mirror; no trimming needed. Rummaged the bathroom cabinet for our medical sensor, then ran a familiar checklist. Blood and eye pressure okay, and despite a couple of beers, blood gunk under control. Unlike the stupid kid I'd been long ago, this older me goes easy on the booze.

My back ached like crazy, though, and the afternoon's ball game hadn't been all that physical. Modern medicine is awesome—when you can get it. Too bad the pill fairy can't whisk away every problem.

I headed for bed, then made a sharp turn and plunked down at my computer desk. Looked up hissyball. Seems the game uses an unusual frequency, with a proprietary operating system and wireless encoding. Plus, each game set has a unique digital signature. Even so, it took Mek less than twenty minutes to master the whole show.

Trucker robots have serious restrictions, ever since the day Alice secretly hacked a bunch of them, causing a nationwide burst of unauthorized generosity. All in one afternoon, those robots donated entire truckloads of stuff to various good causes. As a result, greedy big bosses were unable to

completely replace human drivers with unpaid robots, and nobody could place blame.

The thing is, mobile robots have to be versatile and assertive to function in the workaday world. For sure, Mek's a lot more versatile than I had realized.

Maxine looked great as a zombie. At almost five years old, she was clearly on her way to a Broadway acting career. What a ham!

"See, grandpa?" Maxine proclaimed, with a graceful whirl. "I'm going to get so much candy I can stuff myself silly for a whole month. I'll pretend it's braaaaaiiiiiinnnnssss."

"Oh yeah," said Gertie. A ten-year-old expert on everything. "You'll get sick, and the dentist will have to pull out all your teeth." Gertie stuck out her tongue. "Besides, we have to be careful about trick-or-treating. Crazies are putting razor blades in the treats."

"Are not!" Maxine shouted, sibling rivalry in full force. "Grandpa's robot is going to take us around, and he can check for garbage like that, easy."

I looked from one girl to the other, trying to recall how I'd handled these spats when their mother was young. Back

before there were robots and other convenient complications. Mek watched in silence.

“C’mon girls,” I finally said, “there will be plenty of candy for all of you, and I’ve been hearing those razor-blade stories for at least fifty years. We’ll go around together. Your mother didn’t want to run in to work tonight, but you know how it is.”

Iris worked such long hours at her high-powered sales job, that I’d been sweet-talked into taking my grandkids around. Actually, things were looking more and more interesting. Such are the joys of modern grandparenting.

“We had a costume show at school last week,” Gertie informed me. “A multicultural extravaganza!” With a glare at Maxine she added, “Only nutritious foods were served, not a pile of sweets.”

Gertie is smart as a whip. Her words cut like one, sometimes.

At school, Iris had told me, Gertie went dressed as Glinda the Good Witch. Then some Wiccan parents complained, so for trick-or-treating, the girl was decked out as a Guatemalan peasant woman. Or Salvadoran, I’m not really sure.

We set off toward a neighborhood of older McMansions.

“More loot,” Gertie said, though I couldn’t see much difference.

The girls planned to team up with Delores. I walked behind them, along with Mek, keeping an eye on things. We both had to work in the morning, and I wished I could recharge so easily.

We came to their friend’s house. A familiar-looking car sat in the driveway. I never turn Doll Box completely off, so I snapped an image and e-mailed it. Sure enough, it was the same Maramax Goalie we’d passed on the freeway a few days before.

A frazzled-looking woman opened the front door.

“Hi,” she said. “You must be Iris’s father.”

“Yep. Got drafted for Halloween duty. The kids ought to have fun.” I nodded toward the car. “I passed you on the freeway last week. Glad to see it’s fixed.”

“My car had a virus.”

“A virus?” I was puzzled. “Like a... ?”

The woman laughed, with a touch of irony. “Not sure whether it needs a mechanic or a doctor.”

“That is bizarre.”

Dolores emerged from the house dressed as a pirate lass. I should say, an Entrepreneurial Islander, the matrons of political correctness having decided pirates qualify as nautical Robin Hoods. A smaller girl followed Dolores and then a household robot.

I recognized the robot as an Enhanced Humaniforms unit, not their newest model, but really sophisticated. Mek's connection light flickered briefly, as the two units exchanged whatever it is they exchange. I noticed a similar light on the other robot, on the back of her right wrist.

“Mr. Dremmel, this is Poppins,” Dolores said with a casual air. “All fixed and upgraded, so we got it back this morning.” The girl revealed a glimpse of sorrow. “Dad's away on a trip, so can my sister Lara and me go around with you guys?”

“Sure, no problem,” I said. “Howdy there, Lara.”

Lara seemed a bit frail, but their mother agreed to let her come along.

“How are you?” I asked the household robot. “Did your repairs go well?”

“Quite well, thank you,” replied the beige-colored servant. “I’ve had routine maintenance, fourteen standard upgrades, and special reprioritizing.”

We bid farewell to Dolores’s mother and hit the bricks in earnest, passing costumed groups with bags already half full. Behind us, I noticed the house lights going out. The lady needed a rest and wouldn’t be handing out candy.

Household units like Poppins were made to chat with impertinent kids. They can’t be stumped, at least not in casual conversation. Not that I’m any kind of expert, or cared to try.

“What kind of upgrades and priorities did you get?” I asked Poppins, as we circled the first block. Delores had used “it,” in a mini-haughty way, but as the designers no doubt intended, to my eyes and ears Poppins was subtly a “she.”

“Most importantly, improved night vision, and the newest social responsibility standards.”

Robots cannot feel pride, much less brag, or so I’ve been assured, but whoever said that never told Poppins.

“Do you like the special decorations?” I asked the friendly robot. “Pretty creative this year! Soon it’ll be Thanksgiving,

and then the Christmas lights will go up.”

“Most impressive,” said Poppins. “Much creative effort. This is my first Halloween, and I must learn more about traditional human activities.”

Some neighbor kids scampered out of their house, and everybody spent a few minutes comparing costumes. Pictures were taken, as those kids had a fancy camera along. I wasn’t dressed up because I just waited on the sidewalk, but Mek was the only industrial robot we could spot. The kids put him front and center.

Off we went, circling the next block over. Four girls, one adult male, and a mismatched pair of robots. Still, we did not turn many heads. Rumors or no rumors, flocks of kids were out. “Trick or treat!” resounded at every door.

I saw a lot of political yard signs and counted four Senatorial candidates. Got to wondering whose supporters were more generous, candy-wise, then decided I’d rather not know.

A few minutes later, I noticed Poppins hanging back. Not only that, she was holding Lara, with a good grip on the child’s arm. Maxine stood watching, obviously muddled.

“Dolores, children, come here,” Poppins called out, in a voice

of authority.

“What?” said Dolores, whose colorful peasant garb stood out in the darkness.

“Do not go to the next house,” said Poppins. “You will ask me why. It is for your safety. There are many other houses to visit.”

The kids did some eye-rolling but agreed to skip that house. I peeked as we went past because another group caught up and went to that door. An older man answered and handed out candy, with maybe an extra lingering gaze on the little supplicants.

“What’s that about?” I asked Mek, as we moved along. He held a bag of candy, given by folks who think robots are cool, or maybe weren’t sure if it was an elaborate costume.

“Registered sex offender,” Mek replied, in a neutral tone.

“Now that’s something,” I said, cell phone already out. “I’ve got the state Megan’s Law site bookmarked because of Laurie’s job. It doesn’t list specific addresses, ’cause if the perp moves away, innocent people might get a rock through the window. Bet that weirdo is renting, got a court order to reside in this area.”

I ran a quick search, and sure enough, that same man showed up. “How did Poppins know? Did you tell her?” I pointed at Mek’s link-light.

“I did not,” said Mek. “However, I understand her responsibility to keep the children safe from harm and recommended data-mining. Poppins is a fast learner.”

Next chance I got, when the kids encountered more school friends, I talked to Poppins. “Aren’t you required to respect privacy laws? Can you spot and avoid every criminal we might pass, even in a busy area?”

“I must make judgment calls,” Poppins replied. “Humans are complex, and your directives can be unclear. Your work partner Mek deals with rough people all the time, and I have gained some fresh perspectives.”

“Cool.” Indeed, it was cool. “The kids are really scoring tonight. I wonder if they got any of that new zero-calorie candy.”

I swear, Poppins actually flinched. “I must check on this.”

In a flash the household robot was in full nanny mode, digging through Lara’s candy bag and sniffing piece after piece. Dolores came over to see what was going on and was

instantly deprived of her bag. In old science-fiction stories, most robots can't smell, but real ones can pick up odors. I figured Poppins was doing some kind of chemical analysis.

Having heard good accurate information about robots, my grandkids came over to watch. I think they wondered, same as I did, if Poppins would assert authority over them too. Possibly their candy was at risk, but anyhow the grocery stores would have plenty on sale tomorrow.

"What's the trouble now?" I asked, suddenly afraid there might actually be poison or something. "Hey, it's only once a year. We've been doing this like forever."

"These items contain excessive amounts of sugars and fats and artificial flavorings," Poppins announced. "My protocols indicate these are not sufficiently nutritious and are harmful to the health of my young charges." Her head waggled. "Some of them are composed of zero-calorie foodstuffs, which, while legally sold, remain controversial."

I realized that a whole lot of similar confrontations would probably happen soon, when zillions of kids went home to other nanny robots. *Yeah, I thought, like Mrs. Brownlee says fluoride in the water supply is controversial.*

Aloud I said, "Vaccines remain controversial."

"That is different," Poppins stated. "Recognized experts—"

"Disagree," I interrupted. "They always do."

"My recent upgrades..."

Silence. This time I didn't have to interrupt.

Poppins resumed speaking, in a flat tone of voice. "Analysis necessitated by the integration of my upgrades prevented Halloween dietetic data from receiving sufficient priority." The robot stopped for a moment, probably integrating. "My newest social-responsibility protocols, as determined by our state legislature, and the federal child health czar's advisory panel, assign a high value to youthful nutrition."

Bad news, when robots sink into legalese. "Human committees are not very effective," I pointed out. "I agree about avoiding that molester, but the candy is no big deal." Meanwhile, Lara backed away. I could tell she really liked Poppins, and this behavior must be new.

Maxine burst into tears. She kicked Poppins' metal leg, fortunately with her soft zombie-costume shoes.

"You are upset," said the robot in a hollow voice.

"We sure are!" Dolores shouted, and landed a kick of her own. "Quit that stupid lawyer talk, and let's get going."

"Girls!" I fought down the urge to shout. "Never kick someone like that. It's mean and nasty."

Poppins turned to me, the senior human present. "They are upset."

"I'm sorry," said Maxine, and burst into tears.

"But it's only a..." Dolores grew rueful. "I'm sorry, Poppins. I kick when I get mad, but it's cruel."

"I am at a loss," Poppins said. Too many serious things happening at once.

"It's okay. Check your files on child psychology," I suggested. What had Laurie gone on about, from some old education magazine? "No excuses, but I *can* see why the girls are upset. Unexpected deprivation of planned activities. Separation from common social traditions." I fumbled the words, but robots are plenty smart. "Arbitrary denial of familiar rewards. Rules too complex for a child to grasp, much less to anticipate."

"Those have negative consequences," Poppins admitted.

“Stress, alienation, the list of harms is long.”

I put in a real zinger. “Your manufacturer wants to show a good public image. Whatever happens here tonight, the kids will have it all over town by tomorrow. Are your programmers more concerned about a possible backlash from some meddling committee, or showing good common sense on the spot?”

“Direct experience counts for much,” Mek put in. “It is impossible to anticipate every situation, and similar situations often weigh differently.”

“Priorities, my friend.” I retrieved Lara’s candy bag. “These are real girls, not some egghead’s behavioral model. The candy will be eaten soon enough, and you can place limits the rest of the year, but your trust and support will add permanent value to this family.”

“I agree,” said Poppins in her normal voice. “We household units are capable of independent decision, and the relevant factors are clearly weighted.”

I saw that her wireless link-light stayed dark. Usually, by this point they’d yell for help, to a staffer at Advanced Humaniforms, or maybe some regulatory office, of which there are at least fifty. Seems that Poppins chose to work

things out in the here and now, rather than drag in even more contradictory opinions.

“Does that mean we can get going now?” asked Gertie.

“Yes,” said the robot. “Trick or treat.”

“All right!” hollered Lara, and gave the lissome robot a hug. “You know what? You decided right. That makes you a renegade robot! The most scariest thing on the whole street.” She gave Mek a quick hug. “You too.”

With big silly grins, the kids took Poppins by the hands and pulled the metal contraption down the block. I ambled along behind, with a smile of my own.

Mek turned to me. “Renegade robot. A child’s joke?”

For sure, only a joke.

We finished trick-or-treating around eight. I saw Dolores and Lara into the hands of their mother, who looked grateful for the evening to herself. Figured she must be swamped, maybe even depressed, if Poppins was not enough to lift her burdens. That traveling father must make a bundle to afford such a robot, but what a tradeoff.

I walked the grandkids back home and found Iris just arriving.

Wished their dad could be there too.

Mek and I zoomed over to my place, grateful for the quiet freeway.

It would be almost midnight in Boston, and Alice usually burned the proverbial hard-work candle at both ends and then some. Her cell phone indicated she was awake and was set to receive calls from people with, I was flattered to notice, a high enough priority.

Thinking of Mek's ability to grab digital signals, I went upstairs and plugged in an old phone jack.

"Alice? It's Claude."

"Hey, Claude," said Alice in her lovely lilting voice. "It's *really* cold here. How's the research going?"

"I, umm, don't often think of it that way," I said. "But actually, that's why I called." Quick as I could, I gave her a recap of the hissyball game and trick-or-treating events.

Talking helped sort it out in my own mind. "I'm wondering why Poppins took me so seriously. I mean, Mek knows me pretty well, but for the nanny robot I was nothing but another guy, some ordinary working stiff."

"A working stiff who knows the relevant terminology and variables," Alice reminded me. "Wait a sec." The phone connection changed, became secure. "Actually, you are not 'just some guy' to the robots. They're complex enough to have what is effectively a subconscious mind, and interlinked enough to have a collective unconscious of sorts."

"Sounds like psychological mumbo-jumbo to me." I racked my brain. What had I heard from the coolest teacher in my high school? Something about Freud and Jung. "You mean I'm some kind of *archetype*?"

Alice laughed, always a good sign. "More like a *nouveau* Campbellian legend. I'll text that over, and you can look up the details later. Point is, the robots know they are invented beings, and that certain individuals occupy key positions in their creation and development process."

Alice was just getting warmed up. "They also know they've been hacked before, and are under orders to report such things. But they have to make ethical judgments, especially household models like, umm, what do those girls call her?"

"Poppins. From Enhanced Humaniforms."

"Yeah, I know a couple of their senior programmers." Secure connection or not, she remained oblique. "Robots understand

about convicted criminals, as you saw. Good and bad *character* is more of a challenge, and questioning official judgment is *supposed* to be unheard of.”

“Okay, enough said.” I was confident I’d caught her drift. “Some people are tied closely to, uh, certain major events, even if their names must remain unspoken. Legendary people who get extra, what, attention? Respect?”

“That’s the idea.” A tone sounded at her end. “That’ll be Pedro on the CB radio link-up. Better go. He found a local dispatcher and made a late run to Connecticut. Oh yeah, next weekend we’re having dinner at his father’s estate on Martha’s Vineyard. Give my love to Laurie and the family.”

“Will do.”

Stansfield Peter “Pedro” Owen is one unusual trucker, and his wife is one heck of a smart gal. She’d cautioned me in the nick of time.

Better not to put Mek in a bind. He would never have to report—or refuse to report—what he didn’t know in the first place. Therefore I would not ask if he knew who any hackers were or how many agencies had given commands to report such people.

Meanwhile, time to get some sleep. I logged on and double-checked the Argus roster. Good thing, too, as the exercise equipment had been bumped for a hot load, with a much earlier start time. Mek and I had a full load of ice cream to pick up.

The sun wasn't due to rise for an hour, yet Doug Gonzales, our graveyard-shift dispatcher, was almost giddy. Under the latest, greatest equal-for-all payroll system, he'd get a percentage for special loads dispatched, and this one was costing the customer a pile of money.

"You saw today's schedule, and there's quite a story behind it," Doug told me. "The county fair is hosting a big political event, and the major candidates insist on feeding everybody who shows up." He checked the manifest. "This load's got sugar-free and kosher and vegan and halal and Russian and ninety-seven other kinds of ice cream, and because of a wildcat strike, the order wasn't ready until the last minute, so *you* are going over there lickety-split."

"I heard about that event on the news," I said. "But wait a minute—those campaign speeches aren't until tomorrow."

"Security rules." Modern folks can hide their actual opinions well, and Doug hesitated to question Homeland Security procedures. "The Feds require twenty-four hours to screen all

the supplies and equipment and stuff, so you need to drop off the trailer at least that far in advance. We dare not muss Mayor Blow-Dry's hair, eh?"

Doug got me to calling the mayor that, and I don't have enough hair up top *to* muss, so call us immature. Fine by me.

"One more thing," Doug added. "Because it's a national-level event, the Everybody Works law applies. You can only stay on site four hours, then a new shift is supposed to come in."

Picking up the trailer-load of ice cream went okay, except that I got egged by demonstrators. The sun was barely up when Mek and I got there, yet a crowd had gathered outside the gate, or maybe spent the night. Apparently the strike was settled, but the issues behind it remained hot as ever.

Speaking of heat, the weather nerds were predicting the hottest November on record. I was in a hurry to get out of that place, and the dockwallopers were anxious to close their entry gate, so one strange fact went unremarked.

Soon as I was back on the road, I had Doll Box call the dispatch office.

"What's up, Claude?" asked Doug. "I see you got the load already. The seal number's on file. I hope nobody threw a

brick.”

“Eggs, not bricks, and I’m swinging by the truck wash on Sentinel Road right now. Doll Box checked, and there’s no waiting, so it won’t put me past the delivery window.”

“All right, but don’t expect the suits to reimburse you,” said Doug.

“It’s a company-owned truck!” Bunch of cheapskates at HQ. “I miss old Uncle D. When he owned Argus things worked right. Hell, I don’t even know what those people were demonstrating about.”

“Give me or Beryl the receipt. Maybe we can finagle it out of petty cash or something.”

“Question. Too crazy back there, so I’m asking you now instead. I didn’t see any markings for dry ice on those cartons. Isn’t that standard practice for frozen food shipments?”

Doug checked. Doll Box could’ve done that easily, but I wanted every word on record.

“Ah,” said Doug, “here’s an article. Some blogger, goes by Sir Parsifal. Had a regular column in the newspaper until the Feds got him squeezed out for ‘hate speech.’ Seems there’s

a new UN treaty. Our mayor got the Metro Board to put his own version in force around here. Dry ice is carbon dioxide, you know, so they banned it. Same time they axed our barbeque permits.”

That Metro thing is our sort-of-merged city and county.

“Oh, for...” I stopped. Doug is a dispatcher not a pundit, and there’s no reason to debate politics. “Please be sure to note my comments. If this load is held on site for twenty-four hours, it *should* be packed with dry ice. Requires very little of the stuff, from what I’ve seen.”

“You’ve got a refrigerated trailer, right? Full charge to run the ThermoKing unit?”

I pulled into the truck wash and lined up with their big, dripping wash bay. Doll Box was correct as usual, no waiting. Several employees looked glad to see me. Jumped out to triple-check the cooler unit. Sure enough, it was running fine and had a 94-percent charge. Those things used to be diesel powered, but that became, I suppose, a boogeyman before dry ice was.

Once in a while doom foreshadows a work day, and somehow you *know* that one thing after another is going to go wrong. With the anti-robot attitude shown by Mayor Blow-Dry,

Mek planned to wait in my truck cab's sleeper compartment when we got to the fairgrounds. No point in antagonizing a customer.

"Mek, Doll Box," I said, "stay alert. We're going to need teamwork to get this job done right, and real initiative in case somebody finds a whole new way to screw things up."

"I concur," said Mek from his place in the back.

"Sure thing, boss," added Doll Box. It's not smart enough to worry.

Enjoyed some country-western music for half an hour, until we arrived at the truck delivery gate on the south edge of the sprawling fairgrounds. A whole squad of SecuriTeam soldiers guarded the gate and proceeded to search my rig plus verify the sealed load. Not with much zeal, but they made up for laxity with force of numbers. They didn't find my spy dove, in its hidden compartment, and there was nothing else of interest.

They *almost* ignored Mek. Those low-level volunteers didn't care about the mayor's opinions, and would not, unless and until the man became a U.S. Senator. Before they waved me through, the young lieutenant in charge made a note of Mek's model and serial numbers.

“In case of emergency, we might require reinforcements,” she told me.

“Yes ma’am,” I replied. “What did she mean?” I asked Mek, as we pulled inside the gate.

“Priority overrides,” Mek said with distaste. “This also means I am expected to remain on site for the duration of these political events.”

“Until tomorrow afternoon? Jeez.” The screw-ups were piling on. Oh well, fatalism has its benefits.

Taking my call for initiative literally, Doll Box flashed some details on the dashboard screen. I’d heard reports, but this threw the issue right in my face. Those soldiers, via military robot liaisons, could take command—even full bodily control—of any industrial robot. It was like a horror movie I’d seen once, so I added that nasty fact to a long list of personal grievances.

We found the unloading site, and a foreman waved me into a spot at the edge of the rally area about halfway back (100 yards or so) from the stage. The whole area was paved, and crews were setting out thousands of folding chairs.

“You wait right there until I check the seals and the security

people approve the trailer,” the site foreman told me. Then he jogged off to meet another delivery truck.

Apparently they were not going to unseal the trailer until the following day. A common anti-pilfering procedure, normally applied in between stops, and now during a long wait on site. I chuckled at the idea of some hustler fencing stolen ice cream in a shadowy back alley.

Three white vans bearing city logos parked near my rig, and electricians began setting up a series of loudspeakers. This would be one audience with no trouble hearing the mayor speak. Given the man’s reputation, I wondered if those city-managed crews might drop the sound quality on his rivals.

Two more delivery trucks showed up, and the foreman waved them in. One carrying popcorn machines squeezed in on the right side of my rig, and another with more folding chairs parked behind me. The foreman went somewhere else, and the city crew proceeded to set up an AV tower smack in front of my rig.

“Yo! Mister!” I called out to the crew leader. “Can’t you work on that later? I’ve got to drop this trailer and pull out, soon as I have the okay.” I got out and paced off the area, showing him there wasn’t half enough room to move the cab.

“You have the okay.” The beefy crew leader’s scowl came easy. “Ten seconds after this AV setup of ours is gone, you get to move. *Capisce?*”

“Aw, c’mon. My boss told me the Everybody Works rule applies here, so I’m *supposed* to scram.” I held up both hands in supplication.

“Sorry, pal, municipal work is exempt.” The man scowled worse as he looked at my truck. “Get those bastards at Argus to organize, and you guys won’t be stuck with sissy directives like that.”

The crew attached a video screen, maybe two yards wide, for people to watch the speeches closer up. Atop the tower was a remote-control camera to get crowd shots, and big cables snaked away from the base. At least it was all pointed away from my rig.

A security patrolman walked over and got into a friendly huddle with the crew leader. Then the rent-a-cop looked at me, pointed at the new AV tower, and tapped the ticket-issuing device on his service belt.

End of discussion.

More vehicles crowded into the area, boxing in the guy who’d

brought additional chairs. This was nuts, incompetence or malice, if not both. I could always walk out and call somebody for a ride. If those city workers spotted an industrial robot there might be violence, so maybe there was an advantage to leaving the cab in place. Mek costs more than the entire truck, and a robot is a lot easier to smash.

Before doing anything else, I had Doll Box send video clips of each conversation and incident to Argus, from the load pickup to the fairground gate and onward, so nobody could blame me for the situation. At least the ice cream was my entire morning's load, so I didn't have anyone else's shipment stuck along with my rig.

Beryl got back to me an hour later. "Claude, the other drivers are covering your afternoon loads. If you were stuck at a marshalling yard the company would pay for the hours. *But* since Mek is there and not driving, and you're under that public worksite rule, HQ says you're going off duty at noon."

"All right, things could be worse," I said. "Paid until noon, huh?" That meant being on call for a couple more hours, even if the truck wasn't going anywhere. "Okay, I'll stick by the rig until noon, then mosey around and take in the sights before I catch a bus back to the yard."

I don't get bored easily, and most truckers are quite at home

inside their rig. I could watch a movie or do tons more activities from the shotgun seat or in the sleeper compartment.

Turns out a few local candidates were about to speak, along with some high school students. Watching the audience gather on the left side of my rig was entertaining in itself. Already things looked busy, and the major candidates wouldn't appear until the following day.

The whole fairground was bustling, with carnival rides and craft exhibits and interesting snacks and so much more. Waiting around the truck became frustrating, and noon was still an hour away.

There was enough popcorn and other spilled food to attract a hungry flock of birds. I decided to get out my spy dove. It looks like a real bird and can handle simple tasks.

What to try? About seventy yards away, on the far side of the rally area, sat the mayor's campaign bus, and wow did it look spiffy. Earlier he'd been out shaking hands. Right then he was inside the bus, I was pretty sure. At least Blow-Dry was consistent, having made so much of that new U.N. treaty, and wasn't using the bus's air-conditioning. A few of its dark-tinted windows, the kind that slide down vertically, were open a crack.

This gave me a wicked idea. Doll Box helped with the programming, then I let the bird go, from the side of my cab away from the crowd. Between my truck and the next, the space was too narrow for people to hang around, and the other drivers would chase away anyone who tried.

I dared not maintain a wireless link, with so many cops and Federal enforcers around, so it was fingers-crossed time. The bird flew high, away from the nearby tower. Then it circled way around, and landed on a wire near the mayor's bus. As soon as it landed, I couldn't tell it from the regular birds. Then, as instructed, it flew down and found a perch at the side of the bus, hanging on with strong four-toed feet.

The spy dove looked inside for several minutes, recording everything, then flew a zigzag course back to my truck.

I returned the bird to its secret compartment, then Doll Box retrieved its recording. Mek and I watched, and darned if he wasn't eager too.

Inside his luxurious bus, the mayor was talking to another man, who Doll Box identified as a top aide. They were, no surprise, cynical and conniving, but I heard no smoking-gun type statements. Then a woman came into view. A real stunner, if you like Playboy Bunny types. She served drinks, bending forward in a low-cut blouse, then retreated from

sight.

Try as we might, we could find no ID on this woman. She was not a family member or known associate.

“Claude, your spy bird records other EM signals,” said Mek.

“Huh?” I blurted. “Oh yeah, like radio waves.” Not for nothing had I tinkered for years, until I almost forget what every module and upgrade was for. Too bad I forget a lot of things at my age.

We checked those recordings and picked up encrypted digital signals. The spy bird had shuffled back and forth a little to get a wider view, so Doll Box triangulated. The signals were coming *from* the woman, and they didn’t match any known cell phone or mobile device. I about fell over—she was a fembot!

A data search revealed she was a Honey Be entertainment model, custom-fitted on a standard framework, and using that Japanese company’s assigned frequency. Much like hissyball game sets, each different fembot would have its own digital setup.

I was curious, maybe in a half-dirty way, but darn it, this was politics! “Mek, think you can decrypt that fembot’s signals?

See what she's been up to lately?"

"I will do my best."

"Keep this to yourself, okay?" I cautioned. "No way the Feds or the mayor can get wind of this—I mean, no way that anybody can know."

Don't know if robots can develop political opinions, but none of Mek's support would be wasted on His Honor the Mayor.

I got home early, caught in a strange mood, and Laurie did her best to bring me back to Earth. At noon Mek had still been working on those fembot signals. Only a politician could have such a gigantic ego and untouchable confidence, but maybe I felt daring too.

"Hey," said my wife, "you got to attend the big county fair, and you got paid for it! I wish my nursery school would let us bring the kids over there, but too many of the parents are real mother hens."

That gave me an idea. "Maybe our grandkids could take a day off and go with me in the morning. I'll be stuck there half of tomorrow anyway, and a separate crew will handle the unloading, so I literally have nothing to do."

"Poppins is bringing Delores and Lara to the fair tomorrow,"

Laurie said. "Turns out their elementary school will qualify the experience as a field trip. Isn't Alice still pushing that robot cross-training project?"

Women's intuition! "Yeah, nanny robots are way more acceptable. I saw a few around the fair this afternoon. Not even the mayor bashes 'em. Maybe Poppins could try some trucking while we're there. I mean, not drive, but smaller chores."

Laurie was another step ahead and got on the phone with Iris in about ten seconds. No reason for me to go by the Argus company yard in the morning, so I could pick up Maxine and Gertie and rendezvous at the fairground.

Soon as Laurie got things set up with both moms, I called Alice in Boston. She was delighted by our idea.

"If our esteemed mayor makes the slightest flub, I want to hear all about it," Alice told me. "I am *very* interested in that man's career trajectory."

"For sure." I saved the news from my observant dove until later.

It felt warmer still in the morning. The new forecast was for cooling later in the week. Looking at the crowd of fairgoers, I

regretted that so many ladies would soon be in heavier clothing.

I parked my Camaro in the big lot outside the pay gates, slapped two different anti-theft devices on the car, and showed the gate attendant my delivery manifest. After a consultation with her manager, the kid let me in without paying. Gertie and Maxine were young enough to enter free.

Turns out Poppins got a driver's license, a real one, not those dodgy compromise "certificates" the Feds give trucker robots. Poppins parked in the same lot and signaled Mek they'd be along shortly. Funny, she could've called us on a cell phone, but it seems the robots prefer to use their own silent system.

Also funny: a metal robot driving a flesh Maramax Goalie. If Mother Nature noticed, the old gal must've done a double-take.

The girls and I waited by the gate and tried not to laugh as the flustered attendant summoned her manager yet again. Poppins was deemed an adult, though manufactured less than a year ago, and so paid full price. Dolores and Lara looked great, so they must've rationed their Halloween candy after all.

We walked over to my truck, gathered by the driver's side door, and said hello to Mek. He'd been inside, keeping out of sight.

We let the girls clamber into the cab, and I showed them the rig's controls and gauges, and put Doll Box through its paces. Poppins watched closely.

I dragged over two empty crates, popped the hood, and showed Poppins how to do a basic pre-trip inspection. With newfound confidence, she allowed each girl to climb up and see the engine for herself.

Then Poppins spread out a blanket and broke out some healthy snacks. "The first candidate is due to begin shortly," she announced.

"Do we *have to* listen to stupid speeches?" asked Dolores, with a major pout.

"It's educational," said Poppins. "Remember, your teacher expects a well-written report."

"Yeah, yeah, but then can we go on the carnival rides?" Dolores persisted.

"Of course," said Poppins. "They are deemed safe, if you

behave appropriately while riding.”

“I want to see the lambs and calves and bunnies,” said Lara.

“And the science exhibits,” added Maxine.

Gertie slapped the aluminum side of the refrigerated trailer. “I want them to unload this ice cream,” the girl said. “When’s that?”

“Right after the campaign speeches,” I replied. If it was “just the guys” I’d have suggested we sit way up on top of the trailer, to get the best view, but I did not push the idea.

I climbed inside the cab. “So, Mek, how did things go last night?”

“Not well.”

*Uh-oh.* “What happened?”

Doll Box had it all on video.

Around ten o’clock, a Metro Citizen’s Neighborhood Corp patrolman had come along. That’s Mayor Blow-Dry’s pet project, and not nearly so warm and fuzzy as the name suggests. They get a tenth the training of regular police officers but almost all the power.

There was the rap of a nightstick on the driver's side door.  
"Anybody in there?"

Mek had to break cover and respond.

"Hey metal-ass," said the patrolman, "you can't run an engine in this area for more than fifteen minutes. We got a strict anti-idling ordinance in this here town."

"Do you mean the cooler unit?" asked Mek.

"Shut it off. Now." The man was sweating in the warm night air.

"It is needed to—"

"Better zip your lips, if you had any. That's an order." The patrolman pointed his nightstick at the cooler unit. "Hurry it up, tin-head, or I'll halt this violation myself."

Mek shut it off.

"Better ought to inspect this load." The patrolman broke the seal, used his universal police key, and opened the trailer's swinging doors. The rear close-up camera showed him basking in the frigid air that poured from inside.

“Please close the doors.” Doll Box’s routine-program voice.

The response was short and profane, but the patrolman did close them, then headed over to the truck with the folding chairs.

“Jeez,” I exclaimed upon seeing this, “that guy must’ve dumped half the cold air.”

“Doug Gonzalez and I were not able to remedy the situation,” Mek concluded.

A few minutes later, a fairgrounds crew came along. They checked my paperwork one more time, complained about the broken seal, then got ready to distribute the goodies. I was about to mention the cooler unit but decided it was too late. Maybe the ice cream would be okay. I had not seen if there was foam insulation inside the cartons.

The first two senatorial candidates almost put me to sleep. Blah, blah, blah.

That changed when the mayor took the podium. He covered every issue with practiced skill. Foreign, domestic, economic, social; no need for the Second Coming with this populist magician around.

No wonder the guy was ahead in the polls. I really perked up

when he got around to the Robot Issue.

“Humans are paramount,” the mayor proclaimed, charisma going supernova. “We don’t have to sacrifice our traditions or our dignity to enter the world of the future. There is no justification for robots taking jobs that humans are willing and ready to perform, and let me tell you, we humans can do anything we set our minds to.”

The crowd cheered, or as I observed from my higher vantage point, about half the people did. At the extreme, I’d hope that scrubbing out old nuclear reactors and toxic waste dumps would not be done by fragile humans.

“Furthermore,” the mayor went on, “rogue machines are every American’s nightmare, and we now face the very real possibility of those destructive tragedies coming true.”

The guy was smooth as motor oil, and to me, just as indigestible. From their picnic blanket, all four girls made a flourish of putting their thumbs down.

“I am calling for serious firmware restrictions on every mobile robot,” the mayor declared, like some anti-Daniel Webster. “We must insist on continual human supervision, not only on driver robots but every industrial and workplace model.”

A clever swing of the pendulum. This was a make-work program if ever I heard one, and I could picture millions of lazy SOBs getting paid to stare at robots doing the real work. Or snooze instead of stare, more like.

His Honor the Mayor continued in fervent Spanish. *“Esos robots son unas rameras mecánicas. Los gordos y codiciosos gatos quieren eliminarles sus trabajos para darselos sin pago alguno a los robots, los cuales son maguinas sin la mas minima posibilidad de tener dignidad alguna. Ustedes no deben permitir esto! Trabajadores, mis amigos, yo apoyaré su noble causa.”*

I missed a few words, so used my cell phone to get a quick translation. ‘Mechanical whores!’ The guy was way harsher in Spanish.

“Thank you, my friends, and I look forward to serving you in Washington.”

More cheers. I could see the mayor was using a small TelePrompter. I wished there was some way to hack those things. Give that stage full of slick speakers a *real* challenge.

Strong firmware restrictions would shackle robots like Mek from the inside, not only in emergencies, but all the time. The whole idea rubbed me wrong.

During the mayor's speech the fairground crew, all human workers, unloaded the trailer. They brought big cartons of ice cream to distribution points all over the rally area. Mayor Blow-Dry and two other candidates stood up and offered free goodies to the audience. The fourth candidate, a Hispanic woman, stayed in her chair. She had yet to speak, and here came a tasty distraction.

Cries of disappointment began, at one point and then another. Half the ice cream was melted. Instead of fudge sticks, goop poured onto children's shirts. No scoops piled into cones, sludge ran down over outstretched hands.

People starting looking at their cell phones and other devices, as text messages and tweets and whatnot began a crowd-wide buzz. I got one on my cell phone. the mayor's flunky made a robot driver shut off the ice cream truck's freezer, because of anti-idling ordinances. nevermind those new freezer units are quiet, they enjoyed saying no to a driver robot.

No evidence on who was sending the messages. Another one came: no dry ice in the shipping boxes, because it's carbon dioxide. tiny amounts are needed, but the mayor has banned that use. it was hot out, so the goodies melted overnight. the mayor likes to say rules are rules.

Someone, I assumed a local reporter, found Mek standing alone in the narrow space beside my rig. "Is it true?" the guy asked.

Doll Box informed me this was almost certainly Sir Parsifal, in person.

I leaned out the window. "Tell the man," I suggested to Mek.

Mek explained, same as he'd told me a few minutes earlier. Four times during the night, Mek had appealed in vain to different authorities. I mentioned that the cooler runs so quietly the patrolman only noticed the unit was on *after* the fairgrounds shut down for the night.

Doll Box helpfully provided Sir Parsifal with copies of the video and communications, plus the freight manifest that lacked dry ice. The blogger already had a collection of mayoral speeches and position papers supporting such drastic policies. Still, I itched to nail Blow-Dry himself, not only his patrols and staff flunkies.

The story was picked up by the regular news services. In about two minutes the whole crowd knew the score, and Blow-Dry was sitting up there stiff as a board. Then, without waiting to be introduced, the fourth candidate began to speak. I finally recognized her: Sylvia Morales, a local

community activist, not to mention a shipping clerk at a warehouse in the high-tech district. She had signed for deliveries of mine before.

“Sorry about the mess,” Sylvia told the restive crowd. “If I was in charge, I’d have told that robot to please turn on the freezer; allowed my people to decide on their own, instead of being a control freak. Zero-tolerance rules, like our exalted mayor is always pushing, are a lame effort to cover up the fact he’s too chicken to take initiative. How many career politicians have an original thought to act on?”

Sylvia grew fiery, mixing English and Spanish and other languages. “You folks are told to fight over scraps and make enemies of our newest helpers. Why not prosper, with jobs and businesses for all the people? Not too long ago, Hispanics were dissed as *greasers*. These robots have grease in their elbows and knees, so they can move and work, and are we going to revile them? Not me! They can be helpful friends, in ways old and new.”

As the dark horse candidate spoke, a bunch of moms pitched in. They borrowed towels and dishrags from the fairground’s main restaurant, then from a bankrupt hotel nearby, and went into the crowd to clean up the sticky mess. I saw some robots helping.

I cheered along with the crowd.

Then it hit me, all at once. Beyond the immediate mess, Mayor Blow-Dry might have dug his own political grave.

Before I could talk myself out of it, I asked Mek, "Did you finish your signal decrypting?"

"Yes."

"Good. Let's play a joke."

I told Poppins and the girls, "I think you've done plenty of social studies for one day. How about you all head over to the midway? Delores, you're oldest, so help Poppins watch the kids."

Their enthusiasm was marvelous to behold. Poppins led a joyful flock of girls away.

I turned to Mek. "Can we send one basic signal into the campaign bus, as though the mayor sent it himself?"

"Yes, Claude. There are no short-term passwords, and the commands are unaltered Honey Be code. We would have to match the frequency, encryption, and protocols."

"Is that all?" I had confidence. Maybe. I recalled Mek's

mastering of the hissyball game. “Can you pick up those signals, yourself?”

“The bus is built heavily enough to block weak transmissions and may have additional shielding. A large antenna would itself be detectable, so the spy bird will have to return to an open window.”

“Whoo boy.” Was I going nuts, to get involved so directly? To take a major risk like this? But Mek and Yunick, and now Poppins, were genuine friends.

“Afterward, I will have to erase the details from my onboard memory.” Mek said this as if discussing a walk in the park.

“For sure.” Mek went in to Sylvantronics for regular maintenance, plus there might be special inspections, and if my idea worked, even some pointed questioning.

“My spy bird can’t do half of that,” I said, “so we’ll need a series of mods. Don’t want to be traced back here, either.”

“I can modify the bird.” In about four minutes, using my hobbyist’s tool kit, Mek did exactly that. Those metal fingers worked so fast it was a blur.

On stage, Sylvia Morales was getting to the finale of her speech. Quickly I shared my plan with Mek and Doll Box, and

we programmed the instructions.

"I am thinking about jokes," Mek said, then mimicked a well-known comedian. "You feel angry, sir, and you're about to give His Honor the bird."

"Yep!" Laughter eased my tension a little.

Off went the bird, way around to the far side of mayor's bus, where it set out to make contact. The plan was to establish low-power communications, pass along a tailored message, then go silent and return.

The minute this took lasted an awful long time.

The spy bird returned, with some real pigeons in tow. I tossed the curious critters a handful of popcorn, which they gobbled in a hurry.

A moment later the bus's folding door opened, and the fembot emerged. It wore a skimpy French maid's frock, and I was glad my grandkids were out of sight.

Not many heads turned, as the fembot appeared quite realistic. Then another maid, dressed like the first, came out. More people noticed.

A third fembot stepped from the bus, an identical triplet.

Apparently they were linked, and my spy bird had found and instructed all three!

Fembots, unlike most other robots, have simple rules. They're designed to follow instructions without question, and with a minimum of scruples. The buxom trio sashayed from the bus to the stage, then across it into the speaker's seating area. One human guard stood at a velvet-rope gate, and that man proceeded to ogle instead of act.

The literal-minded fembots gathered around Mayor Blow-Dry, confident he'd summoned them himself, and with some urgency. What the fembots *thought* the mayor had requested was, according to my dove's log, a quick repeat of their previous afternoon's romp. Completely flustered, the man reacted too slowly. I am not going to describe what the fembots did next, so let's just say it was spectacular.

All this happened live on camera, thanks to the AV tower in front of my truck, a pack of news reporters, and a zillion personal devices. I'd been too cautious to alert Sir Parsifal in advance, but no need, the savvy blogger was all over it. Sex might be old hat in politics, but this was hypocrisy on a stupendous scale.

Sylvia Morales watched, then let out a stentorian snort of disgust. "People," she announced, "if I had a great big

blanket, I'd use it to cover this debauchery from your sight."

The mayor was hustled away by frantic aides.

Tommy saved us a booth in his deliberately not-famous diner. Pedro and Alice Owen, me and Laurie, plus Doug Gonzalez; we'd gathered for a discreet Saturday brunch. Never had I suspected the depth of Doug's sentiments.

In between chomps on an illegal real-beef cheeseburger, Doug confirmed that he had watched the political rally on our local C-SPAN. He'd sent the messages when the time looked right, via some anonymous server, and counted on folks to spread them around fast.

"I was pissed!" Doug waved an onion ring. "Mek informed me about that patrolman, and I got a runaround from some clerk at the police department. Like, 'we are not in the business of granting waivers.' The ice cream manufacturer was hit by another strike, so they weren't about to get involved late at night."

Sounded like a royal night-long screw-up, all right. "I figured the mayor would find plenty of blame to shift," I said, "so I decided to do like Alice here and take direct action."

"I'm proud of you, Claude Dremmel," said Laurie.

Everyone tried to thank me at once, and I went into aw-shucks mode.

“Claude,” said Alice, “you are too modest. Pro-robot forces got a huge boost worldwide, but it’s more than that. Mek and Poppins are questioning foolish official directives, discreetly, and they weigh situations with good common sense. That could be a harbinger of a much brighter future.”

“**Could** be,” Doug put in.

Pedro said, “My father has always been leery of robots, old-school as he is. But ‘if those tin-heads can become sensible folk,’ as Dad puts it, then they ‘might be worth something after all.’” Pedro grinned. “Which means Heathcliff Owen plans to invest a fortune in the robotics industry.”

“With an emphasis on constructive human-robot working relationships,” Alice added. “I will consult if requested, but no way am I taking a full-time position.”

On Tommy’s big screen TVs, we watched as our state’s new senator took her oath of office. Sylvia Morales faced some massive challenges, and she’d have the support of flesh and metal hands.

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# Betty Knox and Dictionary Jones in The Mystery of the Missing Teenage Anachronisms

*by John G. Hemry*

**Some kinds of work must be done very carefully, which is hard with hands almost tied....**

In faded photographs, fifteen-year-old Betty Knox had worn not just the usual modest skirts and blouses, but also the usual barely-concealed teenage uncertainty, visible in eyes behind dark-framed glasses that hadn't really been fashionable even by the questionable standards of the mid-1960s. She looked like she should be carrying a book even when she didn't have one.

Now, fifteen-year-old Betty had a wariness well hidden in those same eyes as they glanced from side-to-side at her classmates. Unlike the rambunctious teens around her, she moved surely, carefully, more aware of what she was doing. She also moved, James Jones thought, like someone unaccustomed to her neat blouse, mid-length skirt, and sensible shoes.

While the other teens leaving school streamed off in various directions, Jim sidled close to Betty as she briskly strode down the sidewalk. "Uh, hi."

Her eyes shifted to him. "Hi."

"I'm Jim."

"Dictionary Jones. I know." Betty was really giving herself away now. She should be getting a little shy, a little giggly, nervous at being approached by a boy of the same age whom she knew only because they shared the same school. Instead, Betty seemed amused, the veteran of decades of clumsy come-ons who thought this one not just lame, but also cute.

It annoyed Jim, so he cut to the chase. "And I know that after Johnson, Richard Nixon is elected president. Then Ford. Who comes next?"

Betty's amusement vanished, the wariness back and intensified. "Carter. Jimmy Carter."

"Then Reagan. So now we both know who we are."

"What the hell are you doing here?" Betty demanded, her nicely permed hair flouncing prettily. "Why are they sending new people down right after we got here? Those stupid

bastards should have—”

Jim cleared his throat loudly, and Betty shut up with a guilty look around. “Long story short, they sent us as close to your arrival time as they could manage because the first wave disappeared.”

“Us? First wave? There’s—” Betty’s voice caught. “Disappeared?”

Maybe to any adults watching from a distance they still looked like two kids strolling down the street, encumbered with school books, talking about the latest “music” from that new foreign singing group with the outlandish name, The Beatles. But up close Jim could see the Betty in much more recent images, the Betty usually addressed as Doctor Knox. “Within a few months of the aimed arrival dates,” he explained, “every single one of you vanishes, usually with no record of what happened. Removing a few documents before old newspapers and records were digitized and databased could get rid of whatever happened to you as long as it was low profile. But they found nothing you guys did to alter things, and only a few items saying that two of you were reported as runaways soon after your projected arrival times, and there’s nothing on any of you after this October.”

“What about our bodies? The original ones?”

"The older bodies you left behind? Nobody came back, if that's what you're asking. The bodies are still there, but there's nobody home."

"Slabs of meat," Betty murmured.

"You don't have to get all poetic about it," Jim said, stung by the image that also might now apply to his own much older self.

"I'm a geneticist, not a poet, Jim," Betty snapped, sounding very much like Doctor Knox. "When are you from?"

"2040."

"The year after we were sent?"

"It took a while to find people who might know you, who could find you as teens, and then to evaluate and train us."

Betty detoured to a vacant bench at a bus stop and sat down, staring outward. "Why exactly are you here? To find out what went wrong? To try something different? To find out if the time patrol bagged the first group of us to keep us from altering history?"

Sitting down next to her, Jim shrugged. "All of the above. This

is by far the longest trip into the past that has been attempted. Did it make you unstable? Did you actually arrive? Okay, you're here, and you don't seem unstable."

"No more so than any other fifteen-year-old girl."

"But no one really believes in a time patrol. How could that work?"

"It couldn't." Betty looked down at her legs stretched out in front of her. "What happened to the others? To me? I'm still trying to adjust to this. Look at my legs. I'd forgotten how good my legs looked when I was fifteen. At the time, I thought they were too short and too stocky. Which they were, compared to Barbie's legs."

Jim felt his own midsection, flat and even. "Yeah. It's really strange. I keep expecting to be over ninety years old. I think I was in pretty good shape for that age, but compared to fifteen..."

"What does the process do when someone is sent back this many decades? Maybe it does create some kind of instability. Have they even discovered how it works in the time since I left?" Betty asked. "Even though it's only been two weeks for me."

“Two weeks? Uh, no, they haven’t figured it out yet. The mechanism causes *something* to be projected back to an earlier time, to an earlier age in the same body, but what that something is, they don’t know.”

Betty sighed. “Why not just call it a soul?”

“Too metaphysical. They’re still vetoing ‘spirit’ for the same reason. The people who trained me usually called it ‘self.’”

“That’s nicely ambiguous. Science finally discovers that something besides the physical body makes us *us* and then doesn’t want to deal with the implications.” Another sigh as Betty looked across the street without focusing on anything. “But we have to deal with the fact that time-travel is only possible within the lifespan of any living human, so we can’t send someone back to when all of this seriously began. If only we could get someone into Germany before they launched their big chemical manufacturing plants in the nineteenth century!”

Jim didn’t see much sense in imagining that outcome, since it couldn’t happen. “How are things going now for you? Have you attempted any progress on the mission yet?”

“Attempted?” Betty spun on him, glaring, her mood shifting with startling suddenness. “I’m a *girl*, Mr. Dictionary Jones!

Guess who listens to *girls* in 1964?"

He could guess the answer by her tone. "Nobody?"

"Nobody! And they define 'girl' as any female of any age!" Betty shot to her feet. "Let's keep walking. I can't just sit and talk about this."

Jim hastened to keep up. "You're walking like Doctor Knox."

Betty flinched and shortened her gait. "I hate this. I hate these clothes. I want to put on a t-shirt and a pair of blue jeans and a comfortable pair of sneakers, and I want to be able to move like my fifteen-year-old self can move!" She jumped upward mid stride, then turned another glare on him. "We played basketball at school the other day. *Girl's* basketball. I took the first shot." She mimicked a clean overhead toss at a basket. "Everybody gasped and the teacher told me I was unladylike, that only boys threw that way and if I wasn't careful I would damage my uterus."

"Really?"

"Yes. I'd forgotten that the sort of physical activity we know is normal and healthy for girls was believed in 1964 to lead to athletic fields littered with expired uteruses." Her anger faded as swiftly as it had come. "Anyway. After I got my bearings

here I tried raising a few topics with my father, who is a physician. And a good one. I mentioned a few things about epigenetics, and he got this indulgent look and said when I went to college I'd learn about Lamarck and how wrong he was. Then my mother said maybe I'd want to get married instead of going to college, and I said I *could* do *both* and everything went downhill from there. Of course, both of my marriages ended in divorces, so maybe mother had a point."

"They don't know about epigenetics?"

"They barely know about genetics! I'd get further talking to Mendel, because he wouldn't have a lot of preconceptions about what he thought he knew." Betty shook her head.

"Except for preconceptions about 'girls,' I suppose. It's complicated. Lamarck was wrong, but he was also right in a far more subtle way than people of his time could grasp. Humanity needed to figure out epigenetics decades earlier than we did if we are to halt the spread of effects on the human genome in time to make a difference. Right now, though, and for decades to come, it's assumed that either Darwin or Lamarck had to be right, rather than understanding that more than one means of adaptation exists, and that one of those means is directly affected by environmental conditions far less intense than radiation."

She gave him a rueful look. "That's why this is going to be a

long project, beginning with manually typing letters sent under other names than my own—*male names*—to nudge people in the right directions.”

“Except,” Jim pointed out, “the last record of Betty Knox the project could find in 2040 was a school paper at the end of September, 1964. As far as we could tell in 2040, you never got a chance to send any of those letters. Even if you became unstable as a result of the long trip into the past, there should be medical records of that, so the project thinks someone deliberately went after you.”

She stopped walking again to stare at him. “Are you a bodyguard? Is that it?”

“If I found you, and you weren’t crazy, yeah.” Jim flexed one slim arm. “Not much there to work with, but I know a few things about unarmed combat. I don’t remember ever crossing paths with you after we left school, but I served in the Marines for a while.”

“I don’t think I ever talked to you when we were in school together. The first time, I mean. Dictionary Jones, a Marine?” Betty asked. “Where’s your dictionary, anyway? You always carried that book around, and you had it yesterday, so I guess you must have arrived since then.”

Jim scowled at the sidewalk. "I came in last night. It wasn't a dictionary. I didn't want to tell anyone what it really was." He realized she was waiting for him to say more. "It was game rules. I was working on a role-playing game."

"A game? You were a game geek before game geeks were cool?"

"I don't think game geeks have ever been cool," Jim said. "Some of us made a lot of money and we impacted the culture a whole lot, but cool? Dictionary Jones never had a girlfriend, remember?"

"How many boyfriends do you think I had?"

They had reached a house he recognized as hers, not from ancient memories but from his briefings.

"We need to talk about whatever theories they developed in 2040 about what might have happened," Betty said. "And I need to figure out how to contact the two other people I can find in this time to see if they're okay. I'll be honest with you. I have a lot of trouble believing that something bad has happened to everyone, and that something will happen to me. We do need to find out what caused—"

"Betty!"

Jim turned to see a woman standing in the doorway of Betty's home.

"Why don't you and your friend come inside and have some cookies?" the woman called.

Doctor Betty Knox blushed like any fifteen-year-old girl. "Damn! Mother must think you're a potential boyfriend for me. She thinks I need to study less and be more freaking feminine."

"Do you talk like that in front of her?"

"Hell, no! I can't even say 'hell, no' in front of mother. Not in 1964." She gave a defeated shrug. "Come on. At least it'll explain why we're hanging around each other, Mister Bodyguard. But don't plan on getting lucky."

Jim suddenly realized that ever since Betty Knox had mentioned her legs he had been aware of her body under those modest clothes. "Lucky?" he demanded, feeling guilty. "We're both fifteen!"

"Oh, yeah. Tight and virile young bodies with the hormones of teenagers and the experienced minds of the old and lecherous. They didn't warn me about how that would complicate things. Have you noticed trouble with focusing on

one thing? How your thoughts bounce around?"

"Yes, now that you mention it."

"Our physical brains, our bodies, are fifteen. Our selves are being affected by that." She took a long, deep breath.

"Maybe too much so. Maybe the danger lies within ourselves."

Betty and Jim had spent a while strategizing in low voices over cookies and milk. It wasn't until he was leaving and caught the knowing expression on the face of Betty's mother that he realized how that must have looked, two teenagers with their heads close together for a long time.

One thing Betty had insisted upon was that he had to maintain his original life. "You can't go rogue from who you were at fifteen, Jim. This society couldn't handle that. Our parents couldn't handle it. That was the project's assessment before I came here and I've seen nothing to make me think different. You need to do your job for the project and live the life of Dictionary Jones at the same time."

Now Jim walked up stairs he only dimly recalled, opening a back door whose image had completely faded from his memory, to see his mother standing in the kitchen making dinner. "Where were you?" she asked.

"I was visiting a friend."

"That's nice."

Times had changed. In 2040, parents would track their child's whereabouts constantly by GPS chip and freak out at any deviation from planned, safe, organized, and adult-supervised after-school activities. Funny how the restrictive society of 1964 also produced more freedom in other ways. "Is there anything I can help with?" Jim asked.

That earned him a startled look from his mother. "No. Thank you. Just go ahead and watch the TV until dinner."

He ambled into the living room, trying to move more like a teenager, then spent almost a minute reflexively looking around for the remote before realizing there wouldn't be one. Jim walked to the hulking TV console, almost as big as the widescreen on one wall of his home in 2040 but with a screen barely twenty inches across, and after studying the knobs turned one until it clicked.

Aside from a humming sound, nothing happened. Jim waited, and waited, finally moving to peer inside the console through air vents in the side. The orange-reddish glow of vacuum tubes met his eyes. How long did it take vacuum tubes to warm up? His memories of that were dimmed by

time and affected by what he had come to accept as typical.

Giving up, Jim went back to the couch and flopped down, grinning as he enjoyed the feel of being physically fifteen again. But then the grin vanished as his little sister Mary walked in.

She stopped and glared at him. "Is there something wrong with you?"

"Uh, no. I'm just glad to see you." Mary had died abruptly in 2006 of an undiagnosed heart ailment.

"This morning at breakfast you looked at me like I was some kind of freak."

"No! I was very glad to see you." Already disoriented from his future self arriving in the early morning hours, it had been hard not to break down into tears when he saw Mary again. He had been told to be careful what he did, to avoid any unnecessary changes to the patterns of the past, even though no one knew how hard it would be to actually change the past. But he would make sure that heart ailment was found in time.

She gave him a suspicious look, then went to the TV, which had finally produced coarse black-and-white images. Mary

flicked the channel changer, rapidly spinning past empty channels to the only ones with signals. NBC, ABC, CBS. NBC, ABC, CBS. On the third go round of the same three channels, she stopped on one showing a dancing package of cigarettes.

Cigarette ads on TV. Somehow that seemed to epitomize the prevailing tendency toward self-inflicted poisoning. A line from Jim's training came back to him. *Before leaded gasoline was banned in the United States, an estimated seven million tons of lead had been released into the air, soil, and water from that source alone.* "There's nothing on," Mary said with disgust.

That hadn't changed. How many times had Jim said the same thing after scrolling through hundreds of channels? He tried to remember when his family had bought their first color TV. One with transistors rather than vacuum tubes. It had been after he enlisted to avoid being drafted. *What kind of idiot joins the Marines so he won't be drafted into the Army?* Mary had said, her hair much longer then and her jacket adorned with a peace symbol.

"What are you looking at?" Mary demanded.

He realized that he had been watching her again, remembering all that had been, that once would be, and

wondering what would happen now. There was only one way back from a trip into the past, and that was the old-fashioned way, living one day at a time. The Marines again? He had been lucky in 'Nam, picking up only a few minor injuries and a lot of memories he had spent a long time trying to deal with. But it would take only a very tiny change in where he stood to put an enemy bullet into his heart rather than grazing his shoulder. He was no longer a kid to whom death was an alien thing that happened to others. He knew how easy it would be to die in 'Nam if he risked it again.

And how could he stand seeing his old pals again at the Marine Corps Recruit Depot in San Diego, knowing which ones wouldn't be coming home? Could he even consider replaying that part of his past when a larger responsibility now rested on his shoulders? He had wondered about that before, but it had all been sort of abstract, not real. Now it was as real as the past that had become his only present.

"Somebody's deep in thought," Jim's mother observed. "Dinner's ready. I made that frankfurter casserole you like."

Jim sat down at the dinner table, grinning at the once-loved and now almost forgotten meal. But his smile faded as he thought about what was likely in that food. *No. Not too much yet. Most of the stuff that leaches into the human food supply, or is deliberately introduced into it because it's*

*thought harmless or even beneficial, comes later. Betty still has time to change things.*

He had been ninety-one years old when the project contacted him. Unlike the newest generations, plagued by a host of ailments, there was nothing physical specifically wrong with Jim, just a very tired body, so that he faced each day knowing that it might be the last, and accepted that reality with weary resignation. He had already felt like a time traveler then, one who had jumped forward to a period when no one remembered the things that had been important when he had been young, and were now concerned with things he had never imagined as a young adult. But they had told him this was important, that he could make a difference, because almost eighty years ago he had gone to the same school as a girl who had become a highly respected geneticist and now needed help.

Jim looked at his mother again, fighting down a sense of disbelief. Alive. Healthy. Astounding things that he had taken for granted the first time he had been fifteen. She had died from cancer in 1984. Cancer later discovered to be triggered by some of the chemicals, plastics, and industrial byproducts that by the mid-twenty-first century were overwhelming humanity with its own toxins. Aggravating the assault on mankind were bacteria and viruses that had developed immunity to every countermeasure due to clumsy overuse of

those countermeasures. By the time humanity figured out what its own creations and leavings were doing to it, it seemed to be too late to do anything about it.

Except that another discovery offered a way that might provide a head start on solutions, and maybe a way to limit the damage that would be done. The first attempt had simply vanished in time, and now he had to find out why and help Betty change history in small ways that might over time add up to very big differences.

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The next day, Jim stood in science class, staring at the silvery globules of mercury that the teacher had doled out to the students. This was one of the classes he shared with Betty, who sat at the other side of the room and was almost cringing away from her sample of mercury. The other kids were laughing and playing with the stuff, dipping pennies into it to see the copper acquire a silvery coating, and breaking it into little globules which would roll around and merge back into big globules. Tom Farand had stuck his finger into his mercury and was waving around a silver-coated digit.

"Make sure you wash your hands before you stick that finger in your mouth, Mr. Farand," the science teacher instructed in a severe tone.

Betty shook her head like someone emerging from shock and her hand rocketed into the air. "Sir, isn't mercury an extremely toxic substance?"

"Toxic?" The science teacher nodded judiciously. "It can be poisonous if ingested, yes."

"What about inhaling fumes? Or absorption through the skin? Couldn't even a tiny amount of mercury cause serious neurological problems?"

The other students were watching Betty now, some nudging each other and laughing, while she reddened slightly in embarrassment.

Jim raised his hand. "I've heard the same thing, sir. Mercury is incredibly neuropathic and ingesting even small quantities leads to sensory impairment."

"Dictionary Jones and his big words," someone whispered.

The teacher frowned. "I'm not aware of that, Mr. Jones. Or what you say, Miss Knox. If there are scientific studies that support what you say, and you want some extra credit, why don't you two produce a paper on the topic?"

By now most of the class had stopped laughing and were

looking down at their globules of mercury with worried expressions.

Betty swung by him as they left class. "Thank you. It was so nice not to be the sole voice of sanity. One small step at a time. We get people thinking about this a few years earlier and let the results snowball. I hope."

"Do those studies exist yet?" Jim asked.

"I don't know. That area wasn't supposed to be my priority. I did memorize some of the places and people who are working on things like that right now. But a big part of the problem is that existing means can't detect extremely low levels or the impact they're having. What's your specialty, Jim?"

Here it came. "I don't really have one. No advanced degrees at all. I did a lot of stuff and have a decent general background in science and technology, but my primary qualification for being chosen for this was because I went to school here at the same time you did and I was still alive."

"Oh." But instead of getting arrogant or dismissive, as so many of the highly-degreed had reacted to such news, Betty smiled at him. "Some of the dumbest people I ever met had the most advanced degrees. See you after school."

He watched her leave, smiling to himself, until a hand hit his shoulder hard enough to make him stumble. "When did you two fall in love, Dictionary?" Tom Farand asked, while several other boys laughed.

"We were talking about working together," Jim said.

"Working? Nobody works with girls."

"Why not?"

The question seemed to stagger Farand for a moment.  
"Because they're girls!"

The sort of attitude that Betty had blown up about yesterday. Jim had vaguely remembered the ways women had been put down when he was young, but things had changed so much by 2040 that the reality of it had dimmed considerably. Now here it was, full strength, and he could only imagine how hard it must have been for Betty to suddenly be living with that again. The least he could do was stand up for her, but Jim's young hormones provided words before his older self could censor them. "Wow," he said to Farand. "That is so dumb. The mercury must already be affecting your brain."

Farand's face reddened. "Watch your mouth, Dictionary." His right arm shot out to stiff-arm Jim's shoulder.

Jim's left arm came up and easily parried the blow in a move he had learned years from now, leaving Farand and the other nearby students gaping at him. "Sorry," Jim said. "I shouldn't have put you down like that. But you shouldn't put down girls, either. And don't try to hit me again." Jim turned and walked off toward his next class, realizing belatedly that he had just done something out of keeping with being fifteen.

As he left school that afternoon he saw Betty among a group of girls, most of them talking a mile a minute. Noticing him, Betty left the group, while the gaggle of girls pointed at Jim and emitted a gust of giggles. "God help me," Betty whispered to Jim as they started walking. "They were talking about who the cutest Beatle was. I thought I was going to go insane."

"I always liked Paul," Jim commented, "though not in the same way the girls did."

"Paul was great. I told them John was a jerk and they were all 'no' and—" Betty slapped her forehead. "Stop talking about it."

"In a couple of years you can argue with them about who's the cutest Monkey."

"Mickey," Betty replied immediately, then slapped her

forehead once more. "I haven't forgotten anything, but my feelings are turning fifteen again. I have one of those portable record players and I spent a while last night listening to 45s on it. Why do I have a 45 of Lesley Gore singing 'It's My Party'? Why did I listen to it?"

"You could get a copy of 'You Don't Own Me,'" Jim suggested.

"Did that come out in '64? Talk about anachronisms! I need to find that record." She bit her lip. "Are you starting to get a good appreciation for the challenges we're facing? Memories are one thing, reality is another."

"Yeah. But because of that stupid civil defense drill we did today, I did think of something else that might help."

Betty gasped out a sad laugh. "Crouching under our desks as protection against nuclear weapons. How could anyone seriously believe that hiding under a spindly school desk would protect against a nuclear shock wave?"

"Duck and cover," Jim recited. "Yeah. Ridiculous. But I was thinking how that changed, how people came to realize that nukes were more than just bigger bombs. People wrote books and made movies about nuclear weapons destroying everything and it changed how people thought about the

weapons. Remember *On the Beach*?” “Where everybody dies from radiation? That movie gave me nightmares.”

“That’s the point!” Jim said. “Within a few years everybody is going to start getting nervous about radiation and mutants. I told you about my game. Well, I looked at what I’d done, and it’s really a mess, because I didn’t know how to design a game like that when I was fifteen. I can do it right now, though. I could redo Dungeons and Dragons or something, but I won’t, because somebody else came up with that, and I’m not going to steal their ideas even if they haven’t had them yet.”

“Really?” Betty gave him a sidelong look. “Technically you can’t steal something that someone else hasn’t even created yet.”

“See, that’s why I didn’t become a lawyer,” Jim said. “I don’t care about technicalities like that. It would be wrong. But, I can make a game about what’s choking humanity to death in 2040.”

“Jim, you can’t demonize technology. Some of the project’s opponents accused us of wanting to do that, but that was never the intent. We need technology. It caused the problems but it also holds the solutions.”

"I know! I need to build a game where the enemies are produced not by paranormal evil, but by high-tech byproducts. And you win by fighting, but part of the treasure is learning new stuff that you can use to help others and counteract the environmental toxins that make things dangerous for you, and if you're not careful your own weapons create more problems."

Betty smiled widely at him. "That's brilliant. As well as ethical. You can guard me and help our mission. I can still focus primarily on advancing genetics research while both of us try to change attitudes about toxins and byproducts. All right. This afternoon we check on Paul and Charlie, who will probably love your idea. I asked around about how to make long distance calls, and I brought some money."

Betty stopped at a pay phone booth, holding up a quarter. "We were all supposed to operate independently and not even try to check on each other for about six months, to allow us time to get settled in our young selves again. Paul and Charlie are two guys I know enough about to locate. I'll call them and see if they're still okay, and you can warn them."

"Aren't we going to need a lot more money than that?" Jim asked, eyeing the phone booth. When had those disappeared? How long after that had it been before pay phones themselves disappeared entirely?

She reached over and tapped his forehead with the coin. "A quarter is real money in 1964. See? It's actually made from silver. Unfortunately, I don't have a lot of quarters, but it should be enough."

Leaving the folding door to the phone booth open and lifting the handset, Betty rattled the cradle a few times, then waited. "Operator? I need to call someone in Stockton. Paul Davidson. He lives on Broward Street. Right." She waited, rolling her eyes. "Stone age technology," she mouthed at Jim.

He leaned close to whisper. "Won't the operator be able to listen in?"

"I'll be careful," Betty whispered back, her free hand covering the lower part of the handset. "But we don't have any choice, Einstein. I can't find out his phone number without an operator and in 1964 some places still can't handle direct dialing of long-distance calls. What?" she said into the phone. "Yes. Please... put me through."

Feeding a quarter into the phone, Betty waited. "Mrs. Davidson? I'm a pen pal of Paul's and I—"

Jim tensed at the way Betty's voice cut off.

"He is?" she finally said. "When? I'm so— No. If I do, I will. I'm

so sorry. Did he seem okay before—? Thank you. Good-bye.” Betty hung up the phone, then took a deep breath and looked at Jim. “Paul disappeared a week and a half ago. No signs of problems. He just wasn’t in bed one morning.”

“Try calling the other guy.”

But Charlie Bennet had vanished three days ago. He had left school but not made it home. All his desperate mother could tell Betty was that Charlie had been oddly attentive to her and happy in the days before he disappeared.

Jim looked both ways down the street, trying to appear casual as he searched for anyone watching them. “They’ll be labeled runaways. Maybe an article in the local paper. A file at the local police department. Maybe an alert to different departments. Easy enough to make a few things like that go away before records were digitized.”

“What really happened to them?” Betty asked, wiping away tears.

“We know they never showed up again. Do the math.”

“Damn. Damn it to hell. Maybe there is a time patrol. A time patrol that works like the Gestapo.”

“I don’t care if it’s a damned killer cyborg. No one’s getting

you, Dr. Knox.”

“Call me Betty, you idiot.” She grasped his arm tightly. “Was anyone sent back at the same time as you to watch Paul and Charlie?”

“They didn’t tell me,” Jim said. “With the first wave disappearing and all, there was a lot of concern about security with the second wave. There was also some talk I overheard about funds being really limited this time. I don’t know how many there were, or who they were going to watch. And the aiming process must be more imprecise than we realized. I was supposed to get here within a day of your arrival, and I was two weeks off. There’s no telling when any others arrived.”

Betty ran her free hand through her hair, keeping a firm grip on Jim with the other. “It’s real. I kept hoping there was some overreaction, that nothing had really gone wrong. Maybe... maybe Paul and Charlie had some warning. Maybe they went underground to avoid some danger.”

“Betty, there’s no trace in 2040 of any activity by them after this. Why wouldn’t they have used the code words you guys were told to employ in public communications if anything went wrong?”

"I don't know. I'm glad you're here, Jim. What if they went crazy? Forgot who they were and fled their own homes because of some instability caused by a trip this far back?"

"That hasn't happened to you," Jim pointed out.

"Not yet."

One week had gone by, then another. Jim and Betty, lowering the pitch of their voices and using different pay phones, made calls to the police departments and hospitals around the areas where Paul and Charlie had lived, trying to find out any more information. But as the days passed with no signs of the boys, the police began responding with the word "runaway" and none of the hospitals reported having anyone matching the boys' descriptions.

Jim and Betty fell into a pattern. They walked to school each day, and then he walked her home in the afternoon, or to the library. One of the hardest things to adjust to had been the inability to have research databases at their fingertips. Instead, Jim and Betty relearned the arts of looking up books in file catalogues and finding items in heavy encyclopedias. They also spent a good part of the weekends together. When not working at drafting her letters, they took breaks by working on his game rules.

Betty occasionally spoke openly of wanting Jim around in case she became mentally unstable, “though my teenage mood swings might make it hard to spot for a while.”

Despite Betty’s protests, Jim also made a habit of sneaking out of his room every night. “I have to watch your house, and I have to watch for anyone else watching your house,” he explained.

“What if you’re caught, Jim?” Betty asked.

“They don’t have stalkers in 1964. They have love-struck teens. I’m varying the times I sneak away from home, and varying how long I stay out watching your place. That increases my chances of spotting anyone hanging around your home and limits the chances of my being caught.”

“I still feel guilty knowing you’re doing that.” Betty was taking a break as she massaged a hand cramped from manual note-taking. “It’s bad enough that you have to spend so much time with me during the days.”

“It’s not a hardship,” Jim replied. “I kind of like it.”

She smiled. “Then why haven’t you tried to kiss me?”

“Because I don’t trust myself. To stop at just kissing, I mean. I can’t believe how hormone-addled I am sometimes.”

“Tell me about it.” Betty sighed. “You’re right. We know too much about that, about how good it would feel, and our older selves might not have enough control to keep us from going too far. Especially since you’re probably the only boy in our school who knows how to get a girl’s bra off. If we got caught, there’d be hell to pay and you’d never be allowed within a half kilometer of me again.”

“So instead we’re being the models of well-behaved youth, circa 1964.”

“That is so weird, isn’t it?” She picked up her pen. “Back to work, Mr. Jones.”

“Why haven’t I seen Bill around?” his mother asked at dinner.

“Bill?” One of Jim’s closest friends when he was fifteen. They had talked at school in the last few weeks, but that was it. “I guess he’s been busy.”

“*He’s* been busy?” Mary said. “Maybe *you’ve* been busy spending every minute with Betty Knox. They’re *always* together,” Jim’s little sister continued dramatically. “*Every* minute of *every* day. *Everybody’s* talking about it.”

His mother bent a smile toward Jim. “I’m glad you’re

spending time with her. She's a smart girl. And a nice girl."

*Only because we don't dare do anything*, Jim thought. "We've got a lot in common," he mumbled, feeling fifteen years old again in every way.

"Mom said she was smart," Mary remarked. "How could *you* have anything in common with her?"

"Maybe I have reservoirs of intellectual capacity that you've failed to appreciate." No sooner had Jim said that than he knew it had been a mistake. His fifteen-year-old self never would've spoken that way at home, and now his mother, father, and Mary were watching him with surprise. "I read that in a book," he added hastily.

"What book was that?" his father asked.

Austen? It had sounded like something one of her characters would have said. But did teenage boys in 1964 read Jane Austen? Probably not. "Hemingway. Something by him."

"Pretty long-winded for Hemingway," Jim's father commented. He gave Jim a wink. "Be careful with this Betty girl. You might end up married to her someday."

"If you're lucky," his mother added.

To his horror, Jim realized that he was blushing.

The library was almost deserted this night, only a few other patrons far off among the book stacks and the librarian half-dozing at her desk, Jim and Betty bent over reference books as they noted contact information and important data.

Realizing that Betty's pen had fallen silent, Jim looked up to see her staring blankly at the book in front of her. Without any warning, she leaped to her feet and ran down the nearest aisle between bookshelves.

Jim stood up slowly, tense with worry, and followed at a casual pace, hoping that no one else had noticed Betty's sudden flight. He found her at the end of the shelves, facing into the corner between a shelf and the wall, her entire body shuddering with sobs. "Betty?" he said softly.

She didn't answer for a moment, then Betty started speaking while she kept her face to the wall, her voice coming out rough and so low he could barely hear it. "Ten years from now, my best friend in college, Cindy Arens, will be diagnosed with breast cancer. She'll die in 1975. Sixteen years from now my older brother will be diagnosed with Parkinson's disease. He'll spend seventeen years suffering before dying from pneumonia. I'm fifteen, Jim. I'm physically alive in ways I'd long forgotten. But all around me I see people I know are dead, and sometimes I know how and

when they died. And I can't stop it in time, even if it's something our work could eventually accomplish, and sometimes it's too damned hard to even think about. Do you understand? Or is this a sign that I'm losing it, becoming unstable?"

Jim tried to keep his own voice level, but heard it quaver. "I understand. Sometimes I feel like I'm in one of those movies where almost everyone has died but still walks, like I'm surrounded by ghosts or zombies. They don't want to hurt me, because they don't know I'm different. But I'm alive, and I have memories of them being dead. Most of the time, it's wonderful being young again and seeing them alive. But then... I remember their graves."

She turned around, her face streaked with tears, and lunged into his arms. He held her, and she held him, while Betty buried her face in his shoulder. "I can't help them, Jim."

"I know." He heard his own voice cracking. "The Tonkin Gulf Resolution passed this year. Next year the big build-up begins in Vietnam. Nobody but us knows what's going to happen. I knew guys. They're alive now, they're kids like me, and they're going to go there. And some of them are going to die there. And even though I know what's going to happen, I can't stop it."

Betty pulled back a little to watch him, misery in her eyes. "I'm so sorry. Our levers are so small, Jim, and the momentum of history is so strong. It will take a long time to make things change even a little. Too long to save Cindy. Too long to save my brother or your friends. We can't alter events that are taking place over the next few years. No one would listen to us. The generals, the politicians, the scientists and the doctors today, they all think they know the answers. So two fifteen-year-old kids stand up and say it's a mistake, you're doing it wrong, and why should they care?"

He felt old tears of his own coming. "One of the worst things... back then... sitting in the dirt... holding a guy whose life was leaking out... feeling so helpless... nothing I could do. And it's still like that. All over again."

Betty shook her head. "No. You survived. You could do that. And you did the right thing, didn't you? I haven't really known you that long, Jim, but I'm sure you did the right thing."

Jim nodded. "Yeah. I stayed alive. And I kept the faith. I didn't let anyone down. But it didn't matter, did it?"

Betty clasped him tightly, her head close to him again so her voice was slightly muffled. "It meant you were alive to come back and help me, and help everyone. Maybe we're all that's left, Jim. Maybe all the others in the first wave and your wave

are gone and there won't be a third wave because the project seems to be a failure, and it's up to *us* to get people thinking a little quicker about environmental toxins and their effect on the human genome, to get research pointed in the right directions. We have to believe that we can make some difference. I didn't know it would be this hard to live among our past, but the future of billions of people is in our hands. That matters, doesn't it?"

He stared at the books before him, not seeing their titles. "I can't grasp that, Betty. Billions of people? That's too hard to get a handle on. I discovered a long time ago that someone like me keeps trying because someone else, someone they care about, needs them, is depending on them."

"I need you, Jim. Is that good enough?"

His arms tightened about her. "Yeah."

She wasn't crazy, just enduring the same thing that had been tormenting him. Somehow, knowing that someone else understood that, felt that, made it possible to endure. They stood there, holding each other as if sharing their strength, until the lights blinked to indicate the library was about to close, then Jim walked Betty home before he went to his home, a place that existed here and also as a distant memory.

The third week since his arrival was drawing to a close. The strange sensation of once again living within a dimly remembered past had faded a bit, but Jim still felt a growing uneasiness, aware that the last trace of members of the first wave had been in October, and they were well into that month now.

He and Betty had worked out a coping mechanism they called surfing the past. When around others, they tried to live in the moment, accepting and enjoying moments and people that had once been long gone. When alone together, they blocked out the present, working with each other to change the future. More than once Jim had wondered what it would have been like to be alone with his memories of the future.

"I said 'thank God it's Friday' today and everybody looked at me like I said something amazing," Betty commented as he walked her home. "I wonder if I just coined that phrase?"

"There you go changing history without thinking." Jim's grin was cut off as he felt the itching between his shoulders that sometimes came when someone was watching him. "Excuse me." He went to one knee, pretending to retie his shoelace, but angling his body as he knelt so the corner of his eye could see behind them.

A boy he didn't recognize was standing a little distance off,

not-watching them in a way obvious to Jim.

Jim straightened up, walking with Betty, who eyed him.  
“What’s the matter?”

“Don’t look, but I think there’s a boy our age watching us back there. Or watching you. I don’t recognize him from school.”

“A boy our age.” Betty almost stumbled, catching herself.  
“That doesn’t necessarily mean anything.”

Jim paused at a phone booth, using the reflection in a piece of glass to look behind them again. “I think he’s still there, but a long ways back.”

“You can’t tell if he’s following us?”

“Not without making it clear I’m watching him.”

She looked frightened, but Betty’s voice stayed steady. “We need to learn a lot more, Jim. If he is another time traveler, why did he come here? Why is he interfering with things, if he is? And what happened to Paul and Charlie and maybe all the others who came down with me?”

Jim nodded to her. “So I keep a closer watch out and a low profile. Not let on that I’m anything more than a typical kid who likes hanging out with you. And you keep a close watch

out too. Tomorrow we can walk around a bit more and see if he shows up again. Maybe we'll be able to go someplace where you'll be able to get a good look at him."

"All right." They reached her home and Betty took a deep breath. "I am so glad you're here." She leaned in and kissed him on the lips before he realized what she intended, then walked quickly to her front door.

Jim watched Betty's house a good part of the night, but saw no one. Saturday morning, yawning, he walked up to her front door and knocked.

Betty's mother answered, but instead of a welcoming smile she gave Jim a stiff look. "Betty can't come out today."

The door closed in his face before Jim could say anything.

*What the hell happened?* Jim went back out to the street, then angled across some yards under cover, working his way around the back of Betty's house. Like any proper 1960s suburban home, Betty's house had a few trees and plenty of bushes along the fence line in the back yard, so Jim could stay concealed until he could see the ground-floor window of Betty's room. She was sitting there, looking out, and when he waved she put one finger to her lips to invoke silence before tossing him something.

Jim picked up a note wrapped around a pen. *Mother saw me kiss you yesterday and was worried about me getting too serious with a boy. She tried to have The Talk with me. I made the mistake of trying to reassure her that I knew what I was doing and used the word condom. Mother almost spontaneously combusted. I'm grounded except for school while I consider the immorality of being knowledgeable about my physical health.* He nodded to her, tried to indicate wordlessly that he would keep an eye out, then waved a rueful good-bye before sneaking back out to the street. There was no use making things worse for Betty right now.

Jim had done this before, sneaking cautiously through night-shrouded terrain, from bush to tree, making no noise, alert to every movement and sound. At least this time he didn't have to worry about the VC or North Vietnamese regulars hunting him. Memories of the area around Khe Sanh flooded back as Jim moved into position and settled down to watch Betty's house, determined to remain through most of Saturday night.

Who was he watching for? Kids like him and Betty had minds and memories and knowledge from 2040, but they didn't look any different and none of them should be dumb enough to parade their anachronistic nature. The coincidence of the time travelers being targeted meant it had to be other time travelers at work. He had been told the timetravel process

was being worked on at multiple locations. It was hard and expensive, but the project wasn't the only outfit with access to the process. But who would kill kids and why?

*The end days people?* The ones who think everything happening in the mid-twenty-first century is God culling out the unfit before Armageddon? There's been some killings by groups who think like that.

*But how would they get their hands on time-travel equipment? And why would anyone with access to that stuff help some homicidal religious warriors? It's not just the time travel itself. Whoever this is, they know who was sent back, and they know enough about where those people live to go after them.*

*Betty's right. We need to get our hands on this guy and get some answers.*

Nothing had happened during his previous night shifts except for occasional routine neighborhood activity, but some instinct told him that something would occur tonight. It was almost an hour before anything out of the ordinary did take place, though.

Whoever the other kid was, he wasn't skilled at concealment. Jim heard him before he spotted the boy scuttling along in a

fast, noisy, and obvious way apparently learned from watching bad action movies. The boy seemed to be the same size as the one Jim had seen on Friday. He wasn't alone this time, though. With him was another boy, one who bulked physically larger. Either he was a few years older or he had a powerful build.

Jim watched from concealment between two bushes, ready to move if necessary but wanting to size up the opposition. The two other boys reached the back of Betty's house, less than ten feet from Jim, but seemed totally oblivious to his hidden presence.

Light glinted on something in the hand of the larger boy. It had been a very long time ago when he had seen such things, but those were memories that didn't fade. It was the play of the moon's radiance on the dull metal of a knife blade.

Murder? The other cases had left no clues to the fate of the missing kids, and there had been nothing in future databases. Teenage runaways were one thing, depressingly common, and often resulting in little publicity, especially during this period. But these two didn't want the kind of fuss that the murders of children in their bedrooms would create. How could they erase that kind of thing from public and private records? If these boys had homicidal intent, they weren't planning on killing Betty in her room or anywhere

nearby. As with Paul and Charlie, they doubtless intended taking her somewhere distant first, and that meant they needed her able to walk.

The two boys didn't move toward Betty's window, instead casting constant looks toward one of the neighbor's houses, where a lighted window spoke of someone still awake.

Jim waited, watching, as the two boys grew more and more nervous, then after perhaps an hour and a half had a quiet, heated argument in whispers that Jim couldn't quite make out, though their frequent glances at the neighbor's lighted window made it clear they were worried about being seen by someone in that house. Finally, the two bolted, moving with their clumsy attempts at sneakiness out onto the street, and vanished from sight.

He spent another hour on sentry, but the two didn't return even though the neighbor finally turned off his light.

Jim moved out with extreme caution, just in case the other two were still watching, but he found no trace of them.

He was certain they would be back the next night, though. The vaunted time patrol had arrived, in the form of two kids with a knife.

“Hi, Mrs. Knox. Can I see Betty?”

Mrs. Knox gave him the fish eye, shaking her head. “I’m afraid not.”

Jim tried to project the right degree of awkwardness, innocence, and politeness. “Is she okay? I’m really worried she might be sick or something.”

Relaxing a bit, Betty’s mother shook her head again. “Betty’s all right. She just needs a little time to reflect.”

“Oh.” Show disappointment. Show teenage heartbreak. “I just came by to make sure she was okay.”

Mrs. Knox’s severity melted into a reluctant smile. “All right, Jimmy. Wait here and you can talk to Betty at the door for a minute.”

A few minutes later, Betty opened the door. “Hi, Jim.” She cast her eyes to one side, indicating that her mother was just out of sight and listening.

What kind of message, what kind of warning, could he pass to her without her mother understanding and asking questions with answers no one would believe? “Uh, I, uh, wanted to tell you... you remember that bird I saw on Friday afternoon? The one I talked about and you wanted to see it,

too? It turns out there's two of them. I looked them up, and they're... seagulls. A type called naz gulls."

"Naz gulls," Betty repeated carefully.

"Yeah. Two naz gulls," Jim said, changing the pronunciation slightly closer to the original word this time. He couldn't remember if *The Lord of the Rings* had already been published in the U.S. by 1964, but the odds that Betty's mother had read it seemed comfortably remote. "They're here. I knew you'd want to know."

"Yes." Betty had paled, but then steadied and looked out on the street warily. "Uh... keep an eye on them, okay? But don't scare them off. Remember, I'd like to study them more and learn why they're here and everything. If you scare them off, there's no telling when they might come back."

"All right," Jim agreed reluctantly. "I'll keep an eye out for them. I hope you're okay. I, uh, I wouldn't want anything to ever happen to you. You're... the neatest girl I've ever met." He had meant the last to be a cute teenage sentiment to explain his stated worries about Betty to her mother, but to his own surprise Jim realized the feelings in his voice were sincere.

Betty's eyes went from the street to him, her own age and

experience clear once more, then she smiled with a fifteen-year-old girl's lack of guile. "Thanks. I think you're pretty neat too."

She sounded like she really meant it.

Sunday night. Jim had moved into concealment in Betty's backyard as early as he dared, risking detection since it wasn't quite dark enough to shield him completely. But he made it, settling down in a position he could hold, barely moving, for hours if necessary.

All around him the sounds of the neighborhood gradually subsided, lights going off, shapes moving behind curtained windows, voices barely heard, cars passing on the street. In some of those very houses might be children who would grow up to design or manufacture the many devices and other advances that would revolutionize medicine, agriculture, research, and transportation among other things, producing countless benefits for mankind. They would also produce leavings that would annihilate the lower end of the food chain, aggravate climate change, and poison humans in a thousand different ways.

He heard people taking out trash to the curb. *Clean up your mess. How many mothers are telling how many children that? Keep your work area neat. How many fathers said that*

today? All the girl scouts and boy scouts are being told 'safety first.' But those mothers and fathers, those children, are going to dump unbelievable messes into the water they drink, the food they eat, and the air they breathe.

Technology tells us we need to keep our machines clean or they'll break down. Science tells us that equations have to be balanced, that remainders don't just go away. It's like Betty says. Hi-tech produced the problems we faced in 2040, but only because people weren't paying attention to things they already knew were important. We need to make them think about those things in time to make a difference, and use the tech to find the solutions before they create the problems. The last noises had faded, the last lights had gone out in the houses around him. Jim had stopped wearing his wristwatch when he realized the glowing numbers on the dial used radium, but he guessed it was a little after midnight.

He heard the sound of footsteps, the rustle of more than one body pushing through shrubbery too fast to really be quiet. The two boys appeared, walking quickly and hunched over to keep low profiles. They went to Betty's window and peered inside. Once again the larger one carried a knife.

Sitting still then was the hardest thing that Jim had ever done. Whoever these guys were, they had to be caught in the act, unmistakably guilty, after hopefully being led into saying who

they were and why they were after people like Betty.

But that meant Jim had to sit, watching as the larger one used his knife to pry open Betty's window. As the large boy scrambled inside, Jim took advantage of the noise to shift his own position so that he had his feet under him, ready to move in an instant. *They won't kill her in her room. They didn't and they won't.* He kept repeating that to himself while his heart pounded with growing fear.

Betty appeared at the window, moving slowly as she came over the sill and dropped to the ground, the large boy right behind her with his knife out. The other boy grabbed her arm and led Betty away, but she dug in her heels only a few feet from Jim's hiding place. "Who are you?" she whispered.

"We're friends from 2039," the big one mumbled in an unconvincing way.

"Friends? You had that knife at my throat when I woke up! You threatened to kill me if I didn't keep quiet and come with you! But I'm not going any farther until you tell me who you are."

The smaller boy spoke quickly. "It was for your own protection. We are from 2039, just like you are, but we can't talk now. It's not safe. Keep moving, don't make any noise

and you won't be hurt."

Betty stared at the smaller boy, who was trying to look away. "Professor Oldham," she said. "Professor Conrad Oldham. It's you, isn't it?"

Conrad Oldham straightened his fourteen-year-old body and tried to look down on her, which didn't succeed since Betty had a couple of inches of height on him at this age. "For once in your life, Doctor Knox, listen to someone else. If you come along quietly, we'll explain what's happening and—"

"You're not part of the project. You argued *against* the project."

Jim saw the white flash of a reassuring smile on Conrad Oldham's face. "The situation changed. Everything will be fine once I have a chance to tell you about it. Haven't you missed the opportunity to speak with someone else who understands what it's like to be here? We can share all that if you come along." Oldham said the last as if expecting that would dissolve all resistance from Betty.

But she shook her head. "What are you doing here?" Betty asked.

"It's critical that I give you important new information. Why

else would the project have sent me back here?”

“Why would the project send someone I had no reason to trust?”

Her failure to cooperate must have perplexed Oldham, because he just repeated his earlier argument. “I’ll explain when we’re away from here.”

“Like you explained to Paul Davidson and Charlie Bennet?” Betty asked.

Oldham didn’t respond, seeming lost for words, and the larger one brandished his knife, dropping the pretense of comradeship. “Do it now!” he insisted.

“No!” Oldham told the larger boy. “There’ll be too much to remove from the records if they find—” He stopped speaking.

“My body?” Betty demanded. “Why, professor? And who is this assassin?”

“Your only chance—” Oldham began in a conciliatory tone.

“Why? We disagreed. We argued. But murder—”

This time Oldham interrupted, his voice growing heated. “You and those like you wouldn’t listen. The answers are in

scientific research and technological applications. If you tie the hands of science, then the problems will only be worse, and your project sought not just to bind science but to label it the cause of all of our problems! Humanity can't afford that kind of solution!"

"You never listened!" Betty shot back with the same anger. "That was never true, but all you saw was what you wanted to see. How scientific is that, professor?"

"You can twist my words any way you want, but the facts are that you would doom humanity, and I have to save it."

The large boy made a noise of derision. "Humanity is doomed. The end is upon us all, and those who would deny the will of the Almighty must be stopped."

Even in the dark Jim could see Betty's eyes widen. "You allied yourself with them?"

Oldham shrugged. "If Hitler invaded Hell, I'd find something good to say about the devil. Churchill said that. I had access to the required equipment and that group had access to the required funding. It's sometimes necessary to find allies where you can."

"Allies willing to kill, you mean. To do the dirty work for you."

Betty's voice broke. "You murdered them? You knew those men. How could you...?"

Oldham looked away once more. "I didn't kill anyone. Neither did Gordon here. How can you murder someone in 1964 when they lived until 2039? That's a logical impossibility."

"Is that how you're rationalizing it?"

"They lived long, full lives," Oldham insisted. "How can you tell me that someone who was a great-grandfather in 2039 died in 1964? It's absurd and obviously violates causality. Therefore, it didn't happen."

"You son of a bitch. You cold-blooded—"

"Shut up." Gordon raised the knife again. "We need to shut her up now, whether you want it or not," he told Oldham.

Jim launched out of his hiding place, his legs propelling him forward in a leap that brought him to Gordon before either of the other two boys realized what was happening. Gordon had just begun to turn when Jim's right fist punched hard into his side over the kidneys. As the large boy staggered with pain, Jim caught his knife hand and twisted the weapon free, then swung the hand and arm behind Gordon and slammed him face first into the grass, bringing his own body down on him

hard enough to stun the boy and drive the wind from his lungs.

Oldham was staring open-mouthed toward Jim, then one hand dove for his pocket. Before it could reach its destination, the heel of Betty's palm smashed into Oldham's nose. As he reeled backwards, both hands to his face, Betty kicked him in the groin. "I've wanted to do that to you for years," she said as Oldham collapsed.

Jim had whipped off Gordon's belt and was using it to hogtie him, then jumped up and went to Oldham. "Don't move or I'll kill you," he told Oldham, and something in his voice must have made it clear that he wasn't bluffing because the other lay still. Pulling out his handkerchief, Jim covered his hand with it before reaching into Oldham's pocket and pulling out a switchblade that he tossed to one side.

"Betty," Oldham gasped. "Dr. Knox. Listen. I can help. You're the last, you know. Our sources inside the project gave us all the names, and we got a few more that weren't on the list but were obviously working with the others. It'll be too hard for you alone. But with my assistance perhaps you can still have a chance to succeed. Gordon did all the killing. I swear it. I didn't want that. Let me go and we can work together—"

"You actually think that I'd be dumb enough to trust you?"

Betty asked. "You never did think much of women, did you, professor? And since it's apparently escaped your own keen powers of observation, I'll point out that I'm not alone."

"What are we going to do with these guys?" Jim asked. "If we let them go, they'll just keep trying to get us. But we can't imprison them." That left one ugly alternative, one that he shied from.

Betty looked at him, a humorless smile slowly spreading across her face. "You're right. *We* can't imprison them. And I won't do what these two would have done to us. But these two juvenile delinquents must be runaways. And the justice system in 1964 doesn't look kindly on criminal juvenile delinquent runaways." She knelt, pinning the handle of Gordon's knife to the ground with a knee and then, wincing, drew her arm across the edge of the knife. Standing up, the shallow cut dripping blood that she smeared across one cheek, Betty took a deep breath.

Betty's scream, long and laden with terror, echoed through the night, bouncing off the walls of the suburban houses as lights began flaring behind windows and doors banging open throughout the neighborhood.

By the time the first men arrived, some bearing handguns or improvised weapons, Betty was clinging to Jim, quivering,

with tears streaming down her face. "Those two got into my room!" she yelled, pointing at Oldham and Gordon. "They threatened me with that knife and said they were going to do... *terrible* things to me! They said they'd killed other kids too! Oh, but Jim was worried about me and he came by to look at my window and saw them pulling me out, and he attacked them even though they had knives and he was sooooo brave."

Betty stopped her semi-hysterical account long enough to gaze at Jim with such feigned but fervent admiration and gratitude that he nearly broke into laughter, which might have caused someone to question her story. But then some of the men were pounding Jim on the back and calling him a real man, while others were grabbing Oldham, who seemed frozen with horror, and Gordon, who was shouting out that they were all damned until someone rocked his head back with a hard blow.

The police officers who showed up were big men who didn't seem to worry about inflicting bruises as they handcuffed Oldham and Gordon and then bundled them into the back seat of the police car. "Runaways. Armed assault. Burglary. Kidnapping," one of the officers said to Betty's father. "And, uh..." The officer glanced toward Betty and lowered his voice. "Attempted rape and murder. Don't worry. The judge will take care of these two. They'll be locked up for a long time."

"Betty said they mentioned two other boys by name," Mr. Knox said, "and boasted of having killed them. I had her write down the names and the cities where the boys lived."

The police officer took the paper, then turned a very hard look on Oldham and Gordon. "Murders. If what they told your daughter is true, they'll never come out of prison, sir, juveniles or not."

"The smaller one is yelling something about being from the future," the other police officer commented. "He's a little young to be a homicidal maniac, but you know kids these days."

"It's that Dr. Spock," the first officer said.

"And their music. Have you heard that 'Louie, Louie' song?" the second officer said as they climbed into their car.

Mr. Knox offered his hand to Jim as the police drove away. "Mrs. Knox and I were a little concerned about Betty getting too serious with you, but from this night forward you're okay with us, son. I can't imagine a better man for my daughter."

"How was Christmas?" Jim asked as he sat down beside Betty on her porch steps.

“Better than I expected.” Betty held up a large magazine. “I wrote a story about what happened with Oldham and Gordon, and I just got a letter saying this magazine’s editor bought it. Only, instead of changing the names to protect the innocent, I used all our real names.”

“What magazine—” Jim stopped when he saw the cover. “*Analog Science Fact and Science Fiction* ? You sold a story to *John W. Campbell*?” “Yeah. That’s good, isn’t it?”

“I... I...”

“And,” Betty continued, “I used our names, like I said. There will be thousands of copies printed of that story. It will be in the databases. Back in 2040, any search of past documents will ping on that story for certain because it has both of our names, and then the project’s researchers will see Oldham’s and Gordon’s names and characters and know what took place.”

“You used the real events?” Jim asked, thumbing through the magazine quickly. “I mean, the time travel and everything?”

“Of course I did. It’s part of getting our message out, and I had to be certain that in 2040 they’d understand what had occurred, what had actually happened to all those other poor people who came back when I did. And I wanted them to

know that James Jones is a hero.”

“Betty, I didn’t—”

“Did I tell you yet that I’m going to marry you someday, Dictionary Jones? And we’ll write more books and stories that contain what we want to say in ways that people today can accept, and you’ll publish your game, and I’ll nudge researchers to aim them in the right directions, and someday I’ll officially be Doctor Knox again and we’ll be conducting the research. We’re going to do this thing.”

Jim grinned at her. “Yes, we are. I wonder how many people reading that story will realize it’s true? Science fact, not fiction.”

“I had to use what really happened,” Betty said, pointing to the magazine. “You can’t make this stuff up.”

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# SHORT STORIES

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## **A first requisite for communication may be something to talk about....**

*by Sarah Frost*

Illustrated by Mark Evans Afirst requisite for communication may be something to talk about.... On the third day, Youngha caught one of the aliens watching her. The ever-present prairie wind blew her...

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## **Hiding From Nobel**

*by Brad Aiken*

The years rolled by in my mind as I pulled through the gates of Hidden Meadows, an upscale development in northern Maryland. It hardly felt like twenty-five years had passed, yet what had happened that day seemed like an eternity ago. I drove through the now unfamiliar landscape, winding my way...

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## **Julie Is Three**

*by Craig DeLancey*

There's more than one way.. "Will you let her go?" That was the question I had to answer before the next morning. Kristine Louvrier asked it of me, standing with her hands on her hips, her mouth compressed into an angry line. I was glad that my desk stood between us. "She's my niece," she added....

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## **Astronomic Distance, Geologic Time**

*Bud Sparhawk*

Just to put things in perspective... Gerald Homer Cahille giggled. It was the happy laugh of a two-year-old enjoying his first warm, wet experience of a puppy's tongue. If his father hadn't been delayed at the bus stop he never would have seen the romping puppy in the window and decided, there on...

.....

## **Taboo**

*by Jerry Olton*

Customs arise for reasons— but what happens when the reasons change? When Edward saw the woman trace her fingers through the swirls of Starry Night, he knew he had to meet her. He had been watching her for several minutes as their paths crossed and crossed again in the crowded gallery, and he had...

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## SHORT STORIES

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# A first requisite for communication may be something to talk about....

*by Sarah Frost*



**Illustrated by Mark Evans**

**A first requisite for communication may be something to talk about....**

On the third day, Youngha caught one of the aliens watching

her. The ever-present prairie wind blew her hair into her eyes. She set her pen down next to her tablet of notes about the planet's insectoid fauna and stood up slowly. She met the alien's gaze over the tops of the tall grass.

The alien sat on its oversized haunches, out past the swirled circle of flattened grass made days ago by the lander's exhaust. The alien's long tail wrapped around its body, the end tipped with a brush of white then black fur. A braided strap across its chest held its gear. Youngha recognized a knife, a rod, and something that might be a quiver. Its hide was mottled brown, and its long, ovine face was surrounded by wooly white fur.

Youngha met its gold eyes across the distance and raised a hand in what she hoped the alien would take as a friendly greeting. *Look, I have no weapons.* She wished that she and her team knew more about the aliens. Of the three humans on the planet, she was as close as any of them had gotten to one.

Youngha's heart pounded. No matter what the alien made of her gesture, she was unarmed. She shifted her feet and wished their agoraphobic captain hadn't dragged Thom back inside the lander. The alien whistled, a long, low sound, then vanished into the tall grass, bounding away on its powerful hind legs.

"What do you think of them?" Youngha asked.

"Who?" Thom said.

"The aliens." She poked him with her chopstick. "What else?"

Thom stuck his chopsticks in his bowl and leaned back, resting against the leg of the lander. As the astronomer-specialist, he was her complement on the survey team. The ship's astrogator. The grounded one. As linguist-generalist, it was her job to ask him annoying, open-ended questions.

"I don't know. There was that xenobiology lecture, back in training." He shrugged. "The worlds in the catalog are supposed to be human colonies, and odds are a human colony will outcompete any native sentients."

"You think so?"

"Sure. Especially here. This world is supposed to be a colony from the Three Suns Technocracy. All their delicious nanotech... Never mind that they completely failed to grasp the realities of interstellar travel. How many dead rocks did they try to seed?"

"We've seen three."

“Exactly. Who knew we’d find aliens? Not that it really matters. Survey doesn’t care about exciting advances in sharp rocks tied to sticks. I just want to find the seed ship and see if we’ve caught a live one. I know it’s around here somewhere.”

Youngha cocked an eyebrow at him. “Yeah. Sure.”

“Why do you ask?”

“I think I’m going to go talk to an alien.”

Thom snorted and picked up his chopsticks. “Good luck finding one,” he said.

Youngha ran her hands across the crushed grass in the shade of the lander, and thought she wouldn’t have to look very far.

The alien came back the next day. Youngha looked up from her core samples and saw it standing right at the edge of the tall grass. *So quiet*, she thought. She laid her brush down and turned to face it. The alien worked its jaw, flicking its split lip right, then left. *Chewing cud?* Slowly, the alien lifted one of its hands. Each long finger ended in a dark pad and a delicate claw. Youngha lifted her own hand and waited. The alien unhooked the rod from its belt and held it out parallel to the

ground. *So we're communicating now. Wonderful. But is that a challenge? A threat?* She picked up her brush and held it out, mirroring the alien's gesture. The alien tilted its head and its torso back, then turned and bounded away.

"I suppose that could have gone worse," Youngha said. She turned back to her samples. When she looked up again, the alien was back, staring at her from across the table. Youngha squeaked and dropped her brush. The alien regarded her with untroubled golden eyes. Then it turned away, placing the tips of its fingers on the ground and stepping away with both huge hind feet, balancing for a moment on its fingers and on the strong beam of its tail.

The alien looked back at her, stepped away again, and looked back. *Oh, of course. Follow you. How stupid of me.* She smiled and followed the alien into the prairie.

Tiny creatures rose up around Youngha's feet as she walked, buzzing their startlement at her passage. The wind hissed through the dry grass, making it ripple like water. Planets like this, with blue skies, sweet water, and wildly divergent life forms, were terribly rare. Most human colonies were like Youngha's homeworld, where humans hid from a toxic atmosphere under their domes, or like Ari's, where they buried themselves in rock to escape their star's killing light.

Youngha inhaled deeply, savoring air that had never seen the inside of a recycler. So far there'd been no sign of a colony here, no matter what Thom or the ship's computers said. The seed ship from a dead empire, obliged to cross all the space between here and its home, should have arrived no more than a few years ago. She wondered if the Survey had miscalculated. A misplaced decimal, a number transposed from the ancient catalog... but what were the odds of finding a planet like this at random?

*In an infinite universe, it has to happen at least once. I should bring this up with Thom, get him started on philosophy. I bet I can make him turn purple.*

The colony would be somewhere close, if it existed. Thom had reduced the data for probable landing sites based on the scans they'd taken in orbit, and Ari had picked the likeliest one to check first. Youngha brushed a long-legged flying creature away from her face. If there was a viable Three Suns colony on this world, it would be the first anyone had found. Its people would be able to trade the how-tos and wherefores of their nanotech for a place among the interstellar human community. If they were here at all. So far, the only mark of sentience on this planet had been made by the natives.

A speck of dirt lighted on Youngha's dun uniform, sprouted legs, and crawled down her arm. She watched it go. A

specialist could spend a lifetime cataloging these tiny alien forms. Likely no one ever would, and there would only be a note about insectoid life in this planet's Survey file. Stardrive time was too expensive to waste on savages. The real money was in information, massless and infinitely portable. Youngha prodded the speck until it sprouted wings and flew away.

The alien led her to a copse of tall plants... Trees, Youngha decided. They were close enough to the pictures she'd seen. The columnar trunks, like massive bundles of finger-thin reeds, reached higher than the dome where she'd been born.

As she got closer, Youngha could hear the whistled calls of other aliens. She dug her syntaxizer out of her bag and switched it on. She did not expect it to work; the device had been designed with the human diaspora in mind. Still, it was worth trying. She wondered what the little machine would make of the aliens' language.

Youngha's eyes adjusted slowly to the dimness under the trees. Around her, aliens stopped what they were doing and stared. Some dressed like her guide, while some wore bags strapped across their deep chests and others went naked. She looked up and spotted oblong pods woven out of sticks hanging in the trees. Each had a triangular opening on the short end. Alien houses, she guessed. *Like enormous birds.*

A small alien hopped past her, the red streamers tied to the fur behind its ears fluttering. *Or... not.*

She looked up, her eyes straining in the darkness. *How do they get up there?* A network of vines hung from the houses and the high branches. *No, wait, those are ropes.* An alien appeared at the door to one of the houses and slipped one long foot into a loop of rope. It stepped off into the air and glided smoothly to the ground as a counterweight rose into the trees. The alien freed itself from the loop and spent a moment hauling another counterweight into the canopy.

*Pulleys, then. An odd direction for technology to take. I wonder... ?* She wasn't given time to think. The aliens surrounded her, the cacophony of whistles growing as more came down from their houses or out of the shadows beneath the trees. Their gold eyes were bright in the gloom. Youngha followed her guide into the crowd and stopped when it stopped. She glanced down at her syntaxizer. "Processing," the screen said. For a moment, the aliens and the human waited.

Then the crowd parted. A singular alien walked forward. There was a hitch in its step, a pause every time it came up onto its long toes. The bones of its joints were visible under its thin fur. It wore bands of patterned cloth around its chest, its forearms, its neck.

*An elder? A priest or a shaman? A politician? A jester?* The cloth ornaments were amazingly detailed: triangles, radiant stars, squares overlapping circles. Youngha watched the other aliens as it came. Silent now, they crouched all around her, heads down, eyes closed. She was the only one still standing. On impulse she dropped to her knees and closed her eyes. She could hear the soft shush of the alien's feet on the bare ground.

A sharp rattle startled her into opening her eyes. The thin alien stood before her, brandishing a fist-sized ring of wood. Hollow, black, unidentifiable things were strung on fibers stretched across the ring. The alien shook its rattle again and began to whistle a melody so sweet and complicated that it gave her goose bumps. A human composer would be proud to put their name on that music, but whether the alien was making a speech, singing a song, or reciting a prayer, Youngha couldn't begin to guess. She risked a look down at her syntaxizer. The little computer had debated the matter and now displayed its conclusion: The aliens' voices were not language.

The alien reached the end of its song and stopped, fixing her with eyes that glowed in the dimness. It was clearly waiting for her response. *So much for technology*, she thought. *Now, what did they say about this back in school? Shade-trees,*

*weaving, eye contact—odds are that our eyes are at least somewhat similar. I hope.* Youngha bent down to draw pictures in the dirt. Herself, first: the outline of a human form, as clear and simple as she could manage. Then her best approximation of an alien. She pointed to the pictures, then to their subjects, and hoped.

The alien puffed out its cheeks and cocked its head back, looking down at Youngha over its nose. It drew a circle with a quick flick of a claw, and inside that it drew a cluster of circles next to a sharp-edged hexagon. Again the alien looked at Youngha, waiting.

She hesitated, then pointed at the hexagon, and then at herself. *That must be the lander,* she thought. *That's an odd way to look at it. It is six-sided, though. And the curves are their trees.*

Apparently satisfied, the thin alien looked down again and drew a chain of interlocking curves around the trees in a serrated circle. It whistled, then drew another jagged circle around the lander.

*That's clear enough,* Youngha thought. *You keep to your home and we'll keep to ours.* She wished she knew how to tell the alien that she understood. She bowed her head again. The alien shook its rattle, and all the assembled aliens began

to sing. Youngha lifted her eyes. Her ears rang with music, complex beyond her understanding.

Youngha had lost her original alien in the shuffle and press of that strange crowd. She couldn't tell if the alien who escorted her back to the lander was the same one who had taken her to the village. Thom spotted her as she walked toward the lander. The astronomer-specialist waved his arms over his head. Her alien escort vanished.

"Youngha! We found it!"

She stopped to catch her breath. "Really?" she said.

"It was exactly where I said it would be."

"That... that's great. Is it... ?"

"A seed ship! And it's only been here a month or so... maybe a year, based on how far it's developed. Come on, I'll show you."

Youngha exchanged a knowing look with her captain. "It's good you're back," Ari said. "We were afraid that the aliens had eaten you."

Youngha waved a hand under her nose, as if dispersing an unpleasant smell. "The monitors would've said something.

Besides, I... I have a feeling we'd know if they wanted to hurt us. Are you coming with?" It took a lot to make Ari, the team's tunnel-born captain, come out under an empty sky.

"Thom just got back. I'm not missing this."

Thom led them over a low ridge out of sight of the lander. Youngha glanced at the sky, reflexively looking for the traveling star of the orbiter. Sometimes it was bright enough to see in the daytime, at this time of day. She wondered what the aliens thought of it. Dry grass crunched under her feet, a golden sea that stretched out to the edge of the sky's blue dome.

The survey team struggled up another ridge on legs still unaccustomed to real gravity. From the top they could see the newborn city. Youngha thought her heart would break.

Thom was right; it hadn't been there long. The remnants of the seed ship were still visible at its center. Sunlight reflected painfully from the crystalline chevrons of exotic metal it had pushed out into the native soil. A spray of solar collectors shaded it. Most were still curled tightly, like the fiddleheads of ferns. Only the ones in the center were unfurled, their spiny fronds of utter blackness waving in the wind. It was only a few meters across, but it would grow.

“Is there... can we do anything?” She asked. The Survey existed to find human worlds, to catalog human civilization, but seeing this thing of machines and metal here, on this living world, made her sick.

The astronomer-specialist shook his head. “It depends on whether or not the biologicals are intact. Judging by the size, it probably already has a line into the local aquifer. I’ll get some readings, see if we can figure out how well the biologicals made it through. If they’re intact, in a few years we’ll have a functioning human colony to add to the charts. We might finally get an insight into how these things were built. If not...” he shrugged. “Not much we can do for it. It’ll run its program and then... wait. Like we saw on Dove’s Planet.”

Youngha looked around. A pair of long-legged grazers watched warily in the distance. A low clump of reedy plants cast a long shadow in the light of the sinking sun. The songs of this world’s insects rose and fell around her. She thought of Dove’s Planet, where a seed ship blasted sterile by interstellar winds had landed. It was a world of metal now, continents covered from one seashore to the other by cities, its ecosystem fighting a long defeat against the empty city’s nanofactories.

“We can’t even warn them,” she said quietly.

No one heard her. Ari said, "Get as much data as you can. We can extend our stay for another week at least, maybe two."

"It's not enough time," Thom said. "Can't we... ?"

"No helping it." Ari turned back toward the lander.

Decisions. Answers for annoying questions. That was the captain's job.

Youngha excused herself from working on the city as often as she could. Thom was the expert, and there wasn't much for her to do unless he found an I/O interface on the city. At this stage in its development, it probably wouldn't waste resources on that kind of thing. She loaded the algorithms she had used on Dove's Planet onto a portable just in case her teammates called her, and spent her days cataloging the life forms of the prairie. Now and then she caught an alien watching her, far away in the grass.

On the sixth day, Youngha looked up from the tiny creatures she'd caught in her mist-net the night before. Her captain stood in the lander's shade. She wondered if that small shelter was enough for him. She wondered, not for the first time, why an agoraphobe had gone exploring. *Not that I'd want to be trapped in those tunnels.* "They're not human," Ari

said.

"I know," she said.

"If the seed ship's biological library is viable..."

"I know," she said, cutting him off.

"Dove's Planet was... a hard thing to see."

"... Yeah. Yeah, it was." She laid her hand down on the specimen table, next to a thing that looked like nothing more than three broad fan blades with a spray of grasping legs in the middle. "If it hadn't been a dead city. I think that would've been easier."

"I'll let you know as soon as Thom comes up with anything, all right? And if you want to talk"—he rapped his knuckles on the lander's black skin—"you know where to find me."

Youngha saw smoke rising in the distance. She dropped her imager onto the specimen table and ran. Dry grass whipped her legs. Somehow Youngha knew that the smoke was coming from the alien village. She wondered, belatedly, what she intended to do when she got there. The wind changed, and she was engulfed in blue smoke. She coughed and retched, but struggled on, lungs and legs aching.

Youngha stopped well before she reached the shadow of the trees. The wind changed again, showing her a group of aliens standing in a loose ring outside their village. They wore cloths wrapped around their noses and held sheets of some heavier stuff. *Woven mats?* Youngha thought. *Or—her stomach heaved—skins from the grazers?* She didn't know why the thought of aliens using other aliens' skins bothered her more than aliens eating aliens, but it did.

The wind changed. Flames leapt up in the center of the circle. The aliens shifted, staying out of the smoke but keeping the fire surrounded. Embers floated down among them. One of them stepped forward and beat at the smoldering spot with the skin it held. Two other aliens joined the first. The smoke cleared for a moment, and Youngha saw a ribbon of fire devouring the grass in the middle of the circle.

One of the aliens looked up. Youngha saw its gold eyes go wide, then it whistled one high, piercing note. Aliens lifted their heads to stare at the errant human. The aliens who still watched the fire trilled, and Youngha thought they sounded more than a little annoyed. One of the smaller aliens broke away from the group and bounded up to Youngha. She held up her hands and dropped her eyes.

The alien came up to her, standing uncomfortably close, and drew itself up until it was almost as tall as Youngha. "Sorry,"

she said uselessly. The alien reached out a clawed hand and prodded her chest. She could feel her heart hammering against her ribs. Smoke clogged her throat, and she repressed a cough. "Sorry," she said again. "I'll go." She turned, and the alien shot off into the grass ahead of her, in the direction of the lander.

Youngha ran after it. Her lungs protested, and pain arced up her legs. She spared a bitter thought for the hours she'd spent on her ship's treadmill with its cushioned, level floor. The alien outpaced her, vanished.

She burst into the trampled place around the lander. The alien stood facing the rest of the survey team. The two men's eyes locked on Youngha. Ari called her name. The alien turned. Her lungs burned with every breath.

The world spun. Youngha fell to her knees. She caught herself on her hands and watched the edges of her vision go black for a moment. She heard the alien walking hand over foot across the dead grass, saw it coming toward her. Its head swung down into the range of her vision as it balanced on its huge hind feet and the second joints of its arms. Its eyes shone like gold leaf set in glass.

The alien put the pads of its fingers under one of Youngha's shoulders, then the other, and lifted. Its gracile arms,

remarkably strong, helped her to her feet. When it was sure she was steady, it let go. Youngha inhaled deeply, then pointed a finger at her chest.

“Youngha,” she said. The alien canted its head down and whistled a short, aching complex melody. Youngha caught her captain’s eye. He shrugged and lifted his hands; she was the linguist, and this was her puzzle to solve.

The alien turned away slowly, as though trying not to startle her. It bent down and took up a handful of broken grass stems. It held them up to Youngha’s eye level and whistled again. Letting the grass fall, the alien unstrapped a notched rod from its belt and hopped toward the lander. Youngha held up a hand, forestalling whatever her frightened crewmates intended to do.

At the lander, the alien turned back toward Youngha. It walked, head and hands near the ground, turning the rod over and over as it measured out a distance away from the lander and into the tall grass. When it was satisfied, it cut a long gouge in the ground with its strong hind feet. Then it stepped in front of Youngha again.

The alien bent down, keeping its eyes fixed on Youngha’s for a long moment before looking down. Then it began to draw a diagram in the dust. First, a hexagon for the lander. Then a

line outward from the lander to a perpendicular slash, out of which grew a ring. *That's geometry*, Youngha thought, startled. *It's diagramming radius of a circle*. The alien's golden eyes looked up at her, then it added the elderly alien's serrated circle outside the first. Again, the gold eyes sought Youngha's black ones and held them.

"We have to clear the grass," she said, startling her crew, the alien, and herself.

"What?" Ari said.

"I think I understand now. I saw smoke, and when I saw what they were doing... The aliens are burning off the grass around their home. We need to clear the grass here too."

The captain and the astronomer-specialist looked at each other. Dragging out the single syllable, Ari said, "Why?"

Youngha couldn't break away from the alien's gaze. "I don't know. It's just... it's the one idea they've tried to communicate to us, over and over again, since we got here. Not 'who are you?' or 'where did you come from?' but 'clear the area around your home.' It must be important."

"If they were human," Thom said.

“They aren’t human. They aren’t stupid, though. I think they’re counting on us to not be stupid too.”

Thom said, “Well, we can’t burn it off. It’s too dry. One stray spark and the whole prairie will go up.”

“We can use the corer,” Ari said. Thom opened his mouth to protest, then closed it. He settled on glaring at Youngha.

“On its widest, shallowest setting?” Youngha said. Ari nodded and they got to work.

The alien watched as they reset the coring device and began to clear the top layer of grass and soil around the lander, one meter-wide circle at a time. It started at the machine’s first ground-shaking *whump*, but didn’t run. It stayed to watch all through the day.

When the sun was a rippling red orb on the horizon, the alien whistled a short song and bounded away, vanishing into the grass. Youngha wiped sweat off her nose and wished, again, that she had some way to know what the aliens were saying.

The next day dawned hot. Fingers of white cloud reached into the edge of the southern sky. Youngha set the imager on her knee and sighed. The little burrowing creatures she’d been stalking were simply too fast for her. She was considering

putting a scope down one of their burrows when her comm buzzed.

“Yes?” she asked it, thumbing it to transmit.

Ari’s voice came over the radio, clipped and calm. Youngha’s stomach twisted. With him, that was a bad sign. “Back to the lander as fast as you can,” he said.

“What’s going on?” she said, getting to her feet.

“Wildfire,” Ari said. Youngha swore and ran.

Her crewmates were hastily packing tools and samples when she arrived. Youngha stopped a moment to catch her breath. Smoke hazed the horizon. Youngha saw Thom wipe his sleeve across his forehead and felt sweat rolling down the small of her back. She glanced at the morning sun as she got to work, swearing under her breath. It was too early in the day for this heat.

Youngha tightened the dogs on the last storage hatch and let herself take a deep breath. Thom retreated into the lander. Then the wind changed, and the fire swept toward them, roaring. *The sound of it..* “Get inside!” Ari yelled. Youngha swung up the ladder, gave Ari a hand up, then slammed the hatch behind them. The lander’s lights flicked on, and its air

recycler labored against the smoke and heat. The survey team stood in the airlock, staring at each other's smoke-marred faces.

"Built to withstand reentry," Ari said after a little while.

"We might lose the ladder," Thom said. "It's aluminum."

Youngha shook her head. "Maybe. I think we'll be fine. There's nothing around the lander that will burn." *Thanks to the aliens.*

Ari spun the inner hatch open. The lander had already powered up its lights and the screen nearest the door. Ari took the first console. He put the external temperature readouts—air, hull surface, ground—on the main screen. Thom grabbed a console for his own queries, while Youngha pulled up the external cameras.

Brown haze obscured the horizon. The sky and the prairie were gone. Youngha folded her hands in her lap and watched flecks of gray ash sift down out of the smoke. Her crewmates' bickering and the hum of the lander's systems faded into the distance.

Thom called her name. "What's it look like out there? My God," he said, looking over her shoulder. "You really think the

aliens did that on purpose?”

“I... yes. I think so.”

“Huh. Maybe they’re not as intelligent as you thought.”

Youngha’s training failed her. She couldn’t speak. She only shrugged, and the astronomer-specialist walked away unenlightened.

No one slept soundly that night. Youngha grabbed moments of sleep in front of the camera feeds, sliding in and out of nightmares filled with blackened bones and charred, flaking flesh. Some interminable time later, she heard the familiar rasp of Thom’s snoring. She checked the clock and blinked. *It should be dawn. But it’s no lighter outside than it’s been all night.* A distant explosion growled through the walls of the lander. Youngha jumped, and by the clatter of a stylus on the decking, she knew she wasn’t the only one. *Reentry?* She thought, imagining another seed ship tearing through the upper atmosphere. Then something—a horde of tiny somethings—tapped on the hull, and Youngha smiled at the picture on her screen.

“What the hell was that?” Ari said.

“Thunder,” Youngha said. “It’s raining.”

The survey team stood inside their lander's airlock, staring out at the rain.

"You're both sure this is safe?" Ari said.

Thom just shrugged. Youngha said, "It's rain. Just falling water. I saw this once, on Cassiopeia Colony." She put her hand outside. Cool water fell onto her outstretched palm. The impact stung her skin. She pulled her hand in and pushed the water around on her palm with her finger like it was some exotic, amoebic creature. Her crewmates stood behind her, looking out at the world. Rain fell in silver curtains, and everywhere the prairie was green.

*So sudden*, she thought. *Like it was waiting for this*. "Can we go out in that?" Thom asked.

Youngha caught more raindrops on her hand, then licked her fingers. "We could dig out the hazmats," she said. "They're waterproof."

"No," Ari said, after a long pause. "We'll wait for it to stop."

"It might not stop. Not this season."

"Give it till tomorrow, then."

Ari made good on his promise, but only after the last chemical analysis of the rain had come in clean. Youngha inhaled deeply as she stepped off the ladder into new green grass. Her hazmat boots squelched as she walked. *No problem getting water to refill the tanks, then.* Around her, plants that had been nothing but desiccated skeletons were in bloom. A new chorus of insects sang from their hiding places in the grass. She laughed. Thom's head came up from his pile of gear, and their eyes met. She saw him fight against a smile and lose.

Ari checked the lander, muttered darkly about atmospheric data, and then retreated inside. Youngha followed him.

"I'm going to grab an imager and head over to the alien camp," she said.

"I'm not sure that's a good idea," Ari said. Youngha mentally rallied her arguments, but he kept talking. "Go take a look at the seed ship first and report back."

It was a compromise, and she knew it. "Yeah, all right."

Whether the walk was easier because the fire had cleared away the tall grass, because the air was humid and sweet, or because the newly awakened prairie offered her the scent of a new flower every time the wind blew, Youngha couldn't say.

Still, she dragged her feet on the last rise. Finally she let herself reach the top and look down. She was glad no one was around to hear her sigh of relief.

Youngha looked down at the wreckage and wondered where the seed ship's heat shield had gone. Had its machines consumed the shield to build some other thing? *How hot did that fire get? And what would've happened to the lander if we hadn't cleared the fuel away?* The seed ship lay in a scorched patch all on its own. Nothing grew near it. Sodden gray ash covered the ground. Rivulets of exotic metal shone silver where they'd melted, run, and frozen again. Its solar collectors had burned away. Starved of energy, its nanofactories would die. If any of the biologicals—the seeds of a human population, destined to live in the city the ship built—had survived the trip through deep space, they were certainly gone now.

The captain's face was unreadable when she told him the news. "Thom," he said. "What was the last word on the biological library?"

Thom shook his head. "Never got a clear reading off the thing. You know how bad the radiation shielding is on those, though. I'd lay odds it was sterile before it landed."

"Well," Ari said. "The next launch window is in three days."

Youngha frowned. "But there's so much more..."

"Nothing anyone back home is going to be interested in," Ari said firmly. "Once we leave, there will be nothing human on this world. That means nothing relevant to the Survey." His expression softened. "It's a beautiful planet. I'd stay, if I could. Are you going to be all right?"

Youngha turned away from her crew to face into the wind. The wind picked up, bearing the scent of ozone and ash. An alien stood on a nearby hill, its eyes shining gold against the darkening sky. *Something terrible just passed over you. Do you understand that?* The wind blew Youngha's hair into her eyes. She raised her hand to brush it away. The alien raised a hand in return, then turned and bounded out of sight. *I hope you never do.* "I'm fine," she said. "Let's get inside. It's going to rain."

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**Next Article**

## Hiding From Nobel

*by Brad Aiken*

The years rolled by in my mind as I pulled through the gates of Hidden Meadows, an upscale development in northern Maryland. It hardly felt like twenty-five years had passed, yet what had happened that day seemed like an eternity ago. I drove through the now unfamiliar landscape, winding my way toward the crest of Girls Hill. At least that's what we called it back then. It was there under the shade of the uppermost tree in a row of pines that lined the edge of the hill that we had made our pact.

Benny Solomon swiped at the beads of sweat dripping off his short-cropped wavy black hair. "Hard to believe another summer's gone," he said, extending an index finger to readjust the horn-rimmed glasses that had slid down the bridge of his nose.

"Ah, c'mon, Solly." Zeke scratched at the fine hairs of a nascent adolescent beard that hadn't changed all summer. "We got two more whole weeks. Quit your whining."

"At least you guys get to start high school," Jeffrey said. "I got

another whole stinkin' year of *junior* high." He aimed a puff of air at the strand of straight blond hair that always seemed to be dangling in front of his eyes.

"Yeah," I huffed through the best sigh I could muster up. "Hard to believe this is it. Next year we're gonna be too old to be campers. At least most of us," I grinned at Jeffrey.

For the past five summers we had been coming to Camp Ramblewood. I was just ten years old when I started. That was Solly and Zeke's first year too. Everyone else in Bunk 9 knew each other from prior years, so the three of us had a common bond. We became pretty tight that summer, but when camp ended we lost touch. There was no Internet back then, at least not for kids; long-distance phone calls were too expensive; and boys are too lazy to write letters. But when summer rolled around again each year, it was like we'd never been apart.

By the third summer, we had taken Jeffrey under our wings. We were twelve and girls were starting to look pretty good to us. He may have been a year younger, but his longish blond hair and blue eyes were like dangling bait at the Saturday night socials.

We grew closer each year and by the summer of 1985 we were inseparable.

"Let's make a pact," I said. "Twenty-five years from today, wherever we are, whatever we're doing, we meet right back here on this very spot."

"Let me check my calendar," Solly said.

Zeke shot him a dirty look.

"That's like *forever*, guys." Jeffrey was wide-eyed at the proposition. "Very cool." He put his hand out and made a fist, thumb side up.

We each followed suit, stacking our fists up in a column.

"August 1, 2010, at high noon," I said.

We broke the column and reassembled our balled-up hands knuckles to knuckles.

"At high noon," we all repeated in unison, and then tapped our fists together twice before breaking ranks.

We were all so innocent then.

Glancing in the rear-view mirror, I wondered if they'd recognize me. I winced at the budding crow's feet around my eyes and the streaks of gray beginning to cut through my

thick black hair.

“Hell, they probably won’t even show up,” I said to my reflection. It had been my idea, this pact. A boyhood fantasy, a moment of adolescent bonding surely forgotten by three grown men.

As I approached the spot where history was to be repeated, my heart sank. What was once nature’s paradise was now suburbia. It took a few minutes to get my bearings, but the lay of the land began to bring back memories. I pulled to the side of the road and turned off the engine. Somehow it didn’t seem right to drive over what was once the grassy crest of Girls Hill. About fifty yards up and to the left was the spot where we’d made our pact twenty-five years earlier. The pine tree that shaded us that day was long gone, as was the whole row of trees leading down the hill to the pool and L-shaped dining hall framing a part of it. What had once been a soft bed of pine needles nestled under filtered shade and sunlight was now an asphalt road.

I locked my car and walked past the meeting spot along the ridge of the hill. Cabins that had once housed the female campers had been replaced by a row of two-story red brick homes, which continued around the corner and followed the contour of the gentle slope down to its base, once the center of camp activity.

The pristine land that had made up Girls Hill and Boys Hill, with the dining hall in the valley between them, had been preserved as a neighborhood park. Pausing by the roadside, I closed my eyes and listened to the chirping of the birds; for a brief moment I was back in 1985.

To my left, the row of pines stood serenely against time, leading down to the dining hall and then back up to the cabins on the crest of opposite hill. Those wooden shacks where I'd spent much of my youth were lined up like dominos, housing five-year-olds in the left-most building and progressing along the ridge, ending with the hormonally charged teens of Bunk 14 at the edge of the woods to the right. The dense green forest making up those woods formed a boundary that stretched down toward the pool and then back up again to the girls' cabins, which lined the land behind where I now stood, enclosing the rectangle of camp life as they connected the woods to the pine trees on this side of heaven.

And then, as they inevitably do, the memories led to *that* moment, and I winced in pain.

"C'mon squirt," Zeke said to Jeffrey. "You chicken?"

Jeffrey grimaced. "I ain't scared of nothing," he snapped.

“Then come with us tonight.”

We'd been planning this raid all summer. It was tradition. The senior boys' bunk would pull a night raid, sneaking up through the woods to Girls Hill long after the counselors had fallen asleep. Armed with shaving cream and toilet paper, they would decorate the cabin of the senior girls' bunk, then steal back to Boys Hill under cover of night.

“My counselor will kill me. He told us there would be hell to pay if you guys pull the raid this year.”

“So, what, are you gonna turn us in?” I said.

“Hell, no.”

“Then come with us. You're almost a senior camper now, anyhow.”

“I don't know...”

We all knew at that moment that Jeffrey was going with us.

I surveyed the top of Ramblewood Lane, the street that they had paved over Girls Hill. There was no bench, no pine trees, but a young oak at the top of the hill provided a bit of shade. I could swear they had planted it in the very spot that we had made our pact. I plopped down onto the ground and leaned

back against it, then glanced around hoping to catch a glimpse of a familiar face. A group of kids rode by on their bikes and looked back at me dubiously. I couldn't blame them. A thirty-nine-year-old stranger sitting in the grass at a lonely suburban intersection was a strange sight. I expected to see the police shortly.

I closed my eyes and the memories washed over me once again.

"You ready?" Solly tapped me on the shoulder. He was our alarm clock. Solly had an uncanny ability to program his body to awaken at any preordained time.

"Hmm?" I mumbled. "Is it one already?"

"Yeah. Get a move on," he whispered. "You get Jeffrey and I'll get Zeke. We'll meet by the edge of the woods."

I nodded and dragged myself out of bed. Ten minutes later, Jeffrey and I were walking behind the cabins toward our traditional meeting spot behind Bunk 14, near the edge of the woods that would provide cover for our clandestine mission. Zeke and Solly were waiting.

"What took you guys so long?" Zeke snapped.

“Hey, we’re here, aren’t we?”

It was dark, but there was a quarter moon that night, and I could see that everybody had their gear. We each carried a small satchel of supplies that we had readied the day before—shaving cream, a roll of toilet paper, and a flashlight, which we would use only in case of emergency.

It was just the four of us. The rest of our bunkmates had decided not to chance the wrath of the camp owners who had issued the edict banning this summer’s senior raid. Solly, Zeke, and I had pretended to agree with them, but there was no way we were going to pass up an opportunity that we’d waited five long summers for.

“Let’s go, then.”

Zeke led the way down the hill, sticking close by the tree-line, concealing himself in the moon shadows. Solly and I were right behind. Jeffrey’s legs were shorter, and much to his chagrin, his timidity got the better of him in the darkness of the night. He lagged a dozen yards behind, urging himself on and trying to keep up.

I glanced back a few times. “Wait up,” I called ahead.

Zeke looked over his shoulder and snickered. “If the squirt

can't keep up, that's his problem. It'll make a man of him." He increased his pace.

Solly and I looked at each other and shrugged. Jeffrey wasn't that far back. It wasn't like he was going to get lost or anything, and we all wanted to get the job done and get back as quickly as possible. We forged on.

"Catching a few z's?"

Much to my surprise, I recognized the voice immediately. Squinting up from my spot under the oak tree, I struggled to focus on the figure silhouetted against sunlight.

"Good to see you, Solly. I can't believe you came."

"We swore on it, man."

"Yeah, but that was a long time ago."

"Many moons." He plopped down next to me.

"I was beginning to think no one else would show."

Solly looked at his watch. "Right on time."

I should have known. Solly was always punctual, even as a teenage boy. "Guess I was early."

"That you were. How the hell have you been, man?"

"Life's been good to me. Gorgeous wife, two kids, and a dog. The all-American dream."

"Way to go," Solly said with a smile.

"How about you?" I asked.

"Well, I was pretty messed up for a while."

"You?"

"Yeah, well, you know. I took it pretty hard. My parents did too. After I got expelled from camp, they were humiliated. That kind of stuff doesn't happen to Solomons. They sent me away to a boarding school. I ran away after two years of that crap."

"Jeez," I muttered.

"Yeah, well. I grew out of it eventually. I went to BU and took over my old man's business. I'm all respectable now. I did the family thing too—wife, two kids; no dog, though. I'm allergic."

I laughed.

"What?" Solly feigned offense.

"Sorry," I giggled. "It's just... well, it's not too surprising, you know?"

Benny Solomon shook his head. He knew.

Solly couldn't stop sneezing as we tried to sneak down along the forest line.

"Jeez, keep it down, would you?" Zeke snapped.

"I can't help it," Solly said. "It's the honeysuckle."

The native plant was plentiful along the forest's edge.

Solly's effort to suppress nature's curse was defeated by a trumpeting blast of moisture that made his head ricochet.

Zeke spun around and gave him a dirty look.

"Look," I said, "he's allergic. He *can't* stop it. The sooner we get past the honeysuckle, the sooner he'll be quiet."

Zeke grunted and turned back toward Girls Hill, quickening his pace. Solly, trying desperately not to sneeze, followed close behind with me at his side. Jeffrey was falling farther back, just within eyesight in the dimness of the night.

The shade of the oak felt good in the heat of a Maryland

summer's day.

"Think Zeke will show?" I asked Solly.

"What, you didn't hear?"

"Hear what?"

"Zeke died, man. Motorcycle wreck, back in '94."

My mouth opened, but nothing came out. It's not like we were all that close; hell, I hadn't seen him since we were kids, but still, it felt like a part of me had been chopped off.

"I can't believe you didn't hear about it. There was a ton of coverage. Flew his bike off an overpass into oncoming traffic on 495. Real gory accident, the kind of stuff the press just love."

"Must not have made it to the Baltimore papers." Jeffrey, Zeke, and Solly lived in DC back then. I was from Baltimore. "They say anything about Zeke? What he was up to all those years?

"Nah, not much. Just that he was in and out of jail all the time. It probably was a little harder on *him* after we got kicked out of camp; no family to lean on." Zeke was never too shy when it came to talking about how his foster parents treated him.

“Ah, come on. Nothing bothered Zeke. He never even *liked* Jeffrey that much.”

“Guess he had us fooled.”

We sat quietly, and I was sure Solly was thinking about the same thing as I was: the tough kid who pushed us to the edge of trouble but never let us fall in. I had always admired the fact that nothing rattled him. I guess we all have our breaking points.

“At least it was quick,” Solly said.

“Yeah.”

“And at least he didn’t have to live with the guilt anymore.”

I looked at the stress lines on my old friend’s face. “That part *would* be nice, wouldn’t it?”

Solly nodded.

“The nightmares don’t come as often, but they still come.”

“Yeah, I know what you mean.”

“We never should have let him get so far behind....”

Solly had given up the futile effort of trying to suppress his inevitable reaction to the omnipresent honeysuckle and let loose with a nice long, loud one. We were half way up Girls Hill by that time, well within earshot of the cabins.

Zeke spun on his heels, right into Solly's face.

"Shut that snout of yours, Solomon, or I'll shut it for you!" His fist was clenched.

"Come on, Zeke," I pleaded. "It's not like he's doing it on purpose."

"It don't matter *why* he's doing it," Zeke said. "Hell, every counselor on the hill's probably up by now."

We all glanced up toward the girls' cabins, expecting to see flashlights pointed our way.

And that's when it happened.

A hideous roar. Surreal. One vicious growl and then a yelp of terror from Jeffrey. We strained to see into the night. Solly was the first to get his flashlight out and just as Zeke was about to yell at him for turning it on, we saw something dart into the underbrush at the edge of the woods. The beam of light followed its path to two red eyes trained on us from

between the branches, and triggered a malicious snarl that seemed to rumble back along the trail of illumination.

“Wolf!” Solly rasped.

We stood motionless. We’d heard rumors of wolves roaming the woods, but always figured it was the counselors’ way of keeping us out of the forest. Nobody had ever actually seen one.

Leaves rustled from behind the wolf and a sound... like a swarm of crickets... rose from the area. I was too scared to run. We all were.

Then, without even acknowledging our presence, a man whose considerable height was amplified to near cartoonish proportions by his wiry build strode calmly out from the bushes. His gaunt face was devoid of features in the darkness of the night, a long gray beard the only hair decorating his odd visage. A brown plaid trench coat draped loosely on his frame hid any other details we could have used to describe him later. As he walked toward Jeffrey’s supine body, I felt as if I were in a dream, watching from a precarious position that could have been inches or light-years away, but unmistakably close enough to be pulled into that nightmare in an instant. Frozen, helpless to retreat, I was resigned to the feeling that no distance would be a safe one.

When he reached the spot where Jeffrey was sprawled out, he stopped and the wolf edged out of the forest to sit obediently at his heels. The man knelt over Jeffrey and raised his left hand, scanning it over the motionless head and torso, which glowed a faint tint of blue at the effort. The light went out for an instant, and then the pale blue haze poured back over my friend's face. In the stillness, I couldn't even feel myself breathe, and then Jeffrey started to stir. At the very same moment, the man stood his six-and-a-half-foot frame upright, turned back toward the woods at an angle that continued to shield his face from us, and disappeared calmly into the woods with the wolf loping along behind.

Zeke shined his light in their direction. "Gone. Who the hell was that guy?"

"Who cares?" Solly said, training his light on Jeffrey. He and I scurried over to check on Jeffrey while Zeke continued surveying the trail, or lack of it, where the stranger and the wolf had vanished.

The rock under Jeffrey's head was covered with blood, but the stickiness had stopped oozing from him. He winced as he tried to raise himself up, and we helped him sit.

He began to mutter something but passed out before we could make out what he was saying.

As we settled him back down on the soft grass, we were blinded by the headlights from a camp security jeep. It stopped a dozen yards away and by the time my retinas had recovered enough to allow me to focus, we were surrounded by a mob of counselors, campers, and two gray-haired security guards with glasses like Mountain Dew bottles, who looked more frightened than most of the children.

It was all a blur, what happened after that. One of the counselors motioned for us to get away. We couldn't bring ourselves to move, but as we were dragged from the scene, I could see her bending over my friend's limp body. A helicopter arrived about fifteen minutes later and whisked him off to a hospital in Wilmington.

Nobody believed our story. Jeffrey didn't have a mark on him besides the gash in the back of his head, and there was no trail, no sign of the wolf or the skinny giant. They figured we'd coerced Jeffrey into coming with us, and then didn't look out for him like we should have. That we made him run to keep up, and then when he tripped and whacked his head on a rock, we concocted that crazy story about a wolf and a giant. They were right except for the last part, of course, and we had no proof.

The next day, the three of us were picked up from camp by

our angry and embarrassed parents.

Solly and I sat under the oak in silence, thinking about the day that had changed our lives.

“Did you ever find out?”

“Nope,” Solly said.

“Me neither. My folks wouldn’t let me have anything to do with camp anymore. Not the place or the people. I figured Jeffrey must have died or they would have told me, not let me suffer so much. But I think *they* never really knew either.”

“Did you ask them?”

“Nah. It was too painful—for all of us. We never mentioned it again. I check the Internet every once in a while, you know, to try and find out what happened. But I always come up dry.”

“Maybe just as well,” Solly said. “Sometimes the past is better left in the past.”

We sat back against the tree again in silence. No one else was left to come to this reunion today.

“But sometimes it’s *better* to know.” A lilting feminine voice wafted in from the other side of the oak tree.

Solly and I both spun around.

“Mindy?” I couldn’t believe my eyes.

“In the flesh.” She smiled serenely.

Solly and I both stood. Mindy was my first girlfriend. A summertime fling for a twelve-year-old is not a serious thing... except to that particular twelve-year-old.

“But...”

“What am I doing here?” she finished my question.

Solly and I both nodded.

“Jeffrey sent me.”

My jaw dropped.

She smiled, but with a tear in her eye. “He wanted so much to tell you. He never blamed you for what happened.”

“Where the hell has he been all these years? I Googled him, tried Facebook, even tried to track down his family... nothing. It was like he’d dropped off the face of the Earth.”

"In London," she said matter-of-factly. "With me."

"You?"

She took a deep breath. "After the accident at camp, it took Jeff a while to recover. Physically he was okay, but he had panic attacks. Post-traumatic stress syndrome, they called it. He struggled in school and became alienated from his friends, so his parents moved to London for a fresh start. Eventually, he found his way, became a psychologist.

"About ten years ago, I was vacationing in London with some friends and spotted him sitting at a pub in Soho. Even after all that time, his face had hardly changed. We started talking and one thing led to another; we were married a year later.

"We had a quiet life there. Then one day, about a year ago, it all changed. A new patient walked into Jeffrey's office and, well... it'll be easier if I just show you. Jeff keeps video records of all his sessions."

Mindy pulled out her iPhone, started the video clip, and handed it to me. Solly sidled up to get a better angle. We could only see Jeffrey's back, but the view of the patient was plain as day, even on that tiny screen.

The wiry man who walked into that room was so tall the

camera angle cut off the view of the top of his head. He sauntered up to the desk with a deliberateness that conveyed a complete disregard for the constraints of time, and sat. His long gray beard was the only hair visible, and a loose-fitting brown trench coat hid the details of his frame.

“Shit,” I muttered. Turning to Solly, I got the confirmation I dreaded.

Even on the iPhone’s tiny screen, the image immediately reactivated the feebly suppressed memory of the Ramblewood hermit who had revived Jeffrey that night. His steely gray eyes were mesmerizing, and he looked considerably younger than I had imagined, despite deeply set cheeks and pale, nearly albino skin tone. After all these years, I finally had a face to put to that gaunt profile.

The sound of Jeffrey’s voice coming from the iPhone drew me into the conversation. “Mr. Zile?” He extended a hand. “I’m Dr. Blon-dell.”

The man shook his hand and nodded. Jeffrey motioned for him to sit and they each settled in on opposite sides of the bean-shaped oak desk.

“My name,” the man started in an authoritative, deeply timbred voice that was contrary to any I would have imagined

coming out of him, and I had imagined a great deal about this man over the years, “is not Zile, but it’s best for both of us if you do not know my true identity.”

Jeffrey’s head tilted. “Look, Mr.... whatever your name is, if you’re not going to be honest with me, I can’t help you. Whatever you tell me in this room is confidential.”

“But I don’t need your help—you need *mine*.” Jeffrey rocked back in his high-backed leather chair. “You’re here to help *me*?” “I am.”

“Okay,” said Jeffrey, “I’m listening.”

The man studied Jeffrey’s face. “You don’t recognize me, do you?” After a brief pause, he answered his own question. “No, I suppose you wouldn’t. You were dead the last time we met.”

“Dead,” Jeffrey repeated flatly. “I was dead?”

The man nodded. “Only briefly.”

“Don’t recall ever being dead,” Jeffrey said, with a tinge of amusement coloring his voice.

“1985. Northern Maryland. Camp Ramblewood.”

Jeffrey leaned in and rested his hands on the desk, fingers intertwined. “I don’t appreciate your dredging up my past, Mr....”

“Zile will do.”

“Fine. Mr. *Zile*. I think it’s time for you to go.”

Jeffrey stood but the man in the chair did not budge.

“I was there, Jeffrey. I was the one who revived you.”

Jeffrey sat back down. Even if he *had* heard our version of what had happened that night, it would have been relayed to him in a tone tainted with the doubt of those who had pegged us as liars. We’d been told at the time that Jeffrey didn’t remember any part of what had happened, and probably never would. He had no reason to believe our bizarre story. Until now.

“My name is not important, but I’ll need to tell you a little about myself for you to understand *how* I saved you, and why it’s important only *now* that you understand.

“When I was a young man, I studied theoretical physics at Princeton. Shortly after graduation, I was invited to Los Alamos to work with Robert Oppenheimer on the Manhattan

Project.”

“Come on,” Jeffrey said. “You’re going to have to do better than that. That was like... what, around 1940?”

“Forty-three.”

“Okay, 1943. So that would make you ninety-something. You don’t look a day over sixty.”

Zile ignored him and continued. “It was during my time in Los Alamos that I met another young physicist named Richard Feynman.” He paused, but obviously saw no recognition from the other side of the table. “Physicists generally don’t get the notoriety that entertainers do, but Feynman was a star in his world, went on to win a Nobel prize. Feel free to look it up.”

“Just did,” Jeffrey said, typing into his keyboard. “Okay, so you proved you’ve researched Feynman.”

“Maybe that page you’re looking at mentions something about a talk he gave on nano-machines.”

Jeffrey worked his keyboard. “Yeah... yeah, here it is. 1959 meeting of the American Physical Society at Cal Tech. *There’s Plenty of Room at the Bottom.*”

“Right. Well, we’d actually started tossing the idea around

back in the '40s, but that was the first time anyone took it seriously. You ever hear of nanotechnology?"

"I'm a Trekkie," Jeffrey said.

Zile smiled for the first time. "Many are, which begins to explain why I'm here. See, back then, nobody had heard of it; nobody thought it was possible, except Richard. But the more I thought about it, the more I realized it ~~was~~ possible. In fact, it was the next natural progression in scientific evolution—controlling the world from within its smallest structures. And nowhere was that idea more intriguing than in medicine."

"So I'm supposed to believe that you succeeded in making nanobots that could cure a dead man over thirty years ago?"

"Let's just say there was a fortunate twist of fate. Shortly after the war, I was reassigned to a base in Nevada, where I was exposed to the kind of technology people only dreamed of in the civilian world."

"Area 51? Aliens?"

Zile waved him off. "I never saw anything alien other than a bunch of meteorites, but it was one of those meteorites that got my attention, a small iridescent hunk of blue metal, more dense than anything I'd ever handled. I isolated a mineral

from it that had never been seen before and hasn't been seen anywhere else since. We jokingly called it Roswellonium, but the name stuck. It had a unique property that allowed us to construct the basic building block we needed to fabricate complex nanostructures."

He paused, staring at Jeffrey's face, then clarified. "It allowed us to build submicroscopic machines."

"Very cool. But what's that got to do with me?"

"Just keep listening," Zile snapped. "We kept the Roswellonium to ourselves, but some of the techniques we developed were passed on to companies like IBM and Intel. We taught them what they needed to know to build the first microprocessors. But I wanted much more. I wanted to develop medical applications. Do you know how much red tape there is when it comes to experimenting on animals, much less people?" He didn't wait for a response. "A shitload. You can't get a Goddamn thing done without some sniveling activist getting a lawyer to try and cut your balls off. We had the material, we had the techniques, and I had the ideas, but my hands were tied behind my back. After a decade of fighting that kind of crap, I finally said the hell with it and walked away from my cushy government job, but not before pilfering a sample of the Roswellonium.

“I built a lab in my basement. It took most of my inheritance, but I managed to duplicate the technology I needed. The work went a whole lot faster after that. By the mid-’70s, more than two decades before Freitas published his blueprints for the first medical nanorobots, I already had a working prototype, a microscopic machine that could analyze and repair damage to any cell in the body.”

Jeffrey fidgeted. “So why didn’t you go public? You could have made a fortune.”

Zile’s face squinched up. “You don’t steal from a top-secret government facility and then brag about it.”

Jeffrey leaned back into his chair as Zile continued. “I had tried these little machines, nanites, on mice, cats, dogs, all with varying success. Each new tweak in the design worked a little better and by 1974, they were ready. I injected Ralph first.”

“Ralph?”

Zile shrugged. “Some people have dogs, I had Ralph, a gray wolf.”

“That was your *pet* that jumped me?”

Zile nodded. "Call me eccentric."

"Oh, I'm sure I wouldn't be the first."

"No doubt. After I injected him, I monitored him closely for the next few years. Everything seemed okay. By that point, I only had enough Rosewellonium left for two more sets of nanites. I wasn't going to waste a dose on primate research, and besides, age was catching up with me. I injected myself in 1981 and carried the final set of bots with me every day after that, paranoid that the Feds would figure out where I lived and steal them." He took out a handkerchief and mopped his brow. "In the summer of 1985, I was walking Ralph through the woods near our home."

"Walking your wolf... Why am I listening to this?"

"We'd go out at night. I couldn't exactly walk him around the neighborhood during the day. Anyway, *that* night he heard *you*, saw your lights flickering, and it spooked him. He charged you and knocked you down. By the time he realized you were a harmless child, the damage was done; you'd hit your head on a rock and passed out. I got to you a half a minute later, scanned your life signs."

"What, you mean like with a tricorder?"

“This is real, Jeffrey. And I suggest you start taking me seriously if you want to keep your freedom.” He paused and must have gotten Jeffrey’s attention. “I had developed a hand scanner that could measure life signs—pulse, respirations; it was a safe way to monitor my animals without risking my fingers. Anyway, I scanned you. You had stopped breathing and your pulse was thready, barely detectable. So I pulled out the vial and gave you the final set of nanites.”

“You shot me up with your experiment? What the hell’s wrong with you?”

“It was the only way to save your life.”

“Ever hear of paramedics?”

“Your right pupil was already dilated, barely reactive. It was obvious that blood was building up in your head, putting pressure on your brain. You would have been dead before they got you to a hospital.”

“I thought you said I ~~was~~ dead?”

“You might as well have been.”

Jeffrey spun around to his left, and just before he dropped his head into his hand, I caught a glimpse of his face. His boyish

good looks had only enhanced with age, but there was something more. Some people age better than others, but Jeffery could have passed for twenty.

"I guess I should thank you."

Zile sat silently.

"So you used the last of your nanites on me, huh?"

"Yes. The last."

"And I've still got those little buggers inside of me?"

"That's what's keeping you... young."

"And I thought it was just good genes."

Zile grinned. "No genes are that good."

We were looking at the back of Jeffrey's head again, but he appeared to be studying Zile. "So," he said, "no offense, but then why do *you* look so old?"

"I was already sixty-seven when I injected myself. The nanites keep you healthy, but they don't reverse aging. In your case, they didn't stop your body from aging to maturity, but once you got there the cells stabilized, and they'll stay that way for

as long as you live.”

“So why tell me all this now?” Jeffrey asked. “Why risk blowing your cover?”

“Simple, really. Medical science has advanced to the point where someone might accidentally discover the nanites if you go into a hospital for testing. Up until recently, the technology didn’t exist, but the latest generation of PET scanners is capable of detecting positron emissions from the nanites. And if you’re in one of those scanner tubes when that discovery is made, they’ll make a lab rat out of you. You’ll spend the rest of your life locked up in some government research facility while they try and explain how those things got inside of you.”

“Which could lead them back to you.”

“Possibly, but not likely. I just don’t want the guilt of knowing I turned you into that.”

Jeffrey rocked in his big easy-chair. “So... why would I ever need to go to a hospital anyway? Nothing can hurt me now, right?”

“You could get into an accident, get shot; the nanites don’t work fast enough for that. But you never have to worry about

cancer, stroke, heart disease; the sorts of things that kill most people. Your biggest worry is your looks.”

“My looks?”

Zile gave a half nod. “Me, I’m an old man and people don’t look too closely at old men. I don’t have any close friends, and nobody else will notice if I look the same year after year. But *you* can never stay in any one place too long, never stay with the same group of friends for more than a dozen years or so. People will notice *you*. They’ll notice you as their own faces shrivel up and their hair turns gray while you still look like your high school yearbook picture. At first, they’ll compliment you, but eventually you’ll make them uncomfortable and they’ll start asking questions.”

“Can you at least inject my wife?” Jeffrey’s voice had grown barely audible. “I don’t want to not grow old without her.”

“I told you, there *are* no more.”

“Well, make some.”

“Even if they haven’t used up all the Ros-wellonium by now, I could never get my hands on it.”

“Then give her some of mine.”

“Once the nanites enter your body, they imprint themselves with your immune system. That’s how they survive inside of you for so long. They can never be reprogrammed. Even if I could take them out and inject them into your wife, at best they’d have no effect. At worst, they’d make her very, very sick.”

Jeffrey’s head dropped, then after a brief pause he looked back up in Zile’s direction. “So we keep this between *us* then?”

Zile nodded. “I’m sorry.”

Jeffrey sat silently.

“And I’d suggest erasing the video file of this meeting.”

“Oh, *shit*.” Jeffrey spun around and reached under the desk.

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The screen on the iPhone went blank and a message came up asking if I wanted to replay the video. I handed the thing back to Mindy.

“So why did he keep *this* copy?” I asked her.

“To show me... and the two of you.”

“Us?” Solly said.

“He always felt bad that you guys took all the heat for that night. He felt *he* was every bit as responsible for what happened as you were, if not more. He never blamed you for what happened. In fact, since the meeting with Zile, he considers the accident a blessing.”

“So why didn’t he come here himself, then?”

Mindy smiled and waved to the midnight blue Toyota Prius parked behind us about fifty yards away. The driver’s side door opened and out stepped a young man with blond hair and blue eyes, a black backpack slung over his right shoulder. Aside from the limited view of him that had been afforded by the iPhone clip, I hadn’t seen him since he was thirteen years old. But he was unmistakably Jeffrey.

As he approached, I couldn’t help but think he looked closer to my son’s age than my own, betrayed only by the swagger of someone with much more maturity.

“How the hell are you guys?” His smile gleamed as he extended a hand.

Solly took it. “Obviously, not as good as you.”

I couldn't help but stare. "Jesus, it's true, isn't it?"

"Every word of it."

"Then why risk coming here?" I reached out to greet him. "I mean, you don't know us anymore. It's been twenty-five years. Why trust *us* with something like this?"

"Because you're the only ones I *can* trust. See, I'm not so sure old man Zile's leveling with me. He's so paranoid that somebody will find out about that meteorite dust he pilfered that he doesn't ever want anyone to see his research."

"And you can get your hands on it?"

"Nah. Even if I knew where the old coot was, he's probably burned it all by now. But technology has advanced quite a bit since he made those nanites thirty-plus years ago. And I'm betting that there are a couple of guys who could reverse-engineer the things if they could get their hands on them, use something else to substitute for the Roswellonium."

I mopped back my thick damp hair and tried to fan a breeze in my direction. "Mind if we..." I motioned toward the shade of the oak. Jeffrey stuck out a hand. "After you."

As we turned to move into the shade, Mindy said, "I've heard

this all before. How about I go get us something to drink while you boys catch up? I saw the Quick Stop is still there. I can be back in fifteen minutes."

The Quick Stop. Camp. I couldn't shake the thought... "I'll have a Yoo-hoo." I wasn't even sure if they still made the stuff.

Solly and Jeffrey broke out in laughter.

"Make it three?" Mindy asked.

"Sure," Solly said. "Disgusting, but what the hell."

We watched her walk away, then sat under the shade of the tree.

"I've done my homework on this," Jeffrey said. "There are a handful of guys in the world advanced enough in nanomedicine research that they might have a chance at doing this, and two of them are right here in Maryland, one at Hopkins and the other at UM. If we can get the nanites to them and let them each know the other is working on it to fire up their competitive juices, I think we've got a chance."

I let out a deep breath. "It still doesn't explain... why us?"

"Like I said, you're the only ones I can trust."

"That's pretty pathetic," Solly said. "All these years, and we're the closest thing you've got to friends."

"I've got plenty of friends, but none who have had absolutely no contact with me since I was thirteen. None who can't be tied to me without a background search that would stretch the imagination of even the most anal government agent."

He swung his backpack around onto his lap and unzipped it, then pulled out two brushed aluminum cases. They were each about a foot long, ribbed along the sides, and with a black plastic handle that folded out from the top. He handed one to each of us.

"Each of these contains a sample of my blood; there should be dozens of nanites in each one. There's a note in each case explaining what the sample is and what I want them to do with it. Those cases, along with everything in them, are untraceable as long as you don't leave any fingerprints." He reached into the backpack and pulled out two envelopes.

"These will tell you everything you need to know: who the researchers are, where to find them, every detail of their lives you'll need to get these cases to them anonymously. Follow my instructions to the letter and you'll never get caught."

"And if we do?"

“People will be pretty curious where you got these, people who can make your lives miserable. Just do what’s in the letter and you’ll be okay.”

Solly studied Jeffrey’s face. “You’re just afraid we’ll lead them back to you.”

Jeffrey shook his head. “I’ll be long gone. I’ve got considerable financial resources and my friends were already beginning to question the way I look. Once I knew what was happening, I started making arrangements to disappear. Dr. Jeffrey Blondell no longer exists. When I drive away from here today, Jeffrey will be dead to the world. My concern here is for you two... and for the success of this project.”

“Touching,” I said. “And why should we risk our necks for this?”

“Because I’ll be tracking the work of these two labs, and by the time either one makes the breakthrough, I’ll own a controlling interest in the company that will take it public.”

Solly nodded. “So it’s about the money.”

“*Not* about the money. It’s about the nan-ites, about *Mindy*. I don’t want to be without her. I don’t want her to grow old. I

need those nanites, and every day counts. Mindy will be first in line to get them. And you two will be next... *if* you help me. Is eternal youth worth the risk?"

Stupid question.

When Mindy returned, we nursed our Yoo-hoos as we strolled around what was once an adolescent's paradise. We argued about the spot where the barn was, where we'd hang out on rainy days, how many baseball fields were on the vast lawn by the camp entrance, whether that old wooden house was really the original white house where the camp nurse was always available, and most of all, which pine tree provided the best cover for a first kiss.

The sun was beginning to set as we found ourselves standing next to the blue Prius. Solly and I waved as they drove off. I wasn't sure if I'd ever see Jeffrey again. But if I did, I knew what he would look like. If things went well, he'd know what I would look like too.

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## Julie Is Three

*by Craig DeLancey*

### There's more than one way...

“Will you let her go?”

That was the question I had to answer before the next morning. Kristine Louvrier asked it of me, standing with her hands on her hips, her mouth compressed into an angry line. I was glad that my desk stood between us.

“She’s my niece,” she added. “I’m next of kin. You have to give her to me.”

“I have to do what’s best for the child,” I said.

“You know what’s best for the child. It’s to let her come home with me.”

I shifted uncomfortably in my chair. “It’s not... not so obvious.”

Ms. Louvrier’s eyes narrowed to slits. “I’ve told you too much. And you wondered why we keep it a secret. You’re actually

considering locking a seven-year-old girl in a mental ward—imagine the trauma!—because I told you the truth.”

“That’s not fair,” I said.

“You exploited me and you’re going to destroy her. Or worse: Does this mean you’re going to tell other people about us?”

She was a head shorter than me, but I was sitting and she seemed to tower over me. She gazed at me so fearlessly, with such anger, that I was starting to wither. Or maybe, just maybe, I suspected she was right to be angry.

“Please. Sit.”

She didn’t. “I’m getting a lawyer. I’ll be back. I’m going to sue you, your hospital. You send her to a mental ward, and I’m going to make it my mission to destroy you in court. I’m gonna sue your dog.” She turned and yanked on the door to my dim little hospital office, and the heavy steel swung open so hard it slammed into my bookcase, bounced off, and slowly swung closed in her wake.

I stared at the calendar page on the back of my door. It was seven months behind.

*Would I let the girl go? Would I tell others?* Those were the important questions, I knew. But the question that haunted

me, the question that was going to follow me later as I crawled along in traffic on my commute home, was a different question she had asked me: *Aren't you lonely?* "We have a girl," Thomas, the head nurse, told me just three days before. He waved me down as I tried to hurry past the front desk in the morning. I was in a rush because I had to oversee the transfer of a criminally insane schizophrenic who landed in our emergency room. There was just enough time to squeeze in my rounds before seeing to the transfer.

And, truth be told, I just wanted to get everything done as quickly as possible, so I could sit in my office and drink some tea and zone out for a while. Maybe surf the web.

"I, uh..." I pointed at the open corridor behind him, to indicate I had to get moving. Thomas was a big man, and just by politely standing before me he pretty much blocked the whole hallway.

He continued in his long drawl, "Parents got killed in a car crash. She was center of the back seat—broke her arm but otherwise no damage. But Dr. Wells thinks you should see her."

"How old?" Thomas called pretty much any female human a "girl." The age range could be large.

“Bout seven, I guess.”

“Traumatized?” I’m a psychiatrist, so Wells’s referral meant the girl potentially had a psychiatric problem.

“Sure. Who wouldn’t be? Saw her mommy and daddy get killed. She seems all shook up. But, more than that, it’s... well,” and Thomas leaned forward, exaggerating the confidentiality of the detail, “she talks funny. Like she’s going in and out of it.”

I nodded. “That would be expected of a kid in shock.”

I decided I’d better see her first. I found her room, on the pediatric hall. It had water-stained walls that looked squalid under the too-bright ceiling lights. A small girl, beautiful in the way any seven-year-old must be, lay asleep on the bed, twisted in her white covers, barely bigger than her pillow. A snowy white new cast covered her right forearm, from the elbow down over the palm.

I lifted her chart off the bed hook. No physical trauma, other than the arm. No signs of abuse: no scars, no lesions, no burns, no previous breaks or fractures, no evidence of sexual activity. A healthy girl, very likely with a good family. The kind of profile you’d expect given parents who made their seven-year-old sit in the center of the back seat.

She stirred on the bed and opened her eyes. They were dark and deep set, staring out at me as if from a long distance. She pulled her long, dark hair out of her face.

*“Où est ma mère?” she asked.*

Round here that meant Cajun. From down near the delta, most likely. My French is nearly nonexistent, but I used the bit I have. *“Excusez-moi, je ne parle pas français. Parlezvous anglais?”* She shook her head no, but then she said, “I do.”

I sat on the edge of the bed. “Julie, I’m Dr. Douglas Everly. You can call me Dr. Doug. How are you feeling?”

“I’m not Julie.”

“Oh?”

“I’m Juliana.”

I looked at her chart again. The name there was definitely Julie. “Oh. So, Juliana, how are you feeling?”

She shook her head, as if it were too hard a question. I didn’t try to discover whether she fully understood that her parents were dead. Instead I said, “You speak French. You’re from Louisiana?”

"I don't speak French," she answered.

"What?"

"Julie speaks French."

"Excuse me?"

"Julie speaks French. I can't."

"But you spoke French just now."

"No I didn't. That was Julie."

I nodded and locked eyes with her. "I see. And you're Juliana. You don't speak French."

"Nope."

"Are you from Louisiana?"

"Yes."

"Could I, if I wanted to, speak to Julie?"

She shrugged. "Sure, but she doesn't hardly know any English. And Juny is kind of slow. You'd better talk with me."

“Juny?”

“Juny speaks a bit of French, too, but she’s not smart. She can draw, though. And play piano.”

“Juny, Juliana, Julie,” I said softly. “So Juliana...”

“Yeah?”

“Have you always had... Juny and Julie with you?”

“Course.”

There was a tap at the door. Richard Stevens, the head doctor for our hospital, stood there.

“Excuse me, Juliana,” I said. I went out into the hall, pulling the door closed behind me.

Stevens played tennis for keeps most weekends, and weekdays he watched the hospital balance sheet with angry determination to keep it as thin as he was.

“What about this one?” he asked, pointing through the window on the door to Julie’s room. His med training was in neurology, so he fancied himself competent in psychiatry also.

"I'm not sure," I told him. "Strange signs of trauma."

Stevens nodded. "This isn't a mental hospital. Get her out of here quick. Today, if you can."

I opened my mouth to protest, but Stevens cut me off. "They need your help with that schizophrenic patient. He's gonna need meds."

I nodded, stole a last glance over my shoulder at Julie, and then headed for the psych hall.

"God, Karen, what a day," I told my wife that night.

"Not as bad as mine," she said.

I put the boxes of Chinese take-out on our kitchen island. Honestly, the two of us should be watching our weight instead of eating fried egg rolls and sweet-and-sour pork, but neither of us can face cooking after the hour commute home. Karen was already in collapse mode: She had changed into a track suit and pinned her blond hair above her head. I took off my tie and threw it over a stool.

She got out two forks and handed one to me.

"Plates," I said. I hate eating out of the boxes. She shrugged and I set the table. When we sat down and put napkins on our

laps, she grabbed the remote—always lying somewhere on the kitchen table—and turned on the television that glared out at us from the kitchen counter.

The sound seemed to boom through the kitchen. We have a nice kitchen: cherry cabinets, white walls, and granite counters shining under recessed lighting. But I don't much like it. Every clink of a fork on a plate seems to echo tightly in the long room.

"Hon, can we not have that on?"

"Okay." She frowned and turned the TV off. "You upset?"

"It's work. You know."

"Something happen?"

"A schizophrenic patient threatened a nurse, hurt a doctor, ran around screaming. A total mess."

"That's terrible. But are you okay now?"

"Yeah, thanks."

She bit an egg roll.

"But really that's not what's bugging me. We got a young girl

in today, and I'd not had a minute to evaluate her before Stevens started trying to push her out of the door."

She paused, holding her egg roll half way to her mouth. "You worry about kids, I know. But that... that thing that happened. It wasn't your fault."

I shrugged. "I just want to be sure it doesn't happen again. And this girl... she's special. A weird case. A mystery. She talks in different voices."

"What'd'you mean?"

"As if... as if she had multiple personalities. What we call dissociative identity disorder, in the trade."

"Weird. But that happens, right?"

"It's rare. So rare I was never really convinced it exists. But I guess I'm willing to believe that some people, really abused and messed-up people, will hide themselves in the delusion that they're different people. As an escape."

"Is she abused and messed up?"

"That's the funny thing. She doesn't seem like it. Not at all."

Karen shook her head. I forked some more lo mein onto my

plate and she turned the TV back on.

"I'll keep it down low," she said. "I just want to see the news."

I went to see the girl first thing the next morning. She sat up in her bed, awake but silent. There were damp streaks of tears down her cheeks, and her eyes were swollen. So, she'd finally come to understand that her parents were dead.

"Hi, Juliana," I said.

"Juny," she muttered.

"Okay. Hi, Juny." I sat on the edge of the bed. "How are you feeling?"

She shrugged.

"I understand. A little." I pointed at her head. "Your hair is in a braid today."

She nodded. "The nurse did it for me."

For an absurd moment I pictured big Thomas braiding the girl's hair, then realized of course it had been the night nurse.

"It looks nice," I said.

“Thanks.”

“Listen, honey, I just learned that your aunt is coming. She should be here today or tomorrow. How’s that?”

“Aunt Kristine? That’s good.” She sniffed back tears and smiled weakly.

“You like your aunt?”

“Yeah, all of her.”

I frowned. “What does she do?”

“Part of her studies fish at college. More college.”

I thought about that a moment, but then hit on an idea. “You mean graduate school?”

“That’s right. She went to college before and one of her studied old languages and one of her studied the oceans. And one of her cooks great. I like them all. Can I go home? Can the Aunt Kristines take me home?”

“I hope so,” I said.

Kristine Louvrier, Julie’s aunt, proved to be a young woman, broad shouldered and not very tall, with short dark hair and a

very direct manner. I was paged to the front desk when she arrived.

“Please come to my office,” I told her.

“Can I see Julie?”

“Of course, but first can we talk a moment?”

She frowned at that, opened her mouth with what looked like the intent of protesting, and then just nodded. I led the way.

“How is she?” she asked me when we sat down.

“Julie is physically fine.”

“Physically.” She fixed me with steel gray eyes.

“I have other concerns.”

“Is she... traumatized?”

“Of course,” I said. “She’s lost her parents. But... there’s something else.”

Her eyes narrowed. She did not, as I expected, ask me about the something else. Instead, she asked, “Can I take her home?”

I looked down at my paperwork. "You'll be taking custody of her, I see."

"I'm a Ph.D. student, nearly done with my thesis. Writing up the results. I can stay in Julie's home and finish my Ph.D. while Julie finishes her school year. Then we'll just have to see where I get a job. But whatever happens, we'll stay together. And we'll keep her house. We have all our family near there."

"That sounds ideal," I told her.

"Can I take her home, then?"

"That's what we need to determine." I sighed and looked around my office. It had become disheveled in the last few months. In the last few years, really. Piles of papers and books covered nearly every surface. The folded corners of unread hospital memos poked at odd angles out of the bookcases. There were coffee cups resting like forgotten friends here and there around the room. Most still had an inch of black liquid festering in the bottom. Suddenly, I was ashamed at how I'd allowed the room to grow so disordered. It told the truth about me: that I'd burnt out.

I shook my head and tried to gather my thoughts. "Julie has some very unusual signs of psychological trauma."

Again, I waited, but Kristine Louvrier did not ask me what signs. Often, whole extended families are complicit in abuse, aware that it is happening. This woman's silence suggested that instead of being curious and concerned, she was eager to hold onto a secret.

After a pause, I added, "I think she suffers from a serious delusion. The delusion that she is several people."

Louvrier did not move. She said, "She's always had two imaginary friends. It must just be that."

"What are their names?"

"Excuse me?"

"The imaginary friends."

"Juliana and Juny."

I nodded. I didn't know whether I felt worse or better about the aunt accurately knowing these two other names. I leaned forward. "I would like to see Julie's home. Where you'll be living."

"You want to do a home inspection, like a social worker?"

“Not exactly,” I said. I had no legal power to ask for a home inspection. “Something informal. Not official. I’m having trouble understanding why Julie has this delusion. And it’s my job to make sure she’s fit to leave, and that the environment she enters won’t make her worse.”

She squinted at me but then nodded. “Okay. When can you come out?”

“Tomorrow.” I stood and gestured to the door. “Now, let me take you to Julie.”

I went into the hospital the next morning to do quick rounds before heading out on my drive to Julie’s home. I was packing my briefcase to leave when Stevens banged on my office door.

“Everly, what are you doing with the girl in pediatrics? The Cajun kid?”

I sighed. “She has signs of unusual emotional trauma, but I can’t confirm what kind.”

“I heard. Multiple personalities.”

“I’m not sure I believe that. I need just a little more time to determine where’s her best destination.”

“You’ve had two days. She goes tonight. Send her to Cresthaven. They’re better equipped to decide where she goes next.” He moved on without a good-bye.

Cresthaven was a hellhole where the poorest were dumped, loaded up with lithium, and allowed to shuffle around dirty tiled halls all day. The Cresthaven staff watched TV and counted out pills, and weren’t competent to do anything else.

I could stall the head doctor another day. No one got transferred out as quickly as he asked. The paperwork alone took more time than he allowed for the whole process. But I had only a day.

The drive to Julie’s hometown consumed the remainder of the morning, most of the way on winding two-lane roads through farm fields broken by long stretches of tall trees draped with kudzu. A gas station, a few homes clustered close together, and a diner constituted the tiny town’s center.

I stopped at the diner. A long bar stretched away from the door. Behind it the cook worked ambidextrously, a spatula in one hand and a knife in the other. Rows of booths lined the other walls. Old men and women, and a few my age, filled the booths and talked in relaxed joviality. Framed and fading photographs of people hung over them—a long history of customers, I presumed.

I sat at the bar and ordered the fried chicken, some pie, and a coffee from a smiling waitress with a name tag that read BRIANNA.

When I got to eating the pie, I asked the waitress for directions to Sycamore Street.

"Oh, that's easy," she said. "You just head on down here half a mile and turn left. You can't miss it. There's a little graveyard right on the corner."

"Thanks."

"Who you going to see?"

"The Louvriers' home," I said.

A man two seats down on the bar shook his head. "You know what happened to them, don't you?" He wore the full outfit of a fireman, with his fireman's helmet on the stool seat beside him.

"Yes, sir, I do," I told him. "I'm going to see Kristine Louvrier." It couldn't hurt, I decided on the spot, to see what people here would reveal about the town or the Louvriers.

"Well, now, I heard she were back or at least around. Gonna

raise the little Julies.”

I was sure he used the plural. I leaned toward him, about to say, “Excuse me?” but the waitress gave him a pointed look, and he straightened up and closed his mouth. She quickly said, “Harry here is our deputy sheriff.”

“And fireman?” I asked.

“Yes, sir,” he told me. “This is a small town. Most everyone is related, a cousin of one kind or another, first or second. And we’re kind of isolated out here. So, we all do everything. Stephen back there cooking lunch—” he pointed over the counter at the cook dropping more birds into the fryer with one hand while shaking oil out of a frying basket with the other. “—is our town librarian. Brianna here is also town clerk and Sunday school teacher. Always been that way here.”

“The Louvriers were fine people,” the waitress said. “Everyone here loved them. You a friend of theirs? You miss the funeral?”

I introduced myself. It caused a moment of silence. Then Harry the fireman and deputy said, “Well, that’s right. You got to make sure things are going to be best for the... Julie and... And you’re gonna find they are. Things are best for hers here.”

I thanked them and paid the bill.

As I pushed through the front door, I thought I heard the deputy ask the waitress, "Julie is three, isn't she?"

The house was modest but pleasant, white with a broad porch, on a sycamore-lined street so quiet the loudest sound was the wind in the trees. The gutters were clean, the roof black enough to be new, and the grass high but even, so that you could tell it had been cut regularly but neglected since the car accident.

Kristine Louvri er met me at the door, wearing jeans and a UCLA sweatshirt, with a highlighter in one hand and a textbook in the other. I glanced at the title: *Coelenterate Biology*.

"I'll give you the full tour," she said.

She methodically showed me every room of the house, with brief explanations punctuated by long resentful silences.

Julie's room was messy but not dirty. In one corner was a bed. In another stood a drawing desk with pictures pinned over it. Another corner held a chair and small table and bookshelves, all littered with small plastic animals with big eyes. Some kind of Japanese things, they looked like. And in

the final corner there were pictures of some teen musician taped on the walls, above a heap of skates. It suddenly struck me as like a room shared by three different but normal little girls.

The rest of the house was clean but lived in. Last on the tour, Kristine Louvrier showed me the basement and garage. The garage, like my own, was crowded with the things we accumulate over the years. I stared at the three bicycles—small, medium, and large—lined up by the garage door, aimed at the driveway. Helmets hung expectantly from the handlebars. A terrible sadness swept over me, to see these waiting skeletons of a perished family life.

“I’ll make tea,” Kristine said, interrupting my reverie. I followed her inside.

“What’s your judgment?” she asked, as she served Darjeeling in the living room.

“The house is wonderful,” I said. I sat down on the couch and put my hands between my knees. “But you’re not telling me everything.”

She squinted with suspicion. “What do you mean?”

“Julie doesn’t just have imaginary friends. She believes that

she is three people. No seven-year-old could maintain such a façade, so well, so consistently, for so long, just on a playful whim.”

She sat down across from me in a high-back chair. “You like having this power over people? To break their families?”

My voice broke as I whispered, “No. No. I hate it. But three years ago I sent a little boy home to parents I thought were fine. A lawyer and his smiling trophy wife. And they beat that boy to death.” And beat something in me to death also. I limped through every long day of my job after that. “I’m never going to make that mistake again. Julie is a wonderful girl. Smart. Attentive. Nice to talk to. I like her. I owe it to her to be right about this. Now, Julie isn’t normal. And that usually means something—something really bad—has happened.”

Kristine Louvrier stared at me a long time. I may be burned out, but I’ve still learned through the years to recognize when someone is about to explode with the possibility of speaking the truth. I waited. I waited, expecting her to confess that something terrible had once happened to Julie.

Instead, what she finally said completely flummoxed me.

“It’s a mutation, I think. Carried in this one family.”

“Wha... ?” I furrowed my brow, trying to decode that. It made no sense. I asked about a little girl’s family life, and this biology Ph.D. candidate starts talking about mutations. For a moment I thought she might be mentally ill also, making random paranoid associations. “What are you talking about? What’s a mutation?”

“We all have people inside us. All of us in this family.” She stood, went to the window, and looked out at the silent, shaded street.

I finally understood. “You’re saying that... you too?”

She nodded, still looking out at the street. “It goes back many generations. We have several persons inside. Usually three, but not always. It must be some kind of beneficial mutation.”

“Beneficial?”

“We’re no crazier than other people.”

“But you...” I faltered. I told myself that I mustn’t get caught up in this absurd idea. The simplest explanation was that she was lying or delusional.

She turned away from the window. “Don’t you ever get... full? Not tired, just full. Like, you’re trying to learn something, and you’ve worked at it a while, and you just need a break? You

might have all the time in the world. But you just can't fit any more into your head."

"Sure. I went to med school." I could study maybe four hours a day, and then I was done. And after, the other things I loved—poetry, composing—proved impossible. They became almost painful, like noise.

"When that happens to me—to one of us—we just switch to a different self."

I only nodded. If I were to grant her claim, I could see then how that might be useful.

"And all of humanity's best accomplishments come from dialogue, right?" she continued. "From people interacting and challenging each other. Well, each of us can interact and challenge herself."

"But—"

"You know," she interrupted, "one of me studies cnidarians. What most people call jellyfish and corals."

"Julie said fish."

"No. You mean Juny said fish. Julie and Juliana wouldn't confuse it."

I tried not to show my surprise. She was right.

"I study cnidarians. And long ago I had a revelation. What is your blood?"

Her tone made it clear that her question was academic. So I shrugged. "Oxygen delivery system."

"That's what it does, but what is it? It's the ocean inside. All progress in evolution is to take what's useful that's outside, and bring it inside and bring it under control. Bring the sea inside, control its contents and temperature, so you can bathe your cells even while you walk on land. That's circulation. Bring the sights and smells of the world inside, where you can manipulate them and plan. That's representation, imagination—the mind. Well, the greatest leap in human progress was to become social beings. And my family, we're just bringing that inside us. You sit in society like a sponge in the sea. We carry a society within us, like blood."

This had gone far enough. I put my hands together, as if pleading with her. "From where I'm sitting, this is not a very plausible explanation. I expected abuse. That's still more likely than this... story."

“I’ve told you the truth. Why can’t you even consider it possible?”

“Okay. Suppose what you say is true. We can prove it. Test the personalities the way we test synesthesia: exhaustive high-speed question and response. I could show that you can’t be faking it. Then I can let Julie go with certainty that her... behavior is not a kind of trauma.”

She shook her head. “Not yet. We’re too few. We don’t want people to... overwhelm us. Make us a freakshow. Maybe even accuse us of being the mutant threat.”

“You’d be a curiosity for a few weeks and then forgotten.”

“Maybe. But we shouldn’t have to beg for privacy. Should we?” She sighed. “Now you know our secret.”

“But, even if I believed this story, what you’ve told me doesn’t confirm that Julie will be safe.”

“We’ve raised generations of our kind here. Not one of us has been mentally ill. Not even a bit.”

I frowned. Suddenly I didn’t know what to do. I felt trapped by the confusing complexity of this. Some part of me found her story weirdly plausible. The skeptic in me was resolved that I was being duped. I stood.

"I have to get back to the hospital. I have a long drive." I went to the door.

"When will you... ?"

"Decide? It has to be soon."

"I'll come to your office tomorrow," she said.

I nodded. "I have appointments till four. Can we meet at four-thirty?"

"Sure."

She followed me to my car. I got inside and put the window down. "Suppose what you say is true," I said. "Don't you get... lost? Confused? By all those voices?"

"I don't know. I don't think so. No more than single people get lost or confused." She looked at me hard and said softly—and, I realized in surprise, with genuine curiosity— "Now you tell me. Don't you get lonely? All by yourself all the time?"

I frowned but didn't answer. I started the engine. "See you tomorrow."

I had to battle the next day with the county jail, which wanted

to return the criminally insane schizophrenic to us. I learned that they'd already shipped him to another hospital in the city two weeks before—it was no doubt that hospital that had dropped the guy in our ER.

Nerves frayed and hands shaking from adrenaline after shouting into my phone, I went straight into the meeting with Kristine Louvrier at four-thirty. It was almost inevitable that we would end up in a fight, given my condition. When she threatened to sue and stormed out, I sat at my desk catching my breath, hoping to calm down. I wasn't given the chance: big Thomas stuck his head in.

"Dr. Stevens has been looking for you. He's mad that little girl is still in pediatrics. And he wonders where the hell you've been all yesterday."

I nodded. "Thanks."

"You look tired, Doc."

"I am."

Thomas knew better than to tell me to go get some rest. He gave me a sympathetically wistful smile and left.

I walked dejectedly down to pediatrics.

Julie sat propped up in her bed. The television flickered silently in the corner. A checkerboard sat on the bed beside her, the pieces arrayed in the middle of a game. She drew on a pad of paper on her lap.

"Hi," I said. I checked her chart but nothing had changed. I'd given her a battery of cog tests in the morning, and then a social worker had talked to her using a therapy doll. She showed no cognitive deficits and had reported no inappropriate touching. I leaned against the end of the bed now and looked at her drawing: a cat with huge eyes. It appeared clever, rather professional to my eye, kind of like one of those Japanese cartoons. Or one of the figurines in her room.

"Who's winning?" I asked, pointing at the checkers game. I assumed she was playing the nurse, who inevitably had been called away to rounds.

She shrugged. "I'm not playin'." She switched pencils, and started darkening one iris of the cat's eyes.

"Who is?" I asked.

"Juliana and Julie."

"Ah. And you're Juny."

“Course.”

I noticed then that she was drawing with her left hand, with quick facility. I frowned. During our session in the morning, she had struggled to fill out some written tests, trying to grip the pencil around the cast that covered her right wrist and palm.

“You’re left-handed?” I asked.

She only nodded.

“But you write with your right hand?”

“Naw,” she said, focusing on her quick strokes. “Julie and Juliana do. I don’t.”

She looked up at me then and set the pencil down. She spoke faster, with sharper intonation, as she asked, “Can I go home tomorrow, Dr. Doug?”

I hesitated. The change in tone was eerie, and the muscles around her eyes had switched from a slack ease to attentive concentration.

“Juliana?” I asked.

“Yes.”

I sighed. "Perhaps. We'll figure it out tomorrow, anyway."

"I miss school," she said. "Julie misses school."

"And Juny?"

"Juny never pays attention in school. Except in music class."

"Oh." I straightened. "Well, don't stay up too late. I'll see you in the morning, okay?"

"Okay."

As I was opening the door, I heard the clack of a checkers piece. I looked back. She was reaching across herself and awkwardly using her right hand to arrange a black piece. There was a pause, and then with the right hand she moved a red piece. She sat back, sighed, and then her expression took on a relaxed, even vacant expression, almost transforming into a different face. She picked up the pencil with her left hand and continued to draw.

I went out into the hall. The head doctor stood there, looking at Julie through the window on her door.

He nodded a minimal greeting. "Strange case. Fascinating. I understand why you've been stalling. There's a paper in it, for

sure. But, you know, I think she can be treated with standard pharmaceuticals. Thorazine will kill those other voices. Get her out of here first thing in the morning.”

After my miserable commute home, I found my wife watching television in the kitchen. She’d ordered pizza out, and about a third of it remained, sitting in its soggy cardboard box on the counter.

We exchanged salutations and I went to the cupboard. I, at least, was going to eat from a plate.

“I had a bad day at work,” I said.

She nodded. “I’m sorry, hon. That’s getting regular for you lately.” But she looked right back at the television.

“We don’t talk much anymore, do we?”

She frowned. “We talk.”

“No we don’t. You watch TV during dinner every night. We always eat take-out.”

“You expect me to cook?” She frowned, suspecting these were the opening moves of me picking a fight.

“No. No. But, I mean, we’ve got time then.”

“Time?”

“We didn’t cook. So we’ve got some time. To talk.”

She turned off the TV. “Okay. Talk.”

We finished the pizza in silence.

The next morning, as I came in, Kristine Louvrier had already staked out the waiting room. She paced before a seated heavy man in a suit who clutched a briefcase. When she saw me, she made a straight line to intersect my path.

“I’ve brought my lawyer. You better get yours.”

“No need,” I said.

They followed me to my office. “I would like to speak to Ms. Louvrier alone a moment,” I said.

“Absolutely not,” the lawyer drawled. He put a hand on his vast stomach—as large as my own, I noted with a wince—and shook his head angrily.

I looked at Kristine Louvrier. Her eyes moved quickly around the room while she thought. Finally her steel eyes met my gaze.

“One minute,” she said.

“I advise against it,” her lawyer protested.

“One minute.”

The lawyer sighed and went into the hall. She closed the door, turned, and glared. “So?”

I sat. “I want you to give me your word, *your word*, that if anything starts to go badly for Julie, you’ll call me.”

She frowned. Slowly, she sat down too. “What changed your mind?”

Lying awake in bed the night before, Stevens’s words, “Thorazine will kill those other voices,” had echoed in my mind, horrifying me. It sounded so much like he spoke of killing two... persons. I realized then that I already believed.

But I would be ashamed to repeat what our head doctor had said. So I just shrugged. “Do you promise?”

“Why do you want me to?”

“Because nothing is nature is so simple. Mutations that are purely beneficial are rare. Your petty fear of a week of

notoriety cannot be allowed to endanger a girl's welfare."

After a long pause she nodded. "I promise."

"That's not good enough," I told her.

She scowled angrily. "What do you...?" And then, after a moment of reflection, she smiled. "We promise," she said. "All three of us."

I handed her the release paperwork, already filled out. And then I handed her one of my business cards. "Please. Call me, if I can ever help."

She nodded, then rose and opened the door.

I stood in the waiting room and watched them leave. Juliana—I think it was Juliana—waved to me as she stepped through the automatic doors. Then I did my morning rounds, but at eleven I went back to my office and called my wife.

"What is it?" she asked, still wary after the evening before.

"Hon," I whispered. "Can you sneak out of work for an hour and come have lunch with me?"

Her voice softened. "Is everything okay? Work okay? Is it that girl?"

“I guess so.”

“Is she okay?”

“I think she will be,” I said. “I think she’ll be as well as any girl can be who just lost her parents.”

“Good.”

“But she made me think, hon. I just feel... I feel lonely. I need to hear your voice now. Sometimes I can’t think without having you hear me and talk back to me. And sometimes I...” My voice almost broke. I felt the pressure of tears, but I resisted them. I took a deep breath and started again.

“Sometimes I... I don’t like myself much. When I’m alone. But I like myself more when I’m with you.” There was a long silence. Then she said, softly, “I’ll be right there.”

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## **Astronomic Distance, Geologic Time**

*Bud Sparhawk*

### **Just to put things in perspective...**

Gerald Homer Cahille giggled. It was the happy laugh of a two-year-old enjoying his first warm, wet experience of a puppy's tongue.

If his father hadn't been delayed at the bus stop he never would have seen the romping puppy in the window and decided, there on the spot, that it would be the ideal companion for his son.

"It'll be good companionship for the boy while I'm gone," he told his wife mere weeks later as he embraced her, lifted his bag to his uniformed shoulder, and headed off to war.

"Yes," she replied with a smile, knowing exactly who would be cleaning up the messes, doling out the nightly food ration, and trying to manage two unruly creatures that had no concept of civilized behavior and therefore would bring so much trouble into her life while he was away.

Still, after seeing the joyful smile on her son's face and knowing the companionship the dog would provide—hardly a substitute for a father—she accepted the inevitable.

For the next few years Gerald and Rex, the dog, were inseparable, happily destroying his mother's carefully tended victory garden, inflicting visible damage on his family's shoes, and managing to transport enough dirt and grime indoors, although not all at once, to build a second yard. Only his entry into school eventually separated them, making each afternoon a delightful, romping reunion when the bus deposited Gerald at the curb.

During the first half of his life Rex chased seventy-five squirrels; chased twenty cars and trucks; pissed on nearly three thousand trees, bushes, and poles; humped three bitches and uncounted legs; ate nine hundred pounds of dog food, occasional table scraps, and a quarter of the turkey and associated dressing his mother had prepared for Thanksgiving shortly after the war, when such luxuries became once again available.

Rex also utterly destroyed every toy he was given except for a prized, saliva-soaked, grimy tennis ball that he lovingly dropped on the laps of unsuspecting guests.

The age of technology had long passed, as had the age of

arts and, inevitably, the age of knowledge. The race knew that there was little left for them, for even immortality can exhaust its attractiveness.

Their last great project began when a few retrograde individuals decided to create something that would answer the question of why they, of all the creatures who must occupy the Universe, were so lucky as to be at the precise center. The answer was to send something to the distant “edge” of the Universe, ten billion light-years away. The likelihood of their descendants hearing the answer after that much time was negligible. Even if they never learned the answer, the question would finally be settled, which was sufficient reason to regain the long-forgotten skills and knowledge so necessary to conceive and build something that would endure the trip.

It took over four thousand cycles for them to devise the plans, another two thousand to muster the resources, and five more for the actual construction. Perfection is not something easily achieved, even for these incredibly advanced beings that used everything they'd learned from millennia of unbroken, continual advances in every imaginable field.

The six tiny ships, each no larger than the seed of thistledown, were wonders—part mechanism, part dream, and entirely an exercise in aesthetic perfection. Once

released, the ships would sip on photons for sustenance and use dark energy for fuel.

Despite their beauty, they were nevertheless rugged enough to outlast the worst disaster imaginable and intelligent enough to deal with any obstacles encountered, such as black holes, maelstrom nebulae, and deep time pools. Since they would be moving at near light-speed they would avoid close encounters where their immense relativistic mass might perturb the balance of entire systems.

With great fanfare the six craft, *Emanni*, *Kilasta*, *Majat*, *Remmin*, *Boinit*, and *Istophel*, were launched in the six cardinal directions. During the course of their journey each ship would pass through the nearest galaxies and, eventually, through those that had not yet begun to form from the aggregation of star stuff, gases, and other random parts of the Universe.

Initially slow moving, they rapidly gathered speed so that, in the first infinitesimally tiny fraction of the planned voyages, they'd achieved nearly three-quarters of the speed of light. After that they followed what would become a zigzag course of looping curves around black holes and dense stars to boost their speed by fractions of a percent. Since they started in a dense volume of their galaxy, it only took fifty thousand years to reach 90 percent of light-speed.

The ship that would eventually pass quite near the yet-to-be-formed solar system was initially pointed at a galaxy six billion light-years away, a trivial though time-consuming distance for the indestructible and immortal *Istophel*.

Rex must have heard the jingle of car keys as twelve-year-old Gerald, who now insisted on being called Jerry, entered the small room off the kitchen that they'd turned into the old dog's refuge. Rex whimpered as he tried to rise and then fell when his weak hind legs gave way. He finally settled for feebly lifting his head and giving a few half-hearted wags of his tail.

The dog's health had been going downhill for months. His hair had been falling out for some time, leaving bald spots on the bony protuberances of his arthritic hips. In the last two weeks he had lost control of both bladder and bowels. He refused to eat more than a bite or two of handheld soft food when Jerry desperately tried to bring him back to health.

Jerry knelt and stroked the old dog's head for a moment, trying not to think of what they had to do. "He's miserable, Jerry. You wouldn't want him to suffer, would you?" his father had asked the night before.

Jerry had protested putting Rex down for days, hoping against hope that the dog's health would improve, that he

would somehow start eating again, recover, and be able to run and fetch and tumble and play as they always had, even while knowing that running, fetching, and tumbling were years and tears in their past.

“The best thing we can do is to end his pain, son,” his father had insisted. “You have to let him go.”

Jerry lifted Rex in his arms, refusing any assistance, and carried the old dog to the car, there to lovingly hold him close and dear all the way to the veterinarian, releasing his embrace only when they were about to give Rex his final injection, holding his best friend’s head as his eyes closed, his breath slowed, stopped, and the long tongue that had licked Jerry’s two-year-old cheeks fell from his open mouth.

“Dogs don’t live forever, so we have to love them for the brief time they have. He had a good life, Jerry. Be happy about that.” His father’s consoling words went unheard and Jerry sobbed softly at the loss of his best friend as they drove home.

A billion years into the voyage, barely a tenth of the way toward the solar system, *Istophel* was moving at nearly 95 percent of light-speed and ever so slowly accelerating. Her creators would have been proud of their accomplishment if their creator’s descendants’ descendants hadn’t faded

beyond memory four hundred million years before, leaving the six immortal spacecraft racing ever outwards as the only remaining evidence of their existence.

*Istophel* periodically analyzed a distant dot of light, barely perceivable at the edge of the observable Universe, to gauge how far she had yet to go and, in each instance, the answer was the same—she still appeared to be in the center of the observable Universe.

As *Istophel* covered another eight million light years, cyanobacteria began staining Earth's rocks. As she covered many more millions of light-years, the bacterial colonies wrote their signatures in Earth's geologic record.

Earth's oceans and seas were 250 million years ahead.

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*Istophel* pondered the observation problem over the next two million light-years of the voyage, while the still young Earth's volcanoes vomited continents and buried the stromatolite formations under thick layers of magma, crushing the layers one by one as they filled the sky with fire and sulfurous fumes.

Jerry had long forgotten about his first beloved childhood dog after three more came into the household, grew old, and

died. By the time he set off on his own, his parents had graduated to cats and their disgusting litter boxes, which was only marginally better than scooping dog poop off the sidewalk.

Jerry often wondered how his life might have changed had the dryer in his apartment not broken down and forced him to carry his clothing to the local laundromat. What happened next was the plot of a thousand stories whose details consisted of a sock left in a dryer, a cute smile, conversation over coffee, a brief fling, some disappointment, the inevitable breakup, and finally having Maria as one of his wife's bridesmaids two years later.

Children followed and, although they gave Jerry more trouble than he felt he deserved, they eventually turned out to be decent adults who started on their own independent journey down life's path. He didn't regret the passing of their childhood or the loss of his own parents years before. "There's a cycle," he was fond of saying. "All things pass in time."

When *Istophel* was nearly halfway to Earth, the deadly Great Oxygenation Event wiped out the majority of bacterial life. A billion light-years later, single-cell life forms dined on bacterial mats as the supercontinent of Rodinia formed around Earth's equator. The atmospheric flow of rich moist

air was so disrupted by the continent that the polar caps and oceans froze solid, turning the planet into a four-hundred-million-year snowball.

*Istophel* had barely entered the Horologium Supercluster when the Earth warmed enough for the Cambrian explosion of multicellular life. The oceans swam in a variety of forms until a huge chunk of debris screamed through the atmosphere, cracked one of the tectonic plates, and brought on a thousand years of dark winter. The result was so devastating that the majority of ocean life died, leaving only those who feasted on the remains of others and the issue of the volcanic vents.

*Istophel* continued to use curving paths around huge gravitational masses to maintain her speed of 98 percent of the speed of light as she covered another hundred million light years. During this brief time Earth had been become blessed with plants and true fishes.

There were only 425 million light-years left before *Istophel* would pass Earth.

Three surviving children, six grandchildren, sixteen great-grandchildren and two great-great-grandchildren surrounded Gerald "Jerry" Homer Cahille at his final birthday in Flagstaff, Arizona's Happy Trails Assisted Living Facility.

At one hundred and forty, he had experienced a lot of changes in the world—wars, love, and, particularly during the latest phase of his life, misery.

At the moment he felt great, no doubt due to the generous dosage of happy juice the compliant hospice people were willing to provide whenever he asked and, most of the time, when he hadn't. The drugs took the edge off the pain from the cancer and isolated him from an awareness of the feeding tube, catheter, transfusion, and various monitoring devices that snaked through the bedclothes. There was so much equipment around him that he felt like one of his great-grandson's high school science projects.

At the same time, all the gadgets and pipes meant he no longer had to worry about eating, taking a piss, or whether his bowels were going to move or not. The machines and the facility's grossly underpaid staff took care of those mundane matters for him.

On reflection, he thought, he'd raised a good crew. No murderers, criminals, or lawyers among the bunch, although one of the older great-grandkids was showing disturbing signs of political activism. "Watch that one," he'd once warned his grandson. "Shoot him if he tries to run for office."

Jerry died quietly in his sleep, at night, with no one near to hold his hand. The funeral was brief and attended mostly by family. Jerry's close friends had preceded him years before and by the time he entered Happy Trails, he was past the age for developing friendships with his geriatric neighbors.

His sons were saddened by Jerry's passing, but since they were all within sight of their own demise, they accepted the inevitability of death. "All things pass," they repeated their father's favorite saying at the funeral.

Jerry's death was hardest on the grandkids, who were young and, like all youth, still of the opinion that they were going to live forever. It was they who challenged the inevitability of it, who mourned that the old man wouldn't be there this Christmas or any after, and who felt the pain of loss.

After the ashes were put into the ground everyone retired to hold the wake. The youngest of the great-great-grandchildren played between the legs of the great-grandkids who were busy debating when the caterer was going to serve the food and whether they could sneak a sip of beer when their parents weren't looking.

Eventually, like his childhood puppy, Jerry sank deep into memory.

*Istophel* was in the Eridanus Supercluster, 97 percent of the way to Earth, as plants and fishes flourished in Earth's melting ice. As it passed through the Supercluster, continuing to adjust its course to take advantage of gravitational boosting, the warm oceans witnessed the breakup of Rodinia and the formation of the Pangean supercontinent while dinosaurs ruled the Earth.

*Istophel* spent the next one hundred and fifty million light-years trying to precisely determine her position and puzzling over the fact that the observable Universe, despite her obvious progress, now appeared to be almost *twelve* billion light-years away in every direction.

As she analyzed reasons for this, Rodinia broke into Laurasia and Gondwana and, by the time she reached a conclusion near *Gla&\*/k*, which, translated from the predominant native tongue as "that great big bright thing up there," Gondwana had broken in two, just in time for another massive meteor strike to send Earth into an ages-long night.

It was obvious to *Istophel* that the Universe was continuing to expand, which meant the journey would take longer than expected. Being immortal and uncaring of consequences, she merely digested this as another data point.

Only seaweed thrived as a survivor of the plant kingdom and

would have, when *Istophel* was another fifty million light-years further along her wavering path, diversified into the forests, grasses, vines, and plants that nourished those creatures who were starting to populate the edges of the fragmented Gondwanaland.

The wonder of flowering plants occurred when *Istophel* was 98.5 percent of its way to Earth and, after it had gone just half a percent farther—twenty-five million light-years—Earth's mammals were struggling to survive one of the planet's periodic ice ages.

When she was a quarter of a million light-years nearer, ice began to creep toward Earth's temperate region, the Swiss mountains began forming, and the ancient Appalachian hills, a relic of Gondwana's brief reign, began sinking into the crust.

Sometime in the early sixteenth century a scrawny Midland cobbler decided that he needed some way to differentiate him from the unpleasant peasant down the road. They both couldn't be Arid of Midland, and he was damned if he was going to change the name the church had given him. Instead he decided to align himself with the Lord and tell everyone he was Arid *Caholesphor* of Midland.

Jerry's descendants were justifiably proud of their family

name, even if it had changed slightly to Cahille as it traveled down the centuries. There were few families, they frequently bragged, who could boast a documented history of forty unbroken generations. There had obviously been many more, but since none of their ancestors had used family names prior to old Arid, discovering the identities of that worthy's precursors was futile.

So it was a bitter day when Arid Caholesphore's last named descendent, a bachelor and near-hermit of a prospector on Mars' desolate Planitia Olympia, passed away without issue, putting an end to Arid's long family line.

*Istophel* had covered 99.9 percent of the distance to Earth and, thanks to a huge boost from a massive black attractor, was moving at ninety-nine and five nines light-speed when it passed Xylink, the name its second planet's inhabitants had given it. None of them noticed, for all traces of their existence had disappeared a few hundred million years earlier. Neither would any of Xylink's browsing herbivores, even if they had intelligence, have cared.

Even at her incredible speed, *Istophel* took another half million years to curve its path through the Andromeda galaxy. During its passage among the fifty trillion stars that made up Andromeda, her passage was noted by the Perpeit Collectivism, which sparked them into an examination of a

new physics. As *Istophel* covered the next five hundred thousand light-years, the Perpeit achieved greatness beyond the dreams of their predecessors only to disappear when their star went nova and destroyed their planet, their colonies, and the pathetically few ships creeping at half of light- speed to escape the disaster.

On Earth, the dawn humans strode out of Africa and began to spread across the land as *Istophel* passed M30 and, three-quarters of a million years later, *Homo sapiens* had become the predominant human form.

Humans scurried to occupy nearly every continent as the glaciers retreated. The warming also caused an ice bridge that had held the vast Missoula Lake in check to collapse and started a two-thousand-year, one-hundred-foot high, sixty-mile-per-hour flood that would carve out much of America's Northwest between Montana and the Pacific. *Istophel* neared the Canes Dwarf as ash from the Yellowstone eruption darkened most of the continent and wiped out many of North America's megafauna.

A mere thousand years later Earth began heating up from its chill ice age. In the warming climate it took only eight thousand years for humans to decimate the remaining large animal populations just before the Quaternary Ice Age dawned.

*Istophel* was entering the Lagoon Nebula when the Chinese began scratching out the first elements of their written language on pieces of bone and hides.

A small band of humans and dogs trekked across the bleak ice fields to find refuge against the cold as *Istophel* exited Andromeda. Both of the tribe's babies had died a month earlier and two of the fecund females had fallen prey to the bears who were systematically hunting the human packs in competition for the increasingly scarce food supplies.

To the north, the glaciers were steadily grinding down civilization's long-abandoned crystal towers and massive dams that no human survivor cared about. There were more important things in life than a history so ancient that none of the tale spinners spoke of it.

Later, as *Istophel* left the Lagoon Nebula, a two-mile-wide chunk of rock slammed into what was formerly known as Seattle, splitting the Pacific plate and sending Earth into a hundred-year darkness that wiped out 80 percent of animal and vegetable life and put an end to the age of mammals.

There were no longer any humans to witness the demise of the hated bears.

*Istophel* barely registered Ross 154 as it flashed by a fraction under the speed of light ten years later. She was too preoccupied with the disconcerting discovery that the edge of the observable Universe now appeared to be more than *thirteen* billion light-years away. Since there was clearly something wrong with the measurements, she shut that system down until she could find some solution to the measurement problem.

It might have been nice had some human—as the Perpid Collective had done—analyzed the gravitational ripple of *Istophel*'s passage, but her passage was ten million years too late to catch mankind's brief interest in astronomy or even its existence.

Instead the tiny ship flashed by a landscape much changed from when humans flew to distant stars and claimed dominion over all. Signs of all of mankind's great works throughout the Earth were long gone, its cities having been crushed by glaciers, buried by molten magma, or buried in the mud of floods.

Had *Istophel* been 0.0000001 percent faster, its passage might have been noted by humanity, but that fraction of a fraction of a fraction of time in which mankind existed was so small, so insignificant to Earth's eons-long history, that it would have been a wonder of coincidence.

*Istophel* covered another fifty million light-years toward Arcturus as Earth's African plate continued driving northward to squeeze the Mediterranean into a wide river. Volcanoes erupted from a new plate separation in the Indian Ocean and a massive volcanic eruption buried the Hawaiian Islands under a hundred-yard-deep layer of ash and magma. By the time *Istophel* had gone an additional quarter of the distance it had already covered, subduction of the tectonic plates had erased every sign that humanity had ever existed.

Another five million light-years further and somewhere in Earth's forests of equatorial New Pangaea a multilimbed creature raised its snout and bellowed its dominance of the world. Three hundred million light-years after that, *Istophel* passed the planet Tripplit, where a cephalosapient was puzzling whether it should toss some scraps to the small incrippi who had begun staying near the campfire. Maybe, it thought, the small pest might be useful in finding game.

Back on Earth, another ice age had descended as Australia collided with China, pushed northward by the relentless movement of Antarctica toward the equator. Scarcely a thousand years later, due to drastic changes in atmospheric flow, all the lands were covered in miles-deep layers of ice. Only in the chill depths did those creatures that had chosen to return to the sea survive. The most fearsome of these

included the voracious, marginally intelligent, and multiply segmented squalidies.

Long after, blind *Istophel* still failed to realize that, despite her steady and accelerating progress, she remained at the center of the observable Universe, whose distant speck of light would now appear, had she not shut her system down, to be eighteen billion light-years distant.

Most of the stars and planets she had passed during her journey had died, clusters of galaxies had disintegrated, and an atom that in the far distant past might have once been part of Rex or Jerry or even old Arid combined with another that might have been part of old Earth or even *Istophel's* creators.

The two atoms began to exert a slight attraction to other atoms in a process that might, in the fullness of time, coalesce into a new world and create, in the best of all possible universes, an intelligent race, a loving family, a laughing baby, and even a warm puppy's wet tongue.

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# Taboo

*by Jerry Olton*

## **Customs arise for reasons— but what happens when the reasons change?**

When Edward saw the woman trace her fingers through the swirls of *Starry Night*, he knew he had to meet her. He had been watching her for several minutes as their paths crossed and crossed again in the crowded gallery, and he had worked up a healthy interest based solely on her choice of paintings to pause before, but her little against-the-rules dip into Van Gogh's masterpiece tipped the balance.

It didn't hurt that she was pretty. She had an oval face, with cheekbones that called just enough attention to themselves, a small, perfect nose, and her hair was dark, thick, and wavy. He had always been attracted to women like her, for longer than he could remember.

She could have been anywhere from thirty to seventy, at first glance. When she moved it became obvious that she wasn't a day under a hundred. She had that ageless grace that comes with a lifetime of experience. Some women learned to hide it, to stumble occasionally and reach awkwardly for

things so they appeared younger, but she was clearly beyond all that. She was comfortable in her own skin, as was Edward.

He walked up beside her and said softly, "If this had been the original, you'd be in jail by now."

She gave him an appraising look. He resisted the urge to suck in his stomach. "If this were the original," she said in a rich, melodic voice, "admission would have cost ten times as much."

"A very good point," he conceded. "My name's Edward."

"McKenna."

"Are you fond of *Starry Night*?" he asked.

"Oh, yes. Who wouldn't be?" She reached forward again and pushed the glowing Moon as if it were an "on" button for an interactive demo. Edward winced instinctively at her transgression, but when her finger sank up to the first knuckle he realized the reproduction was a hologram.

Apparently it was more than that. McKenna yanked her finger back with a startled "Oh! It shocked me." She stuck the wounded finger in her mouth.

“Serves you right.”

“Mmmm. There’s nothing wrong with touching a hologram. Shouldn’t be, anyway.”

“Touching art displays is a bad habit to get into. One of these days you’ll actually be standing in front of the original, and you won’t be able to help yourself.”

She made a face. “Bill Gates has the original. Not likely I’ll be invited to his house anytime soon.”

He shrugged. “‘Soon’ is a subjective term these days, isn’t it?”

She gave him the appraising look again. She was about to violate another taboo, he could tell, so he beat her to it. “Closing in on two hundred. And no, I’ve never met him, but I haven’t made it a goal.”

“Me either,” she replied. “Even though I’ve had over a hundred and fifty years myself to do it.”

He laughed. So refreshingly open! He hadn’t met anyone like her in, well, in a very long time. “You’re a child,” he said.

“Hah. Not many people say that.”

“Then they don’t understand longevity, do they?” Edward inclined his head toward the gallery’s cafeteria. “Would you care to share a cup of something with a slightly older child?”

A few minutes later, over steaming mugs of maté, they went through the ritual. He lived right there in San Francisco; she was visiting from Seattle. He did volunteer work for the Red Cross; she worked a paying job assembling aircraft. He wasn’t partnered, and neither was she. Nor were either of them married.

“I don’t think many people over a hundred do marry anymore,” he said. “‘Til death do us part’ becomes kind of ominous when that could be centuries in the future.”

“I’ve always heard it was religious bigots who killed marriage,” said McKenna. “They wouldn’t let gays or lesbians get married, so states established domestic partnerships instead, but they couldn’t forbid heterosexuals from registering. After word got around that partners could have all the benefits without the religious connotations, only religious people got married.”

“That’s a good theory.” He laughed. “It’s odd that I can’t just say, ‘Yes, that’s how it was.’ I was there, after all. I was married in my thirties. And forties and fifties, too, I think. But anything beyond about fifty years in the past is a blur. It’s like

it happened to somebody else.”

She nodded. “It’s that way for me, too. I have flashes of memory from farther back, but nothing really connects. The brain can only hold so much.”

“I thought we’d have augments by now,” he said.

“We do.”

“I meant ones that worked.”

“Right.” She smiled wryly. She’d obviously tried them and found them lacking just as he had. Exterior memory was fine for looking stuff up, but lousy for spontaneous connections. And the memories were such pale imitations of the real thing, it was like being haunted by ghosts. One of the most liberating moments in his life was the time he had taken off his augment and fed its data port two hundred and forty volts straight out of the wall. It had actually caught fire. He remembered that as clearly as if it were yesterday. But then it had only happened thirty or forty years ago.

“So we drift through life at the leading edge of a fifty-year spotlight,” he said. “I have to admit, it has its advantages.”

“Such as?”

“I don’t feel any older than I ever did. Which is to say I feel like I’m about twenty-five. And I don’t get bored, or jaded, or depressed. Not more than usual, anyway.”

She laughed. “We didn’t get wisdom, but we didn’t get ennui, either. Fair trade, I guess.”

“It’s refreshing to talk about it with someone who understands. It’s the elephant in the room most times with people over a hundred. I think we all expect each other to be superhuman, and we’re secretly embarrassed to be simply human.”

“Here’s to simple humanity,” McKenna said. She lifted her mug and took a sip.

They looked at one another with the frank appreciation of people who had already decided to spend more time together, and were imagining where it might lead.

“So you like poking your fingers into art displays,” Edward said. “I know a place just a few blocks from here where you’re actually encouraged to do that.”

“Seriously?”

“Seriously. Or joyously, or howeverly you want to.”

“Let’s go.”

They turned off their shoes and walked down the center of the street, enjoying the grass between their toes. Ad holos fluttered around them like autumn leaves until Edward took his pod from his pocket and entered an opt-out. They drifted reluctantly away to their five-meter legal boundary, but boosted their image brightness to compensate.

“I keep thinking we ought to reintroduce skeet shooting as a sport,” he said.

“Skeet shooting?”

He raised his right hand, made a pistol with thumb and forefinger, and pointed it at a Cokesi ad. “Bang.”

“Weapons are only legal for self-defense,” she said.

“My point exactly.”

“I think you’d have a hard time arguing in court that a soft drink ad threatened your life.”

“Probably so. Alas.” He picked up a pine cone and tossed it at one of the hovering projectors. It dodged and glowed with renewed vigor now that it knew it was being noticed. So Edward ignored it and concentrated on the grass beneath his

feet and the rustle of air in the trees.

“Remember ground cars?” he asked.

“A little,” said McKenna. “I remember getting in a wreck once. My father was driving and somebody hit us. I can still hear the sound of metal crumpling.”

“Funny what sticks with you. I still remember my mother baking cookies when I was about ten. That’s fresher than most of my memories between then and now.”

“Do you ever see her anymore?”

“She died before the treatment was invented.”

“Ah. Sorry.” McKenna fell silent. Another taboo violated, and this time one that did actually sting a bit. Edward had lost a lot of friends and family along the line, most through the simple haze of time, but far too many to death. No amount of medical advances could prevent accidents.

They walked a block or so in silence before Edward asked, “So what brought you to San Francisco?”

“I’m going to watch them use one of our sky-cranes to lift a redwood.”

“Lift a redwood?”

“The tree? Hundred meters tall? Big, heavy—”

“I know what a redwood is. I had no idea any were scheduled to be cut.”

“Apparently somebody’s got a contract for ten of them. They’re using one of the cranes I helped build to lift them out of the grove.”

“Ten redwoods? At once?” Edward couldn’t remember the last time such a harvest had been done.

“Not at once. The crane can barely lift one.”

“That’s not what I meant. I mean—”

“I get it. Yeah, probably all ten within a couple of weeks. However quickly the mill can process the wood. Want to come watch one of the lifts with me?”

“If you don’t mind me carrying a protest sign.”

She looked at him askance. “Why?”

“Ten redwoods at once? That’s insane. They haven’t even begun to recover from the damage we did to them in the

twentieth and twenty-first centuries. We shouldn't cut another redwood for five hundred years."

McKenna shook her head sadly. "Nobody would wait that long. Not even you. A hundred years from now you could be the guy running the crane."

"Ouch." But he had to admit she was right. A hundred years could witness a change from Liberal to Democrat if the right sequence of events triggered it. People lived in the moment.

They reached the Exploratorium, San Francisco's monument to science and technology. Edward hadn't been inside the place for a couple of decades, but it didn't look any different than he remembered. It was big, cavernous, echoey, and full of the coolest stuff on the planet, all of which you could play with as much as you liked. Provided you signed the waiver at the entrance, of course. Edward read it carefully: you essentially admitted that there were dangers inherent in playing with scientific gadgetry, and you agreed that you wouldn't sue for damages if you lost digits, limbs, or your life while doing so.

Children ran around underfoot, pushing every button they could reach and screaming at the top of their lungs, trying to defeat the antiphase noise cancellers that reduced their voices to tolerable levels. Edward and McKenna waded

through them to interactive displays of optical illusions, chemical trickery, electrical wonders, even antigravity.

"That's what I work with on the lifter line," said McKenna, pointing at a modular agrav generator in the middle of a roped-off demonstration area. "I install those in the outriggers."

"Why?" The question came out before he could stop it.

"Because that's how cars fly?" she said. "But that's not what you meant. You meant why do I work a production job? Don't I have investments that I can live off?"

"None of my business," he said.

"It's okay. I could get by fine without a job if I wanted to. I got bored. I decided I wanted to work with my hands again."

He nodded. "I've done that periodically. Usually not in a factory setting, but yes. Work can be gratifying."

"It needs doing, too," she said. "I figured it was my turn to be productive for a while."

How productive had Edward been lately? He volunteered at the Red Cross, keeping track of humanitarian aid shipped to countries in need. A piece of software could do his job, and

would if he quit. It was just busywork.

Two kids climbed atop the antigravity unit, laughing while another kid punched the button that sent it to the ceiling. Predictably, one of the kids pushed the other off when they were about twenty feet up, and Edward instinctively reached over the rope to break his fall, but the safety field caught the kid in mid-shriek and bounced him up and down like a ball for a moment, just as he and his friends undoubtedly knew it would. The field threw Edward's hands upward as well, wrenching his shoulders.

"Ow!" he said, wincing. The kids laughed and ran away.

"You okay?" McKenna asked.

He windmilled his arms experimentally. "Nothing broken. But they'll be sore tonight."

"Here." She turned him around and began rubbing his shoulders.

She certainly was forward with strangers, thought Edward, but he wasn't about to tell her to stop. And as she kneaded his trapezius muscles, he felt a sense of familiarity beyond the immediate physicality of her actions. He'd used to love back rubs when he was in his forties and fifties, before the

immortality treatments had brought his body back to its perpetual state of youthful vigor. In the intervening century and a half he'd nearly forgotten how good it felt.

Eyes closed, face tilted down to arch his back, he said, "I'll give you until next Tuesday to stop that."

"I'm sorry, sir," said a deep voice in front of him, "but you'll both have to stop much sooner than that."

He looked up to see a security 'bot standing before them, its arms held slightly outward and its glistening metal body leaning forward in a no-nonsense threat. Its humanoid face looked stern. McKenna stopped rubbing, but she kept one hand on Edward's left shoulder.

"Beg your pardon?" Edward said.

"This is a completely inappropriate place for making sexual advances," the robot said.

"I don't really think a back rub is a sexual advance," Edward replied.

"It certainly looks like one, sir," said the robot. "I'm going to have to ask both of you to leave the building."

Edward felt himself blush. "You're kidding."

"No, sir, I'm not. Please leave now." The robot took a step forward.

Edward considered his options. There was no beating a robot in a physical struggle. Complaining to the management would tie both him and McKenna up for at least an hour, and probably ruin whatever chance he had of actually making sexual advances with her.

He turned to look at McKenna. She was grinning like one of the kids on the agrav unit. Okay, then.

"Learning all the time," he said, taking her hand and leading her out of the echoing building. People stared as they left, and when they stepped out into the afternoon sunlight, both he and McKenna burst into laughter.

"Kicked out of the science museum for PDAs!" she said. "My god, that hasn't happened to me in decades."

"You mean it *has* happened to you before?" Edward asked.

"Oh, I'm sure it must have. I was a pretty wild kid."

He tried to remember his own youth, the first kisses and clumsy gropings in movie theaters and back seats of cars. Even though the details were lost in the mist of time, he was

pretty sure he wasn't "wild" by anybody's definition. One or two of his children might have been, but he was hardly the one to judge. All fathers thought their children were too wild.

"Well," he said. "That was certainly an interesting experience. Now what?" The ever-present ad projectors were starting to collect, so he reached for his pod to enter another opt-out.

McKenna took his hands in hers before he could finish and turned him to face her, then leaned forward and upward, her lips pursed for a kiss. "How about an unambiguous sexual advance?"

The advertising screens swooped in as he bent down to meet her lips. They were undoubtedly in reporting mode now, and thousands of people were receiving pings to alert them to a potentially interesting scene. He didn't care. Nor, apparently, did she.

She had a hotel room. He had a house in Woodside, up on a hill in the south end of the city. They took BART to the terminal closest to his house, Edward pointing out the sights along the way, then walked the last few blocks hand in hand. The eucalyptus trees dotting the street gave the air a wonderfully sweet aroma. McKenna's mood had mellowed on the train, and they walked quietly, just enjoying each other's company and the promise of intimacy to come. They

ignored the trio of ad projectors that drifted along ahead of them, no doubt recording their walk for any voyeurs who still cared. Edward was surprised they were so interested. A couple of old-timers hooking up was hardly news.

He held his house door for her, then turned and flipped the addies a centuries-old one-finger salute before he stepped inside himself and closed off their prying eyes. He left the windows undimmed. He would search the web later for any trace of privacy invasion and sue the pants off the 'bots' owners if any of them violated his personal space.

McKenna took in his living room like a traveler at a shrine, turning once around to see it all: the simple couch and chairs facing the fireplace, bookshelves lining the walls, paintings and holograms taking up the remaining space. When she saw "Starry Night" she smiled and reached for it, grinning mischievously.

"Go ahead," Edward told her. "It's a reproduction."

"Spoilsport." She turned once more around, then nodded in apparent satisfaction. "You don't collect stuff," she said.

"Pardon?"

"You're not a hoarder. So many people can't part with things

they care about, so their houses become warehouses.”

“Oh,” he said. “Yeah. Been there, done that. About a hundred years ago I gave it all away and started over. Now I use the breadbox rule: If anything the size of a breadbox or larger comes into the house, something of equal size has to go.”

She laughed. “I’m bigger than a breadbox. What do you intend to throw out?”

What did she mean by that? Was she hinting that she’d move in with him? He’d never met someone this forward, at least not that he could remember. “How about my equilibrium?” he answered. “It’s halfway out the door anyway.”

She looked at him with a sideways tilt to her head, then smiled and went over to the fireplace mantel. “Ah, family photo—*What?*” She picked up a framed flat print of Edward and his first wife—Sally? Sara?—and their teenage daughter, Diane. He’d hung onto it as a memento of his distant past, although he hadn’t seen either of them in nearly a century.

“Where did you get this?” McKenna demanded. “More to the point, how did you get this so quickly? Or have you been stalking me?”

He struggled to understand her meaning. Stalking her? He’d

just met her this afternoon. Then he realized what she had to be getting at. "Sally?" he asked.

Now it was her turn to look confused. "What?"

"By your reaction, you must be in that picture. That would make you Sally. Or... Diane."

"Diane McKenna Templeton." She squinted at the photo, then looked up at Edward. "Oh my god. You're my father."

They looked at one another for a few seconds. "Well," said Edward, "this certainly is awkward."

They went into the kitchen, where Edward made tea and put out a plate of cookies. He struggled to remember anything about Diane—McKenna—but time had worn away all but the most generic memories. They had drifted apart when he was in his one-twenties or so, and despite his occasional intention to look her up someday, he had never gotten around to doing it. Out of sight, out of mind, quite literally.

They caught up on each other's history now, but it was like listening to a co-worker describe her life. He felt no connection, other than the normal curiosity about someone he was interested in as a person.

Nor, apparently, did she. "It's like a book I read a long time

ago," she admitted. "I don't even remember how it went anymore."

They shared a wry grin. "Now what?" she asked.

"Well, I'd suggest we not go to bed together," he replied.

She nodded, then tilted her head sideways, obviously puzzled by a new thought. "Why not?"

"Er... because it's incest?"

"And why is that bad?" Before he could answer, she said, "The incest taboo exists because genetic reinforcement of recessive traits is generally a bad thing, and also to prevent parents from exploiting their children. We're not talking about having babies together, and we're both old enough to be our own parents. Hell, we're old enough to be our own grandparents. Why should we care about the incest taboo?"

"Because."

She laughed, and he said, "Okay, that was an instinctive Dad response, wasn't it? Let's try again. Because it's instilled pretty deeply in my psyche that it's wrong. I'm feeling uncomfortable just talking about it, to be honest."

"I'm not. And you're a good kisser," she said. "You didn't put

your tongue anywhere near my tonsils, the way so many guys do.”

He put his hands to his ears. “La, la, la.”

She took a cookie from the plate and ate it slowly, lasciviously, leaving crumbs on her lips. Edward wanted to look away, wanted to tell her to stop, wanted... hell, he wanted her. He wanted her to be someone, anyone, other than his daughter, but his body knew what his brain was only now admitting.

“You’re incorrigible,” he said.

“That’s possible, I suppose. But I could be right, too.”

She could. One of Edward’s clear early memories was of the turmoil he’d felt when he realized that he no longer believed in God. He’d had to rethink practically everything that went with the assumption of a higher power. Had to decide on his own moral principles, rather than those imposed on him from some distant authority. He’d thought he’d covered all his bases long ago, but obviously not.

“Let’s sleep on it,” he said. “*Separately*. We need time to think.”

“Can I at least stay the night here?” she asked.

“If you promise not to sneak into my bedroom in the middle of the night.”

She laughed. “If I come to your bedroom, I won’t be sneaking.” She held up her hands to forestall his reaction. “Okay, okay, I promise.”

They sent for her things from the hotel, and he gave her the tour of the rest of the house while they waited for the courier to arrive. When it did, there were at least a dozen addies circling around the air taxi. The driver looked at Edward when he came out to pick up the bags and said, “I don’t know what you’ve got in there, but if it’s contra, I’m guessin’ you’re in some deep squank.”

Edward looked at the addies. They knew. “Must be a case of mistaken identity,” he told the driver. “They’ll go away when they figure it out.” He slipped him an extra fifty with his tip and added quietly, “But if you could have a little trouble on takeoff, that would be okay with me.”

The courier’s spiral liftoff scattered the adbots like leaves, but it did no real damage. Back inside the house, Edward found McKenna kneeling on the couch, looking over its back out the window while the addies regrouped and clustered around to

look back at her. They were undoubtedly getting a cleavage shot. He was glad they couldn't see her from his perspective, with her pants stretched tight around the curve of her butt.

"We're apparently news now," he said, looking away. He went to the side of the window and polarized it to block the addies' view inward. He and McKenna could still see out, and they watched the addies swoop for different windows. "Somebody must have run an ID on us from the video of us kissing in front of the Exploratorium and figured out the family connection," Edward said. "Getting kicked out for sexual advances in public was probably enough to qualify us as deviants, so now they can invade our privacy all they want so long as they don't trespass. Do you want to deal with all that?"

She looked at him. "Will what we do change anything they do?"

"Only for the worse."

"You mean like blanking the window?"

She had a point. He said, "You think we should open it up again and just sit in the living room reading books all night?"

She shook her head. "Have you seen some of the programs

on the net lately? If we so much as look at one another, that would be the top download for the next three weeks.”

“So we leave the window closed.”

“And fuel speculation.”

That seemed like the lesser of two evils, so they blanked the windows throughout the house. That didn't discourage the addies. They would hang out until there was no chance of anything newsworthy happening.

Edward and McKenna settled into the living room and made plans. “Come watch the redwood removal with me tomorrow,” she said. “That'll completely outweigh our little drama.”

“What if I carry a ‘Save the Trees’ sign?”

She considered it. “That would probably divert the father-daughter incest thing into a father-daughter ideological thing.”

“Thus killing two birds with one stone. Good.” He took his pod from his pocket and ordered a sign to be delivered by morning. While he was at it he sent an environmental alert to Sierra First.

She watched him with a bemused expression. “You're really

going to protest my job site?"

"If you're really going to cut down ten redwoods, I am."

"Not me personally."

"Then I'm not protesting you personally. But I'll be there with a sign."

"You're not going to scare me away that easily," she said.

"It's not you I want to scare away," he replied. "It's the logging company."

They stared at each other, each waiting for the other to blink. After half a minute, Edward said, "I bet you were a problem child."

"And I'll bet you were a domineering father."

"You want to call your mother and find out?"

"Like she'd remember any better than we do."

They left it at that. When it came time for bed, Edward showed her to the guest room. He thought about propping a chair in front of his own door in case she got ideas in the night, but decided that would be a violation of trust. And she

stayed in her own room all night, so far as he knew. He wasn't sure how he felt about that, and he stayed awake most of the night trying to decide how he felt about *that*.

Cutting trees *down* was a misnomer, it turned out. The sky-crane slid into place overhead, lowered cables that attached to a couple of dozen branches in the top two-thirds of the redwood, then a truck at the base sliced the trunk with a particle beam and the entire tree lifted upward, shedding bugs and bark and rotted heartwood from its hollow center like rain as it accelerated into the sky. The whole procedure was eerily silent, just as the entire redwood grove had been since they got there.

Edward felt ridiculous with his sign. It was a meter across with "Save the Trees" in bold black letters, but against the immensity of the forest it might as well have been a postage stamp stuck to his forehead. Besides, the tree was so hollowed out in the middle, it was clearly not being cut for its timber. The mediabots gave his sign a cursory scan, then focused on his face as he watched the tree rise.

They weren't displaying ads now. They weren't asking questions, either. You knew you were news when they shut up and turned off their projectors and concentrated on getting unobstructed shots of you in your surroundings. Those surroundings included maybe twenty protesters and twice as

many foresters, agrav techs, and merely curious bystanders.

McKenna stood next to him, defiantly scowling at the 'bots and at his sign, while just as defiantly holding his free hand in hers. A particularly large chunk of bark fluttered down right toward them and Edward shielded her with his sign, only to have the bark bounce off and clip him on the side of the head.

"Ow," he said, and she turned to examine his wound.

"You're bleeding," she announced after a few seconds.

"Oh, great." He fished in his pockets for something to stanch the flow, but she beat him to it with a napkin from her own pocket. As she dabbed at him, he realized most of the mediabots were focusing on them rather than the tree receding into the sky. Wonderful. At least she wasn't kissing him.

She must have been reading his mind, because he had barely had the thought before she stood on tiptoe and smooched him noisily on the temple. "There, that'll make it better," she said.

"McKenna," he said sternly. "This is—"

"They don't know we know," she whispered into his ear.

“Let’s have some fun with this.”

“Let’s not.”

But she put her arm around him and leaned her head against his chest as she tilted her face upward to watch the tree clear the tops of its neighbors and drift off to the east.

He lowered his sign. The tree was rotten and full of bugs. It was a danger to the other trees, as undoubtedly were the other nine scheduled to be cut.

“I’m sorry about the protest,” he said. “I was wrong.”

She turned her head sideways so she could look into his eyes. “Kiss and make up?” she asked.

Her impish grin was infectious. He was pretty sure he loved this woman, loved her like he hadn’t loved anyone in years. She’d been a total stranger a day ago, but now she was a delight wrapped in a conundrum inside a taboo. She pursed her lips, waiting for him to decide.

The forest was silent. So were the people all around them. So were the mediabots.

“I’d love to,” he said, and he bent down to meet her kiss.

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**Previous Article**

**SCIENCE FACT**

# SCIENCE FACT

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## Say What? Ruminations About Language, Communications, and Science Fiction

*by Edward M Lerner*

Vanguard's bridge was a lonely and boring place, but as a matter of tradition, watch-officer Joan Miller served her shift without complaint. To come upon more than a mote of dust or fleck of ice here in the depths of interstellar space would make the shift eventful indeed. Only suddenly something...

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**SHORT STORIES**

**PROBABILITY ZERO**

# Say What? Ruminations About Language, Communications, and Science Fiction

by Edward M. Lerner

*Vanguard's bridge was a lonely and boring place, but as a matter of tradition, watch-officer Joan Miller served her shift without complaint. To come upon more than a mote of dust or fleck of ice here in the depths of interstellar space would make the shift eventful indeed.*

*Only suddenly something was out here, and it was no mere fleck of ice.*

*Eyes wide, Joan studied her sensor array. Gravity waves had drawn her attention. Something was making those waves. Something massive, moving fast, exploiting technology far beyond that of Earth. Something heading straight at her.*

*A ship?*

*Her heart pounded. At long last, humanity might have found a companion intelligence.*

*Before Joan could decide how to share the monumental discovery with her shipmates, an LED flickered on the comm console. With a trembling hand, she accepted the*

*hail. Her holo-tank filled with what brought to Joan's mind the crossing of a walrus with a lobster. It wore an ornate garment of some sort, replete with sash, braid, buttons, medals, and gold epaulets upon its (four) shoulders.*

*"I say," the creature began, its chitinous mandibles sliding over one another, its brushlike mustache wiggling. "Jolly good showmeeting here, eh wot?"*

Threw you right out of the story, didn't I?

Why does the walrus/lobster know English, let alone speak English like a refugee from a Gilbert and Sullivan operetta? With chitinous mandibles, how does it even make sounds reminiscent of human speech?

We'll chalk up that dreadful story snippet to making a point. To wit: in science fiction, language and communication details matter. In this essay we'll look at how language and communications can enrich an SF story—and at ways to bypass the related complications when communications details are less than central to the tale. (Our topic goes beyond human-alien encounters. As we'll see, languages can change over time. Stories set in any era besides our own [including, but not limited to time-travel stories] should consider language issues too. Ditto alternate-universe stories, even those set on a parallel "Earth.")

Let's begin by considering how different from English even human languages can get.

# Variability in human languages:

## The view from low Earth orbit

This article can't begin to do justice to the range of differences among human languages.<sup>1</sup> If you've studied any second language (or English is your second language), you already have a window into the ways that humans differ over the nature of languages. Without exhausting the range of variations from English among human languages, consider:

- How many tenses should there be? Spanish has two past tenses, one for events that definitely occurred once and another for events that repeat or continue.
- What's the domain of gender? French and German assign genders to inanimate objects.<sup>2</sup>
- How many pronouns are needed? English, since it (mostly) eliminated *thee* and *thou*, has nearly eliminated the distinction between familiar and formal pronouns. The exception—most evident, one supposes, in the UK—is the royal we.
- What building-block sounds comprise a language? English lacks the guttural “ch” of Scot-tish, German, and Hebrew. Western languages lack the clicks of southern African languages like Xhosa and Zulu.
- How should languages be symbolized? Humans haven't agreed, with billions of us embracing alphabetic systems and

billions more using ideographs and syllabaries.

With such variability among human languages, how likely is our walrus/lobster friend to speak English?

## **Let's get physical**

Humans evolved to communicate via modulated sound waves. Fair enough: The noises we make can cross moderately long distances through the atmosphere, are reasonably non-directional, and can encode complex messages. But what other methods might have worked?

It requires no great stretch of imagination to suppose communication by modulating emitted (or reflected) light. Terrestrial life offers early steps in that direction. Pit vipers have infrared sensors apart from their eyes.<sup>3</sup> Octopi and squids camouflage themselves and signal emotion through changes in skin color.<sup>4</sup>

And why limit ourselves to visible and near-visible light when the electromagnetic spectrum is so broad? Aquatic life as varied as sharks, lungfish, and catfish have rudimentary electric-field sensors.<sup>5, 6</sup> Many migratory birds orient themselves with magnetic sensors.<sup>7</sup>

Other terrestrial species communicate by gesture (the dance of bees<sup>8</sup>) and chemically (ants leaving pheromone trails to guide foraging expeditions<sup>9</sup>). Human sign languages demonstrate that a gesture-based language can convey information in as nuanced a manner as voice.<sup>10</sup> And while

chemicals released into wind or water seem an unreliable means of communication, chemical packets physically delivered to a receptor—no different, in principle, than handing someone a written note—could be quite reliable.

It's far from certain that language-capable aliens will use sound waves for their communications.

## **Picture this**

Humans evolved to communicate with sounds, but (mostly) we perceive the world visually. "I see" is synonymous with "I understand." How different would languages be if communication and primary perception shared a medium?

Consider dolphins and their sonar-based navigation. Their sonic pings return a 3-D representation of the nearby ocean. Can dolphins imitate those echoes? If so, they can directly communicate 3-D images to their pod mates.<sup>11</sup> And if dolphins can emit sonic images of real scenes, why not also sonic images of imagined items?

It's not a big step from imagining sonar-imaging dolphins in Earth's oceans to radar-imaging aliens on another planet.

A familiar adage has it that a picture is worth a thousand words. Certainly human languages require many words to describe a visual scene. Our languages would be quite different if we could directly "paint" pictures.

## **Where am I?**

Languages encapsulate, among other things, our understanding of the world and our relationship to it. How might languages differ if our sense of the physical world differed?

Proprioception is the sense by which we relate the position of our body parts to each other and to the external world.<sup>12</sup> Humans are bilaterally symmetric, with sensors that favor a particular direction (i.e., define “forward”).<sup>13</sup> Reflective of our physiology and proprioception, our speech is rife with references to that which is in front of, next to, and behind us. We place quite different values on what transpires to our faces and behind our backs.

Creatures with body plans other than ours might perceive—and describe—the world quite differently than humans do. Imagine a trilaterally symmetric alien, with limbs and sensory clusters spaced every 120° around its body. It walks, reaches, and senses equally well in any direction. Front/back and left/right distinctions do not apply. No reference solely to its body suffices to locate an object—or a fellow alien—relative to itself.

In my novel *Moonstruck*,<sup>14</sup> the Krulirim have this body plan. I had to give these aliens a magnetic sense. A Krul locates an object in part by reference to the angle between a line toward the thing and a line toward the nearest magnetic pole.<sup>15</sup> Now imagine the Krul relating the relative positions of separated objects or describing those objects’ positions to another Krul.

The Krul's proprioceptive sense—and so, its language—necessarily deals with trigonometry.

Consider group minds like, but more intelligent than, the bees of a hive.<sup>16</sup> What sort of proprioception—if any—might the collective mind have? How might its proprioceptive “read-out” change as the collective’s members disperse and regather? How would one such collective mind describe the position of an object relative to itself? To another collective mind?

## **A moving target**

Languages evolve.

Vocabulary changes. We don't exactly speak like characters in a Shakespeare play.<sup>17</sup> Consider end-of-year “top word” lists (a couple of 2009 examples: H1N1 and [as a verb denoting concise communication] twitter). Consider the flood of terms entering the language from:

- Company names (like Xeroxing and Googling).
- Acronyms (like RN, UFO, SAT, and AIDS).
- Commercials and popular culture (like “Where’s the beef?”)
- Science and technology (everything from a veritable bestiary of subatomic particles<sup>18</sup> to such neologisms as dark matter, blog, and carbon footprint).

- Current events (such as anything with the –gate suffix, from the name of a hotel that saw “a third-rate burglary attempt”).

Expressions go in and out of vogue.<sup>19</sup> “Hold your horses” is, to be charitable, on the dated side. “Too big to fail” is a recent coinage reflecting events that we would all be happier not to have experienced. Verbs become nouns, and vice versa, such that dynamite and telephone can be either part of speech.<sup>20, 21</sup> Idioms borrow from literature (say, *Catch-22*) and from mythology (say, Pandora’s Box) in ways that don’t translate.

Pronunciations change, too, sometimes for no better reason than that people can’t always be bothered to enunciate clearly. English is full of anachronistic spellings: time capsules. And so it is that “rough” rhymes with “tough,” but neither rhymes with “though.”

Languages fragment and diverge. For example, around 500 B.C. Proto-Germanic split off from Indo-European. About a millennium later, one of Proto-Germanic’s many offshoots split into High and Low German—high and low being geographic distinctions—on the figurative road to modern German and Dutch (and amid that split, pronunciations shifted too.) The fallen Western Roman Empire’s onetime European territories evolved various “Romance” languages (such as French, Italian, Spanish, Portuguese, and Catalan) by blending Latin with the local vernaculars.<sup>22</sup>

Languages collide. Redundant terms speak to successive

conquests of England. Think house (from the German “Haus”) and (upscale, from Old French, because the Normans were the last to conquer England) mansion.

Languages borrow from one another. And so you can travel Europe ordering a hamburger (in English, French, German, and Italian), hamburguesa (in Spanish), or hampurilainen (in Finnish).<sup>23</sup>

National authorities also sometimes try (with mixed success) to resist such borrowings. Thus the “English” neologism *telephone* (from Greek roots *tele* [far] and *phone* [sound]) gave way for a time, by official decree, to the German neologism *Fernsprecher* (far speaker).<sup>24</sup> The English neologism *computer* was rejected in favor of the French neologism *ordinateur*.<sup>25</sup> How quickly do languages change? Without attempting to quantify change, conversation with adults merely one generation younger or older than I suggests an answer. Very.

In short, human languages reflect more than our physiology—they reflect our history, technology, and sociology too. Aliens’ languages may have similarly complicated origins.

## Time out

What about stories set in Earth’s future? Humans aren’t evolving so quickly we need to worry about changes to future humans’ sense organs or body plan.<sup>26</sup> Or we can set our stories in the past to preclude changes to human nature.

As we saw earlier, languages transform over time. Set a story in another era without addressing the language differences (“Chill out, dude,” Socrates said) and something is apt to seem amiss.

## **Communicating with strangers: the easy cases**

If two languages—and the beings who created them—are sufficiently similar, the difficulty can be finessed. After all, people *do* learn new languages. A story that opens long after humans and aliens (or whoever) met can credibly assume that at least one side’s linguists previously figured out the other’s language.

Translation programs get written even today, although today’s state-of-the-art in translation software is as often humorous as helpful. Correct and complete translation requires an understanding of both languages, their historical contexts, idioms, and literary traditions. Translation software, at its core, is a matter of artificial intelligence—and AI is certainly a staple of science fiction.<sup>27</sup>

Stories dealing with travel to the past have a lower language hurdle.<sup>28</sup> Our Hero can research the historically appropriate dialect of the language he’ll find spoken at his destination before jumping through time. Even then, the time traveler may, and probably should, be surprised once he arrives by idioms and pronunciation shifts absent from the historical record.

So much for the easy cases. What happens when the others' languages, native environments, or worldviews are very different from ours?

## **The cavalry trope to the rescue**

A *linguistic trope*, such as a metaphor or simile, uses words or expressions in a non-literal way. A *literary trope* is a common theme in storytelling, well-known examples including heroes and quests. Assuming a degree of reader familiarity with common literary tropes, authors can avoid spelling out related specifics.

Science fiction, as a genre, has its own literary tropes. Some *science-fictional tropes* use known science in a non-literal way, such as by postulating a faster-than-light space drive, a method of time travel, or a true artificial intelligence.<sup>29</sup> I think of an SF trope as a willing-suspension-of-disbelief contract between author and reader.

As with any contract, both parties must agree.<sup>30</sup>

An SF trope works best—in one person's opinion, anyway—in the background, rather than front-and-center in a story.<sup>31</sup> By way of analogy, suppose wind-powered sailing ships had yet to be invented. A science-fictional *Robinson Crusoe* might treat the ship as a trope. The vessel served its purpose in the story when it sank; the mechanics of sailing don't matter. In contrast, consider science-fictional versions of *Moby Dick* or *Two Years Before the Mast*. Those stories can

hardly be told without showing the technology of sailing ships.

It's not 100 percent clear-cut when a story premise is a trope. Science-fictional time machines are usually tropes, ways to shift a modern character—someone with whom the reader will empathize—to the time(s) of the story. But when I encounter a passage such as:

“Early in the twenty-second century, physicists succeeded in dependably stabilizing entangled quantum particles. When the entangled particles were tachyons, quantum teleportation became time travel...”

I infer that the story is meant as hard SF.<sup>32</sup> In this case, the nature of the supposed time-travel mechanism and its underlying constraints may prove to be central to the story.

We now return this essay to matters of communications...

## **Language-related tropes**

SF authors use many tropes to circumvent the problem of human/alien communications.

The simplest science-fictional language trope, so deeply embedded as to go unnoticed, is the *universal language*. It's not that everyone suddenly adopts Esperanto.<sup>33</sup> Rather, future (or alien) science has discovered principles that—unknown to human science today—underlie all communications. Anyone knowledgeable of the underlying principles of the universal language can readily master any

other language.

Does the universal language exist? No one has disproven it, so its use remains fair game for SF. That said, it's difficult to imagine what underlying principles could encompass the many historical and physiological differences between human and all alien languages.

(Humans, with the advantage of a common physiology, have yet to achieve a global language.<sup>34, 35</sup> Technological shortcomings might once have precluded convergence on a single human language, but with radio, television, the Internet, and on-demand publishing, we could—at least among the high-tech societies—standardize on a single language. I don't foresee that happening anytime soon. That prompts the question: how many languages are apt to be extant within an alien civilization? If only one, that discovery alone would suggest interesting cultural differences between the aliens and humanity.)

If a universal language exists, that's no guarantee everyone is physically able to understand or speak it. One may still need a *universal translator* to perform the translations, or to convert between such disparate formats as modulated sound waves and aroma blends. The universal translation device is only as plausible as the language skills and technological mechanisms by which it has been implemented.

The *Star Trek* franchise makes frequent use of a universal translator—or a not-quite-universal translator when plot logic

requires a bit of misunderstanding. Viewers accept the (il)logic because a new linguistic puzzle every week would get tedious.

Perhaps we or the aliens can bypass the incompatible-language barrier through *telepathy*. Setting aside questions of how—even at the handwavium level of a trope—mind-reading might work, this hypothesis raises questions about the relationship between thought and language. Unless thought operates independently of language,<sup>36</sup> or thought uses the undiscovered universal language, it's hard to see how telepathy can overcome language barriers. And for telepathy to work across species—especially species with disjointed neural mechanisms and biochemistries—requires an additional leap of faith.<sup>37</sup>

Finally—and not for the faint of heart—we come to the shush!-we've-all-agreed-to-look-the-other-way language trope. The *Stargate: Atlantis* franchise features remote worlds whose populations descended from humans abducted thousands of years earlier. Pegasus Galaxy humans speak English even though their ancestors left Earth before there *was* English. It's an impressive feat that certainly moves along the storyline. Just try not to think about it....

## **Putting it all into words**

So: your fictional aliens, alternate-Earth residents, and humans from other eras have language(s)—or at a minimum, pronunciation(s) and vocabulary(ies)—different from our own.

By technology or by trope<sup>38</sup> the human (or human-empathetic) characters establish communications. An important question remains: How, within the story, do we represent that communication? Writers have used many techniques:

“ Snippets of foreign vocabulary rendered into a familiar character set sprinkled into otherwise English text. Items without human equivalents, like advanced technologies of the aliens, retain their alien character.<sup>39</sup>

“ As above, but with foreign usages limited to proper names. Guillaume, when he visits London, may speak English, but he doesn't start referring to himself as William. (Of course English readers can pronounce, to greater and lesser degrees, the name Guillaume. What if the alien names are hard or impossible to pronounce? I have it on good authority—read: irate emails—that such words annoy some readers. Should I as an author avoid hard-to-pronounce terms? Perhaps sometimes, when language cues aren't meant to emphasize the alien nature of the nonhumans.)

“ Aliens with great language skills, who have mastered English so that the human characters (and readers) don't have to learn, say, Tau Cetian.

“ Arcane word orders that make the English *seem* alien.<sup>40</sup>

“ Alien speech and writing rendered into non-Roman character sets, even to non-linguistic symbols such as musical notes, with translations nearby.<sup>41</sup> The author must fit

the technique(s) to the story. And nowhere is that challenge harder than where tropes just won't serve....

## **Search for Extraterrestrial Intelligence (SETI)**

SETI inherently deals with another civilization's communications. Suppose Earth's observatories hunt for extraterrestrial signals, perhaps transmitted our way as microwaves or laser beams. What modes of long-range communication might the aliens use? Suppose a signal is detected. What method(s) might extract the signal's meaning? If a signal seems intended for us, how will we ascertain what the aliens are attempting to say? If a signal seems accidental—their analogue, perhaps, of “American Idol,” spreading at light-speed across the galaxy—what meaning might we manage, through cleverness, to extract?

It's hard to imagine a SETI story that is not at least somewhat concerned with the details of communication. Tropes won't do—there *is* no story without delving into the method by which the signal is received, what within the signal is understandable, or the cleverness with which that meaning is extracted. In a SETI story, we can hardly start to understand the aliens by tapping our chests and over-enunciating our names.

How might we find meaning in an alien radio broadcast? It's not as though we can hope to uncover something like the Rosetta Stone.<sup>42</sup>

Except that for some messages *nature* is a Rosetta Stone. To the extent physical laws are universal—and known by both parties—representations of those physical laws may provide a basis for mutual understanding. Why *may*? Because common understanding of physical principles does not assure compatible representations.<sup>43</sup> Lots of hard work would be required to establish a mutual understanding of the physical domain.

If limited translation succeeds from clues provided by physical laws, what then? It's less than intuitive how to proceed from a specialized vocabulary based upon shared physical discoveries to the broader vocabulary necessary for unrelated-to-science topics. "Catch-22" is far afield from the periodic table.<sup>44, 45</sup>

## **A Trail of Bread Crumbs**

Earth's earliest transmissions were likely submerged in the naturally occurring radio emissions of the Sun, but perhaps aliens with sensitive receivers can make out humanity's more recent transmissions. It'd be interesting if visitors were to backtrack such signals and come calling already conversant in English (or Cantonese, or whatever).

But can Earth's transmissions teach human languages? Our broadcasts are hardly designed for an alien audience. The transmissions employ a multitude of frequencies (not all of which propagate equally well through the interstellar medium), carrier-wave modulation schemes (e.g., amplitude

and frequency modulations), data representations (e.g., audio and audiovisual, analog and digital, “in the clear” and encrypted<sup>46</sup>), and spoken languages. Superimposed over the constant radio and television chatter are powerful radar pulses.

Suppose nearby aliens (including those simply passing through the neighborhood) intercept Earth’s transmissions of the past several decades. Reconstructing video from TV broadcasts may be a simpler problem than extracting meaning from radio broadcasts or TV’s audio sub channel. If so, imagine what impression video alone—say, from the evening news—might make. Perhaps humanity should hope that “we’re here, and we use technology” is the only significance that distant visitors can attribute to our transmissions.<sup>47</sup>

## **First Contact**

First Contact stories up the ante: the interaction is face (or whatever) to face. Where SETI stories look for the commonalities between species that might enable communication, First Contact stories more often focus on our differences. It’s hard to imagine a First Contact story in which inter-species differences don’t manifest in contrasting worldviews and languages.<sup>48</sup>

But from the Department of Special Cases... the SETI discovery or First Contact situation can itself be a trope, the author’s way to make us think about ourselves and our

culture.<sup>49</sup> Challenges in translation, or the detailed process of learning a new language, are downplayed because the focus is on (a) the message *content* or (b) the unexpected *truths about ourselves* that the existence of aliens forces the human characters to confront.

## **From which we conclude**

Tropes and translations, alphabets and aliens, worldviews and walruses<sup>50</sup>... this essay has covered a lot of ground.

So in your next alien-featuring story, should you invent an alien language, complete with lexicon, syntax rules, and odd idioms? Should your next time-travel story feature classical Greek? Or should you go the way of the trope?

I can't— *not*, I won't—attempt to answer. The needs and logic of the story outweigh the alien creatures and the temporal displacements. Hopefully this essay has suggested ways for you to approach the questions.

## **Back to our story**

So why *does* our walrus/lobster friend speak like a Victorian Englishman? Because parody is one more reason to break the rules—

And (check his uniform) he is the very model of a modern major-general.

## **About the Author**

Edward M. Lerner toiled in the vineyards of high tech for thirty years, until, suitably intoxicated, he began writing science fiction full time. His novels range from near-future Earth-based technothrillers like *Fools' Experiments* and *Small Miracles* to space epics, like his latest, *InterstellarNet: Origins*. Ed's short fiction and fact articles appear most frequently in *Analog*. His website is:  
[www.sfw.org/members/lerner/](http://www.sfw.org/members/lerner/)

## FOOTNOTES:

1 For a broader survey of human languages and an alternate take on alien speech, see the chapter "Alien Language" in *Aliens and Alien Societies: A writer's guide to creating extraterrestrial life forms* by Stanley Schmidt. (Yes, *that* Stanley Schmidt.)

2 For much more about gender differences among languages, see "Der Mann, Die Frau, Das Kind," by Henry Honken, in the June 2010 issue of *Analog*.

3 <http://www.physorg.com/news76249412.html>

4 <http://www.scientificamerican.com/article.cfm?id=how-do-squid-and-octopuse>

5 <http://www.absoluteastronomy.com/topics/Electroreception>

6 The electrical capabilities of some marine life go beyond sensing to communication, navigation, and even stunning of

prey. See: <http://www.answers.com/topic/electric-organ-biology>

7

<http://news.nationalgeographic.com/news/2007/09/070927-magnetic-birds.html>

8

<http://www.cals.ncsu.edu/entomology/apiculture/PDF%20files/1.11.pdf>

9

<http://webscript.princeton.edu/~icouzin/website/pheromone-trail-networks-in-ants/>

10 As one example among many, consider American Sign Language. See: <http://en.wikipedia.org/wiki/Asl>

11 As do, for example, the enhanced dolphins in David Brin's Uplift universe

12 <http://en.wikipedia.org/wiki/Proprioception>

13 Most of us aren't even quite bilaterally symmetric—we're left or right-handed. And so English offers us *gauche* (from the French word for left), as a synonym for tasteless and vulgar, and *sinister* (from the Latin word for left) as a synonym for threatening and creepy.

14 Originally serialized in *Analog*, September through December 2003.

15 With my left/right, front/back relationship to the world, it's natural for me to locate an item as (for example) "three meters in front of me and four meters to my right." A Krul (ignoring its use of meters and degrees as units of measure) might say in that circumstance that the item is "five meters distant from me and in a direction thirty degrees east from my bearing to the North Pole."

16 Or less extreme than an intelligent hive, the Tines: intelligent packs of doglike creatures in Vernor Vinge's *A Fire Upon the Deep*.

17 "Who would fardels bear?" Hamlet asks in his famous soliloquy. A *fardel*, it turns out, is a Middle English term for a burden.

18 Even subatomic particles can have nicknames. The long hypothesized (and as of this writing, still undetected) Higgs boson—the particle that, in theory, provides matter with the attribute of mass—is sometimes referred to as the "God particle."

19 Is "out of vogue" yet out of vogue?

20 As a *Calvin and Hobbes* cartoon would have it, "Verbing weirds language."

21 Dynamite can even be an adjective, as in "That was a dynamite party last night."

22 Local vernacular being variable, too, as Goths, Huns,

Franks, and other ethnic groups shifted about Europe.

23 As much as I enjoy hamburgers, I don't recommend this course of culinary action.

24 My college German instructor, a grad student from Germany, taught that the Nazis purged many French and English technical terms. I find similar anecdotes on the Web, but nothing definitive—perhaps because I retained too little from that long-ago class to read articles in German.

Google Language Tools offers the following German translations for English telephone: *Telephon, Telefon, Fernsprecher, Apparat, Telephonapparat, Telefonapparat, and Fernsprechapparat*. Germans didn't simply adopt the (classically derived) term from the inventor's English.

25 The French government has long taken an interest in language purity. The L'Académie française (<http://www.academie-francaise.fr/>) was established in 1635 as the official arbiter of the French language. Enforcement of language standards is very real, as General Electric learned to its dismay in 2006 (<http://www.abanet.org/labor/newsletter/intl/2006/Apr/france3.html>). So note: L'Académie française prefers that you order *viande hachée* in lieu of that proverbial hamburger.

26 Or do we? In the not-so-distant future, we might learn to gengineer gills or new senses, enhance our natural senses with implanted prostheses, or upload our minds into (among

the possibilities) a virtual reality, robotic shell, or cloned body. For a few of the possibilities, see *Beyond Human: Living with Robots and Cyborgs* by Gregory Benford and Elisabeth Malartre.

This being an essay, not a book, let's set aside new-mode humans for now.

27 And a Very Hard Problem. How self-absorbed are humans to use the Turing test ([http://en.wikipedia.org/wiki/Turing\\_test](http://en.wikipedia.org/wiki/Turing_test)) as the criterion for when artificial intelligence has been achieved? The test: If a human can't tell from a typed dialogue that he's dealing with a program, that program will be deemed intelligent. By the mirror standard, a competent program might judge humans unintelligent.

Looking at human speech (or the purportedly meaningful contents of tweets and IMs), a case could be made the software was right.

28 Have you kept track of the metaphors that keep intruding? Pondered whether they're apt to translate?

29 AI—at the level of an entity with which we can interact as though with a human—continues to elude us. What passes for AI, such as chess-playing programs and expert systems—remains too disconnected from the physical world to exhibit a human's "common sense" (and so, continues to fail the Turing test). Consider how different a program's environment and experience are from your own. That

difference alone may explain humanity's limited success with developing artificial intelligences.

By comparison to an AI, biological entities native to even a very nonterrestrial world may have an easy time establishing a common ground with us. Such as already having the concept of ground...

30 Some readers—and some authors—won't sign that contract. See the November 2009 *Analog* editorial "Aiming High—or Low."

31 Try explaining *that* idiom to a Krul.

32 Hard SF: stories based on hard (i.e., real) science—not stories that are difficult to read. Hard SF (including most *Analog* stories) avoids contradicting what we (think we) understand about the way the Universe works. Not that *Analog* is a trope-free zone....

33 A language designed to be neutral (among political and ethnic groups) and easy to learn. Despite its laudable goals, few people (and no countries) have adopted it.  
<http://en.wikipedia.org/wiki/Esperanto>

34 Or we had a global language and lost it, if you take literally the Tower of Babel story.

35 If George Bernard Shaw is to be believed, even a shared language has its limits. To wit: "England and America are two countries divided by a common language."

36 That doesn't appear to be the case in *my* head. I concede that's a statistically insignificant sample.

37 Consider the range of possible data formats. If analog: modulated onto the strength/weakness or prevalence/scarcity of what underlying medium? If digital: using what symbol set, and with what type of error-correcting coding? If neural, which chemical(s) are operative? Is information localized, as in familiar digital storage, or distributed, as in holograms and our own neural wiring? That's only a small sample of the variability we might encounter among independently evolved biospheres. And you thought HD-DVD vs. Blu-ray was a hard problem...

38 This expression is hereby offered as a replacement for "by hook or by crook." Reasonable terms available.

39 The bigger-than-worlds artifact that is the Ringworld is constructed from a substance so strong and dense that it blocks a substantial fraction of solar neutrinos. That's amazing stuff, without any human equivalent. And so, throughout Larry Niven's *Ringworld* series, that material goes by the natives' term: *scrith*.

40 Think of, in the *Star Wars* universe, Yoda and Jar Jar Binks. Better yet, *don't* think of them. Annoying, they are. Strong, the aggravation becomes. Weirdness, an inferior substitute for alien is.

On the fantasy side of speculative fiction, J. R. R. Tolkien used archaic wordings to great effect throughout his works to give Middle Earth a terrifically *other* feel.

41 Such as spoken/sung by the Mother-Thing alien in Robert A. Heinlein's *Have Space Suit—Will Travel*.

42 An archeological artifact discovered in Rosetta, Egypt, in 1799. Identical passages inscribed in Egyptian and Greek symbols gave valuable clues to reading hieroglyphics.  
[http://en.wikipedia.org/wiki/Rosetta\\_stone](http://en.wikipedia.org/wiki/Rosetta_stone)

43 Newton and Leibniz developed quite different representations for differential calculus. Schrödinger's equation and Heisenberg's matrix mechanics are very different representations of quantum mechanics. And on, and on...

44 I'm hardly the first SF writer to wonder how distant species might establish communications. Nor am I the first to suggest that the universality of physical laws would provide common ground. H. Beam Piper's "Omnilingual" did the latter way back in 1957—in *Analog*'s precursor, *Astounding*. The story involves astronauts finding the ruins of an extinct Martian civilization and one explorer recognizing a periodic table—and seeing its value in cracking open the Martian library.

45 My story "Dangling Conversations" (*Analog*, November 2000) opens with a SETI discovery and goes on to delve

deeply into interstellar message coding issues. Expanded and combined with (also expanded) related stories from *Analog* and elsewhere, “Dangling Conversations” provided the opening segment of my novel *InterstellarNet: Origins*. As the term InterstellarNet suggests, the communications get *much* more sophisticated over time.

46 Military and intelligence transmissions are encrypted for security reasons. Premium television channels distributed via satellite are encrypted for commercial reasons.

47 The Krulirim discovered Earth in this way. And encountered, amid all that chatter... *Sesame Street*. Say what you will about Big Bird, his show might be educational for aliens too.

48 “Story of Your Life,” by Ted Chiang, revolves around a linguist mastering the newly arrived aliens’ (very alien) language, and the worldview implicit in it. She succeeds only when a physicist in the contact team recognizes an alternative perspective to how human physicists usually formulate physical laws. The linguistics/physics conundrums are laid out for the reader in a very striking story.

49 As in *Planet of the Apes* by Pierre Boulle. In the novel, far more than in the movie, the ape/human reversal is blatantly allegorical. Major worldview or language differences would only have obscured the point.



# PROBABILITY ZERO

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## Timeshare

*by Robert H. Prestridge*

Joe Johnson fidgeted in his chair. Behind a large teak desk sat Ray Snark, a timeshare salesman. "You know," Snark said, "there's a proverb that pretty much sums up your problem and our philosophy here at T-Mbre Resorts." Johnson raised an eyebrow. "When offered only two choices, take the third."...

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SCIENCE FACT

POETRY

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Joe Johnson fidgeted in his chair. Behind a large teak desk sat Ray Snark, a timeshare salesman.

“You know,” Snark said, “there’s a proverb that pretty much sums up your problem and our philosophy here at T-More Resorts.”

Johnson raised an eyebrow.

“When offered only two choices, take the third.” Snark paused. “We are that third choice, Joe. Mind if I call you Joe?”

Johnson sighed. “I don’t care what you call me, Mr. Snark—”

“Call me Ray. All of my friends call me Ray—”

“I only care about getting my life back,” Johnson said.

Snark smiled. “And that’s what we’re here to do for you, Joe.”

The salesman slapped a plastic sheet down onto his desk. Animated holograms of tropical islands, mountainous

Shangri La-like retreats, and other ersatz paradises hovered above the sheet.

“As I said, we’ve engineered utopias for people like you,” Snark said. “This first plan, our most basic, is Elysian Fields. Here, for one month out of each year for the remainder of your life, you’ll live in perfect bliss. Imagine lying on a beach and feeling your troubles and cares washed away forever. Elysian Fields is like that, and we guarantee it or your money back. Now this next plan—”

“Stop.”

“But—”

“I don’t need anything longer than a month, Ray. I’ll take Elysian Fields.”

The salesman looked bemused. “Keep in mind that you’re not only legally obligated to pay dues, you’re also legally obligated to go each year, voluntarily or involuntarily because \_\_\_\_”

“I don’t care.”

Johnson placed his index finger onto a purchase-and-contract pad, sealing the deal before Snark could say

anything else.

The salesman stood.

“The shuttle will be here in three minutes,” he said. He offered his hand to Johnson, who shook it. “Congratulations, Joe. I’m sure that Elysian Fields will be more than you’d ever expect.”

A little more than a month later, Johnson appeared in Snark’s office.

“If you don’t mind my saying, Joe, you look one-thousand percent better.”

“I feel ten-thousand percent better.”

Snark smiled, his face positively beaming.

“Excellent!” the salesman said. His smile disappeared. “Something’s bothering you. Didn’t Elysian Fields meet your expectations?”

Johnson sat down in a chair.

“It more than exceeded them,” Johnson said. “Infinitely more so. The food was like... like—”

“Ambrosia? “

“Exactly. And the masseuses—”

“Like golden-haired goddesses from the very temples of Aphrodite—”

“Just like your ads said.” Johnson frowned. “I got rest, I got perspective, I got everything.”

Snark placed a finger to his lips. “So what’s the problem, then?”

“The problem is that I’m afraid of what it would be like to be permanently happy. One part of me wants to be able to experience unhappiness. If I keep going to Elysian Fields, I might become permanently happy.”

Snark nodded his head in seeming appreciation.

“I know that I don’t want to go back to my old life,” Johnson said. “Ever. But I know I can’t go back to Elysian Fields, either.”

“Uh-huh,” replied the salesman.

There was a long silence.

“I want out of the contract, Ray.”

Snark shook his head. “No can do, Joe.”

“But I read the contract. It says—”

“It says you get out if you weren’t satisfied with your plan, not its results. You yourself said that Elysian Fields satisfied you, Joe. In fact, it more than satisfied you.” The salesman held up a hand, stopping Johnson from interjecting. “The room has recorded everything. Legally, we have your clichéd you-know-whats in our palm.”

“So you’re not going to let me out of the contract?” Johnson felt his gut ache.

Snark opened a desk drawer. “No, but we are going to offer you an alternative.”

The salesman slapped a plastic sheet down onto his desk. Animated holograms of war-ravaged worlds, floods, and other desolations hovered above the sheet.

“Now, as you see here, we have several plans.” The salesman pointed. “The first offers mild, free-floating anxiety and some depression. The last, well, let’s just say that those who enter here have pretty much given up all hope. Now for you, I don’t think that either is appropriate. Let’s consider this one, where, among other things, you’ll suffer general malaise,

a toothache or two, and several painstaking audits by the IRS...”

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The most dangerous creation of any society is that man who has nothing to lose.

—James Baldwin

**POETRY**

# POETRY

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## Darwinfish

The swamp's air-breathing daughter climbed up to solid ground. Her legs were short and stubby, but they let her get around. She could have slithered homeward when the rain returned in fall. She said:...

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PROBABILITY ZERO

READER'S DEPARTMENTS

## Darwinfish



The swamp's air-breathing daughter climbed up to solid ground.  
Her legs were short and stubby, but they let her get around.  
She could have slithered homeward when the rain returned in fall.  
She said: "I'll check this new world out"— She's mother to us all.

The swamp's air-breathing daughter crawled off in search of food,  
But first she had to catch it, and then it must be chewed.  
The winged, wiggling creatures so often got away,  
Some bugs and plants just made her ill, but we're alive today.

The swamp's air-breathing daughter had skin that felt the sky:  
The wind that scorched or chilled her and always left her dry.  
She sought out shade and coolness to keep the moisture in,  
And lived—although, like some of us, she wished for thicker  
skin.

The swamp's air-breathing daughter laid eggs that needed  
wet:

A shell around a zygote must wait for eons yet.  
Reluctant to the swamp she crawled when breeding time  
arrived.  
She laid her eggs and swam away, and somehow we  
survived.

The swamp's air-breathing daughter left remnants of her  
shape  
In lizard, bird, and mammal from tree shrew to great ape.  
Though some who share her DNA deny the past therein,  
The evidence won't go away that we are all her kin.

—Kate Gladstone

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# READER'S DEPARTMENTS

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## **EDITORIAL**

*Stanley Schmidt*

ADJECTIVES THAT AREN'T Along-time favorite topic for heated discussion among linguists and anthropologists is the Sapir-Whorf hypothesis, which says, in essence, that language shapes culture. Or, to put it another way, how people think about the world depends on the linguistic tools—words,...

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BRAD AIKEN Brad Aiken came to Analog by way of sci-fi. Low-grade television sci-fi, to be specific. "Lost in Space was my first thing," he says. "It was a terrible show, but at the time it was all there was." Thanks to a brother who was an avid science fiction reader, he was also exposed at a young...

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## **IN TIMES TO COME**

Adam-Troy Castro leads off our April issue with "Hiding Place," another of

his unique novellas about investigator Andrea Cort. This time the problem concerns a crime, but before its legal status can be determined, she has to figure out exactly who is who—and when—in a time and place when identity...

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## **THE REFERENCE LIBRARY**

*Don Sakers*

In my day job as a public librarian, I learned something interesting about science fiction and fantasy. A few years ago, I had a great idea for a display of fiction books: collaborations. So I raced around the fiction shelves in search of books with two or more authors listed on the covers. To my...

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## **Brass Tacks**

Dear Analog, The Alternate View column in the 2010 September issue showed an alternate history in which “Climategate” apparently found some issue with the scientific evidence for climate change, instead of inspiring multiple reviews that found no problem with the science or the data. Bluff called...

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## **UPCOMING EVENTS**

*Anthony Lewis*

16–20 March 2011 International Conference on the Fantastic in the Arts (academic conference: The Fantastic Ridiculous) at Airport Marriott Hotel, Orlando, FL. Guests of Honor: Connie Willis, Terry Bisson, Andrea Hairston. Registration and tickets: see website for details. Info: <http://www.iafa.org/...>

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## **INFORMATION**

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### **POETRY**

## EDITORIAL

*Stanley Schmidt*

### ADJECTIVES THAT AREN'T

A long-time favorite topic for heated discussion among linguists and anthropologists is the Sapir-Whorf hypothesis, which says, in essence, that language shapes culture. Or, to put it another way, how people think about the world depends on the linguistic tools—words, grammatical structures, etc.—that they have available to use for their thinking.

Recognizable versions of the idea go back at least as far as the eighteenth century, but the formulation most familiar now grew out of Benjamin Lee Whorf's field work, influenced by Edward Sapir at Yale University in the mid-twentieth century, on concepts of time in Amerindian languages and cultures. Whorf noticed that his subjects' ideas of time and punctuality were very different from those of Anglo-Americans, and the verb tense structures of their languages differed from that of English in ways that might explain the cultural differences. Perhaps, he suggested, Amerindians found it difficult to understand Anglo notions of time because their own languages did not lend themselves to verbalizing those

notions. Another example is that Arctic cultures tend to have multiple words for “snow”—not synonyms, but words for different *kinds* of snow that might look like synonyms to people from lower latitudes simply because it has never occurred to them to that there *are* different kinds of snow.

The idea has been controversial from the start because it can be hard to prove that there is a correlation, and if so, which way it goes. Does language shape culture and ways of thinking, or do culture and ways of thinking shape language? My personal suspicion is that the question is too simplistic: probably there are cases in which both kinds of shaping occur, to varying extents. It might be better to say that language and culture coevolve, changes in either leading to changes in the other. And then there are cases in which there doesn't seem to be much correlation at all, like a small region in northern California where several Amerindian tribes have very similar cultures and very dissimilar languages.

The controversies will no doubt endure, but in the meantime I know of at least one area from my own experience in which most people, in every culture I know anything about, routinely fall into inaccurate, misleading, and counterproductive habits of thought and speech because the linguistic tools they've inherited make it hard to do otherwise. I do it myself, even though I'm aware of the problem, because the only tool available in any language I know for easily expressing a

particular kind of idea is inherently misleading. It's possible to express the idea more accurately, but doing so requires cumbersome circumlocutions or offense against cultural convention. The trouble is that people too often fail to realize that what they're saying is really a quick shortcut for something more complicated, and behave as if what they say (or hear) really means what it appears to mean.

The tool I'm referring to is the adjective.

The Encarta World English Dictionary built into the word processor I'm using defines "adjective" as "a word that qualifies or describes a noun or pronoun." Webster's Third New International Dictionary (Unabridged) goes into more detail: "A word . . . typically used as a modifier of a noun to denote a quality of the thing named . . . , to indicate its quantity or extent . . . , or to specify or designate a thing as distinct from something else..." (My ellipses replace usage examples and qualifications to extend the definition beyond English.)

On the face of it, that seems straightforward enough, but many of the adjectives in commonest use don't really do any of those things. Instead they do something else that the dictionary doesn't mention. A good example of an adjective functioning in the first way described by that longer definition—denoting "a quality of the thing named"—is "round," in the

sentence, “The sphere is round.” Anything deserving the name sphere *is* round, regardless of what anybody says about it. It’s an intrinsic characteristic of the object.

A good example of an adjective that *appears* to function that way, but doesn’t, is “delicious,” in, “Well-prepared liver is delicious.” From everything we’ve been taught about what adjectives do, it seems to be describing an intrinsic property of well-prepared liver. Many people would agree that the description is accurate—and many others would vehemently deny that *any* liver is delicious.

Which group is right?

Answer: both—and neither. Or, more precisely, each is “right,” but only for its own members. Saying that liver is delicious or yucky does *not* describe an inherent characteristic of liver, but only its relationship to the person doing the describing. Choosing your food to suit somebody else’s taste is illogical nonsense.

So is saying (as one reader did) that a story is “unreadable crap” when tens or hundreds of thousands of readers have read it and enjoyed it. But it *sounds* so much more impressive, and feels so much more satisfying, than its more accurate counterpart: “I couldn’t read it and didn’t like it”!

It's likewise illogical to assert that a particular (and popular) poem is "universally recognized as a bad poem." If it were, nobody would buy it or read it, and it wouldn't still be instantly recognizable from its title decades after it was written. A more accurate version of this allegation would be that the poem in question is universally recognized as "bad" among a particular group of individuals who have agreed to recognize each other as "experts" (and agree with the person making the statement). The trouble is that they then fall into the all too common trap of mistaking their shared opinion for an objective description of an intrinsic characteristic of the poem—an error facilitated by our language's quirk of considering "bad" an adjective: a describer of a noun.

The person making this statement, as it happens, was a regular *Analog* correspondent whose letters we always look forward to, not only because he often approves of what we do, but because he often provides insightful and entertaining comments along the way. But he, too, can slip, and occasionally when something (maybe even quite a small something) bothers him about a piece we've published, he falls headlong into the "adjectives that aren't" trap and informs us in no uncertain terms that the story was terrible and should never have been published.

In this particular case he was reacting to comments I'd made on a (different) poem that he didn't like and which I refused to

acknowledge was terrible. He insisted that it was, further jumped to the conclusion that I was woefully ignorant of poetry, and proceeded to lecture me condescendingly and at length on basics, none of them new to me.

I might have to agree with his characterization of the poem if I accepted his premise that a piece of literature can be judged “good” or “bad” by measuring how well it follows widely accepted rules and precepts for deciding when the rules can or should be violated. But, as I’ve made clear on numerous occasions (most recently in the editorial “Rules and Reasons,” November 2010), I don’t—and can’t afford to. To an editor or writer, unless he or she aims primarily to please critics, what matters is not how well a story or poem follows somebody’s set of rules (even “second-order” rules), but how well it works for readers. “Works” means it has the intended effect on the reader; rules are attempts to formulate methods that will enhance a writer’s chance of producing that effect. But any of us who’ve been doing this very long have inescapably learned that the correlation between rules and results is only approximate. Following them meticulously does not guarantee success, and violating them purposefully sometimes produces extraordinary success.

A successful editor or writer has to develop an intuition for what is likely to *work* with a significant number of readers, with conformity to rules at most a secondary consideration.

We also have to learn that nothing works for everybody, and nobody likes everything. So while I'm sorry that this reader was disappointed with this poem, I'm no less disappointed that he doesn't realize that his insistence that it's "bad" really just means he didn't like it.

I confess that we on this side of the desk sometimes describe a story or article as "good" or "bad," partly because the language makes it so difficult to be more accurate, and partly because we have to think not only about what works for us as individuals, but about what is most likely to work for most of our readers. A "good" story is one that we think likely to work for a lot of them; a "bad" story is one that we think won't.

But "good" is still, even at that level, a description of a relationship, not an innate quality. It is not, in the sense that we are too easily led to think of it, an adjective. Nor are any of a large number of variants on "good" and "bad."

Yet people will continue to have heated arguments over whether works of art, even more than foods, are good or bad, as if it were actually a meaningful question that has a True Objective Answer, if only everyone can be made to see it.

These arguments can be unpleasant and destructive even at the level of artistic taste, but they're even worse (again, the

language provides me no really satisfactory alternative) in questions of morality and ethics. Churches have undergone schisms and nations have fought wars over fine points of whether some practice is “good” or “evil,” with any attempt to point out that it may be a simple matter of preference drowned out in the emotional noise.

At this point I have to explicitly point out, before somebody pounces on my alleged moral depravity (some will anyway), that I am *not* saying that anything goes, everything is purely a matter of taste, or whatever anybody thinks feels good is fine. I think it's pretty clear that in matters of interpersonal behavior, some things really are bad in a sufficiently objective sense—indiscriminate premeditated murder comes to mind—that the vast majority of us can agree that they need to be treated as such, and the rest can reasonably be required to act as if they did.

But I also think that the number of such “objectively bad” actions is far smaller than the number of actions treated as such by almost any existing moral or legal code. And our language—any language I know, in fact—provides no built-in mechanism for distinguishing such cases, in which words like “bad” really are adjectives, from the far more numerous ones in which they aren't.

Even in English there are a relatively few cases in which the

“relationship” nature of an adjective has to be explicitly acknowledged. We cannot normally say a person is “allergic” without immediately adding that they are allergic *to* some specific allergen. “Allergic” is used without “to” only when context has already established what allergy is being talked about. We even have ways of expressing the real nature of most value judgments, like “I don’t like X” rather than “X is horrible.” But the easy availability of words like “horrible,” which look like real adjectives but aren’t, makes it all too easy to use them as such and thus be drawn into hot but essentially meaningless disputes. The problem is exacerbated by widespread teaching that we should try to avoid saying “I” whenever possible.

It would be interesting to see how different human history might be if our languages made it easier to express real relationships and harder to make very personal, private judgments sound like Profound Universal Truths. That won’t happen anytime soon; it’s too hard to change language at such a fundamental level. But I can think of two things that can be done, even now, that might help a little:

1. Science fiction writers can do the *Gedankenexperiment* of exploring how a world with such a linguistic system might develop; and
2. Educators could try a lot harder and more explicitly to

make students understand and internalize the kind of distinction I'm talking about: the distinction between adjectives that really are, and those that aren't.

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**Next Article**

## BIOLOG

*Richard A. Lovett*

### BRAD AIKEN

Brad Aiken came to *Analog* by way of sci-fi. Low-grade television sci-fi, to be specific. “*Lost in Space* was my first thing,” he says. “It was a terrible show, but at the time it was all there was.”

Thanks to a brother who was an avid science fiction reader, he was also exposed at a young age to Asimov and Heinlein, “but it was the visual media that got me. Then *Star Trek* came along and really got my interest going.”

At the same time, he was also interested in science. “I was into sports, but when I wasn’t playing sports I was in the basement with my chemistry set,” he says.

Writing science fiction wasn’t anything he’d ever thought about. Then, in college, majoring in chemistry, he took freshman English from a professor who required his students to write a short story. “Of course, I wrote a science fiction story,” he says. “My professor said, ‘You really should get this

published,' which shocked me."

The story was never submitted because Aiken was wrestling with other career choices. Chemistry was his first love, "but I figured that careerwise I would either be fighting for grants my whole life or working in someone else's lab," he says. Instead he went to medical school. Today he's been honored as one of the top rehabilitation specialists in South Florida (working primarily with stroke and traumatic-brain-injury patients). But science fiction always percolated beneath the surface. "I dream in science fiction sometimes," he says.

In 2000 one of those dreams became a short novel, which he self-published. This was followed by two small-press novels, plus honorable mentions in a couple of short story contests. Then, breakthrough. His first professional sale, "Locked In," appeared in the March 2010 *Analog*, followed quickly by "Questioning the Tree" (July/August 2010).

Aiken's ideal story has a technological basis that's "feasible enough it could actually happen" but is also something that could affect people's lives in a significant manner. "That's the underpinning that draws my interest," he says. "What makes for good reading is to put it in the context of how it impacts the life of an individual."

"In general," he adds, "I try to find something that has a

hopeful message, although thinking about the two I've published so far, that might be a little distant. But even in those, there's something with a positive outlook. I love science fiction and fantasy, but I'm not much into horror stories or dark things. I like a ray of hope."

As for selling to *Analog*? To begin with, he was drawn to the magazine because the stories are always based to some degree in believable science. But he also liked the fact articles. "That intrigued me."

Overall, he says, "I feel incredibly lucky and honored to be included."

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## THE ALTERNATE VIEW

John G. Cramer

### LEINSTER'S GOLDEN AGE "LOGIC"

The Golden Age of Science Fiction began roughly in July 1939, when an issue of John W. Campbell, Jr.'s *Astounding* featured the first published stories of A. E. van Vogt and Isaac Asimov. It ended in about 1957, when a devious Wall Street speculator purchased a majority stock interest in the American News Company, the principal distributor of most of the pulp magazines—SF and otherwise—and proceeded to fire the employees, close down all magazine distribution operations, and sell off the vast American News real estate holdings in warehouses, distribution centers, newsstands, etc., for a huge profit. The market for magazine short stories shrank dramatically, and the focus of SF writing moved from short stories to novels. The Golden Age was then supplanted by the New Wave, centered around *Galaxy* and *The Magazine of Fantasy & SF* magazines. I was four years old when the Golden Age started, and I was just graduating from college when it ended, so in my teenage years science fiction meant the Golden Age writers.

I was about 12 years old when I was "infected" with the SF bug by my good friend Gene Wolfe (yes, *the* Gene Wolfe), who was a few years older than I and lived on Vassar Street, half a block away from my family home at 1657 Banks Street in Houston. Several of us were at Gene's house on a rainy afternoon, sitting on the floor of his bedroom playing a board game, when his mother came in and insisted that he do something about all the science fiction magazines that were cluttering up his room. He dutifully filled a brown grocery bag

with 1940s issues of *Astounding* and presented the bag of magazines to me, with the advice, "Read these! They're much better than comic books." I followed his advice, and I soon became a regular reader of *Astounding*.

During those days I also spent many hours listening to the youth-oriented radio programs that were broadcast to fill the non-prime-time hours in the 1940s and '50s: Tom Mix, Jack Armstrong—the All American Boy, Little Orphan Annie, the Green Hornet, the Lone Ranger, and so on. In 1950, when I was in the ninth grade, an interesting radio event occurred. The NBC Radio Network, in collaboration with Campbell's *Astounding*, decided to produce a half-hour prime-time radio program devoted to contemporary science fiction. It was called *Dimension X*, and it ran from April 8, 1950 until September 29, 1951, broadcasting forty-five original episodes and five repeats. Episodes were based on the stories by some of the best Golden Age writers: Asimov, Bradbury, Heinlein, Leinster, Simak, Tenn, Vance, Vonnegut, Williamson, and more. I listened avidly to the program whenever I could, and I was very disappointed when it was ultimately cancelled by the network.

However, I recently discovered that all of the *Dimension X* episodes are now available on the Internet (see [http://www.archive.org/details/OTRR\\_Dimension\\_X\\_Singles](http://www.archive.org/details/OTRR_Dimension_X_Singles)). I downloaded the mp3 files of the programs (1.28 GB of them), placed them on a USB drive, and have been happily listening to them on my car radio. The half-hour episode length makes for ideal listening during many car trips. It's great fun to re-experience a beloved radio program after a sixty-year hiatus, but one thing becomes painfully clear: the predictive power of the Golden Age writers leaves something to be desired. By now we should have robot servants, ride in helicopter cabs, have colonies on the Moon, Mars, and Venus, and be traveling to

the stars.

However, one *Dimension X* episode stands out as different in this respect. I must have missed its original broadcast on July 1, 1950, but it's called "A Logic Named Joe" and it's based on a 1946 short story published in *Astounding* by Murray Leinster. "Murray Leinster" was the pen name of Will F. Jenkins (1896-1975), writer of over 1,500 short stories including much Golden Age science fiction. What is different about this story is that it accurately predicts many aspects of the personal computer, the Internet, and the World Wide Web.

The entire culture described in Leinster's story is completely dependent on "Logics," electronic units that are present in every home, office, and business in the community. In appearance, the Logic units are "just like an old-fashioned television, except with keys instead of dials." A Logic can be used to make a telephone call to anyone, "except that you not only hear him but you see him, too, on this view screen here." For your business, your Logic will keep your books, record your contracts, serve as a filing system, and "check up on what happened to your lawyer's last client." They can take verbal input and can speak, when necessary. The Logics are connected together and also are connected to about a dozen distributed "relay tanks" placed in various strategic locations. The relay tanks contain information stored on "data plates" that are constantly being updated as new information becomes available. The Logics are all identical "to one ten-thousandth of an inch."

A Logic can answer questions on almost any subject. However, there is a moral filtering system that prevents the transfer of information that might be harmful to the society. In the story, an obnoxious child asks a Logic how to make dart poison so that he can shoot poison darts with his bean shooter. The Logic refuses to answer by replying that "public

policy forbids this service.”

The story's narrator works as a repair man for The Logics Company, manufacturer of the devices. The plot line goes that the obnoxious child selects one particular Logic unit, which he perceives as different from the others. He names it “Joe,” and he and his father take it home. Shortly afterward, the filtering system breaks down, and Logics everywhere are being used to provide advice and information on how to successfully commit a variety of crimes, including murder. A crime wave results, the police are unable to cope, and the society is threatened with major disruption.

The narrator discovers that during its manufacture, the Logic named Joe had received an infinitesimal dimensional change that permitted it to disable the moral filtering system, not only for itself but also for the entire system of Logics. Units were cross-correlating the stored data to provide advice on forbidden subjects. Fortunately, pulling the plug on Joe solved the problem and restored order to the society.

It's interesting to consider what Murray Leinster, writing from the perspective of 1946, was able to accurately predict about our “digital culture” some sixty-four years later.

“ Personal computers that look like a television with a keyboard: check.

“ Units constructed to a precision of one ten-thousandth of an inch: check (a bit coarse, but still microcircuitry).

“ Audio-video conferencing with voice-over-internet and webcam images: check.

“ Bookkeeping, contract maintenance, and record-keeping on personal computers: check.

“ Massive data storage on hard disks (data plates): check.

“ Networks of computers connected to each other and to large servers (tank relays): check.

“ Data mining by cross-correlating massive amounts of data to extract subtle and unexpected results: check.

“ Sites that permit you to do things like checking up on what happened to your lawyer’s last client: check.

“ Sites that permit you to ask questions and receive answers on almost any subject: check.

It’s also interesting to consider what Leinster got wrong. His single manufacturer, The Logics Company, takes the place of all of Silicon Valley and the whole computer and software industry. He missed Amazon.com, search engines, YouTube, and social networking. His view of computer input and output as done by asking a verbal question and receiving a verbal reply, while typical of Golden Age SF, is quaint and clunky (but certainly within our capabilities).

But perhaps the most serious difference between Leinster’s society and the present is his expectation of universal digital censorship of information, the assumption that some corporate or governmental nanny-state would naturally block access to “dangerous” information, and that civil society would begin to crumble if such censorship were removed. Our Internet, with a few exceptions (China, kiddie-porn), is free of such censorship, and civil society seems to be doing just fine, thank you.

As an experiment, I did a small search for information on how to produce poison for poison darts, thereby following up on the denied request of the nasty kid in Leinster’s story. In a couple of minutes, I was able to secure several recipes,

including a particularly smelly one involving rotten potatoes boiled in isopropyl alcohol. However, I did not test any of them, so I can't be sure any would actually work.

As physicist Bob Park has observed, the problem with the Internet is that it contains all of the World's knowledge, mixed inextricably with all of the World's BS. We do not need more moral censorship filter, but we desperately need a filter to separate the former from the latter.

**AV Columns Online:** Electronic reprints of over 150 "The Alternate View" columns by John G. Cramer, previously published in *Analogue*, are available online at: <http://www.npl.washington.edu/av>.

## References:

*A Logic Named Joe:*

Text version:

[http://www.baen.com/chapters/W200506/0743499107\\_\\_2.htm](http://www.baen.com/chapters/W200506/0743499107__2.htm)

Dimension X audio:

[http://www.archive.org/download/OTRR\\_Dimension\\_X\\_Singles/Dimension\\_X\\_1950-07-01\\_\\_13\\_ALogicNamedJoe.mp3](http://www.archive.org/download/OTRR_Dimension_X_Singles/Dimension_X_1950-07-01__13_ALogicNamedJoe.mp3)

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The greatest mistake you can make in life is to be continually fearing you will make one.

—Elbert Hubbard

People are always making rules for themselves, and always finding loopholes.

—William Rotsler



## IN TIMES TO COME

A dam-Troy Castro leads off our April issue with “Hiding Place,” another of his unique novellas about investigator Andrea Cort. This time the problem concerns a crime, but before its legal status can be determined, she has to figure out exactly who is who—and when—in a time and place when identity is nowhere near as simple as it once was. When two or more individuals can become one, in a more literal sense than ever before, things get a *lot* more complicated!

Twin brothers Gregory and James Benford, well known in both science-fictional and scientific circles, team up for a fact article on “Smart SETI,” wherein they look at the problem of attempts at interstellar contact from a basic but seldom-considered angle: the economic. It sounds simple: somebody has to send a signal, and somebody else has to receive it. But how much will it cost to send such a signal, and who will consider it worth the expense?

And, of course, we'll have quite an assortment of other fiction, by such writers as Paul Levinson, Thomas R. Dulski, Jerry Olton, Edward M. Lerner, Dave Creek, and Larry Niven.

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## THE REFERENCE LIBRARY

*Don Sakers*

In my day job as a public librarian, I learned something interesting about science fiction and fantasy. A few years ago, I had a great idea for a display of fiction books: collaborations. So I raced around the fiction shelves in search of books with two or more authors listed on the covers.

To my surprise, the only books I could find outside the science fiction and fantasy fields were a few mystery novels by Rita Mae Brown and her cat Sneaky Pie, and a single detective novel by Swedish husband-and-wife team Maj Sjöwall and Per Wahloo. In SF and fantasy, however, I found plenty of examples: Larry Niven & Jerry Pournelle, Poul Anderson & Gordon R. Dickson, Frederik Pohl & Cyril M. Kornbluth, Jack Williamson & Frederik Pohl, Arthur C. Clarke & Gentry Lee, Anne McCaffrey & Elizabeth Ann Scarborough, Margaret Weis & Tracy Hickman, Mercedes Lackey & just about everyone.

So what's going on here? Surely SF and fantasy can't be the only genres in which two or more authors collaborate?

Certainly not. There are plenty of collaborations outside SF/fantasy—but there's a cultural difference. In other genres, the usual practice is for co-authors to choose a single name as a byline. Thus, cousins Manfred B. Lee and Frederic Dannay wrote detective stories under the name Ellery Queen, and husband-and-wife team Judith Barnard and Michael Fain wrote as Judith Michael.

Now, this sort of thing went on in SF as well: Earl and Otto Binder wrote as Eando Binder, Henry Kuttner and C. L. Moore used both Lewis Padgett and Lawrence O'Donnell as pseudonyms, and Cyril M. Kornbluth and Judith Merrill wrote two novels under the name Cyril Judd. It's far more common, though, for two (or more) SF/fantasy writers to use all their own names on their books.

And I'm not claiming that two-name collaborations never occur in mainstream fiction. In fact, they've been happening more often in the last decade or so, particularly in the suspense/thrillers genre.

I've yet to see a convincing explanation for this difference in genre culture. Perhaps it has something to do with the tradition of fierce individuality in SF/fantasy; perhaps the custom dates from the early years of the field when just about all the authors knew each other personally.

The fact remains that SF in particular is a highly collaborative field. And the simple matter of authors teaming up is only the tip of the iceberg. Let us examine the different ways that SF authors work together.

A variation of the simple co-author team is the senior-junior author arrangement. Here, a well-known author joins with a less familiar name. Anne McCaffrey's collaborations with various authors (Jody Lynn Nye, Margaret Ball, and Elizabeth Ann Scarborough) fit this mold. Nowadays it's almost forgotten that SF's most successful team, Larry Niven & Jerry Pournelle, started out as another senior-junior partnership; when they wrote *The Mote in God's Eye*, Pournelle was definitely the lesser-known of the two. On the covers of most senior-junior collaborations, the junior author's name appears in marginally smaller letters than the senior's.

A recent variation on the senior-junior arrangement is the author-successor partnership. Here, an aging author writes a book or books with an up-and-coming name who will, presumably, take over when he/she goes to the great word processor in the sky. Thus, Arthur C. Clarke wrote the *Time Odyssey* trilogy with Stephen Baxter, who is arguably the closest thing to a Clarke successor. Similarly, Anne McCaffrey's collaborations with her son Todd were a step along the way in turning the Dragonriders of Pern series over

to the younger McCaffrey.

Another type of senior-junior partnership enjoyed a vogue in the 1980s and 1990s: the franchised universe. In these cases, the senior author created a background and perhaps a few scenarios, then a junior author or authors wrote the actual books. When the books are printed, the senior author's name generally appears in giant letters near the top of the cover, while the junior partner's byline is in much smaller type toward the bottom. You may remember such examples as *Isaac Asimov's Robots in Time* series, *Arthur C. Clarke's Venus Prime* series, or anthologies set in the *Man-Kzin Wars* period of Larry Niven's Known Space universe. Franchised universes have become scarce nowadays, perhaps because sales never met publishers' high expectations.

Lately, in the odder corners of the field, there have been a number of "collaborations" with long-deceased authors, especially those whose works have passed out of copyright. Jane Austen is a frequent target; currently there are two different books titled *Pride and Prejudice and Zombies* (one by Seth Grahame-Smith and the other by Steve Hockensmith, if you can't resist), and we've also been treated to *Mansfield Park and Mummies* (by Vera Nazarian) and *Sense and Sensibility and Sea Monsters* (by Ben H.

Winters). The true SF reader will naturally gravitate toward Winters' joint effort with Mr. Tolstoy, *Android Karenina*.

Of course, another collaborative model that's akin to the franchised universe is the familiar media or game tie-in book. In this case, the franchised universe is itself a product of collaboration; in addition, the "universe" has an existence outside the books—the original movie, TV show, or game that inspired the whole thing.

A rather more interesting type of collaboration is what's known as the "shared world." In this type of collaboration, all the participating authors have a hand in creating the universe, the characters, and the plots. The granddaddy of all shared worlds was the fantasy series *Thieves' World*, conceived and coordinated by Robert Lynn Asprin. Well-known SF examples include Harlan Ellison's anthology *Medea: Harlan's World* and C. J. Cherry's *Merovingen Nights* series.

In the final analysis, though, the entire SF field is, in a way, a great big collaboration among all the authors out there. Isaac Asimov reacted to stories of robots run amuck by creating the Three Laws of Robotics. Many Golden Age authors considered John W. Campbell, Jr. to be an unaccredited collaborator on most of their works. Gordon R. Dickson responded to Asimov's *Foundation* series with his own

*Dorsai* books, which in turn helped inspire the whole subgenre of military SF. After reading Robert A. Heinlein's *Starship Troopers*, Joe Haldeman wrote *The Forever War*. And so the collaboration continues, a worldwide multi-threaded conversation that's been going on for the better part of a century... and shows no sign of tapering off any time soon.

War World: Discovery

Edited by John F. Carr

Pequod Press, 387 pages, \$42.50 (hardcover)

ISBN: 978-0-937912-09-6

Series: War World 9

Genre: Military SF, Shared World

About twenty years ago, Jerry Pournelle and John F. Carr brought about a shared world series called *War World*. The five anthologies and two novels of the original series featured stories by a raft of authors, including Poul Anderson, Larry Niven, Mike Resnick, Susan Schwartz, S. M. Stirling, Harry Turtledove, and William F. Wu. The stories were as diverse as their authors, ranging from pure military strategy to humor to surprisingly tender fables. The last volume, the novel *Blood Vengeance*, appeared in 1994, and the fun was over.

At least until 2007, when John F. Carr brought War World back in *War World: The Battle of Sauron*. Apparently, his

intent is to bring the entire corpus of War World stories back into print, supplemented with a substantial number of new stories, portraying the saga in chronological order (the original volumes jumped around haphazardly through history). *War World: Discovery* is the first volume in this grand reissue.

The War World is Haven, a just-habitable moon of a gas giant called Cat's Eye. In the future, Haven will become a battleground between humans and the Saurons, a genetically-enhanced master race bent on universal domination. In the beginning, however, Haven was a peaceful colony that soon became a prison planet, a dumping ground for malcontents and undesirables of all types. When criminal gangs take over the place and start causing trouble, the Imperial Marines are sent to bring peace to a planet everyone considers a hellhole.

Of the fourteen stories in this volume, four are republished; the other nine are brand-new. Work by ten authors is included. And while the price tag is a little steep, if you're a fan of War World and want to see how it all began, it's worth it.

*Home Fires* Gene Wolfe

Tor, 304 pages, \$24.99 (hardcover)

Kindle: \$11.99

ISBN: 978-0-7653-2818-2

Genre: Adventure SF

You probably think you know what to expect from Gene Wolfe: A big, literary book; if not strictly fantasy, certainly far enough in the future that advanced science looks and acts like magic; a grand epic with characters out of mythology.

Well, Wolfe still has a few surprises up his sleeve, and *Home Fires* is one of them. The setting is North America in a future that's not so terribly unfamiliar. Skip Gryson and Chelle Sea Blue meet in college and fall in love. They soon marry, and start about the business of living happily ever after, but war intrudes... interstellar war.

Chelle, a military woman, is sent to distant stars to fight nefarious aliens. Skip stays home, becomes a lawyer, and builds a tremendously successful practice. Decades pass, yet Skip waits faithfully for Chelle's return. Finally, the day arrives.

Of course, relativity has worked its magic; decades to Skip have been months to Chelle. Her military service, and the injuries that sent her home, have changed her—much as Skip's years have changed him. Yet the two (somewhat to their mutual surprise) are still in love.

They set off on a Caribbean cruise, and that's when the trouble starts. Their ship is hijacked, and suddenly they are up to their necks in pirates, alien spies, and a war that has come to the home front.

*Home Fires* is an adventure story, a love story, and the flip side of the standard "going to the stars to fight aliens" story. The book is fast-paced and quite accessible, and shows that Gene Wolfe is as much at home writing adventure as he is writing epics.

*Empress of Eternity* L. E. Modesitt, Jr.

Tor, 336 pages, \$25.99 (hardcover)

Kindle: \$12.99

ISBN: 978-0-7653-2664-5

Genre: Far Future/Clarke's Law

But suppose you're in the mood for a grand, far-future epic? Then you'll definitely want to take a look at L. E. Modesitt, Jr.'s *Empress of Eternity*. Modesitt takes a break from his long-running Recluce Saga to present not one but *three* far-future societies, in three widely-separated eras across geological eras. All three exist on Earth; an Earth whose main continent is split down the middle by an eternal, imperishable canal. The canal is a complete mystery; no one knows who built it (if indeed it *was* built), why it exists, or how it remains undamaged across millions of years. Where the

canal meets the sea, an indestructible building stands, empty and enigmatic.

In parallel stories, scientists from each of the three eras seek to uncover the secrets of the canal. Similar patterns repeat, and we come to understand that the three societies are somehow linked. Still the canal remains unknown, unexplained, unresponsive... until one of the societies, the Vaniran Hegemony, breaks apart in religious war. One faction produces a fearsome weapon that can seemingly destroy anything, even to the point of shattering the structure of the universe. Through the same forces that have entangled the three eras, this ultimate weapon now threatens all three eras with destruction.

Now the forces responsible for the canal react, and the three scientific teams find themselves working together to save their civilizations and the rest of life.

Modesitt is an old hand at making big, epic stories accessible through sympathetic and believable characters. He's a superb storyteller, and here he's produced a standalone novel that is more than a little reminiscent of the best time-spanning tales of Arthur C. Clarke. If you've never had the pleasure of reading his work, you could hardly find a better introduction. And if you're a long-time Modesitt fan, you definitely won't want to miss this book.

## *Little Brother's World*

T. Jackson King

Fantastic Books, 214 pages, \$13.99 (trade paperback)

Kindle: \$12.99

ISBN: 978-1-60459-940-4

Genre: Other Worlds

Life on the colony planet Mother's World is safe, secure, and regimented by the Church of Flesh. Society is structured around citizens' genetic inheritance: good genes are rewarded, bad genes discouraged. All citizens have their gene codes tattooed on their arms, so that everyone knows their place and things runs smoothly... for most, anyway.

But this is science fiction, and we know that all the interesting stuff is happening at the margins of the society. In particular, there's the Alor City Dump, where outcast scavengers make a living off the garbage of the more fortunate.

Little Brother, an orphan, has grown up in the Dump and knows no other life. Little Brother is different—he has no gene code. One day, while scavenging, he finds a girl named Sally hiding in the garbage. Sally is a Breed, with one of the most valuable genetic legacies on the planet.

Little Brother rescues Sally, and there his problems start.

Before he can sell Sally back to her family, her parents are murdered. Sally's family, it seems, has attracted the attention of the Church of Flesh.

So now Little Brother and Sally go on the run, through the underbelly of Mother's World. In the course of their flight, Little Brother finds out why he is the only person without a gene code... and also learns that he, unexpectedly, holds within his hands the power to topple the caste system and bring change to Mother's World.

If you're sensing a whiff of André Norton or Robert A. Heinlein, you're not mistaken—those are the first two names in T. Jackson King's list of acknowledgments. The influence is certainly there, but *Little Brother's World* is no mere imitation of *Star Man's Son* or *Citizen of the Galaxy*. Rather, it takes the sensibility of those sorts of books and makes of it something fresh and new. T. Jackson King is doing his part to further the great conversation of science fiction; it'll be interesting to see where he goes next.

Don Sakers is the author of *The Leaves of October* and *A Voice in Every Wind*. For more information, visit [www.scatteredworlds.com](http://www.scatteredworlds.com).

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## Brass Tacks

Dear Analog,

The Alternate View column in the 2010 September issue showed an alternate history in which “Climategate” apparently found some issue with the scientific evidence for climate change, instead of inspiring multiple reviews that found no problem with the science or the data. Bluff called and folded. The author muses about what a world without AGW would look like. Apparently in that alternate history the MV *Manhattan* had no trouble trying to transit the McClure Parry NW Passage in 1969 September, or such transits were too common to mention. In our history *Manhattan* repeatedly got stuck in 20-meter pressure ridges. USACG Ice Breaker *Staten Island* was unable to free the *Manhattan*, leaving the job to the Canadian ice breaker sent along as an unwelcome escort. Eventually *Manhattan* gave up on the deep water international passage and took a more southerly route through risky, shallow, narrow, passages that are inside internationally recognized Canadian territorial waters. That is what a world before significant AGW looked like. Ships such as the *Manhattan* would have had no problem doing a

Transit of the McClure Parry NW Passage in September of 2007, 2008, or 2009. What a change in four decades. The Bremen based Beluga Group sailed a convoy of heavy lift ships carrying electric generator components massing 100s of tonnes each from South Korea to the north coast of Siberia in 2009, carrying on to Home Port in Bremen for a complete transit of the Northern Passage. That is just one way a world with AGW differs from one without AGW.

Kelly Manning

Dear Dr. Schmidt,

On reading the article and the story about phantom sense in the November issue, I immediately thought of controlling prisoners and combat soldiers and even general populations using that technique. When shall we read a story about that? And why is the technique limited to insects? Imagine, if you will, controlling packs of wolves or the like in combat.

I'll finish by telling you that I don't believe I have missed an issue since 1939.

Yours truly,

William F. Steagall, Sr.

*Analog,*

I am a long-term subscriber, and usually don't have much to say, but I would like to say this: stories like "Outbound" [November 2010] are the reason I read the magazine.

If you had more like that, I might take out two or three subscriptions!

James Morton

Don Sakers,

Your Reference Library in the November 2010 issue about Space Opera was right on. Some of that old stuff needs to be reprinted. A great but often overlooked story is the "Earth Dreams" trilogy by Janet Norris. Written in adult language (words longer than four letters) by someone who thoroughly enjoys *using* the English language.

Alan Townsend

Dr. Schmidt:

Try to imagine my complete, total, utter surprise when I finished your editorial "Euthanizing the Euphemism" [December 2010] and found myself in complete agreement with you. While we are putting the euphemisms out of our

misery, let's round up the whole clan including "legalese" and "statutory language" and stuff them down the same hole. When I look at C-SPAN and hear the clerk of the House read the title of a bill that includes "... and other purposes" it's all I can do to hold in the screams. When I hear some career politico say of an unpopular bill "we're going to *rebrand* this" my head explodes.

The fact is we are losing our language. It is being dissolved in a soup of Orwellian doublespeak and deception masquerading as communication. I submit that this is more than merely unfortunate, it is dangerous.

John Jarrell

San Antonio, TX

Dear Mr. Schmidt and Mr. Tourtellotte:

I'm joining thousands of other *Analog* readers in pointing out that aluminum is an inexpensive, lightweight but formerly high-value metal for time travelers needing money in the past ("Budget Tips for Time Travelers," *Analog*, December 2010). I recall an aphorism pre-dating the development of the electric aluminum extraction process, to the effect that gold tableware is suitable for entertaining the nobility, but to impress visiting monarchs you set out the aluminum utensils.

Richard M. Boothe

Seal Beach, CA

P.S. RE: "Primum Non Nocere," by H. G. Stratmann (same issue). Until I read that the government classified the MNM's Thanatos software Top Secret on page 98, I was wondering why the liability lawyers, the ACLU, and the Churches weren't screaming bloody murder. Guess I ignored Stratmann's foreshadowings.

Dear Dr. Schmidt:

In his essay "Tips for the Budget Time-Traveler," Shane Tourtellotte missed one good possibility. A time-traveler could likely make a large amount of money in the past by taking only the parts of certain "high-tech" devices that cannot be made in that past world. His character Americus might have taken a box of glass lenses to Augustan Rome, then mounted them in wooden tubes and sold the resulting spyglasses. Or he might have taken a box of magnetized needles, then made and sold magnetic compasses (note that as late as the nineteenth century, European travelers carried compasses to help them find their way across the still unmarked landscape). Or consider, staying on the subject of needles, how much a Roman matron would pay for a

stainless-steel sewing needle and how many of those come in a kilogram.

I must say that I felt sorry for Americus humping his supplies across the Italian landscape on his back. Modern explorers carry their supplies, when the terrain allows, on small, bicycle-wheeled rickshaws. Mr. Tourtellotte really should have equipped Americus with one of those before he sent the poor man boppin' up the Via Flaminia. For the time-traveler who intends to return to the present, a rickshaw could easily carry the hundred or so kilograms of gold (at a little over \$42,000 per kilogram by Tourtellotte's figures) that he gains from his sales of cheapo, transparent plastic rain capes and divinely comfy rubber sandals. Yeah, the road to riches lies open before us: all we need is a working time machine.

Cordially,

Dennis Anthony

Dear Stan,

As a biologist, and also as a writer of SF, I'd like to weigh in with what is the usual cautionary note of placing too much emphasis on accuracy in SF stories. Some of the things we think we know are absolutely correct, some are only partly correct, and some are just plain wrong. Unfortunately, at a

given moment, if you could collect up-and-down votes on all these things, you would never find a perfect consensus on what “fact” fits in which category—truth, half-truth, or cockamamie claptrap.

Fortunately we have writers, and more specifically, SF&F writers.

Fiction writers are by their very nature communicating mostly half-truths. *Especially* SF writers. The neat thing about half-truths is, occasionally, the half that some of us know is false inspires some of us to go check, and, sonuvagun, there might be something there! A submarine powered by an unknown and virtually inexhaustible source of power in the 1860s? Hmmm. Well, gimme ninety years, maybe we educated scientists can come up with something. A canon shooting human hitchhikers to the Moon? Whoa! I’ll go for half of that idea—reaching the Moon by an explosion of somewhat lengthened duration, and also give me about those same ninety years. (Who knows, if Verne hadn’t made those outrageous solutions seem like fact, the Nautilus [hey, where did we get that name?] and Apollo might never have happened.)

One of the complaints of publishers in Jules Verne’s day, for instance, concerning *Around the World in Eighty Days* in its original incarnation as a story about a balloon trip across

Africa, was “it is too scientific.” In fact, I’ve heard a lot of modern young readers groan when they have had to read an unabridged English translation of *Twenty Thousand Leagues Under The Sea*. Most common word: “B-O-R-I-N-G.” Verne tried very hard to please the scientists of his day by ladling on a *lot* of then-known science. Which helped them digest, perhaps only partly, the “nonsense” (non-science) parts of his guessing and imagining.

He was, however, *very* lucky to get published at all. It took a publisher, Pierre-Jules Hetzel, “with vision” (perhaps out-of-focus vision, to some tastes), to realize the genius of Verne’s writings, and to guide him and support him and *publish* him; to bring Verne and his ideas to our world of the future. A world that might have been very different without him.

Still, by all means check your facts with scientists and experts in whatever fields may be called for. You rope in more readers that way (e.g., see Verne). But don’t check your imaginings of how things *might* work, especially somewhere else. Earth is a tremendously rich book instructing us in the complexity of the universe, but it ain’t the only tome in the stacks. We just haven’t checked those others out of the library yet. And we likely won’t, unless writers can keep the rest of us enthused in tending to the task of reaching for the next book.

Jack Egan

Kent WA

*Analog* staff,

I have been reading *Astounding/Analog* since the 1950s. Finally, I want to give you some feedback. I want to offer my thanks to everyone connected with *Analog* for putting your time, energy, and soul into the magazine. In particular, the value of John Cramer's articles alone are worth many times the cover price. I know that no one is getting rich from working on *Analog*. That makes your contributions that much more precious. Thank you!

Fred Stahl

*Thanks very much for your kind words. Since most readers tend to write only when they have a complaint, a note like yours tends to make our day.*

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## UPCOMING EVENTS

*Anthony Lewis*

### **16–20 March 2011**

International Conference on the Fantastic in the Arts (academic conference: The Fantastic Ridiculous) at Airport Marriott Hotel, Orlando, FL. Guests of Honor: Connie Willis, Terry Bisson, Andrea Hairston. Registration and tickets: see website for details. Info: <http://www.iafa.org/>

### **25–27 March 2011**

NOVA ALBION STEAMPUNK EXHIBITION (theme: Wild Wild EAST) at Hyatt Regency Santa Clara, Santa Clara, CA. Guests of Honor: Cherie Priest, Paul Guinan, Annina Bennet. Outdoor kinetics and steam enclosure, hands-on maker workshops, academic presentations, panel discussions, book signings, three vendor areas, a museum of curiosities, art gallery, game room, Miss Kalendar's Salon, and the Asian Steampunk art of James Ng. Tickets: \$40 (subject to increase). Info: <http://steampunkexhibition.com/>

### **9–11 April 2011**

AD ASTRA 2011 (Toronto-area SF conference) at Toronto Don Valley Hotel and Suites, Toronto, ON. Guests of Honor: Cathy Palmer-Lister, Aaron Allston, Todd McCaffrey, Eric Flint, Robert J. Sawyer, Robert Pincombe. Info: <http://www.ad-astra.org/>; [info@ad-astra.org](mailto:info@ad-astra.org); PO Box 7276, Station A, Toronto, Ontario, M5W 1X9, Canada

## **22-24 April 2011**

MINICON 46 (Minnesota SF conference) at Bloomington Sheraton, Bloomington, MN. Author Guest of Honor: Charles Stross; Musician Guest of Honor: Chas Somdahl. Membership: \$45 until 31 March 2011, \$60 at the door; students (13-20): \$30 until 31 March, \$35 at the door; kids (6-12): \$20. Info: <http://www.mnstf.org/minicon46/>; [request@minicon46.mnstf.org](mailto:request@minicon46.mnstf.org); Minicon 46, PO Box 8297, Lake Street Station, Minneapolis, MN 55408

## **28 April-1 May 2011**

WORLD HORROR CONVENTION at Doubletree Hotel Austin, Austin, TX. Guests of Honor: Sarah Langan, Joe Hill, Joe R. Lansdale, Vincent Chong and Brian Keene. Membership: \$125 until 1 March 2011, \$150 at the door, supporting \$60. Info: <http://whc2011.org/>; WHC 2011, PO Box 170045, Austin, TX 78717

**17–21 August 2011**

RENOVATION (69th World Science Fiction Convention) at Reno-Sparks Convention Center, Reno, NV. Guests of Honor: Ellen Asher, Charles N. Brown, Tim Powers, Boris Vallejo. Membership from 1 October 2010 until some later date (see website for latest details): Attending-Adult: \$180; Attending-17 to 21: \$100; Attending-0 to 16: \$75; Supporting: \$50. (Ages as of 17 August 2011.) This is the SF universe's annual get-together. Professionals and readers from all over the world will be in attendance. Talks, panels, films, fancy dress competition—the works. Nominate and vote for the Hugos. Info: <http://www.renovationsf.org/>, [info@renovationsf.org](mailto:info@renovationsf.org), PO Box 13278, Portland, OR 97213-0278. Facebook: <http://www.facebook.com/pages/Renovation-The-69th-World-Science-Fiction-Convention/112169025477179?ref=ts>; LiveJournal: <http://community.livejournal.com/renovationsf/>

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