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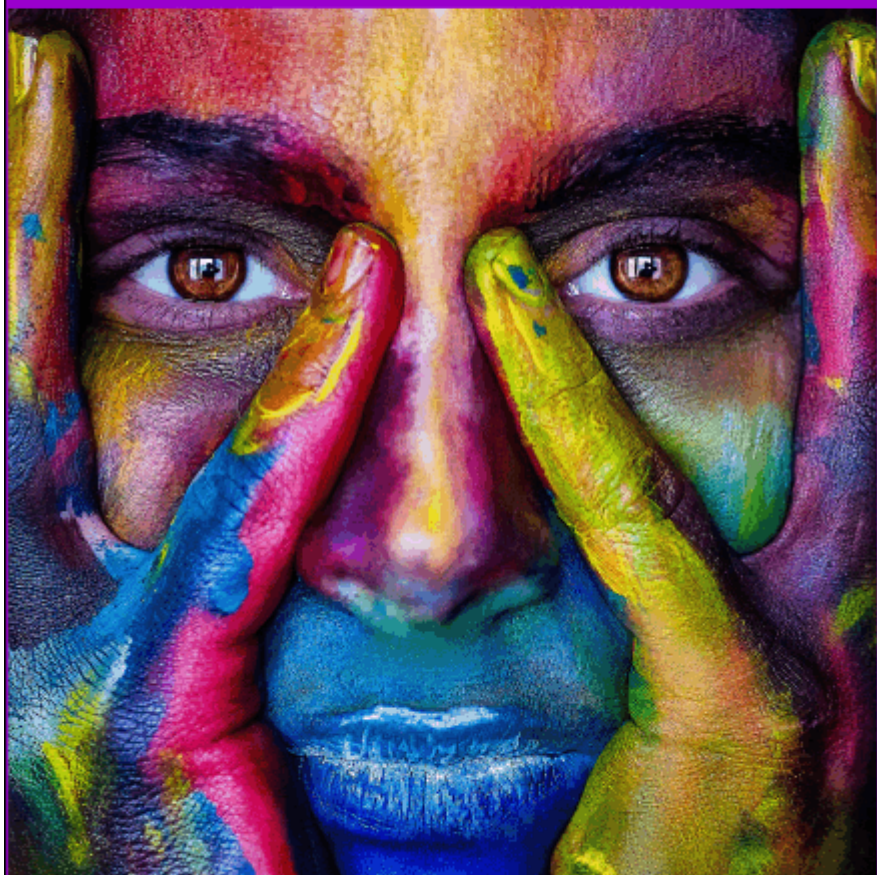
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Hot Wheels

Cool Assassins 2



J. O. Quantaman

20. Fast Food

Kuala Lumpur: 12 May 2076, 5:40 p.m.

Tuesday, 12 May 2076, 09:40 UTC

Jen Marov appears elfin in the “shotgun” seat. Her posture is ram-rod straight which offers greater depths of sight.

Sedans, mopeds and taxis are passed in bunches. Dozens of near misses unfold as the Humvee swerves around inimical fenders and goes for open tarmac. Jen can't fault her partner's road savvy, but it grates to hunker down as cargo, while someone else makes the split-second calls.

Behind the wheel of the modified Humvee sits her driver who has the height and demeanor of an Amazon. JoAnna is a feisty redhead who charges through life, forcing man-sized hulks to step aside. Deltoids and triceps crinkle the folds of her uniform as she twirls the steering wheel.

Five blocks later **Jen** is aghast. Her getaway doyen wants to stop for lunch which will forestall their escape. If caught, Rathbone's roosters will snuff them on sight for their attack on Petronas tower 2. If that isn't bad enough the Malaysian Special Branch will soon brand them public enemies' number one and two.

“Fast food ain't healthy,” Jen grumps. Empty stomach or not, she'd rather keep going.

_Why give our pursuers
_a chance to catch up?

Between rows of parked cars, the Humvee searches for a parking space where an oversized vehicle might fit.

“The grub will be good,” says Jo, backing into an unassigned corner. The Humvee rests on a diagonal encroaching on two adjacent spots. It won't hinder traffic, though the front bumper sticks out like a pelican's beak.

“Good for what?” Jen retorts. “We should be headed to Singapore.”

“Too early for the highway.”

“North-South is a multinational expressway. Rathbone wouldn't dare target us with hellfire.”

Her driver makes a face that brooks no arguments. “Out!”

Jen gives up and resigns herself to a delay for brunch. She hopes the feisty redhead will divulge her plans over dinner.

The familiar McJoys logo flashes on top the artless glass box. From the outside it looks the same as a **McJoys** in Moscow, London or México City. The interior is an eyesore of plastic dishware and disposable utensils for work-a-day urbanites. Most fixtures are anchored down to dissuade vandal-prone roughnecks.

Halfway through the door, Jen grumps, “Miz Hell on Wheels, if we end up eating **sc lup...**”

“We won't. I promise.” Jo flashes a grin that softens her yellow-eyed glare. “And hey! Don't trash my driving, or I'll dump you in the gutter.”

“All fast food is trash.”

Her driver makes a face. “S'pozed to be a surprise, but since you're so damn skeptical...”

“Just being realistic.”

“Listen up, Miz Hurricane. My friend upstairs wired his cousin who's the franchisee of this McJoys. The cousin happens to be a devoted fan of your aerobatic crowd pleasers.”

“Imperial Circus was ages ago. I'm surprised anyone remembers.”

“Njoek-Fa does,” says the redhead. “He'll serve buckwheat noodles in veggie-wonton soup.”

“Buckwheat? I'm leaping for joy like a three-legged frog! But wait.. He ain't s'pozed to know I'm alive.”

“It's OK. He knows Cook from way back.”

“Smells rotten in Denmark. But I can't refuse buckwheat. Hold on while I use the Ladies.”

“Fine. I'll tell the kitchen we're here.”

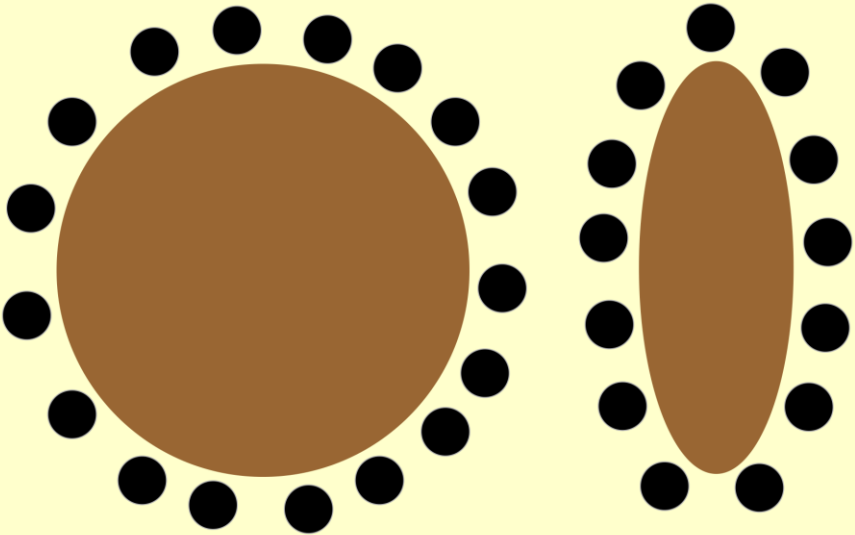
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The big redhead hasn't returned from the kitchen, so Jen chooses a table and settles into a stiff-backed chair. The overhead lights bedazzle like tropical sunlight, yet the air inside is nice and cool.

Her square table looks the same as all the others, each surrounded by four plastic chairs. The treadwheel décor tends to minimize chitchat and speed the flow-through of diners. Most of the tables have single diners, and none has more than two. It's anyone's guess why McJoys is the most popular pitstop for eat & run **quebies**.

_Sure ain't like home. I'll
_ring Jo's neck if the food
_proves as bad as the décor.

DB's Cafeteria Tables



At the front counter a teenager is making food choices, slotting his smartcard to pay. The robotic vendor takes a moment to read and approve before the dinner tray rolls out via a conveyor belt.

McJoys is automated, same as **DB's** cafeteria, but that's where the similarity ends. DB has larger tables that host friendly chitchat.

The cafeteria ambiance is informal. Rundogs dine at circular tables, so more acolytes can join in and ask questions. The answers flow both ways, and Jen has gained crucial insights while plumping her stomach.

Fresh out of the kitchen, Jo is lugging a large tray loaded with six plastic bowls and two glasses.

Jen frowns.

_The dishware looks tacky.

_Why cart half a-dozen bowls?

“Don't know about you,” quips her driver, “but I could eat a whole alligator purse.”

“Make mine rattlesnake soaked,” Jen replies in the same overloud voice. Without warning, her stomach has grown hollow.

_How'd my gut

_get so empty?

“Soaked in what?”

“Horseradish.”

“Suit yourself,” says the big redhead, twitching her lips. She places the tray on the table and sits.

“Sorry about the plastic bowls,” Jo confides in a quiet voice. “Other diners would notice if we used ceramic. Gossip or hearsay could get back to Rathbone's **roosters**.”

Jen glances at the other clientele. No one is closer than three tables away, and none seems interested in the weird gabble of two women.

She thumbs her head at the attendant who's standing in the corner. “*He* why we're talking overheard nonsense?”

“He's the house busboy and for-show bouncer.”

The middle-aged bouncer has the pear-shaped physique of a devoted couch potato. “He'd have trouble fending off a horsefly,” whispers Jen.

“He and the clientele don't worry me,” Jo whispers back. “It's the audiovisual pickups. Best we keep mum, so Njoek-Fa isn't hassled with questions after we split.”

Jen finagles a noodle around her chopsticks and feeds her mouth.

“Mmm, good food! Gimmie another truckload.”

_Midget size is deceptive. My appetite
_craves more food per-kilo of body
_weight than 120-kilo man bears.

“Be glad I brought three bowls apiece,” says the redhead, projecting her voice like a mountain yodeler. She lifts one end of the tray and pulls out an old-fashioned poster of a young woman in a glittery circus costume.

Jen's eyes bug out, her jaw drops.

_That's me posing as a bubblegum diva.
_Must've gotten recorded decades ago.
_PR for the Kuala Lumpur tour stop.

Her driver whispers, “Njoek-Fa requests your autograph.” Handing over a ballpoint pen.

“How's *his* name spelled?”

“Beats me.” Shrugging. “Do your worst.”

“Yeh. Right.” Jen wrinkles her brows, scratches her autograph and slides the poster under the tray. “Can you handle three bowls?”

“I emptied my purse to get this hide. If I don't fuel-up I'm liable to drive through walls.”

“Forget I asked,” Jen mutters, dips her chopsticks and scoops another wonton. It tastes better than advertised.

_Rice and beans inside pasta,
_a mountain climber's banquet.

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“How'd my protégé ever team up with Shepp?” asks Jo.

“Your protégé...” Swallowing a mouthful. “You mean Nyssa?”

“Of course, *Nyssa*. Who got her going when no one else could?”

“Only 'cuz she thrives on your scare-'em-outta-their-wits school of teaching.”

“Ha, ha, ha,” **JoAnna** chortles. “Tell me yours ain't terrified when

they dangle from a vertical rock face.”

“*Touché.*”

“Shepp and Nyssa make unlikely partners,” muses her driver.

_I wonder if Jo is jealous of Shepp.

_The Kenyan womanizer has kept

_the liaison Platonic and followed

_the ethical guidelines to the letter.

“Shepp's not bad,” Jen offers. “He goads her with reverse psychology. Nyssa oughta earn her blackbelt before summer.”

“Fantastic! She must've glued Shepp to her futon.”

“No. She found another.”

“Holy **fu**xgate! Don't tell me she got Cook outta his funk.”

“No.” Jen swallows a mouthful of noodles. “Outside of DB... She fell for the rooster.”

“The security chief?” Jo halts loaded chopsticks in midair. “The guy she tricked into loading the **holovid** worm?”

Jen nods and shrugs.

“How'll they ever get together?”

“Cook made sure Nyssa darted the rooster, so she'll hafta face him in a duel. Poor guy will be irked, but he's **def** gone and besotted.”

The big redhead slaps her palm on the table. “Cook playing cupid?”

“In lieu of Nyssa's crush, he jumped on the rooster as the perfect stand-in.”

“Rooster got any skills?”

“Yeh. He tinkers with surveillance gadgets.” Jen tilts her bowl and guzzles broth then eyes her partner. “Gonna finish your last bowl?”

“Keep your hands in your pockets. I take my time 'cuz of my 'Southern' breeding. I ain't no Yakut peasant like you.”

Jen gives her head a mental shake.

_Jo's “Southern” breeding has

_been endowed by driving a taxi

_through the precincts of Miami.

“Tell me about your gig upstairs?”

Jo takes a deep breath and lets out a long sigh. “Can you believe the soupers were testing the **3-kilom run** at 85% gravity? And the **ellipsoid chamber** at Martian gravity?”

The redhead shakes her head in spite. “They claimed to be practicing for low-grav maneuvers, but low-ball gravity makes the physical tests a mockery. I moved the track and chamber to the rim. And I threatened to demote belt colors if they didn't perform in earthlike grav. Then I led the training stints and oversaw circle bouts till my puppies grew tough as rhino hides.

“And none too soon. A saboteur had to be taken care of. He almost managed to wreck the Tesla-2 soupcan. Timekeeper helped me track down his accomplices, and I uncovered some skeletons in the closets, which opened a can of worms. Solar plexus! I hate dealing with sapsucker politicians. Upstairs has had it too easy for too long.”

“SOAR has done away with politicians.”

“Yeh, yeh. We appoint observers on a short leash to keep the bureaucrats honest. But there's no stopping the busybodies who slant popular opinion and start urban legends. They've pegged me a holy terror 'cuz I accused a few slipshod officials.”

“You get tunnel vision at times, Jo.”

“Tunnel my ass,” she growls. “I had plenty evidence to back me up. Trouble is **soupers** have lost interest in the earth's problems. They've become insulated from transnat threats. They take security for granted, counting themselves safe without paying the costs.”

“I hear you. But tell me about your recreational pursuits.”

Her driver raises her brows and grins like a fiend. “I've grown too old to troll for cougar delights. So I hooked up with a research physicist who's on the cutting edge. I got him believing the secret to zero-point energy lies between my legs. How about you?”

Jen feels nonplussed and inadequate.

_Nothing I've done in the past

_year can match such bravado
_and flamboyance. My life is
_stuck in the rut of routine.
_How do I compete with a gal
_whose sweet spot holds the
_secret of zero-point energy?

“Come on, Pix. Don't be shy.”

“Just the same old...”

The big redhead bursts into laughter. “As if Griz and Shepp aren't fighting like mad dogs to share your futon.”

“They're competing across the chessboard since I told them I'd bed whoever gets the worst injuries.”

“Gals in the co-op wet their panties just thinking of your beauhunks.”

“I don't hold 'em on a leash.”

“No need. Once they get a whiff of your horseradish, they're goners.”

“Solar plexus! Forget about Shepp and Griz. Did'ja know this raid is on DB's nickel?”

“Ah ha! You're worried about extra costs.”

“Well...”

“I knew it! You should've refused when Cook asked you to keep DB's books. You can't enjoy R&R while trying to balance the damn ledgers. Bookkeeping takes too much time and effort, to say nothing of your mountain climber's class.”

“It's not that bad. Our finances are in good shape unless a surprise expense comes lurking around the corner.”

“Ha! You can't enjoy a snack without fretting over spreadsheets.”

Jen rolls her eyes. “Does your physicist really buy the claims of unlimited energy?”

“Def sure! He's convinced I'm the spark in the void, the mother of all delta-Vs. He pokes the embers and gets the campfire glowing. Then we bask in radiance till our jugs boil over and spit neutrinos like geysers.”

“You're pulling my leg.”

“Not at all,” says Jo. But her eyes and mind are elsewhere. She lays chopsticks across the soup bowl. “I don't like the look of the SUV that just arrived. Hold the fort, Pix. I gotta visit the Ladies before those guys come in and order dinner.”

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Jen peers longingly at her driver's half-empty bowl with its slew of noodles and at least one juicy wonton.

_Would she notice if I
_took some noodles?
_Would she mind?
_She's gone to the can
_to give us a quick exit.
_If we're forced to run
_the soup would go uneaten.

She reaches out and draws the soup bowl closer.

_Can't let wholesome
_food go to waste.
_Yum! Buckwheat.

The bright interior of McJoys matches the afternoon sunlight outside. The support columns that frame window panels have been polished to a mirrorlike finish. Jen uses one of them to keep an eye on the suspect SUV.

A burly man steps out of the passenger side. He stretches limbs before approaching the restaurant. He's wide-chested, muscular and capable of bone-crusher shakedown.

Jen applies the chopsticks and brings a squiggle of noodles to her mouth. She chews the noodles then forks the last wonton home. Her peripheral vision watches him saunter through the doorway. She hears his footfalls, while tilting the soup bowl to lap residue broth.

_The hulk ain't looking for dinner
_unless he wants *me* to feed him.

She eyes his partner's reflection in a support column. The SUV driver is out and leaning on the front fender.

Jen sets the bowl on the table and finds the hulk standing across the table. Tall as Griz and as big around, he's more than twice her weight. He sports a grin that shows more menace than good will.

"Mind if I join you?" he asks.

"Three's a crowd," she warns. "My partner will be back in a sec."

"No prob," he says as he sits. "I just wanna ask a few questions."

She makes a face.

"I won't touch your, ah, dinners," he adds as if to make amends.

Jen takes two slow breaths before she speaks. "You've hijacked my partner's chair."

Ignoring her comeback, he points outside. "That your Hummer in the corner? A fine vehicle. Tell me where you're off to next, and I'm outta here."

"Leave now, before my partner gets back," she growls.

He appears amused, but his eyes are stone cold. "I ain't leaving till you answer my questions."

"Suit yourself," says Jen. She gets up, walks away and squats in an empty chair three tables distant.

He throws his arms overhead. From support-column reflections, she spots his partner coming toward the restaurant.

_Ah ha! The arms-up routine must

_be their inhouse signal for backup.

His partner is similar in height but lankier, more like a string bean. She reckons his crotch is at the same height as her standup belly button.

_I hate violent clashes.

_But this one seems unavoidable.

The beefy guy has followed her to the makeshift table. He plops down and gives her the wolf's-head glare.

The backup dude stands in her rearview about three tables away. He's likely packing and ready to pounce if needed. Nearer to hand the

heavy-set dude gets right down to business. "OK, Bitch," he snarls.

"Before I count to three, spit it out."

_That settles it. I'm

_dealing with two **mercs**.

"What was the question again?"

His face boils over. "I asked *where* you going after lunch?"

"Thank you," says Jen as she gets up. "Gimmie a raincheck."

He grabs her forearm.

Wearing sure-grip footwear, Jen knows how to maximize her 44-kilo frame. She plants both feet, leans back and brings her weight to bear.

The rooster rises, taking an involuntary step forward, knocking the corner of the table awry. She pulls hard till he takes another step. He swivels hips and swings his free hand wildly, reaching to grab and take charge.

Jen switches tactics. She lets momentum reel him in. Then she jabs a hard punch to his solar plexus.

This close-quarter punch has been applied thousands of times in bouts of martial arts. It's her stock response when muscular foes like Griz get inside her guard. The solar plexus is a beefy slab that protects vital organs. She has never seen a slab thicker and tougher than Griz's, but this dude's comes close.

The effect of any punch is determined by two factors. First is the amount of force brought to bear. Second is the area of contact where fist meets flesh. Jen doesn't have the oomph of a 100-kilo male, but her knuckles cover less area than most men, and her punch impacts as hard as a prize fighter.

This kind of strike has usually pushed air from Griz's lungs and suspended flow in his arteries. He was stymied, giving her an easy escape. She expects a similar boon from this dude, but she's astonished when her fist plunges down to the wrist.

_His muscular slab must've grown

_from under-the-counter steroids.

_Body-builder muscles don't react
_as quick as muscles hard-earned
_from exercise. Nor can he count
_on superluminal channels that are
_acquired with the mastery of **qat**,
_channels which surge faster than
_signals from the nervous system.
_I sure didn't mean to burst
_an artery and cripple the oaf.

She has no time for regrets, for his backup threatens to attack her
blindside. From her previous estimate, she can gauge the height of his
family jewels. This info comes in handy when she hears the approach of
his footfalls. Without bothering to see her target, she launches a
backward kick at his crotch. Thanks to her *third eye*, it connects
bigtime.

His posture withers and crumples forward while she pivots on her
stay-at-home foot. She grips the back of his head then drives his face-on
her raised knee. Cartilage crunches and nasal blood spurts. He's down
for the ten-count.

Mere milliseconds have passed since the burly rooster grabbed her
arm.

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She kneels and tends to the brawny merc. He's breathing; his pulse
seems normal, but he's still in dreamland. He doesn't show obvious
signs of internal bleeding, but she's no medical expert.

Her getaway doyen strolls out of the washroom and cries, "Leave you
alone for a minute. And look what you've done!"

"Longer than a minute. Enough for a two-flusher."

"Don't go there, Pix," says her partner in the silky voice of a Southern
Belle. "A *lady* doesn't recount her bowel movements."

"Humph," Jen grumps, unimpressed.

“Njoek-Fa hates to lose paying customers.”

“They weren't here for the grub.”

“No. I guess not.” Jo pulls a minicrossbow from her thigh pocket and slots a knockout **dart**. “Best I make sure these hens stay comatose.”

“Now you regret stopping for lunch, right?”

“No,” says the redhead, rubbing her tummy then darting the beefy rooster. “We're not prime suspects, just persons of interest. The hens found us 'cuz they spotted the Humvee which stands out like a sore thumb. New-model Hummers haven't b'en sold for 25 years. Even harder to score mothballed Humvees at military auctions. Less than half a-dozen here in town, I reckon.”

“No matter, Jo. We're in the bull's-eye now. 'Well-fed and dead' ain't my favorite endgame.”

“Don't fret, Pix.” She fires a dart in the butt of the bloody-nosed rooster. “Rathbone's gonna stay in the dark till salvagers clear the rubble.”

“You sure of that?”

“You saw the neighborhood's narrow streets and wall-to-wall buildings. Missiles are gonna strike buildings and bring down huge piles of masonry.” Jo pauses and grins. “Don't worry, Pix. We can still vamoose, but it'll be up to you.”

“I'm all ears, Jo.”

“Hand your poster to Njoek-Fa. Then ask for some used sheets or packaging wrap, enough to hogtie the hens. I'll stay here and downplay your fisticuffs for the bouncer and clientele. Gotta keep our mug shots from going viral across Indochina.”

21. Princess

One Day Earlier

Kung, Haida Gwaii: 11 May 2076

Raven Rocksong curls in repose. Migrating sunrays fall on facial skin. The warmth arouses a response. Her eyelashes open. The glare overloads sleepy retinas. She bolts upright and kicks blankets aside.

Logs in the downstairs stove, which stoked evening warmth, have since cooled to tepid ash. Foot bottoms greet icy floor as goosebumps erupt on bare arms.

_Any colder and I'd see my breath.

_Voices outside are busy and about.

Crows are poking at fern shoots, scavenging for litter beneath the spruce boughs.

_It's way past dawn. I've overslept

_and breakfast has come and gone.

The view through the window glass is marred with watermarks and splotches of grime.

_Another of my errant chores.

_If Headpa notices he'll say

_I'm not grateful for glass that

_cost two yellow-cedar carvings.

_Oh well, the scrub can wait

_for when I'm not so late.

She tiptoes to the dresser with a broad top that hosts a hairbrush and water basin. Water splashes on chestnut skin and dark-brown eyes. Blood pulses through arteries, senses awaken to familiar roles. Another day to breathe and thrive.

She scans her face in the mirror, contorts facial muscles to look older. She hikes the nightshirt overhead and eyes doughy adolescent curves. The nightshirt smells off, but not bad enough to wash.

_Must be the frequent stints
_in the women's sweat lodge
_which is fun again, 'cuz I'm not
_teased about "little girl" buds.
_This past winter, my breasts
_have blossomed out at last.

She brushes away snarls and recalls yesterday when she watched the night sky with Jade. He pointed out constellations and two planets and drew her eyes to a bright frisbee slow-poking amid the stars.

_His eyes stole glances at my curves
_and my long black hair. His fingers
_strayed to sidelong braids when
_he thought I wasn't looking.

Jade Runner has strong arms, large hands and dark piercing eyes. Gals flit about him like homesick gnats. Before adolescence took hold, Jade was her loyal companion and go-to buddy for dozens of childish pranks.

_Nowadays we've grown apart.
_He hangs out with the fishers,
_while I help Goodma in the garden
_or do errands for Headpa's carvers.

She rues the fishy odor that sluffs off Jade's skin and clothes. The smell reminds her of life in Kung where everything centers around catching and cooking fish. It would take a month in Tsawwassen to sweeten his rotten aura.

_I need his companionship for
_the study course in the megadome,
_else my parents won't allow it.
_That's why I've played on his
_fondness for the night sky.
_I've almost convinced him
_to take the astronomy course.

She often daydreams about wandering among skyscrapers and speaking English with its brisk vowels and rapid cadences. City folk speak at fast clips, unlike the whoosh and hiss of Haida that echo wind and sea. A stint in the megadome ought to show her stuff that has nothing to do with fish.

Oddly enough, she hasn't found the right study course for herself. The skills to be learned must benefit Kung, like the horticulture course that Goodma took when *she* was a teenager.

Headpa is the band's chief carver of valuable icons that can be traded for metal tools, whereas Goodma takes care of the village garden where she nurtures plants and herbs for medicines. Jade's headpa is the Kung's chief fisher.

Raven is the only child of her family, and Jade is the eldest son of his. Their parents have dangled her as bait and aimed Jade like an arrow at a tender doe. Both families are well respected, so the union between offspring is expected.

_Easier to stop November rains
_than to escape my future,
_a life partnership with Jade.

Once she becomes his sidekick, she'll toil in Kung for the rest of her life. She must experience Tsawwassen before she's gone to earthlike the roots of a Sitka spruce.

Raven tunnels her legs into Indian hemp trousers. The fit is loose but can be tied snugly at the waist. She dons a mackinaw that has two-toned down-filled pads arrayed in checkerboard fashion. It looks bulky and hides her curves, yet it keeps cold and dampness out. Deerskin moccasins guard feet from injuries and ward off fungus between her toes. She fastens ankle guards to protect skin from nasty brambles. The cone hat has a stubby visor extending all around. It shades the high sun and keeps rain from soaking her neck or blinding her eyes.

She scampers down the ladder to the ground floor, her bladder crying for release. She heads for the no-frills outhouse which is so

typical of Kung. Dig a deep hole and then cover it with a wooden platform and a circular opening. People straddle the hole and drop their crap in the pit. Every week, herbal enzymes are added to kill the smell. But the stink never goes away.

Business done, she cleans with the last handful of peatmoss. Only a few crumbs are left.

_Just my luck! I'll hafta
_fetch new supplies.

The longhouse has a slanted roof coated with thin-film solar panels. Its walls are made of redcedar logs, one atop another and each notched at the corners for a tight fit.

Last autumn Raven and several youngsters stuffed fresh moss in the cracks. As Raven nears the longhouse, there are clumps of peatmoss still visible, proving the job was well done.

A tall mast rises above the roof on which three windmill blades spin quietly. At the crest of the roof, a cistern rises above a flat wooden platform. The cistern holds enough water for the dog days of summer, so long as nobody uses too much. Last summer a **GREENS** keeper brought a double-mesh screen to fit over the top. The rainwater drips through, but the screens catch small twigs, dead bugs and bits of dried leaves.

She enters the longhouse. Across the ceiling are light tubes that brighten the place for those on the spindle, loom or needle bobber. Near the walls are rows of dried bark, fireweed and root fibers hanging from the rafters. When the weather turns mean, elder women will splice and weave the fibers into baskets or clothes. Fishers choose the toughest strands of fireweed and weave them for fishnet repairs. The entire band can fit inside for special meetings or feasts. Normally the longhouse hosts less than a dozen who work indoors and babysit the nursery.

Granny Warm Bear squats cross-legged on a floor cushion. She's knitting the 2nd-sleeve of a Cowichan sweater. The old woman looks up

and shakes her head. “Wonders never cease. The *princess* is awake at last.”

Raven cringes, for the gibe is deserved. Granny has plenty of barbed hooks for slackers. They cut deep, but they aren't mean-spirited. Her hawklike nose looks intimidating, but laugh lines on either side betray a kindhearted nature. Every kid in Kung is her favorite grandchild.

Nearby in an ornate basket, Crying Loud slumbers as quiet as a bear in winter.

_Must've played out her lungs,
_resting up for another wail.

The widow Ingrid has her hands on a swath of fabric. Her foot prods the drive pedal while cloth nudges ahead under the needle bobber. Her facial skin is cracked and lumpy as dried mud. She glances up from the stitch machine, her eyes bland and hollow as a ghost's. Last winter she lost her husband in a hunting accident.

At room center sits a workstation on a small table cluttered with plastic reference cards. Her son Edgar peeks out from the computer monitor and offers Raven a dubious grin. She returns a venomous scowl that sends him ducking for cover behind the flatview.

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She hasn't forgiven Edgar for being a stinking rat. He may own the best computer skills in Kung, but he got her barred from the computer for a whole month. He conned her to playing a forbidden game that featured adventures in a space colony. She couldn't refuse the chance to explore a **soupcan** any more than she could've spurned a handful of hazelnuts.

Popular webcasts have elders divulging the best methods to succeed at fishwife chores. In-between are public announcements about forest fires or storm warnings. There are long-winded anecdotes that promise to bake the tastiest fish or to preserve berries all winter long. Advice for gathering herbs is seldom mentioned at all. As far as Raven can see,

the webcasts drone on about stuff that most folks already know.

Haida elders block any programs dealing with life in the megadome or outer space. The hokey games that get past the elders are just plain useless. Adults don't want kids getting ideas about attractions outside of Haida Gwaii. Other than English classes, Raven finds the webcasts as dull as raindrops.

_When Edgar mentioned “soupcan”,
_he knew I couldn't refuse,
_so I jumped on it like a seagull
_after fish offal. My big mistake
_was letting him use *my* password.

Edgar stays hidden, unwilling to meet her gaze. A guilty conscience, she reckons as she continues to glare at the metal backing as if her anger can bore right through.

+ = + = +

She remembers why she entered the longhouse. “The outhouse needs peatmoss,” she mumbles, more to herself than anyone else.

Granny looks up from her knitting. “Ha! About time you got caught. *You* know where the peatmoss is.”

Raven heads for the bin of peatmoss. She tilts the bin and empties most of the peatmoss in a bentwood box. She hopes Granny won't notice the depleted reserve.

_I'll get badgered into gathering
_peatmoss along with the berries.

As she hoists the bentwood box and starts for the outhouse, Granny snarls, “Hold it! You forgot clubmoss spores.”

Granny's knee joints crackle as she rises from the cushion of cedar boughs. She waddles to the wall cabinet and picks up a yellow-cedar urn. She pours powdered spores, mixing them with the peatmoss.

“Don't **wanna** give others fanny rash,” says Granny “Do you?”

“No!” Raven grins, visualizing a crowd of adults, hands scratching

their butts.

+ = + = +

She trudges to the outhouse and recalls how Edgar suckered her into playing the video game. He didn't mention the game would be charged to Kung's account. Nor did he log on himself but asked her to do it. Headpa noticed the charge since he managed Kung's account. He accused her of stealing village funds, even though the charge was small. It wouldn't've bought enough sticklebacks to feed the village dogs. But Headpa scolded her in front of the whole village and revoked her computer privileges.

Edgar never said a word, never owned up to his part in the escapade. His betrayal has come at the worst time. It gives Headpa another reason to block her efforts to study in Tsawwassen.

She dumps the peatmoss for others who'll use the outhouse. She twirls the empty bentwood box.

_First chore of the day is done.

_Who says I'm a slacker?

_It's just Headpa's phobia,

_his fear that I won't return,

_that I'll join other youngsters

_who've traveled away and

_found jobs in the megadome.

_I just want a chance to study.

_And maybe a lucky invite

_to tour the soup cans.

Headpa is a throwback. He has championed the old ways ever since the Changeover made traditional lifestyles possible. He's thick with the elders of Masset, Sandspit and Haida Town.

She recalls her first childhood memory when she overheard two GREENS keepers jawing with Headpa. They wanted to take away Kung's motorboats and recycle the aluminum. In return they offered to

install thin-film solar panels on the longhouse roof. The motors had long since been removed after the supply of fuel had been cut off. Kung had already sold its two pickups, but villagers had kept the skiffs just in case, even though a team of fishers in a war canoe could paddle as fast as powered boats.

No one can deny how much the Changeover has affected life in the archipelago.

Haida Gwaiians have got more say-so over their lands, but it's a double-edged gift. They may've regained self-esteem and revived traditional culture, but chores have become harder without power tools. Canoe makers are forced to work with axes or hand chisels. Band members don't use diesel boats, cars or highways. Masset store doesn't stock fancy made-to-order clothes or labor-saving gadgets.

Raven has caught adults complaining how they miss their favorite treats. "I sure could use a bunch of deviled sweets," says one. "No more miracle pills for my aches and pains," moans another.

"Easier to make grocery lists with disposable pens," an elder muses. "Safety razors used to give a nice shave minus the nasty cuts."

"Oh, I hate washing dirty diapers!" mourns a new goodma. "Where did the throwaways go?"

Regardless, Headpa never lets up when it comes to enforcing the hard line of adult mandates. He blocks news from **Tsawwassen**. He deems outsiders a bad influence for youngsters. Whatever his aim, it hasn't worked.

_I've asked Goodma about things she saw
_when she spent six months in Tsawwassen.
_I've asked GREENS on Langara Island
_who've showed me the outside world.

Headpa hasn't gotten over the death of his older brother. Ten years older than Headpa, Squirrel Ears earned his name because of his knack of hearing game animals before anyone else. He found work as a lubber on a trimaran that brought supplies to important coastal communities

like Masset. For a while Squirrel Ears worked at a fish farm, then he went and found work in the megadome. His occasional letters gave no signs of distress. It was a total shock when the band learned of his death from a drug overdose.

His brother's tragic fate burns like a firepit stone in Headpa's mind. He reckons the same thing will befall anyone who leaves Haida Gwaii. He distrusts outsiders, especially city folk. Without good reasons he suspects GREENS keepers of mischief. He pits them with the poachers, loggers or diamond drillers who exploited the islands before the Changeover. It doesn't matter if commercial logging, fishing and open-sea fishfarms have since been removed. Headpa rants about the young who've left their bands to seek affluent lifestyles in Tsawwassen or Big Island.

_The world is deeper than
_what's on a pond's surface.
_I've gotta dive underneath
_and see the city for myself.

+ = + = +

Raven spots Headpa entering the longhouse. She ducks in behind him and watches as he waves a battered teapot.

“Warm Bear,” his deep voice booms, drawing everyone's attention, “haven't you finished that sweater yet?”

“Humph!” hoots Granny. “Would've finished two moons ago if folks wouldn't barge in so often. I s'poze you want hot tea.” Granny struggles to her feet. “Gimmie your pot, Long Hand. Go take that fresh one off the stove.”

Headpa relinquishes the empty pot and follows her to the Franklin stove.

“Before you go, you might share a cup with your daughter.” Granny nods to the space behind his shoulder. “She's missed breakfast and has lots of berries to gather.”

Nonplussed, Headpa pivots full around. "Raven!" he exclaims. His vocal tone mellows as he scans her face. "You stalk like Raccoon in Bear's shadow." He retrieves the warm pot and holds it out. "Grab a cup, Daughter. I'll pour."

Raven grabs a tall wooden mug. It has Edgar's mark, and she grins at the irony. Once filled, the mug is warm in her hands. She gulps down half of its contents.

"More?"

"I'm solid," she blurts in English. She regrets the slip as soon as the words are out. Livid anger shows in his eyes as he frowns.

"City-slicker talk," he growls loud enough to sting her ears.

Raven doesn't flinch. "Someone's gotta read English, so we know how to mix varnish for canoes."

"That's different," he grumps. "Just as well you're barred from the computer. You might do some chores for a change. Help prepare the evening feast." He sighs. "Though I don't hold much hope. The older you grow, the worse you get."

Raven has grown accustomed to his harangues. He's so wrapped up in the symbolic pantheon of eagles, orcas, ravens and salmon that he ignores everything else. If it isn't Haida lore, it must be bad.

Headpa loves to load her down with extra chores. Last winter he asked her to sit all afternoon in the carver's hut, painting colored lines on bentwood boxes. After a week she was bored to death. She couldn't see how the boxes would be more useful with colored lines or not. She gathered the paints, went outside and painted eagles and ravens on new baidarkas. Headpa chewed her out for wasting pigment, but youngsters and some adults have praised the emblems.

"Something kept you awake last night," Headpa is saying. "What was it, Daughter? Tell the truth."

"I went star gazing with Jade," says Raven, knowing it's the last thing he expects.

Headpa is speechless for a good three seconds. A new record, she

judges and files the lapse for future reference. The bewilderment on his face evolves to simple joy.

“Star gazing with Jade?” he echoes. “That's good, Raven.”

He takes a deep breath, his eyes squinting with pride. “A fine young man. Jade is a clever fisher. Let's hope you showed respect, behaved like a young woman worthy of his home.”

“Jade showed me how Big Bear circles around but always points at the North Star. We tracked two **frisbees** and spotted Jupiter and Mars. It was fun.”

He nods absently as if the details don't matter. “I'm proud of you, Daughter. Keep at it. Other young women in the village aren't so choosy as you. They've taken a liking to young Jade.”

She crinkles her nose. “How's the orca coming?” Never hurts to feign interest in his work.

“Another week before it's finished. There are small details to add. Delicate work yet very important, otherwise the orca would be dead stone, a mere shadow of itself, not the proud swimmer, our spirit guide.”

“Spirit guide? One of those orcas scared me half to death. Its tail splashed my face and almost overturned the **baidarka**.”

“Nonsense, Daughter,” he booms. “We don't hunt orcas, so they needn't fear us. When they swim close, it's more from curiosity and friendliness.”

She has her doubts. Even Jade has shared her concerns about the danger of large sea creatures swamping a small craft.

Headpa turns to leave. “I'm back to the carver's hut. I wish you a good day's gathering, Raven.”

She watches him go, wishing he wouldn't place so much faith in the old ways.

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Crying Loud awakes. She thrashes in her crib and lets out a piercing

wail that befits her name.

“Headpa's loud voice wakes her every morning,” laments Granny.

Laughing Bough, the infant's goodma, is nowhere around. She leaves her infant daughter at the nursery whenever she goes out with the fishers. Ingrid remains absorbed at her stitching. She has become even more withdrawn since her husband's death, no doubt wrapped in her sorrow. Granny shrugs and then returns to her knitting.

Raven finds herself elected. She approaches the ornate basket and lifts Crying Loud in her arms. Sniffing for odors, she feels the infant's swaddled bottom. Thankfully it's dry.

She rubs the infant's back and tender scalp until its yelps subside, then shifts from foot to foot, rocking gently. After a while, she returns the infant to her basket and shows her a colorful driftwood rattle. Crying Loud grips the rattle in her tiny hand. She warbles happily.

“I guess Laughing Bough is out fishing again,” says Raven,

“Must tide her family over while she's away,” Granny says. “Have you forgotten? Laughing Bough will ride in the airship with Elder Sophia when she goes for laser surgery.”

Raven nods. Cataracts have overgrown the elder's eyes. “We'll stop at the Lighthouse before we go to Masset.”

The added travel means the paddlers will expect twice as many salmonberries to eat with the dried fish. “I better start or I'll never fill a basket,” Raven says.

“Check the sunny places; you'll find plenty. And don't forget to forage for yourself.”

“I ain't my goodma's daughter for nothing.”

“You noticed the low stocks of peatmoss?”

“Yeh,” groans Raven.

_Another chore for my forage.

_What I get for sleeping late.

“You'll need a digging tool.” Granny gestures at the cabinet. “You can use the same tool for harvesting a bark wedge.”

Raven resigns herself to the inevitable and gulps the last of the tea.
“Basket for salmonberries and backsack for peatmoss. I'll carry another harness for the bark wedge, if I find one.”

Granny nods approvingly. “Don't forget to warn the bears.”

“I'd rather sneak-up on 'em.” Raven smiles impishly. “I'll bring you a fat bear's tongue.”

“Crazy girl! Behave and come back in one piece.”

22. Phantom

One Day Later

Kuala Lumpur: 12 May 2076, 12:55 p.m.

Tuesday, 12 May 2076, 04:55 UTC

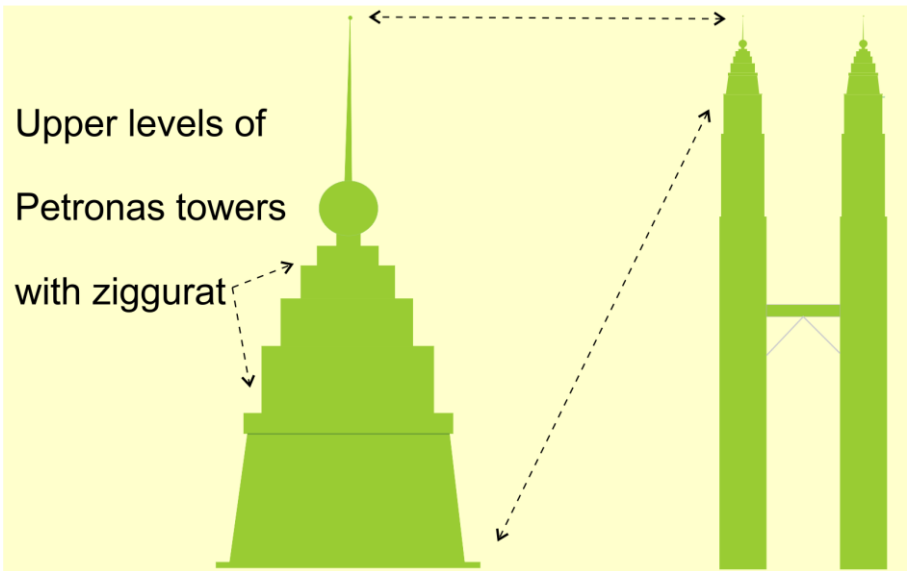
Half-cooked and sweat-soaked, Jen awakes to tropical daylight. Her makeshift coverlet, a thin-cotton wrap, has been kicked away where it huddles at the edge of the lean-to.

She pokes her head outside and eyes the truncated shadow of the tower's spire. This close to the equator, daylight hours mark 15° shifts in the shadow's azimuth, so Jen has a handy sundial.

_The shade points to about 1:00 p.m.

_Good. I've got lots of time to prime

_the bomb and prepare my escape.



After six hours of dreamless sleep, Jen has gotten recharged from last-night's toils. She's on top Petronas tower 2, the tallest loft in Kuala Lumpur. Preparations still need to be made before she attacks the summit room. These can be done inside the camouflaged lean-to, which

hangs from the bottom of ornamental sphere to the top of the ziggurat.

The lean-to projects a holographic background that hides her from the “eyes” of **aerodrones** flying at various altitudes around the KLCC grounds. A soft breeze through her workspace cools the scorch of tropical sunlight.

Her cat-burglar threads fit like a 2nd-skin. The co-op supplies tailored clothes for her ultrapeptide size which is much better than making do with gaudy styles from adolescent clothing racks.

_Before joining DB, I had
_heaps of trouble finding
_decent clothes to wear.

Others may judge her as fearless or reckless, but Jen's not foolhardy. Each day she squeezes a solid rubber ball, ten minutes for each hand. Strong wrists are crucial for climbers when their feet slip or if they lack perches for lower limbs. The same small wrists have chastised muscle-bound foes who've fallen prey to the agony of her pressure holds.

The rubber ball is a mere footnote of her daily practice regimen. She works the horse, the parallel bars, the high jump and unique high-wire stunts that would stagger airborne avians. In past decades Jen has toured with the Imperial Circus as its premier aerial performer.

_Not bad for a gal who's suffered
_bouts of vertigo since childhood.

No wonder Dog Breakfast has sought her as a prodigal daughter. DB's metics train almost as hard as she does. They strive to be the best they can be. So Jen fits right in. No one raises a brow when she adds new wrinkles to her repertoire.

The hardest challenge has been severing ties from her past. Family and childhood friends believe she died in a Chilean highway accident. It grates her sometimes that she can't set the record straight. But her pact with the co-op forbids contact with former friends and family.

She has kept track of the old gang, most of whom are working at humdrum jobs. Her parents are about to begin their retirement years.

Her younger brother hasn't lost his soul to the Russian Mafia. In fact, he's settled down as IT manager for a large Russian oil company and married a local gal.

The old ties are fading since colleagues in DB satisfy her emotional needs.

Jen squats lotus-style and hums a pet melody from the Nutcracker Suite. It's one of those tunes that just pops to mind, lending a pleasant ambiance for paraglider assembly. Serenity reigns in her earth-brown eyes and heart-shaped face, her high-rounded cheeks, firm lips and puggish nose.

Her do-it-yourself skills have led to several blind alleys until enough hang lines have been secured.

_Once the framework starts
_to piece together, the rest
_ought to follow in kind.
_It's just busy work afterall,
_no heavy lifting involved.

It's therapy for sore muscles and stiff joints from the Marathon climb of last night. No amount of physical discomfort can wipe the smug smile off her face.

_I climbed to the pinnacle
_without getting caught.
_Vertigo hasn't stopped me yet.
_Few will ever match my pace.

She has jumped at the opportunity to climb another landmark.

_A proud mark of excellence.
_I judge my climbing skills,
_acrobatics and self-defense
_harsher than anyone else.

She's loyal to a fault because DB's cause is worth doing. That's why she's perched atop this venerable skyscraper, ready to wreak havoc on a gang of haughty CEOs.

She clamps more stays to the wing. A careless smile exposes her missing front tooth. The prosthetic has been left behind. She couldn't care less how she looks.

_Even if it all comes out peaches,
_there won't be time for selfies.

Once the prep is done, Jen will climb down to the summit room and blow the CEOs to smoker's hell. Her goal is unmitigated terror in the guise of a wake-up call, yet it won't dishonor the scales of justice. Her real aims are the conglomerates that've escape public scrutiny because they've grown too big to fail.

The CEOs hold true to their codes of business, and they're devoted to friends and family. But they ignore the consequences of their decisions. For them it's smart business to retire aging plants and open state-of-art robotic assemblers in low-tax regions with complacent regs. Investors applaud the promise of renewed profits. The media seldom dotes on the loyal employees who've been sent out to pasture. Too often the closures break families apart and sometimes provoke murder-suicides.

High finance and auto-assembly have narrowed the wealth into fewer and fewer hands. Postmodern business favors tiny-specialized workforces. Those still on the payroll must concede to whatever terms or wages the employers offer. Economies of scale have created the means for transnats to dominate the global marketplace. In short, the CEOs have garbled the mainstays of commerce and achieved unbridled monopolies.

Jen has no qualms about using her bomb. The chaos ought to embarrass W. A. Rathbone who's attending in teleconference mode. His roosters are charged with safeguarding the summit. He'll escape the misery of those present, so they're sure to make him the goat.

Dissent in the cartel is good for DB, good for **TCP** and good for the orbital habitats.

She wonders what JoAnna has planned at the rendezvous.

_Will it be enough?

_Dozens of Rathbone's shock troopers
_and every cop in Kuala Lumpur
_will be hot on our trail. Jo better
_have an ace up her sleeve.

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Leonid Turku eyes the master panel and its rows of green beacons. The LEDs display status reports for 102 sensor clusters and tactical feeds from 78 roosters stationed at Petronas tower 2. He nods satisfied.

_No leaks, no loiterers,
_no apparent threats.
_The indicators look fine.
_Yet my thumb still itches.

Leonid prides himself at being thorough as he shoves his appetite aside. No need to dwell on soft-boiled eggs, sirloin shish kebobs, hash browns with spicy tomato paste, buttered toast and a large **UltimaPop** to wash it down.

_Breakfast can wait till I finish
_the final round of checks.
_Business before pleasure.

His job is safeguarding the VIPs and ensuring there are no leaks. The public must not even suspect that CEOs of the largest **transnats** are gathered here for cartel business. His boss owns the building, so Leonid has the authority to expel quebies and onlookers from the upper eight floors, and he has done so. All that's left are the VIPs, the inhouse attendants and his elite roosters whom he trusts without question.

The meeting is in progress and will continue through the afternoon. When all have arrived, the CEOs will stay on the 81st-floor in a secure room where its height above ground discounts steeple climbers. To thwart armed drones, steel armor has been added to reinforce the windows. Vidcams and sensor alerts monitor the traffic on stairways and elevators. His **roosters** will turn back and detain party crashers

long before they reach the upper floors.

Leonid checks the wide-angle cam atop Petronas tower 1 which covers 70 hectares of the KLCC complex. It pans the bottom floors of Petronas tower 2, its adjacent office tower and concert hall, the conference center, the hypermall and parking space for 6,600 vehicles bordering a park and walk-around lagoon. Plenty of antlike shoppers and tourists amble about the complex. Anyone could be a media snooper or saboteur.

To minimize public exposure, he has devised a “shell game” to move VIPs on-site with utmost discretion.

Since late morning the entourages have debarked from private jets at a seldom-used annex building. Each group has been split in two separate parties and shuttled to KLCC. The tag-along folks have taken flashy limos to the conference center, whereas the CEOs and key aides have used older mud-splattered limos to the underground freight docks of Petronas tower 2. Then elevators lofted them to the summit room.

Everything has gone down as planned, but he can't afford to relax. Nosy paparazzi could be anywhere among the tourists and shoppers. Assassins could be plotting all kinds of mischief. It takes mere seconds to foul a ventilation system with anthrax, sarin or bacteriophages.

His roosters have checked and rechecked for biological, chemical and radiological residues, but redundant inspections don't ensure 100% confidence. The summit is no better defended than the Great Wall of China, Hadrian's rampart, Maginot Line, Iron Curtain or Trump's Gate, all of which have failed despite the best efforts of their builders.

_Shit happens, but I aim to turn
_all vermin away on my watch.

Leonid opens a voice link to the ground crew. “Rashid?”

“Yo, Leo.”

“How's the sweep going?”

“We've covered every square meter. Nothing here but creepy bugs and bird brains.”

“Good work. Stay on the lookout for phony tourists.”

“No prob. Walkways are covered, Leo.”

“Puts my mind at ease, Rashid.” He closes the link.

Five quartets of surveillance drones have been deployed since dawn. There are 16 drones in the air, four refueling and soon ready to relieve the next quartet low on fuel. Those airborne are circling Petronas tower 2 and other points of interest around **KLCC**.

Leonid's stomach growls as he calls on the drone maestro. “Viktor?”

“On the ball, Leo.”

“Good to hear. Any of our drones squawking?”

“Not a one.”

Leonid would've launched the birds earlier, but there were delays in obtaining permits. Kuala Lumpur's privacy laws are a bloody nuisance to say the least. Private security outfits need special permits to fly aerodrones at altitudes within 400 meters of human habitats. Since the Petronas twins stand 450 meters above ground, the drones minus permits must fly at 850 meters, rendering them next to useless.

Leonid figures the beauty-pageant scandal prompted tougher bylaws for surveillance drones. Ms. Malaysia of 2074 was forced to abdicate in disgrace after nude photos were posted online and then “discovered” by a data miner at Webvine News.

Contest organizers had advised beauty contestants to erase suntan lines for swimsuit reviews. Ms. Hloh basked in natural sunlight to gain a whole-body tan. A drone that patrolled the mansion next door spotted her inside the walled compound. The teleoperator extracted a juicy clip that showed sunblock being rubbed on privy glands.

The exposé crushed Ms. Hloh. It roused her wealthy father who got angry as a pit bull. He was devoted to his daughter. He never let her leave home without chaperones and bodyguards. He swore the photos had been faked, and his legal hounds forced the webpage offline.

His lawsuit against Webvine News failed after the court ruled the photos were genuine. Not to be outdone, Mr. Hloh enlisted PIs who

tracked the photos to a security outfit. His barristers pounced, but the culprits had already decamped and left town.

At this point Mr. Hloh grew hot as a blast furnace, his ears huffing smoke. He sent angry complaints to City Council, half of whom owed him their campaign funds. In consequence, Kuala Lumpur passed new bylaws governing aerial drones.

Leonid grimaces.

_The sleazebag teleoperator has ruined
_the scene for every other security outfit.
_If the fool ever tried a stunt like that
_under my command, he'd spend the next
_six years tracking reindeer in Siberia.

Leonid may've tolerated an inhouse sharing of girly photos. But the fool stepped out of line when he sold the pics to Webvine News. The media wags weren't much better. They must've sniffed rotten jellyfish, but they nabbed the video to boost viewer ratings, which skyrocketed for two weeks. One lousy leak has voided Ms. Hloh's crown and, more important, delayed the deployment of aerodrones till this morning.

The same bylaw has a silver lining. It authorizes him to stop media drones from snooping around KLCC. If they sneak across property lines, his **wifi**-tools will zombie them till they plunge to the bottom of the lagoon.

His birds are flying regular patterns in semiautonomous mode, so one of his teleoperators can monitor half a-dozen at once. Their **highres** cams track suspicious actions in the visible spectrum. Infrared mode has been disabled since the tower's façades absorb solar heat at different rates. Humanlike signatures would be lost amid the riot of scorched surfaces.

“Viktor, I'm grabbing breakfast and handing the comm to you.”

“OK. Got it.”

“Ring me, anything comes up.”

“Natch.”

Leonid strolls to the kitchenette. His thumb still twitches.

_Something ain't right.

_But what?

23. Summit

Kuala Lumpur: 12 May 2076, 1:05 p.m.

Tuesday, 12 May 2076, 05:05 UTC

Electromagnetic fingers thrust the cage up and up. Floor numbers scroll higher: 75, 76, 77...

For those in the passenger cage, gravity slackens, muscles quiver, gastric fluids slosh. Then weight returns and bones retake the burden of Atlas. Blood throbs in viscid globs as doors open to the 81st-floor.

Trevor struggles to find his legs after 13 hours of jet lag and 24 hours of time-zone roulette.

_If I wouldn't lose face

_I'd fetal-curl and snooze.

He steels his spine, lifts his chin and strikes a pose befitting a forceful **CEO**. From the hallway he sniffs the pleasant odors of lemon mint. He steps out ahead of his companions.

Sharp pain erupts from his left hamstring. He clenches teeth.

_Tendons outta whack again

_around my artificial joint.

The ligaments have plagued him ever since knee surgery. He touches his trouser belt and toggles a sequence that injects muscle relaxants. With any luck the spasms ought to vanish in a few minutes. Until then he vows to hold his 190-**cent** frame erect.

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Thirteen hours earlier at Manhattan noon, he boarded his personal sky car. It flew from the roof of Château Wexol to a private runway near Buffalo. There he met Hector, Neal, Jack and Jill, all of whom carried briefcases chained to their wrists. Inside the briefcases were crucial files that reported on the productive output of 140-million employees in

Wexol's corporate family.

He and his aides boarded the SkySurfer *WXL007*. They eased into flexform couches. Twinjets throttled and the plane climbed till clouds covered all the world below.

Freed of takeoff shackles, Jack and Jill pumped him with holographic snapshots of numbers and valuations. He reviewed the raw stats and insider projections which promised big scores at the upcoming summit. Spreadsheets in neat demographic rows flooded his synaptic plexus.

The refueling stop in Juneau came as a welcome reprieve. Trevor stretched his legs and cheered his innards with pastries and Irish coffee. When the SkySurfer retook the sky, it went supersonic and charged ahead of its shock wave. The passenger lounge grew quiet as a tomb while he burrowed into flexform and dozed.

Trevor awoke when rubber tires screeched in protest. SkySurfer touched down then slowed and taxied to a parking berth. He released his safety belt, rallied his septuagenarian muscles and summoned the grit he'd once posed on collegiate gridirons.

Outside the airplane, solar radiance scorched the landscape like a broiler oven. It shortened his shadow, swamped his armpits and baked the tarmac to jellied paste. He spotted Johan Jenson aka "Jay-Jay", the VP of Wexol's Southeast Asia operations.

Jay-Jay ushered Trevor and two bodyguards inside the blessed cool of a Japanese limo. The sleek armored chassis limped through traffic mayhem until it found the subbasement of Petronas tower 2. Then he and his entourage caught an elevator which took them in relays to the upper deck.

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In the hallway stands a portly man with expectant eyes. Trevor recognizes the trading-house boss, the longtime summit host whose name is...

Han Yu honors the foursome with a deep bow then rises to meet

Trevor's eyes. "Welcome, Mr. Wynestoop, most honored CEO of Wexol. My staff has worked hard to make your stay enjoyable and carefree. If anything proves amiss, tell me and I'll do whatever I must." He gestures his arm like a stage magician. "Accommodations for your colleagues inside the blue door."

Taking the cue, Hector unlocks his leather briefcase and withdraws a prompter. He hands it to Trevor then follows Neal to the blue door which splits apart in thinning halves. Jay-Jay treads at their heels and gives Trevor a thumb's-up sign. "Good hunting, Sir," he says, before his crisp-white suit vanishes inside.

Trevor thins his lips and stares at Han Yu who's dressed to the nines. The squat oriental looks no older and no wiser. He likes to play "big cheese" while pushing attendees along. But that's just too bad. Trevor hasn't come halfway around the globe for tango lessons. He *is* after all the Chief Executive Officer of Wexol which generates more cash flow than most countries. He cools his feet and vows to wait till Han Yu offers good reasons to do otherwise.

The crucial question is: What's this summit's hidden agenda?

He must gauge the broad outlines at least, for Wexol's board has endorsed this meetup. The bean counters have approved the secret gettogether and judged it worth the risk of media exposure. They hope this confab will mollify the global credit crunch. Trevor has his doubts. Rathbone wouldn't call a summit to grumble over bad invoices or shrunken cash flow.

Han Yu breaks the uneasy silence. "Your **Cybernavts** are running the tower's LAN."

"Are they performing OK?"

"No problems I'm aware of."

"How about their price?"

The trading boss assumes a thoughtful pose. "**Digiflexes** I like, but their price is steep. Had Zesticon not required the upgrade, I would've held off."

_Figures...

_W. A. Rathbone calls the shots.

_Through Zesticon he controls

_Han Yu's trading company.

Zesticon has the largest cash flow of all the transnats. Its Red Falcon subsidiary furnishes multilevel security for the cartel. **Rathbone** has advised everyone to come equipped with Digiflexes which furnish the best security, so the tower's LAN must've gotten the upgrade as well.

Han Yu clears his throat. "Four of your colleagues have already taken seats, and the CEO of SonyKong is soon to arrive." He lowers his head with a specious bow. "If you please, I'll show you inside."

The portly host has raised a valid point. Longstanding decorum obliges attendees to show up in reverse order of their status. Since Wexol ranks third, Trevor can join those already in attendance without losing face, whereas Okuno Ayumi who controls 2nd-rank SonyKong may take offense if he dawdles too long.

He follows Han Yu down the hallway. The hamstring spasms seem to have vanished, so he lengthens stride. His Oxfords press oblong craters in the maroon carpet.

The entrance has stout mahogany doors engraved with trigrams. The symbols, he guesses, must be fortune-cookie odds from the I Ching. Seven-corporate logos appear top-to-bottom on a cloth banner beside the entrance:

Zesticon's seven-pointed star.

SonyKong's bright yellow swan.

Wexol's inverted cone.

Beuack's Corinthian pillars.

Yuhan's golden trigram.

Goranda's pick and shovel.

Shrinkwrap's open hands.

Trevor dons his game face as he enters the summit room. The cachet of a world-class CEO goes right down the toilet when he deals with his peers.

_Thank heaven the horse trades
_will happen in my native tongue
_whose sharp English bits regale
_the silver spurs of business.

Rolf Heck has taken a seat at the far end of the half-moon table. He's the first to notice Trevor's arrival. The banker's jowls wiggle as if caught in a double take. His reply to Choong Zhijian is aborted as he raises pudgy fingers to his forehead in mock salute.

Martin Gagnon fidgets on the other side of the Chinese tycoon. He turns around and raises his brows. "Mr. Tupperware! Who let you outta jail?"

Gagnon has often complained about the plastic casings which frame WBM's **prompters**. He wants tougher metal cases that would survive hazardous mine shafts and hellish foundries. Hence, the "Tupperware" gibe.

Trevor cups his ear. "Did I hear a Brazilian fart?"

Torero Grabb, the software mogul, chuckles in approval while the Brazilian frowns and scowls.

Grabb has come as a vagabond decked out in dumpster-diving duds complete with designer wrinkles. Against all odds, Gagnon wears smart business attire with pentagonal stitching. At the summit two years ago, the Brazilian arrived with a hardhat, waterproof slicker and steel-toed boots that left splotches of mud on the carpet.

Trevor can only shake his head at the odd manners of his peers.

The room betrays recent improvements. Wall-to-wall carpets smell of chemical sealants which are almost masked by environmental fans churning out evergreen odors. Steel plating has been installed inside

the windows for greater security. No doubt the armor is there to stop aerodrones from snooping or attacking. But the new carapace kills scenic views of downtown Kuala Lumpur.

A half-moon table dominates the room center. On a polished walnut surface are itinerary brochures, silver utensils and gold-trimmed China. He hears gastric grumbles as he lingers over dinnerware.

_Why did I limit myself to a weight-
_loss breakfast? Now I'm ravenous.

Slots have been carved in the tabletop for power and **fi**be feeds. Six comfy chairs surround the curved portion. Four are occupied with two vacant spaces between Gagnon and Grabb. The latter sits alone at the near end.

"Y'know, Trevor," says Rolf Heck, "my purchases of Digiflexes have lagged because the upgrade forces layoffs of IT personnel. Now I've found a way to soften the severance costs."

"Sounds interesting, Rolf. Let me sit down and plug-in first."

He takes a step toward Martin Gagnon, then changes his mind and sits next to Torero Grabb, the software maven, who sits at the far right. Grabb is the CEO of Shrinkwrap which has just released the Ultimate Companion operating system. The OS is preloaded on ultrafast Cybernaut hardware. Together they're sold as Digiflex desktops, Digiflex prompters and Digiflex network servers.

Grabb claims the joint venture with **WBM** will revolutionize the IT sector. He claims Digiflexes will automate offices, for they'll replace IT pros with code-ignorant newbies. But so far customers have balked at paying the premium price.

_Grabb needs to roll out
_more aggressive marketing.

Ultimate Companion (UC for short) generates algorithms from scratch and solves arcane problems faster than programmers can hack out solutions. Wexol's best techs have searched like bloodhounds for UC's hidden faults, but they've come up empty. Trevor must admit the

OS is worthy of Cybernaut's blazing speed.

But websites to promote Digiflexes haven't delivered throngs of buyers. The online forums are dominated by IT professionals who suspect their jobs will be gone as soon as UC establishes a dominant market niche. No business will hire a system analyst or consultant when office dummies can perform the same tasks. InfoTech pros have lambasted UC's runtime. They've invented obscure failures that won't happen in a million years, whereas UC apologists counter with rigorous logic.

When has airtight logic ever swayed consumers?

Onlookers see a passionate debate taking place. They don't have enough InfoTech savvy to make valid judgments either way. They assume Shrinkwrap is using squirt guns to douse the flames of doom. The forums have sown more doubts in the marketplace and dampened Digiflex sales, while WBM's plants have accrued more inventory than cash flow.

Trevor settles in his chair, extracts the prompter cables and plugs them in. He lights up the flatview and watches Ultimate Companion come to life.

_One thing about UC...

_It boots up in ten seconds flat.

_Way faster than **Monkey See**.

When the login comes up, he types his password. Then he faces Heck. "OK, Rolf, let's hear about it. WBM can sure use more sales."

The Swiss overlord controls Beuack, a financial conglomerate that trades, owns or underwrites a lion's share of the world's payback-next-Tuesday accords. Its IOUs are rated safer than the treasury bonds of **HKS**, **NOAM** or EU. The financial conglomerate prospers from margin spreads and transaction fees. Its client accounts are safer than Hong Kong's platinum stash 800 meters underground, for Beuack uses **DLT** to rubberstamp all transactions. In effect Heck gobbles the rich cake of compound interest and licks the icing off his gargantuan share of

monetary transfers.

“The new OS makes my IT crew redundant,” he says. “I’m not talking about subcontractors or office quebies. They won’t cost me a rubber nickel. But core employees get 66% salaries and medical benefits till they reach 65. To say nothing of the pension handouts.”

Heck wears a rueful scowl, his fleshy jowls drooping like turkey gizzards. Beuack is renowned for regular cost-cutting campaigns to raise per capita efficiency. He can’t bear the thought of paying for extended vacations. His eyes are still locked on Grabb, the instigator of this dilemma. “No offense, Torero, but costs are costs.

“The benefits will occur for several years down the road,” Heck goes on. “Meanwhile, layoff costs are taking huge bites from my cash flow, a scenario I must remedy when money is at a premium.”

“Get to the point,” growls Martin Gagnon. “And don’t gimmie that ‘money at a premium’ crap when you’ve got truckloads stashed in your vaults.”

“Feeling the pinch, Martin?”

“Diamonds are for drilling, not flaunting under bulletproof glass.”

Wealth for Gagnon is only good if it’s useful. He prefers steel-toed boots and hard hats to pinstriped suits. He’s a homegrown Horatio Alger from the Pantanal.

He dropped out of college and went straight for the smokestacks where he fought like a tiger and scaled the corporate ladder. He seized the CEO desk at Goranda, a resource giant that makes heavy equipment and builds infrastructure: waterworks, bridges, roadways and generating plants.

Goranda drills down for metals and bitumen, then spits out pure ingots and fuel. Affiliated beef producers supply 45% of the steaks that sizzle on barbeques around the globe. Value-added vendors depend on Goranda, else they’d soon run short of base metals, fossil fuels and AAA beef.

Gagnon is quick to remind folks of that stark dependency. He’s the

self-proclaimed champion of the rust-bucket brigade.

“Gemstones serve their own rewards, Martin.” Heck summons a predatory grin as he delivers the punch line. “Such as those diamond lockets dangling around your ladies' necks.”

Gagnon winces. For once, the quintessential macho male is caught without a comeback. He spends lavishly on cheesecakes who spin the image of his sexual prowess. He claims his mistresses, if lined in single file, would cover the length of the Pan American Highway. Such wild hyperboles have gossipmongers filing copy faster than beetles gorging on sugarcane.

Trevor wishes he'd exercise more discretion. Bad karma results from flaunting one's vices for public consumption. Displays of unobtainable wealth breed envy and dark vendettas. Goranda may write more paychecks than all the governments in [SOAM](#), but why show Joe Sixpack how much he really lacks?

Regardless, Trevor admires Martin's upfront candor. What you see with him is what you get.

“Beuack has finalized the purchase of Whiteout,” Heck resumes, “a game developer with customers on five continents.”

“Thereby saving its bacon,” says Choong Zhijian, the senior citizen among the CEOs. “I hear Whiteout could barely meet its payroll. You bought it for a song.”

“True enough, Zhijian. Whiteout got caught expanding too far and too fast. Yet its games are renowned on five continents, and Whiteout earns handsome kickbacks when the complots feature brand names. I've spoken with the managers, and they've agreed to restructure and expand out of educational games to sports venues, thrillers and casino-style gambits. The additional projects ought to make work for my IT logrollers, which I plan to transfer over by year's end.”

“Smart move,” says Trevor, counting more sales for WBM. He glances at Grabb whose poker face shows no reaction whatsoever.

“Oh ho! A conspiracy of geeks,” says Gagnon, his eyebrows bunched

like storm clouds and his face taut as a hungry jaguar on the prowl. “Before you know it, they’ll build virtual dams out of Twibber spew and Instaflash. The dams will generate virtual electricity and spam it across the hypergrid. But when you flip the switch, your virtual lightbulbs won’t shine for shit!”

Though Gagnon’s outburst is aimed at fantasy VR, social pastimes and DLT. Trevor takes the gibe to heart. He gropes for something to cherish, such as the glowing face of his daughter Halle whose perky style is headstrong and infectious. She runs Fablinx, a fashion house in Jakarta that sells disposable outfits faster than machines can glue them together. She’s like the 1st-ray of sunshine after a storm of hailstones. Yet her spry image can’t dispel his bone-weary mood or disjointed nausea.

_No sense blaming Gagnon
_and his rust-bucket agendas.
_My mental fatigue has oxidized
_out of jetlag and CEO stress.

“Shame on you, Martin,” chides Choong. “Trevor has flown the farthest to get here. Long jaunts inflict unsuspected tolls. Good thing I’ve brought a supply of **Lustifers**.” Choong pulls a plastic strip from his suit jacket. Inside plastic squares are disks the size of large coins. He breaks off a section and nudges Gagnon. “Pass this on, Martin.”

“No problemo.” He hands the packet over. “Mr. Pillbox has nailed the jackpot. These Lustifers work wonders.”

Trevor gapes at the packet. “I’ll need liquid to swallow it.”

“Not so, Trevor,” says Choong. “Just place on your tongue. The tablets are sweet like candy. They’ll dissolve and start to work in minutes.”

“What am I taking here?” he asks, as he tears plastic and drops the tablet in his palm. He isn’t questioning Choong’s pharmaceutical expertise so much as he’s curious about the new wunderkind.

“Antioxidants for the most part and endosmosis-enabled enzymes

that restore your hormonal balance.”

“Say it in plain English, Zhijian,” scolds Gagnon. “Believe it, Trev. Lustifers boost chickens to fly like albatrosses.”

Choong raises his brows and shakes his head. “Martin exaggerates.”

Trevor places a tablet on his tongue and tastes strawberry flavor. He nods gratefully at Choong, the elder of the cartel and possibly the wisest. Choong's facial skin is leathery and grizzled, though free of unsightly wrinkles. His brown eyes are alert and bright. He's nearing the three-digit milestone, but anyone would swear he looks like a healthy man in his mid-fifties. Only the sparse-white hairs on his scalp betray a lifespan of nine-plus decades.

“How is Chyo?” Trevor asks.

“Fine, Trevor. Very fine.” Choong's face softens and betrays the fondness he holds for his young wife. “She asked me to thank Kelsey for the gift of yellow roses. They'll be showcased at Shanghai's Tranquil Garden.”

“Tranquil Garden? One of Chyo's projects?”

Choong nods. “She hopes to raise Shanghai's cultural status on par with its technological prowess.”

“A noble gesture. You must be proud of her.”

His face radiates bashful pride. Choong is still besotted after ten years of marriage. Though Chyo is sixty years his junior, the partnership is a love match that belies the age gap. They pursue divergent careers and spend long periods apart. The separations may be the secret that keeps their passions alive and nuptial bonds strong. His placid expression is a far cry from the stark menace he shows to biz rivals.

“Once I tell Kelsey, she'll flaunt her green thumb for weeks,” Trevor grumbles wistfully.

Choong has a reputation for driving hard bargains. He heads Yuhan Ltd. which began as a marine shipping company and then branched into fiber cables. Nowadays Yuhan is best known for its biotech labs that

produce a lion's share of pharmaceuticals and longevity supplements.

Yuhan's best therapies are reserved for members of the cartel who depend on its lab in Bolivia which grows organ clones for each CEO. Once Yuhan's surrogates have resolved the "rejection" issues, they may start to churn out implants with 3D printers.

Heck has replaced a kidney and liver. Gagnon breathes with a new lung, and Rathbone has a new heart. Okuno radiates emulsified facial skin and firmer breasts. Trevor is thankful he hasn't had to draw on his clones. So far, daily supplements have held the reaper in check. Still, it's a comfort to know he has clones in reserve, if and when his organs falter.

Trevor feels better, his mood soaring on a Lustifer high or maybe its placebo effect. He's ready to deal with Gagnon. "I've spoken with NYC's Mayor who's indebted to Wexol. He's agreed to make the pitch, despite massive voter resistance. The public is scared witless over nukes ever since the mess in Mogadishu."

"Helium-cooled reactors are safer than mothers' milk."

"I know, Martin. But a nuclear reactor in Battery Park? That's a longshot. The park is damn near a heritage site. And where'd you plan to store the spent-thorium pellets?"

"Oh hell." Gagnon sighs. "Was worth a try." He reaches into his vest pocket and retrieves a cigarillo. Once it's tucked in his lips, he pulls out a miniature blowtorch and lights up, puffing a cloud of smoke. "Don't say a word. And don't cite the 'No Smoking' plaque on the wall. My needs go beyond the laws enacted by constipated nincompoops. And this is my 1st-smoke today."

"No doubt your last," sniffs Choong. "**Okuno** won't abide with secondhand smoke."

"Don't remind me. That bitch is scarier than Medusa in drag."

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ACLU: I don't buy your logic, Mr. Horwath. You're comparing apples to oranges. Americans may've accepted Big Brother in the skies, simply because most folks don't pilot their aircraft. They go as passengers of helium airships or jumbo jets, or they travel as passive riders in **skycars**. Only ultralight pilots are allowed small deviations from their assigned routes. On the other hand, citizens love the freedom to travel on roadways and tollways. This freedom is embedded in the American psyche.

DOT: Autonav will make our tollways safer and boost economic productivity. Think of it, Mr. Softcane, fewer ambulance calls and fewer bent fenders. The cost-benefits outweigh your petty concerns.

ACLU: I disagree. American citizens cherish liberty and the pursuit of happiness. The American Civil Liberties Union will fight you every step of the way.

DOT: Please, Jed, urr... Mr. Softcane. You're making mountains out of molehills. Few citizens complain about proximity alerts or their DTCs which have been installed in every licensed vehicle. DTCs eliminate slowdowns and line-ups at former tollbooths. Think of autonav as a simple upgrade to your existing **DTC**.

ACLU: Do I hear correctly? Your simple upgrade usurps my freedom of choice whenever I enter a tollway.

DOT: Nonsense. Americans own and drive more vehicles per capita than any nation on earth. More of our citizens have died tragically in auto accidents than have died in terrorist attacks, wars and natural disasters combined. Autonav gives us a sensible way to reduce this wasteful carnage.

ACLU: I don't buy your logic, Mr. Horwath. Your so-called autonav has been deployed in Euroland. Am I correct?

DOT: Yes, indeed. Autonav systems are also up and running in Japan, Korea and Taiwan. China is looking to include its mainland provinces, while Brazil and India have expressed serious interest.

Without autonav, we run the risk of falling behind the curve.

ACLU: One software glitch can cause a massive system breakdown. I refer to the multicar pileup on the autobahn that was blamed on Euroland's autonav. At least 37 people lost their lives. Many more were hospitalized.

DOT: That incident happened ten years ago. Autonav has corrected its crash-prevention algorithms, which now offer extraordinary safeguards.

ACLU: I find that hard to believe. Your brochure indicates high-speed traffic flows with cars separated by only five yards!

DOT: Five meters, Mr. Softcane.

ACLU: Whatever, Mr. Horwath. Tailgating by any measure is dangerous.

DOT: Autonav guarantees safety because it coordinates instantaneous reactions. Any slowdown of the lead car triggers responses in every car behind, for a whole kilometer if need be. Each vehicle responds in synchronous fashion. The five-meter gap is multiplied many times until it expands to a football field or more. The chain reaction occurs within milliseconds without human error.

ACLU: Many folks, myself included, feel anxious when forced to travel bumper to bumper at high speeds.

DOT: Nobody is forcing you to use designated state and federal tollways.

ACLU: Alternative routes are nothing more than detours.

DOT: I agree. Not the best way to travel.

ACLU: (loud groan) The tollway or the donkey way, is that it?

DOT: Relax, Mr. Softcane. Let autonav do the grunge work while you sit back and enjoy the wondrous vistas of our great land.

ACLU: Back in the day, they put blinders on horses to calm them down. Some of those poor beasts suffered horrible deaths when struck by new-fangled automobiles.

DOT: (sighs audibly) Must I remind you that driving is a privilege, not a God-given right.

ACLU: I take your point. However, one question remains. Why must drivers declare their exits on entering the tollway?

DOT: Autonav needs to keep things simple. The comptroller cannot handle impromptu lane changes while mitigating mechanical failures, such as blown tires or seized driveshafts. By orchestrating each individual route in advance, the comptroller can focus on its primary task, which is preventing collisions.

ACLU: What about the poor guy whose wife asks him to grab a quart of milk on his way home from work?

DOT: Tollway users should learn to think ahead.

ACLU: All the way till the next election?

DOT: (clears his throat)

ACLU: Emergency vehicles and commercial haulers are exempt from the autonav, are they not?

DOT: That is correct. Emergency vehicles need to make snap decisions. As for commercial haulers, their odd sizes and variable weights present overwhelming challenges for the comptrollers. Thus, autonav's traffic model is better served by giving truckers their head.

ACLU: At what cost? Drivers are made helpless while monstrous trucks threaten life and limb!

DOT: Must I remind you, commercial haulers have excellent safety records. Truckers observe the rules of the road, and they suffer fewer distractions. They are habitual users of turn signals, which makes sense because commercial haulers must indicate their lane-change intentions before autonav can divvy the necessary space. Nonetheless the Secretary has already asked federal, state and municipal authorities to raise the license requirements for commercial haulers, especially for the operators of air brakes. The Secretary is also recommending six-month driver suspensions for any mishaps, however minor, between truckers and autonav vehicles.

ACLU: I return to my original question, Mr. Horwath. Why must citizens

declare their exits upon entering the tollway? Why can't I change my exit ramp en route?

DOT: Two reasons, Mr. Softcane. First, autonav does not have the capacity to orchestrate large numbers of lane changes. Second, autonav thrives on a logical flow, a veritable ballet of motion that allows emergency vehicles to navigate easily among vehicles moving at a measured pace.

ACLU: Suppose I leave Baltimore on Interstate Tollway 95 for a business meeting in Philadelphia. I assume autonav will take the wheel from my hands, right?

DOT: Yes.

ACLU: OK, let me suppose further. On my way I receive word that Aunt Hilda has fallen sick. Why can't I change my destination and visit Aunt Hilda in Harrisburg? Must I go all the way to Philadelphia and leave Aunt Hilda distraught?

DOT: You may change destinations, Mr. Softcane, as soon as you leave metropolitan Baltimore. Let me liken your personal vehicle to a satellite that orbits about the gravity well of a large metro region. So long as you remain under the influence of the metro region, you will circle until you reach your declared exit ramp. If you travel outside the metro region, you are like a space probe voyaging between planets. Autonav will plot the best course between urban centers. Along the way you may turn off anywhere for fuel, lodging or food, which means you can take the cutoff to Harrisburg if you let autonav know ahead of your exit. Clear enough?

ACLU: Yes and no. I fear I must stand down, Wilbur, urr... Mr. Horwath. Your metaphors are flying over my head.

> Public Transcripts, 2066

24. Trucker Blues

Three Days Later

San Bernardino: Friday, 15 May 2076

Tomas Redfoot is half an-hour late when his rig enters the on-ramp of 30-East tollway extender. Discounting the idle gaps ahead of 18-wheelers, the traffic lanes are packed like sardines, and vehicles are creeping slower than lame-legged ants. Tomas grimaces...

_Autonav won't help my **ETA**.

_It won't clear this traffic jam.

_It offers the illusion of safety

_while it slaves everyone in.

_Better for me to keep control

_when the system overloads

_and causes a mega crunch.

Near-lane vehicles hang back, opening a small gap. He eases the 3-ton ahead and joins the parade. Without warning a Firebug races by on the side shoulder. The green bandit squirts ahead of his fender and seizes his safety gap.

_The punk has jimmed the autonav.

_Gonna cause a whole lot of trouble.

The Firebug returns to the side shoulder and streaks ahead. Tomas fires imaginary missiles at the line jumper till his face turns red. Only later does he welcome the breeze that cools his sweaty brow.

_Thank the Virgin for open windows.

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Tomas can't stand the do-gooders in Sacramento. They've mandated the toughest emission tests in the whole USA. Every time they raise the compliance bar, they smack **indie** truckers like him square in the jaw.

Aircare inspections have forced a 2nd-mortgage to pay for the new diesel-electric. It's government harassment pouring Salton Sea brine on his wounds. The hybrid rig has never felt right. Instead of V8 growls, he gets autotran wines and electric jizzle.

_Useless for gauging a motor's health.

Last year Aircare almost bled him to death with emission fines. The eco sheriffs gave him two bitter choices: buy a rig that runs on Mallard fuel cells or adapt his motor to run on **CNG**.

A **Mallard** rig is beyond his means unless he wins the lotto jackpot, so he chose the CNG conversion kit. But worn engine valves have forced a motor rebuild, a budget overrun and a 3rd-mortgage.

He curses the Sacramento vampires till his face turns **melancòlico**.

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Taillights are flashing ahead.

"What the *hell*," cries Tomas, and hits the brakes. The antilock kicks in while the rear end grumbles like a seismic aftershock.

The safe interval has kept him from thrashing the morons in front. But now he's mired in a no-exit parking lot.

Over the next arroyo he spots emergency flashers and a highway-patrol car across two lanes as if guarding the bent metal and plastic. The green Firebug that jimmed the autonav has caused a three-car **mano a mano**. A uniformed cop waggles arms and ushers three rows of frazzled drivers (now using manual mode) to a single bypass lane.

More time fritters away before Tomas gets the nod to ease past the carnage. He's glad to leave the spoils for tow trucks. Empty vistas of roadway beckon. His motor hummers to life, recharging the ultracaps that power the drivetrain. And topping up the solid-state battery that keeps foodstuffs frozen.

_Gotta make up for lost time.

_Can't afford a late arrival.

It would kill the good will he has built with customers. The

speedometer creeps ahead of the posted limit.

_Double-check the radar detector.
_Come hell or high water,
_or the Virgin of Guadalupe.

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Tomas reckons CNG is nothing but a political football.

_I hafta admit it's cleaner burning.
_And since it comes from shale gas,
_the profits go to homeland vendors,
_not the coffers of Arab sheikdoms.

CNG lowers carbon emissions, but older engines emit too much nitric oxide. That's something he has learned the hard way after failing too many Aircare inspections. Emission penalties have forced him to buy a new motor with tighter engine valves.

An "el cheapo" rebuild wouldn't do because the emissions would worsen year after year until it failed inspections altogether. Tomas has opted for a secondhand SOAR motor that promises low emissions for 25 years.

After begging for the whole enchilada at the savings & loan, he trucked to his favorite garage where Manny's grease monkeys handled the switchover.

Halfway through Manny dropped a dirty bomb. "Sorry, Tomas. Your tranny is fried."

_Oh, choke!
_Wouldn't y'know it.
_When it rains, it pours.

With credit stretched to the poorhouse, Tomas couldn't afford a new tranny unless he risked bones with the loan sharks.

_Why don't my lotto stubs
_ever hit pay dirt? Not one
_sniff after all these years.

Tomas has no choice but to search the junkyards where he gets lucky and scores a secondhand tranny, a genuine SOAR that's dual-flywheel compatible.

His buddy Pedro, the junkyard honcho, doesn't offer guarantees.

_But who the heck cares?

_Made-in-Orbit parts are s'pozod

_to outlast the next ice age.

Tomas is a small-time hauler. He doesn't have smooth-talking sales reps or online job hunters to drum up new clients. His business has grown from word of mouth. His customers expect **JIT** service, and that calls for a reliable drivetrain.

The tradeoff has forced Blanca, his eldest daughter, to postpone her dental work. Blanca is a brainy computer whiz. Crooked teeth make her look geekier than she is, and a mouthful of bridgework will only make things worse. Years will pass before the braces are removed and her charming smile revealed. He hates to prolong his daughter's ordeal. But if his cartage biz goes belly-up, she'll have crooked teeth forever.

Anna understands. His wife keeps the family on an even keel, but her calm demeanor doesn't lessen his guilt. When he faces Blanca at the dinner table, he gets a slow burn in the gut.

No use challenging the EPA, for he'll get no sympathy in the public forums. If he rants like a gorilla in a floral shop, he'll see his name and address listed on the eco evangelists' blacklist. Activists might slash his tires or foul his CNG intakes.

Trouble is most folks are quebies: geeks, bean counters, PR flappers, or meter-mad lawyers. Quebies work in glass towers and push emails all day long. All their physical labor happens inside fitness clubs. They wanna see the hottest brands in every hypermall, and they expect the stuff delivered with sweet-smelling tailpipes.

Tomas knows the score. He's seen storm dikes erected around **LAX** and Governorator Aerodrome. He knows the ocean levels are creeping over coastlands and flooding South Sea Islands.

_Thank the Virgin, I don't live
_on the Gulf Coast where the smart
_money has fled inland. Some of it
_sits in the very enclaves I cater to.

But why slap truckers with the burden? Emissions per kilom have been plunging for years. The real problem is too many vehicles crowding the roads. So-Cal truckers pay more carbon tax than haulers in other regions. **ZEST** inspectors monitor GHGs, but they allow supertanker-sized loopholes. Take India and China with their lax regs. Commercial rigs run on clean methanol made from dirty coal. What kind of hogwash is that?

No doubt about it, the global deck is stacked. Local consumers buy cheaper low-tax products from Southeast Asia or SOAM where folks breed like rabbits and raise large families. Four, five, six kids or more. They decimate tropical rainforests and crowd into smog-hazed cities.

_Years will pass before they live
_by the same regs that have me
_bleeding all over the highway.

The big corporations can afford to play by skewed rules. Their foreign plants operate in jurisdictions with lax regs. Overseas factories hire shopworkers for peanuts. The tropics get 1st-dibs on electric power and a lion's share of spacer deorbs.

Spacer colonists sit in lofty soup cans where they look down on everyone, like contented cows pursuing the god of self-reliance. They won't give our citizens their rightful due, even though USA pioneered interplanetary travel.

Where has the American Dream gone?

Fifty years ago his grandparents risked life and limb to move up from **derruido** hovels in Chiapas. They worked hard. Their children worked hard.

_They've gone from farm laborers
_to shop stewards, lawyers, shopkeepers,

_managers and cartage haulers like me.

He pushes like mad to keep the mortgage loans at bay. Each month his operating costs threaten to flush him down the toilet. For what?
For the crime of raising two daughters and a son.

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Tomas follows a group of campers, pickups and SUVs moving to the exit lane. A crescent overpass leads to a two-lane highway that heads north.

A beep draws his eyes to the DTC readout.

_ \$4.50 gone from my tollway account.

_ Bloodthirsty Sacramento vampires!

_ Thank heaven it's for distance not time.

He rolls and winds through forested hills of San Bernardino National Forest. The road twists like a drunken snake while his truck labors on upgrades and sprints downhill. His transmission modulator responds sluggishly to the workloads, which tests his patience to the max.

_ Torcido hijo de puta!

Sporty coups switch to mid-passing lanes on the uphills. Fuel cell powered Vipers, Jaguars and Extremas spew whirlwinds as they vroom past.

Three garbage trucks whoosh by in the opposite direction, their slipstreams rattling his windshield. Tomas sniffs diesel fumes in their wake. The waste-disposal boys have another six months before environmental regs force them to burn 85% CNG and 15% biodiesel. Judging from the soot trails, they're making the most of the reprieve.

Mount Harrison towers to the right amid green multihues of foliage. A mix of alders, junipers and cypress dominate the lower slopes and give way to scrub oaks and buckthorns up-top.

He wheels past the familiar Pitstop with its fuel islands, café and carryout store. Gasbars have become glitter boxes that sell everything from antifreeze to wisecracking toothpaste. There are maps, auto

supplies, winter chains, bottled water, pharmaceuticals and hot food in the **HyperNet** café. The dispensers have calibrated pumps for old-time gasoline, biodiesel, CNG or ethanol-85. Plus surge converters for rapid recharge and methanol pumps for vehicles using Mallard fuel cells.

Heavy traffic and loading problems have frittered away his caffeine break.

_Hafta kiss my Cup-a-Joe goodbye
_and glare with envy at the lucky
_sedan entering the Pitstop lot.

Forest groves line either side of the roadway. To defray operating costs, California has sought partnerships in recent years. Corporations have been invited to establish private enclaves so long as they retain the natural sightlines for highway travelers. Rental fees help pay for park upkeep and infrastructure. The enclaves host retreats and workshops for corporate logrollers. Some enclaves have built upscale hideaways for retirees.

Wexol Inc. sponsors the 1st-enclave on his route. Wexol is a transnational with its hands in computer hardware, aeronautics and nanotech. **GREENS** sponsors the 2nd-enclave. It's a spacer outfit that has its fingers in all kinds of ecological projects.

Tomas slows as he spots the sign of the 1st-stop.

Wexol Evangelical Convocation & Retreat

He swings onto a well-paved driveway. He maneuvers through two switchback curves before slowing to a halt at the entrance. The double-door entrance arches above the two-person-high concrete perimeter. Metal stays surround the doors, crossbars adding further support.

Andy swaggers from the guardhouse. His ruddy face, bulging eyes and plump physique are squeezed inside his clean-pressed uniform. His silver-handled sidearm rests in a hip holster and shouts like a billboard ad. He saunters over to Tomas's truck and assumes the pose of authority.

“Expected you earlier,” he drawls.

Tomas has grown used to Andy's pompous manners. He answers more lighthearted than he feels. “Wreck on the tollway slowed me down.”

“Accident?” Andy whistles in disbelief. “A whole hour delay?”

“Multicar mayhem.”

“Hmm. One of your truckers lose it?”

“Nah. Some nerd in a Firebug jimmied the **autonav**.”

“No shit? Must've b'en a raghead or bearded mullah.” He shakes head. “Hard to see traffic while kissing their prayer mats.”

Tomas doubts the scapegoat theory, and some turban wearers don't use prayer mats. But he keeps those thoughts to himself. “Dunno,” he replies. “Ambulance took the injured away before I got close.”

“Let's hope your stuff kept cool while you waited.”

“Count on it.”

Tomas sounds upbeat but fails to convince himself. His late arrival has as much to do with delays loading the foodstuffs. It took half an-hour extra for the freezer unit to cool down. To cut costs he has delayed checkups at Manny's garage. Now he hopes like mad the goods have stayed cold.

“Where's your tag?”

Tomas fishes the ID tag from his breast pocket and clips it on.

“There,” he says.

“Best keep it visible, pal. Sooner or later, you'll get guards who don't know you.”

“Thanks.” Tomas forces himself to nod sheepishly. “Next time.”

Andy jumps back a full step. His face takes on a grim cast. He crouches down and fingers the handle of his sidearm. Tomas has seen this routine before, so he keeps a straight face.

After a pensive moment Andy grins and toggles the remote that opens the gate.

The enclave sits on a broad ridge lending clear views of forested summits to the north and east. Straight ahead looms the auditorium which is used for lectures, workshops and prayer revivals.

The manicured lawn (flanked by hedgerows of flowery shrubs) smells of fresh-cut grass. Shrubs border the walkways that run between multistory buildings. A small copse of trees stands as a token of the original forest.

A dirigible hangs in midair on its tethers. The corporate chosen are debarking along the exit ramp. Happy-faced greeters usher the faithful to a dormitory building which stands beside the auditorium.

Tomas ganders at three towers in back where the longterm residents stay. Satellite dishes and water reservoirs sit atop the towers.

_Drinkable water is likely trucked

_in from somewhere up north.

_Most likely Oregon.

He steers his truck to the utility prefab. Its square form and stuccoed walls make for the dullest structure on-site. In the rear sit two bland dumpsters on concrete slabs. The elect aren't supposed to notice the waste disposal or treatment plant that processes flush-toilet dredge to solid cakes. Its byproduct of unpotable water keeps grass green and flowers abloom.

The main diesel thrums inside a utility prefab. It furnishes electricity for the enclave. The diesel grows louder as he backs his rig just shy of the loading dock. Stepping down, he rummages in his pocket for the SkySafe remote.

The doors open only if GPS confirms his preset destination. Else the doors stay locked, forcing hijackers to drive off with the goods intact. Likewise SkySafe broadcasts locational data, so police can track the thieves wherever they go.

The insurance rep has badgered him to install SkySafe, even though

hijackers tend to strike at night when Tomas seldom hauls. Every month the antitheft device takes another bite from his take-home.

He strolls to the rear of his truck and unhooks the latch. "Gourmet Foods" breaks into halves as he opens the doors.

"Here at last! You're coming so late this day."

He recognizes the voice and grins at his favorite member of the kitchen crew. "Traffic jam," he explains.

Sarah wears a crisp-white food server's uniform. A corporate advert is printed in black letters across her chest.



My @HOAM

He climbs back in the cab, noses the bumper flush with the loading dock, kills the engine and jumps out.

"For dinner we cook buffalo steaks. Please, could you bring them first?"

Tomas reckons she meant to say cattalo steaks, which are butchered from a crossbreed of cattle and buffalo. Cattalo is supposed to be kinder on the heart than beef or pork. The enclave can afford the lofty price.

Sarah has an East-European accent, sturdy limbs, ample curves and spots of healthy red in her cheeks. It's hard to tell if she's 18 or 15, whether she's completed high school or shunned it for the workforce.

"I'll try," he says, as he climbs onto the loading dock then hands his infowand to Sarah. "Depends how they're packed."

She mates the infowand to her terminal and checks his manifest with the enclave's order. "Bless you, Tomas. Your lists are always agreeing with ours."

"We'll see."

Tomas holds this contract because he delivers on-time without foul-ups. But there's no guarantee the manifest will match the physical goods. The only way to make sure is to check them off item by item.

He unhitches the lift cart and checks the temperature gauge.

_The chill inside feels OK.
_Temp is holding at 32°.
_Thank heaven the gauge
_reads in Fahrenheit, else
_I'd be wagging my paddle
_at a bone-dry creek bed.

He takes the morning glitch as a warning and vows to visit Manny's garage on the weekend.

The 1st-row is stacked with three 50-kilogram boxes labeled *Chicken Breasts*. He piles them onto the lift cart. Farther in, he spots the box of *Cattalo Steaks*. After some effort he wrestles it out and piles it on the lift cart. He rebalances the cart and rolls it across the metal bridge. Before he reaches the enclave freezer, Sarah grabs the cattalo steaks, hoists the box on her shoulder and marches toward the kitchen.

_Strong gal to cart 50 kilos. Oughta
_make one-lucky guy a fine **esposa**.
_Hard to miss the boldface advert
_swaying with her bottom cheeks.

HOAM Rocks!



He shakes his head at the corporate toadying. Then he heads back to the freezer where he checks off *Cattalo Steaks* and three boxes of *Chicken Breasts*. He gapes at the remaining list of frozen meats:

_seven boxes of roast beef in strips,
_four each of ham and sirloin steaks,
_three boxes of whole game hens,
_and two of delineated turkey bacon.
_Altogether 1,200 kilos of frozen meats.

All the meats are grade AAA, and the game hens are labeled 100% Organic. He pushes the lift cart back & forth between truck and freezer. On completion he spews a satisfying gush of air.

_Oughta hold 'em for another week.

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He closes the freezer door and waits for Sarah's return.

Outside, two elderly women exchange soft volleys on one of the tennis courts. Inside the glass-covered swimming pool, a lone caretaker trails his broom along the perimeter walk-around. Residents seldom venture outside the towers. No doubt they're busy online with dataflow stuff or maybe just taking it easy.

The towers are showcases for quebies who attend the pep talks. The logrollers are encouraged to spend their "senior years" in Wexol's gated community.

The whole setup is overkill. A modest suite in this fortress would cost him two lotto jackpots. Who needs it?

His townhouse lies in a low-crime neighborhood.

San Bernardino has forced urban developers to meet quality-of-life guidelines. Green spaces and miniparks are included in most projects while traffic is diverted away from residential areas or slowed down by obstacles at intersections. Pedestrians, cyclists and playground kids aren't targets for speed demons.

Calm neighborhoods attract sensible folks and solid families, making San Bernardino attractive to newcomers. The resident gringos were standoffish at first until Anna planted her herbarium and kept the hedges trimmed. In recent years, two more Latino families have moved in.

Although the naysayers worry about stacked condos and more hypermalls, his townhouse has doubled in value. That's one-big reason why the savings & loan gives him a long credit line. Pundits expect San Bernardino to keep growing and pushing property values even higher.

By comparison LA is an oozing sore of **nerdofil** addicts. Young people from across the continent gravitate to LA for promises of fame or thrills. They seldom find decent work and wind up temping at low-

pay jobs. They have too much time on their hands and too much access to **VR** entertainments and dataflow scams. They're drawn to weird parties hosted by exotic thrill seekers. After a few years they become creatures of the twilight zone, like the zombies in **Novatron's** post-apocalyptic holoflix.

Tomas considers himself lucky to have three healthy kids and a loving wife. They're burdens, yes, but welcome burdens.

Family keeps him sane.

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Sarah is in the freezer, checking off boxes of frozen food.

"Don't forget the cattalo steaks," shouts Tomas through the freezer's double-glass door.

"Already marked." Her face brightens in surprise. "Oh yes, cattalo not buffalo."

He nods and returns her grin. Since her arrival last autumn, Sarah has become his favorite among the staff. She greets him with earnest cheerfulness, not the holier-than-thou attitude of others who infer his ethnic roots from his family name and mistake him for a shiftless aboriginal.

He recalls his 1st-visit to the enclave. Andy went over his truck with a fine-toothed comb. The fastidious guard was disappointed when he found nothing amiss: no undeclared weapons, no suspicious devices, no open bottle of **Thunderbird**.

Tomas has grown used to this attitude. His grandfather changed the family surname as a clever strategy for gaining legal status. Only later did grandfather realize how the locals treated aboriginals as bad as they treated illegal aliens. By then everyone had bona fide papers, and it seemed better to leave sleeping dogs lie.

How would the enclave react if they knew he was a 2nd-generation wetback? They might cancel his delivery service, despite his flawless record of on-time deliveries of quality goods.

Longterm residents consume most of it, so they must appreciate his efforts. Would they speak up on his behalf?

As Sarah exits the freezer, he asks, "How much of this good food is going to waste?"

Sarah looks startled. "Chefs make us show our inventory."

"Sure. You track each serving on a flow diagram."

"Why yes. You must've worked in kitchens before."

"I've learned a thing or two, supplying big outfits like this." He slides fingers across his cheek. "You offer multiple menus for each meal, right?"

Sarah nods.

"The **chef de jour** consults the charts and decides how much of each menu to prepare. It's a good estimate based on history and preferences. Nobody knows for sure how much will get eaten, so you prepare a little extra, just in case. With multiple menus it all adds up at day's end. Let's be honest. Since there's plenty of leftovers, it makes sense to take some home for family or friends."

She remains silent.

"Better than dumping good food in the garbage," he adds.

Sarah studies his face before deeming him a simpatiço confidant. She lowers her voice and glances left and right. "We do take food home sometimes."

"Good for you!"

They share a moment of solidarity. Two small cogs on the enclave's wheel snagging whatever perks the wheel spins their way.

Tomas breaks the spell. "I guess it's time to cart the rest of it." He glances over the long list of canned goods, produce, oils, pasta and beverages. "I'll leave bread on the table."

Sarah flashes a million-dollar smile.

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Electricity is the lifeblood of the postmodern era.

(Muted applause)

The good citizens of our diverse regions should not be handicapped by mere geographic locale. So we must exercise good leadership and level the playing field to maintain nation-to-nation parity. I propose that we declare a healthy tariff on each kilowatt of spacer-derived electricity.

(Muted applause)

The collected funds will finance the construction of superconducting grids from equatorial receptors to all corners of the globe.

Supercables, cooled by liquid hydrogen, will carry the high voltage to wherever electricity is needed. Once finished, the supergrid will promote fairness around the world. Consumers will draw electricity at comparable prices, whether they live in Montreal or Quito, in Stockholm or Libreville, in Moscow or Mumbai.

(Muted applause)

> Sino-American Summit, 2042

35. Holo Queen

Three Days Earlier

Kuala Lumpur: 12 May 2076, 1:25 p.m.

Tuesday, 12 May 2076, 05:25 UTC

The door of the summit room opens and admits two teenage servers. They wear bright-floral costumes and eager smiles. They bring robust aromas of caffeine, herbal shampoo and talcum powder. They carry trays holding porcelain mugs and each a pot of coffee.

“About time,” grumps Martin Gagnon, stubbing his cigarillo. “We ordered refreshments half an-hour ago.”

“I upped the order from four to six,” says a contralto voice.

Trevor cranes his neck and wraps his mind around the charismatic Okuno Ayumi.

Her nostrils flare. “That horrid stink must be yours, Martin. Don’t light another, Old Man.”

“Speak for yourself, Old Lady.”

“My age is irrelevant, Martin.” Angry gray eyes and downturned lips can’t tarnish her intrinsic beauty. Creamlike facial skin flows across salient planes. Her jet-black hair has been pulled to a widow’s knot. “*Your* mug,” she taunts, “only a mother could love.”

Gagnon raises his chin. “Ask my bedmates. My alpha appeal has grown with age.”

Okuno points her finger at the “No Smoking” sign and then at the Brazilian. “No more *period*.”

Glittery baubles hang from her ears. A cravat caresses her throat like a yellow orchid. It tops off an evergreen blouse whose billowy sleeves are tapered at her wrists with bejeweled cuffs. Over the blouse she wears a bright orange vest and matching skirt hemmed at her knees. Shapely calves and comely ankles are snugged in pale-green hose atop alabaster heels. There she stands, an orphan flower in bloom amid the

wrecking yard of drab suits.

She beckons to someone in the hallway. A male server enters the room, carrying a tray with glossy-white cups and an ornate teapot. He has the hard-nosed mien of a samurai bodyguard. One of Okuno's servant consorts, Trevor judges.

The young man marches to the half-moon table. Okuno waits as he unloads the tea set then retreats to the exit behind the female servers. After they all tramp out, she closes the door.

“Quit stalling. Take your seat, Holo Queen.” Gagnon pats the empty chair. “Afraid I'll pinch your tits?”

Okuno simpers. She's the personification of Novatron, the world's foremost dream factory. The popularity of Novatron's holoflix extends to her flagship SonyKong, which deals in vehicle assembly, HyperNet hosting and vat-grown protean.

“Stow your ego, Martin, before I squash it.”

Though clocking past sixty, Okuno Ayumi personifies a [haikara](#) siren who boasts a flawless face and figure. Admirers outnumber critics who envy her singular wealth, success and beauty, which has been renewed with exclusive longevity regimens.

She retains the best immunologists, dietitians and cosmetic surgeons. Personal trainers guide her through regular sessions of yogi, kung fu and obscure isometrics. Dedicated teams scour the globe for woebegone savants who claim to know arcane recipes for the Fountain of Youth. Trevor wouldn't test these schemes on his pet dog, but Okuno is game for anything. She has tried insect-only diets as well as protein-plus diets that comprise seal meat and arctic kelp. She has tried vegetarian and fruitarian protocols that yield just enough calories to feed a quaker moth. The latest rumor has her bathing in a large Duranickel tub of goat's milk enriched with estrogen and nutmeg.

Gagnon stands up and withdraws the chair at her approach. Okuno accepts his gesture as a queen her due. “Thanks, Martin.”

“Y'mean it?” He pushes the chair till it touches her calves. “Which

one do I get to pinch?"

Okuno slaps his hand. "Sit down, Martin, and act your age."

"Expected you sooner," says Trevor, more curious than put out. Forty years of marriage have resigned him to female-delaying tactics.

Choong pipes in, "Would you like a Lustifer to ease the jetlag?"

"So *that's* what they're for," carols Okuno. "I caught your Lustifer ad on my flight over." She awards the elder CEO a radiant smile. "No thanks, Zhijian. I appreciate your concern, but my brief jaunt hardly warrants a remedy. I was in Shanghai attending the premiere of Novatron's newest **holoflix**... *Vampires in Sheer Satin*."

She turns to face Trevor. "Who says I'm late? My flight took off on target for my villa in Hokkaido. Once out of sight, the pilot turned south for Kuala Lumpur. The subterfuge added ten extra minutes, no more. How's your cover story? Is it solid?"

"I refueled in Juneau where my look-alike began an Alaskan ecotour," Trevor confides. "Right now he's photographing bald eagles, caribou and polar bears."

"Good. How's yours, Torero?"

"I'm s'pozod to be in Baja California."

"Doing what?"

Grabb shrugs. "Whale watching."

"Do whales show up this early in the year?"

"What's it matter? I'm on vacation."

"Let's hope that alibi holds up better than your sloppy attire. We can't afford leaks, y'know. If this summit goes public the bureaucrats would have enough ammo to blast our flagships to pieces. How's yours, Martin?"

"My alter ego is taking a nudist cruise off the Chilean coast." He closes his eyes. "I see dozens of mammary racks as shapely as yours." He smiles. "All of 'em itching for my expert touch."

"I'll take that as a compliment which ought to give me a big discount on my next order of earthmovers."

“Whoa! You're sucking below the belt.”

“In your dreams, Old Man.” She raises her chin. “Zhijian?”

“I was near the Great Wall inaugurating a new tourist trap, after which I took a few days R&R at a nearby villa. I told my PR folks I was *not* to be disturbed.”

“An excellent cover.” She pins Rolf Heck with wide-gray eyes.

“How's yours?”

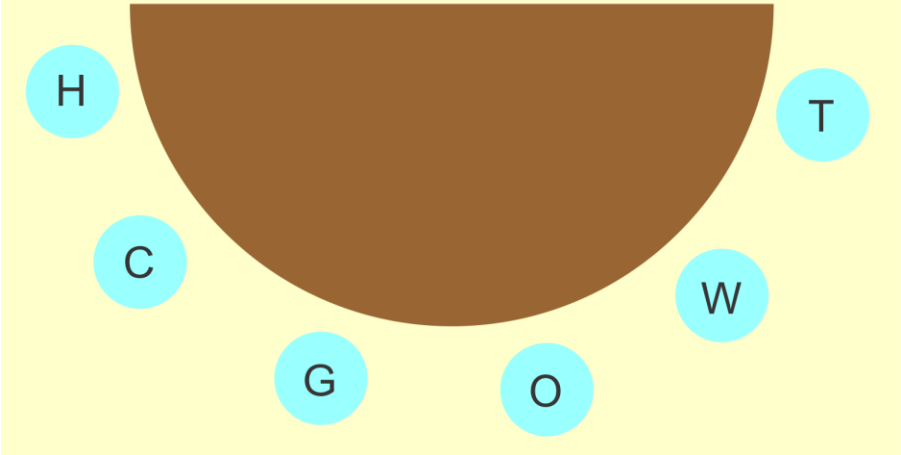
“I'm at the Pampered Bunion, a health spa in the Alps.”

“A fat farm!” Gagnon guffaws. “Just what you need.”

“For every centimeter trimmed from my waist,” rumbles Heck, “I'll add half a percent to the interest on your debt.”

“Ouch! You're worse than the *Old Lady*.”

T = Torero Grabb
W = Trevor Wynestoop
O = Okuno Ayumi
G = Martin Gagnon
C = Choong Zhijian
H = Rolf Heck



A switchblade pops from Okuno's left cuff. She grips the handle and extends the blade. “Your levity has grown stale, Martin. Forget it. No more swipes at my alleged age.” She drives the blade into smooth-

buffered walnut, spreading aftershocks around the table. "I mean it."

Gagnon is too proud to flinch away, but the color drains from his face.

"This is a friendly gathering," says Choong.

"No prob, Zhijian. I'll leave him a pustule between his legs."

"One way to cut a bargain for earthmovers," Gagnon quips.

"Don't try my patience, Martin."

Gagnon raises his hands in mock surrender, eager to drop "Old Lady" from his repertoire.

"I hate this venue," Okuno palters. "We should've chosen another location years ago. Routines breed complacency. Mark my words. One day, some eager-beaver paparazzo will sort us out."

"Is that why Rathbone asked us to bring Digiflexes?" asks Trevor. He senses Grabb reacting beside him.

Okuno looks nonplussed. "Digiflexes ought to lend better security, so they're a sensible precaution. But netscreens won't hide our presence from snoopers here on-site."

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Heck's face brightens as his tummy spills languidly over the table. "I have good news from the heart of Africa."

Trevor sips coffee and braces for another of Heck's homilies.

_ Good News seldom occurs

_ in a continent that breeds

_ famines, wars and atrocities.

Okuno looks up from pouring tea. She lends the banker's jowly face a curious eye. "Do tell."

"Beuack has subsidiaries in Ghana," he crows. "They're well-placed to acquire local assets."

"Ghana?" Her brows rise. "A week away from IMF sanctions. Why poke your nose in a cesspool?"

"I must admit the Cedi is falling like a stone. There's little doubt the

IMF will come down hard. After which you can buy the whole nation for a song.”

“Shit is shit, Rolf.”

“Even crap has good value if you own the whole shebang,” counters Heck. “At present Beuack controls the sole bank with its chin above water. Its assets are 95% buoyant, and my agents are scouting the landscape for strategic locations and turnaround possibilities. They've already taken minor positions in several key industries, which will transform to full ownerships, once the companies file for creditor protection.”

Okuno waxes thoughtful. “Does Ghana export anything besides cocoa?”

“Oh yes. There are mineral resources such as magnesium, bauxite and gold. There are fertile lands for growing rice and forests for timber and wood crafting. With policy incentives the exports of cocoa could easily double.”

“More cocoa plantations oughta usurp land for edible crops.” Okuno is smiling as she gauges new possibilities for SonyKong's synthetic foods. “More sales of **sclup** for livestock or urban poor. I like that.”

“Don't forget, Ghanaians speak English,” the corpulent banker adds. “Secondhand training manuals can be had for peanuts. Once the locals acquire skills and earn decent paydays, they'll hanker for pricey goods like ravenous wolves.”

“Get real, Rolf. The locals must become addicted to convenience. That calls for media campaigns and big money upfront.”

“That's why I'm inviting partners. Think about it, Ayumi. Everything you buy in the next few months will cost 10% of its potential value.”

“Suppose the government falls. The next bunch could make things even worse. I need assurance my assets won't be nationalized or taxed to the poor farm.”

“My agents have had discussions with Commander Jimmy Aidoo. His popularity extends beyond the military rank and file. He has a certain

populist appeal and good ties with the business community. I've retained a contingent of Red Falcons, though I expect a bloodless coup d'état. Jimmy Aidoo will do our bidding, for his wife and children are safe in Switzerland under Beuack's guardianship."

"Fine for starters, Rolf." A vertical line forms between her brows. "What if another tin-pot warlord plants his butt on the hot seat? What if the natives catch your puppet cavorting in bed with foreign profiteers? Praise the fragrant shit all you want. We're talking quagmire here. I can't see Ghana remaining stable long enough to recoup my outlays and bag my profits."

Heck spreads his hands like a charismatic preacher. "First on the agenda, I plan to privatize the utilities: telecom, electric, water, sewage and roadworks. The proxy buyers will install business-savvy managers. Next on the agenda, the key bureaucracies must be reorganized."

"Easier said than done, Rolf. Local grapevines are hard to discredit and harder to outfox. They're ingrained all over the 3rd-world. Ghana is no exception. The economy needs thriving gray- and blackmarkets to stave off massive social unrest. Every lucrative job goes to a friend of a friend as a favor for a favor."

"It won't matter in the initial phase. We'll institute voluntary civil-service tests. The success or failure of the tests won't threaten anyone's job. But those who pass the tests will be eligible for bonuses. Veteran officials will avoid the tests as a nuisance, since they earn more from bribes than salaries. But the untested will be watched and caught red-handed then fired in disgrace. After several freeloaders are punished, citizens will be persuaded to trust their government. They'll cheer when we install scrupulous officials who endorse our aims. Once the bureaucracy is repurposed, elected leaders can only make superficial changes."

"Hmm." Okuno sips tea. "I must say you're starting to pique my interest."

Heck spreads his hands. "We'll focus on the private sector and enact

guidelines for anyone engaged in a trade or service. Even taxi drivers must prove they know the neighborhoods to which they cater. For instance, a freelance roofer may service friends and neighbors, but when he looks further afield, he'll compete at a handicap since licensed roofers can guarantee basic quality standards. That makes them trustworthier than nobodies endorsed by a friend of a friend. Naturally, the regulatory agencies that award licenses will be operated by us.

“They’ll encourage young workers to take courses at accredited trade schools,” Heck adds. “Educational costs will be subsidized at first, until untrained workers see the advantages of having a license. By then, tuition fees should more than cover the teachers and classrooms.”

Trevor isn't biting.

- _Trade schools won't show profits
- _without huge government subsidies.
- _The Ghanaian facility would cater
- _to common laborers who won't
- _generate spin-off bonuses. I'd be
- _upsetting dogmatic traditionalists,
- _paying out huge bribes to safeguard
- _buildings from thieves and vandals.

“To keep the bloated bureaucracy from stifling economic growth,” Heck goes on, “we’ll layoff more public-sector **quebies** than we hire. As the government payroll declines and as we marginalize the informal economy, we’ll cut taxes and streamline the bureaucracy. Government will pocket more income from a wider population base. In a few short years, Ghana will have a pool of skilled laborers for all kinds of techno-driven enterprises.”

Heck surveys the faces around the table. “Wexol’s trade school ought to make metro Accra a haven for business, while property values rise like air bubbles from the deep ocean.”

Trevor scowls. “Where’s my incentive to start a trade school in Accra?”

He has no grudge against Africans. Wexol doesn't favor one race over another or one ethnic group over another. It hires the most talented employees for whatever jobs that need doing. Jobbers are judged on raw potential and merit, regardless of ethnic roots.

Even so, trade schools in chaotic regimes don't make sense. Ghana has plenty of other problems crying for funds. A new educational venture would land at the bottom of the list. The Accra trade school would need lavish subsidies or more upscale students.

For most of Wexol's trade schools, "special finds" make up 10-15% of the enrollment. Kids with high-percentile IQs have been "discovered" through a special screening process which Trevor has instigated and championed. The screening process is one of a kind and unique to Wexol. His trade schools pocket substantial finder fees for above-average graduates. The Accra school would be enrolling a random cross-section of the students, so it would earn few if any bonuses for overachievers.

"Trevor has a point," Okuno cuts in. "You've outlined a grand scheme, but decades will pass before Ghana produces substantial returns. Why should I throw money at an uncertain future?"

"My timeframe to corporatize Ghana is but ten years," Rolf huffs. "That's how long it took Japan and Europe to recover after World War II."

"That's no precedent," Trevor growls. "America was flush after the war and had vested interests in prompt recoveries. The hungry and homeless couldn't afford to begrudge the recovery efforts. I doubt Ghanaians will greet us with cheers and flowers. My trade school will be cursed and scrutinized more often than it's given credit."

"Listen to these gainsayers," Martin snorts. "And stick Torero Grabb on their dreamboat. They'll sell mobile gizmos to dockside wholesalers, but they won't set their dainty feet ashore till they see an upgrade of modern infrastructure. Well, I ain't so choosy. If the price is right, I'll buy the bauxite mines and aluminum smelters."

“Right on, Martin,” Heck chortles. “Base metals may be hurting in the present climate, but here is a rare opportunity to double the exports of bauxite and aluminum. The local players oughta bare their bosoms for a partner with ready cash.”

“Watch your sexist remarks, Rolf,” warns Okuno. “I don’t ask new partners to drop their drawers and expose their jewels.”

“Right, they’d smear your lipstick,” Gagnon quips, outing a nasty grin until...

Okuno smacks an elbow up beside his head.

“I *do* apologize, Ayumi,” Heck avows gravely. He waits until Gagnon rubs the sting out of his ear. “One problem though. Current aluminum production is limited by the scarcity of electrical power. Africa still uses overhead transmission lines, and the local grid doesn’t carry enough juice from the beamer receptors in nearby Kenya.”

“No problemo. I reckon Ghana could use a helium-cooled reactor or two, or three.” Gagnon leans back in his chair, looking like a cat who’s captured a mouse. “Oughta double aluminum production in no time flat.”

Okuno snorts. “Increase aluminum production all you want. It may create a handful of jobs, but it won’t change the inherent culture or marketplace unless ordinary folk become avid consumers. Before that can happen, you need more service-sector jobs, extra currency in circulation and clever media ads. Rolf, this scheme will cost more cash than any of us dare to risk.”

“Which is why I’m calling for partners. Each will add what each does best, and all will reap the prize.”

“Humph.”

“Consider what Rathbone has done in Guinea-Bissau,” Heck points out. “The once indebted nation has become the main supplier of cola for much of Africa and Europe. He’s given the local economy a positive jolt, and consumers have responded by purchasing zillions of **Scampora** ultracompacts rolled out of homeland plants. Ghana may prove a more

ambitious project, but in ten years we'll have a goose that lays golden eggs."

Okuno nods grudgingly. "Smart of **DoubleYou** to combine cashew nuts with soft drinks. He'll buy all the aluminum cans that Martin carves out of rock. But I wonder if your pitch is just a bailout in disguise."

"Never, I swear," Heck says, his arms swept wide and palms visible. "I've put cash down on but 2% of the options, which are acquisitions Beuack would make in any case. The other 98% I can walk away from without penalties. Think of them as opportunities I hold in trust, so to speak. I suggest you act before the IMF boys arrive and hogtie projects with kilometers of red tape."

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"There are cheaper ways to raise funds," Choong says.

Trevor turns to the elder CEO who has kept mum till now. Others around the table have turned as well. His venerable age adds an aura of respect above and beyond Yuhan's economic clout. The attendees hold Groschen, his biotech sub, close to their hearts. Okuno owes her creamlike complexion and cosmetic makeovers to the sub's expertise. In practice Choong's opinions are never dismissed outright.

"We seldom put our nonprofit orgs to best use," Choong continues. "Our trusts and foundations benefit some worthy cause or another. They serve as clever tax shelters and generators of good will. We could as easily use them to give Ghana a corporate facelift."

Heck fingers his double chin. "We daren't go beyond our trusts' public mandates."

"There's no need, Rolf. Our trusts will carry on with their stated missions. We'll recover some capital via payments for services done by subcontractors. The rest we get back when the missions wind down and do-gooders pass the baton to commercial affiliates. More to the point, our nonprofit orgs will be pouring 'tax-free' capital into Ghana."

Okuno appears thoughtful before she asks, “Won't naysayers object to so many capital transfers going to one country?”

“Our PR folks will say Ghana is ripe for progress and our trusts are working in synergy,” Choong explains, “creating a sum greater than its parts. Here's an example...”

“Ghana doesn't have a reliable air-traffic control which negates the use of skycars. Let's say a nonprofit org builds ground facilities to handle air traffic in concert with GPS. Altitude-gauging towers could easily double as vidcom relays. Trevor's nonprofit affiliates could donate 'used' servers for the network. The towers should furnish better **wifi** coverage while letting skycars fly casualties to hospitals in Accra.

“We all know Martin loathes helium dirigibles,” Choong goes on. “He'd rather scrounge a fleet of fixed-wing relics for his mine sites. With GPS infrastructure in place, commercial operators can rely on air-traffic control for skycar ventures.” He eyes Trevor who nods. “Martin could sell his aged aircraft, lay off pilots and start using skycars, since automated air taxis are safer and cheaper.

“Meanwhile Ayumi's nonprofit orgs can work hand-in-hand with NGOs to build corporate bridges across the cultural milieu.”

Okuno sniffs. “I don't know if I wanna crawl in bed with grubby NGOs.”

“Keep your nightgown laced and wear sanitary gloves if necessary. Consider how many subliminal adverts you can fit inside public-service announcements.”

“Well, OK. That could be worthwhile.” Okuno is smiling but not her eyes. “What role are *you* playing, Zhijian?”

“I thought I'd use my environmental foundation to manage the Mole game reserve.”

Trevor is baffled but not Okuno.

“Oh *ho*,” she purrs. “I get it. Hésheng traditional medicines.”

Choong sighs. “I'm ashamed to be involved in such chicanery, but the profit margins are too generous to ignore. Hypochondriacs will pay

through the nose for powdered waterbuck hoof, marinated duiker hearts, pureed hartebeest livers, fermented monkey brains, pickled hippo kidneys and so forth. The reserve manager is obliged to cull selected species for ecological harmonization, which puts Hésheng in the driver's seat to do the processing and packaging.”

“Don't get sidetracked in the swamps, Zhijian,” Okuno palters. “Ghana needs to upgrade its telecom infrastructure.”

“Zesticon is laying cable from to Bissau to Cape Town. That line could easily accommodate a feeder branch to Accra. Once I have a fiberoptic node ashore, I'll start connecting the entire city.”

Heck sips coffee and betrays a cunning grin. “I have nonprofit orgs that may fill the bill. One of them can refurbish the sewage and waterworks if Martin supplies the backhoes.”

“No problemo.” Gagnon dons a crooked grin. “Backhoes dig in when **moças** bend down and bare their booties.”

“Consent with fiendish innuendoes,” carps Okuno. “Martin, beware of gals with sharp knives.”

“Has the temperature dropped fifty degrees?” Gagnon asks. “Let's start a fire before we get frostbite.”

“Martin, don't light that blowtorch!” She reaches for the knife. “And tuck your smokes away.”

He rolls his eyes but returns the contraband inside his jacket. “Ask Rolf what he plans to charge for a megaliter of clean water.”

“Fair question.” She nods. “We can't afford gouging, Rolf.”

“I never charge more than what the market will bear.”

Knowing grins appear around the table.

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“Trevor and I don't mind contributing used computers and legacy software,” says Grabb, “even if they delay the sales of Digiflexes.”

“Most of the freebies will go to schools,” Choong responds. “Guess what? Kids are consumer wannabees. They'll beg parents till they get

their own prompters. I suggest you target the wealthiest 2% for starters. Then widen your net to 5% and 10% as the market allows.”

“While I wait for the digital market to mature, let me plant new trees,” says Grabb. “One of my nonprofit orgs has skills in tree planting and forest management. Its purpose will be to increase woodlands, unless it gathers evidence of insect plagues. In which case it will advocate clear-cutting of selected areas. The open land could be sold at modest prices to a certain cocoa grower which oughta encourage more cocoa ventures.”

“How perceptive you are, Torero,” Okuno rejoins, smiling graciously. “I’m grateful for more cocoa plantations, though I’d rather encourage cocoa growers without the burden of ownership. Either way I win, so thanks again.” Her smile belies frigid eyes. “I understand your motives for doing this favor. You expect me to close the deal on Monkey See, but its price appears too rich for now.”

Trevor sets down his coffee mug and straightens his posture. Grabb is obviously conniving behind his back. “WBM has prior agreements with Shrinkwrap regarding Monkey See.”

“No prob, Trev,” says Grabb. “Those agreements will remain in effect after the sale.”

“That’s right,” adds Okuno. “Obligations to WBM appeared in the 1st-page of said documents. In fact I might also bid for WBM’s legacy hardware.”

Trevor relaxes. The gambit shows Grabb hasn’t given up on Ultimate Companion. He wouldn’t part with his legacy software if he wasn’t fully committed to UC. To hide the appearance of monopoly, WBM must also part with its legacy hardware at some point.

As he regards the glamorous CEO of Novatron, the majority owner of HOAM, he chooses words with care. “WBM would welcome buyers for CMOS devices. Down the road, of course.”

“My thoughts exactly,” Okuno agrees. “I prefer to wait till the sunset industries bottom out. Torero claims IT pros will stick with Monkey See

like dogs to a bone.”

“Software engineers love to dicker,” Grabb affirms, “and coders would kill their own mothers to get under the hood and start threading do-loops, parsing branches and crunching data flow.”

“That remains to be seen,” says Okuno.

“Let's get back to Ghana, shall we?” interjects Heck. “Have we come to an agreement in principle?”

Gagnon frowns. “I don't like protected forests or the tighter controls at the Mole Game Preserve. What if I find platinum deposits on set-aside lands?”

“I'm sure those wrinkles can be ironed out,” Heck replies.

“You're missing the point, Rolf. Once Ghana enacts environmental regs, other African nations will do so as well. Before y'know it, I'll hafta make 3,000-page impact reports for every new project. I've located rich veins and oil pools all over the continent, and I don't need quebie toads delaying the action for years on end.”

“Locate your tailing ponds where they won't leach slag,” Okuno smirks.

“You're putting the cart before the horse,” snarls Gagnon. “Swallow this, Sweetpea. A cart without a horse goes nowhere but downhill.”

“Martin, I didn't foresee the supercable from Sri Lanka to the mainland. Once India had access to electricity from the orbiting beamersats, the brownouts stopped altogether, and Bollywood studios no longer needed backup power. Sorry.”

“You gonna pull the same stunt for the Osaka project?”

“Not from my end. I need reliable power for my automaker plants, and the economic climate in Japan is much different. Younger folks have long forgotten Fukushima, and the Osaka chapter of Greenpeace is indebted to Nippon Kuruma. So it's up to you. Show us your helium-cooled reactors are safe as mothers' milk.”

“No problemo.”

“I wish we could stop the brain drain,” Choong says. “Too many have jumped off-earth for nonmonetary reasons. Young jobbers go for SOAR careers even if it means starting over from scratch. Bipolar swings or psychological quirks may've triggered some defections. Confucius only knows what motivates them! The fact is we keep losing our smartest hires to that socialist pig's sty in the soup cans.

“Lucky for us Trevor has developed a talent sieve that targets rare gems inside slums and rural hovels. These kids are grateful for the high-caliber training, beyond the wretched ordeals of their childhoods. Best of all, they're loyal as the day is long. They stick with the business plan, and few of them have jumped off-earth. Wexol's trade schools have given us a new source of overachievers.”

Trevor glows with pride, but any response would seem arrogant or even oxymoronic. He stays rigid as a statue.

Gagnon shouts, “Three cheers for Mr. Tupperware!” Clapping his hands. “I'll even pay your bail, next time they throw you in jail.”

Everyone laughs. Trevor nods in acknowledgement. It's all he can do to conceal a flush of joy. He's especially proud of Wexol's patented IQ test, a project he initiated and guided. The unique test finds geniuses in the poorest of neighborhoods because it tests for mental abilities without cultural biases. Kids who grow up in thatch huts on earthen floors can excel as easily as media-savvy urbanites.

Heck can't conceal a smug grin. He has managed to bring everyone onboard his Ghana scheme which is no small feat. With African nations there's always the risk self-destruction, but Africa is the last continent where investors can get in on the ground floor. Profits abound at every stage in the slow rise from rural bumpkins to postmodern consumers.

Trevor sips refreshed coffee and wonders why Okuno has agreed to

back the makeover. She has even offered SonyKong's expertise for some key initiatives. She isn't known to risk valuable cash on African ventures. There's something fishy about the sudden switch from devil's advocate to avid supporter.

He hopes the mystery will become clear when Rathbone shows up and declares his reasons for calling this summit.

Gagnon slams fist to palm. "I'm sick of being the fall guy. Goranda gets more grief from eco numbskulls than the rest of you put together."

"Hire people to parse the regs," advises Okuno. "They'll find more ways to work around the legal walls."

"Easy for you to say, Holo Queen, when you market holoflix 24/7 without causing a stink."

"SonyKong happens to be the world's second largest carmaker," she fires back. "There are thousands of hurdles to mount before new cars leave the factory. There are road-safety features and kiloms per-liter to be achieved. All of us hafta bear the enviro burden. That's just the way the game is played in the 21st-century."

"Get your Bollywood cheesecakes to shorten their skirts and bare their boobs. What's good for the gonads is good for the economy."

Okuno stares at the Brazilian, her eyes narrowed to trip wires. Trevor fears she's going to reach for the knife and do the Brazilian serious harm.

Gagnon has cited an old saw from the last century when the wags linked women's hemlines to economic cycles. Shorter skirts came with faster money and booming retail sales, whereas longer skirts brought tight money, storefront closures and bankruptcy auctions.

That financial indicator no longer applies. His daughter has given him a leg-up on the current world of fashion. Halle sells to women who want their costumes now, not tomorrow or next week. The traditional fashion houses still influence wealthy celebrities and snobbish wannabees. But smart women refuse to pay for designer originals when paper facsimiles can be had at bargain prices. Many women have

become fad starters, not followers. Global media spreads eclectic trends from dozens of ethnic sources. New fashions appear and disappear in the blink of an eye.

Back at the table, the crisis has passed. A moment of calm before Gagnon and Okuno are at it again. Trevor takes a thoughtful swig of coffee.

Okuno Ayumi is a master at orchestrating her photo-ops to the best advantage of SonyKong and its affiliates. She may seem risqué and daring at times, but she does so without provoking ethnic reprisals or consumer boycotts.

Only once did she step outside the comfort zone to thumb her nose at dress codes for Muslim women. While it liberalized dress codes in some Muslim countries, it backfired in others where male-dominated governments exacted punishments for women who went without the veil. The hubbub didn't stop there. An unexpected spin-off caused major ripples in the financial markets. Okuno has since denied everything and downplayed her so-called influence over market indexes. But it hasn't stopped the wags from equating her clothes and accessories to market trends. One analyst has gotten very rich with his "Lingerie Index" which uses Okuno's latest dress-up to forecast investor prospects.

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Dubai Open in 2073:

Everyone watched as the bigwigs greeted Okuno Ayumi with arched brows. They barely noticed her fashionable white blouse and sunhat. Their eyes were riveted on the diaphanous pantaloons she wore without a shred of cloth underneath. They couldn't help gawking at the stark hints of womanhood.

The organizers were caught in a bind. They couldn't deny Okuno's attendance since her flagship SonyKong was the chief sponsor. They ushered her to the VIP box with curdled smiles.

Soon the paparazzi swarmed in like flies, their vidcams catching each glimmer of leg or crevice. Some eager beavers collared a celebrated brokerage executive and requested a sound byte. The noted wag had been nursing a hangover until he spotted Okuno's peek-a-boo pantaloons. He adjusted his posture to ease the strain at his groin. Then he quipped, "It's time for investors to lengthen their positions."

The news hounds combined his offhand remarks with vids of Okuno who watched the tennis matches while crossing and recrossing her legs. The clips went viral and rampaged across social media like runaway freight trains, each riding five minutes of scandalous fame.

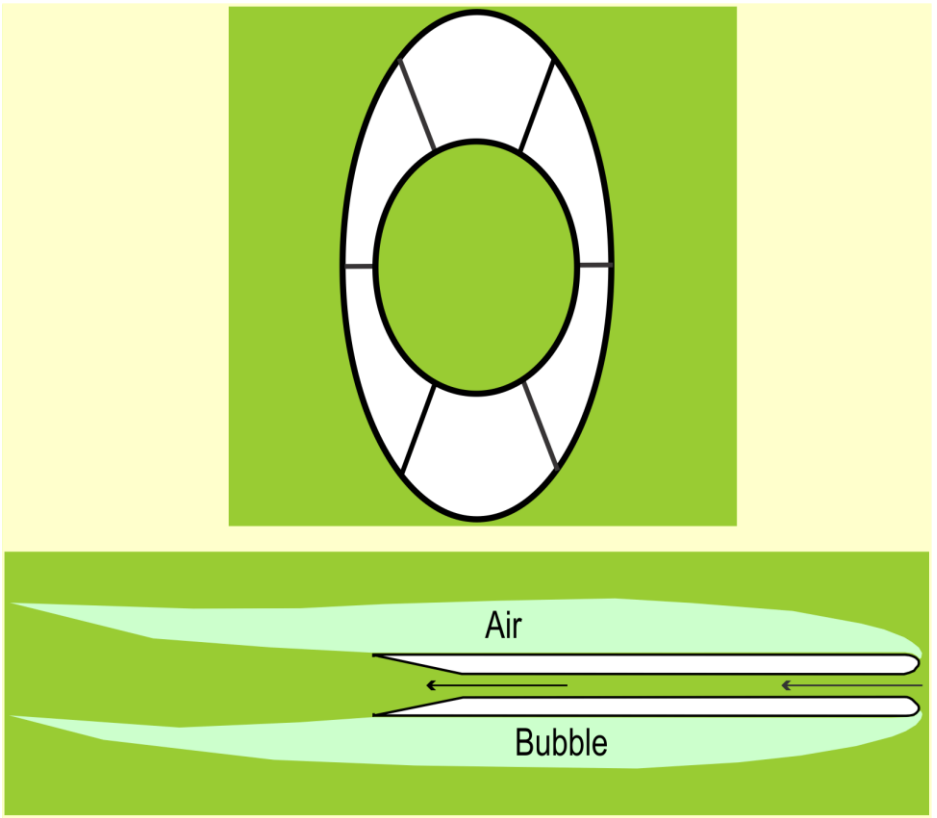
The fiasco inspired a stampede of jaded traders who began a weeklong buying frenzy that boosted global indexes to uncharted heights. After a reflective weekend the traders sold *en masse* and took profits whenever possible. By midweek the indexes dropped to former levels as if the odd spike had never happened.

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Sally Rand Naval Insider <ID:91XF27:PG#3785>

A new submersible has come to our attention. Deep-sea sonar sentinels have recorded the craft on two occasions, according to our source in the Australian Navy. It moves like a supercavitating torpedo at incredible speeds as fast as 400 knots. More remarkable, the craft apparently cruises at depths of 500 **fathoms**. And it appears large enough to carry passengers.



In the above diagram below the frontal and side views, water is propelled at tremendous speeds through a superconducting helix arrangement. The key lies in the curvature of the mouth rim which forms the protective bubble. Human passengers reside in the air pocket surrounding the propulsive cylinder.

At max depths the vessel operates outside the normal range of sonar-tracking devices. It may well go undetected unless sonar devices are configured to recognize vessels navigating in very deep waters. The vessel draws fluid into its funnel-like mouth and uses superconducting coils to accelerate the fluid through its central tunnel, which generates thrust. Microgrooves in the inner hollow spawn hyperturbulent whirlpools, which stay intact upon exiting and relieve internal stresses on the supercavitating bubble. Hyperturbulence pulverizes jettisoned air bubbles to very small sizes, minimizing telltales of surface froth in

the vessel's wake.

> Scuttlebutt Archives, 2081

26. Wrymouth

Nine Days Earlier

North Pacific Ocean: 3 May 2076, 10:30 a.m.

Sunday, 3 May 2076, 00:30 UTC

His butt careens and slides across the bench, skull knocking metal bulwark. Pain impinges his neck and cerebellum.

_Ouch, it hurts. It stings.

_Like a newbie I lost focus.

_Psignwheel up in smoke.

Shepp regains balance and levers upright, making sure to swing his knees shy of the inner piping. He occupies the outer ring of a long cylinder which has a central dowel rammed through its center.

The dowel hogs 37% of the habitable volume. It appears stone cold and feels stone cold. Beneath the ceramic surface, cryogenic pipes and superconducting hoops propel seawater at 300 meters a-second.

He checks the floor where Nyssa lies prone, wrapped in a thermal blanket. She may've shifted position, but the abrupt course change hasn't upset her snooze. She's still in dreamland.

Over the dowel he glowers at the chief **rundog** who looks unruffled par usual.

"Autopilot gone loco?" Shepp asks.

"Everything's fine," deadpans Cook. "Sit up straight. Enjoy the ride."

"Helluva course change if you ask me."

Cook shakes his head like a teacher chiding a student. "Two ways to meditate, Shepp."

"Yeh, yeh. Don't lose your senses... But ain't we s'pozed to be four kiloms over bottom?"

"Were, Shepp." He glances at the prompter. "*Wrymouth* has passed the basin and is about to cross Emperor Mount. Why the sudden turn? Dunno." He shrugs. "Reacting to deep-sea currents? Dodging a whale?"

Shepp raises his brows. “Whales this deep? More like our torpedo tryin' to miss a ridge. My best guess, y'know, cramped inside a metal tube witt no windows.”

“Your diction's getting worse, not better.”

“Natch. I'm teachin' you guys Kenyan brogue.”

Cook looks up from his prompter and stares as if weighing the likelihood. “Autopilot shows no obstacles in the immediate vicinity. But sperm whales have b'en known to feed on squid as deep as 500 fathoms.”

“Hungry bastards should be in the tropics.”

“Warmer oceans nowadays. Hunting farther north.”

“What happens if *Wrymouth* smacks a whale?”

“Air bubble goes. At our depth we'd get squashed between a rock and hard place.”

“Just my luck.”

“You'd make good feed for the denizens of the deep.”

“You're chillin' my bones.”

“Mind your butt and stay focused on the [psignwheel](#).”

Anyone but **Cook** would merit a badass comeback. But the old guy is honest as the day is long and tough as titanium spikes. The scar on his cheek shows courage earned the hard way. He never balks when the chips are down. His phenomenal feats have been celebrated far and wide, so would-be foes either shrink in terror or armor up like battle tanks.

_Maybe I was floatin' and naïve,
_unmindful of present danger.
_Ain't as sharp as I thought.
_No slouchin' or astral voyages
_when groovin' in realtime.
_Gotta empty all thoughts
_to catch de energetic flux,
_to stay light on my soles.

_Instincts, hunches and senses
_play a huge part. Take one away
_and I'd lack tah guts to act.

“Turn on your palmslate, Shepp.”

_He wants to review the raid.
_Maybe, he's right. Raids ain't
_over till vids are dissected
_and mistakes pinpointed,
_till lessons are learned
_and corrections made.
_Till all problems are solved.

The Osaka raid came off smoother than most. Before it went down, Shepp's partner *Nyssa* hoodwinked the chief of security to viewing her selfie vid. The media contained a Trojan horse which infiltrated the network and swiped crucial info. **Fingar** received enough data to reproduce the compound's layout, the number of guards on duty, the placements of defensive sensors. After analyzing the info, **Timekeeper** cooked up an assault plan that worked like a charm.

_But Cook is a stickler.
_He'll find something
_that could've gone better.

Shepp activates his palmslate and watches a homogenized stream in fast-forward. It blurs through the dock landing and foray through the tunnel. There's nothing much to see till the holoshield winks out, which won't happen till *Nyssa* darts the rooster and **Fingar** disables the cams.

When details replace the holoshield gray, Cook slows the stream. Walls, ceiling and floor materialize. The viewpoint steadies at chest level and aims straight down the tunnel where it bends and vanishes.

A lone wolfhound romps into view. The genetic freak is big as a donkey. It's got a pitbull's wicked jaw, muscled Doberman legs and mottled husky fur.

“*Nyssa*'s cam,” Shepp says the obvious.

“All alone?”

“I was up in de airduct puttin' tah rooster to bed.”

“You left her out to dry?”

“Didn't waste time countin' his chin hairs. Came down soon as I could.”

Nyssa arms and cocks her minicrossbow while the beast bounds closer. She extends arms and fires the dart as the hound leaps to attack.

“Head fake to the left,” Shepp points out.

Cook almost never smiles, but here his cheek crinkles and betrays fatherly pride for his protégé.

The hound goes airborne, jaw gaping wide. Nyssa falls back to her right as the beast vaults past her left shoulder and hits the floor like a sack of potatoes. It tries awkwardly to stand before collapsing on its side, foiled by the knockout serum.

The flatview shifts as Nyssa regains her feet and scans the bend in the tunnel where another hound appears, then another. Her hands recock the minicrossbow before it drops out of view. She must've realized she didn't have enough time to load another dart. The lead hound glances side to side, following her arm feints. Then it springs to attack.

Her boot whips up and kicks the beast square in the snout.

“Ouch!” cries Shepp. “Fractured jaw for sure, cracked vertebrae and broken teeth. And she chides *my* swordwork.”

The flatview shows his bright sword flashing down and chopping the head off the trailing hound.

“Clumsy overhead, Shepp?”

“How else? While jumpin' down and drawin' my panga? You'll see better form later.”

Two more hounds gallop around the bend. Shepp advances to confront them while Nyssa arms her crossbow. She fires a dart at one which takes two awkward strides before it keels over. Shepp uses a deft fake then drives the panga in the other's throat, plunging the blade

deep inside its ribcage. He twists his hips and uses the hound's momentum to fling it against maintenance pipes sidelong the tunnel. The beast dies before it lands.

“Very good,” Cook judges. “Left-handed perfect.”

Shepp flushes till his face glows. Praise from Cook is like ambrosia for the soul. His left-handed swordwork has come a long way. When he first joined Dog Breakfast, his unorthodox style sparked backhanded jokes and snide remarks.

But Shepp has earned his dues. Now he's the master swordsman and the co-op's weapons instructor. He's liable for the care and use of swords, daggers, minicrosbows, heavy scorpions, mortars, missiles and slug throwers. His sword has a sharp point for thrusting. It's a cavalry sabre modified to swing as fast as a panga. Outer and inner edges are razor sharp to cut while both stabbing and withdrawing. Good swords have one purpose: to bleed foes to death.

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“Let's check out the wharf,” Cook deadpans. The flatview speeds to fast-forward. “From *your* point-of-view.”

The streaming images grow dim as they record the long crawl through the airduct. Shepp remembers hot exhaust from the smelter and spews of dust and dirt. The feed brightens for a bit before it darkens again. Moments later the feed shows a dramatic whiteout.

“My **glaresphere**,” says Shepp.

Cook slows to normal speed. A dizzy cascade of perspectives fills the screen. Shepp recalls jumping down and somersaulting across the wharf. He pops upright and points the minicrosbow at the nearest foe. Soon as the dart flies, the view shifts to rows of container boxes where Shepp is sprinting for cover. Then a 2nd-whiteout occurs.

“Her glaresphere timed just right. Hen at de tunnel wore infrared gear which spared his eyes from my glaresphere. Then he flipped his visor and took four wild shots. Scared me outta my skin till Nyssa's

flash blindsided him.”

“Glarespheres let you down?” asks Cook.

“They worked alright. Just not as nice as we hoped.”

Shepp watches himself reaching for the top of the container. He pulls himself up and lies prone. The cam shows a close-up view of the container roof.

“Might **hafta** retire the glarespheres,” Cook says.

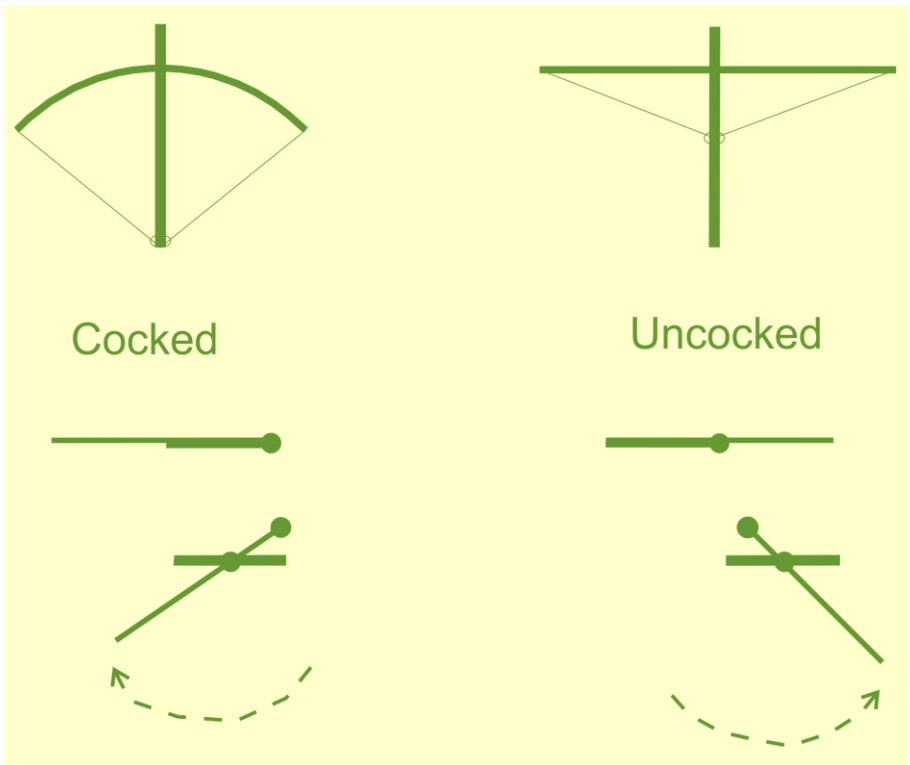
“Still good for special occasions.”

“Maybe. Too many robotic sentries nowadays. Guards wearing high-tech head gear and soft targets with military-grade defenses.”

The flatview shows a wide pan of container tops. Then arm muscles flexing as he rearms the crossbow.

“Did Nyssa nail the guard at *her* entrance?” asks Cook.

“Oh yeh. Sis got him right after her glaresphere dimmed out.”



He sees his forearms aiming and firing the crossbow. The dart

strikes the guard near the tunnel entrance. He stumbles and falls flat as a stomped-on cockroach.

“Last two in de airduct were no contest,” Shepp adds. “They could barely see or breathe when they plopped out.”

“Pepper spray will do that.” Cook nods. “But none of the guards suffered permanent injuries, so **POE** can't chastise us for inhumane tactics.”

“How was tah freighter?” asks Shepp, as he listens absently to the gut-wrenching rumble inside the dowel. The rush of near-supersonic water feels too close for comfort.

“No surprises, everything on spec,” Cook replies. “I placed the charges to keep 25% of the bogus parts above water. They'll make fine specimens in a court of law.”

“Can't wait till we collect our bonus.”

Cook raises his brows. “Fixing to buy your partner a truckload of Pocky?”

“Hell no! When Jen spiders up Petronas towers, we'll need extra funds to cover expenses.”

“Good to hear you're thinking like a team player. I agree. Jen oughta get the go-ahead. Once Rathbone realizes we've got him over a barrel, he'll call a summit. SonyKong backed the **Mishima** deal, so Okuno stands to lose as well. She'll blame Rathbone for lax security. The other CEOs are no fans of his Machiavellian schemes.”

“Wait till Jen wastes 'em witt swamp shit,” chortles Shepp. “CEOs gonna wonder why they're sufferin' while Rathbone sits home and cooled out. They'll roast his bunions for sure.”

“Right on. Makes more sense than knocking the whole bunch off. Without peers to hold Rathbone back, he'd filch the best transnat assets and become a greater threat. Imagine if he owned **Afterburn** as well as Nova, he'd wreak havoc on our cousins upstairs.”

“Our 5% cut should cover expenses, no prob.”

“Don't hold your breath on getting the bonus.”

“Solar plexus!” cries Shepp. “Why not?”

“It could take years for the verdict to come down, while Rathbone makes off with the core machinery till there's nothing left but real estate and bare-bones structures. Our bonus doesn't kick in till **Freespin** pockets five times our fee plus expenses.”

“So we get zilch?”

“We'll get something. Osaka real estate should fetch a good price. Hard to say if it'll cover the outlays for Kuala Lumpur.”

“Ain't fair. We take all tah risks while legal beagles get paid, win or lose.”

“Who said life was fair? We hafta act as good role models for 11-billion earthsiders. If we get caught breaking bones, we'd spoil the show for Freespin.”

Shepp doesn't look convinced.

“Fake auto parts are one-piss in the economic ocean,” Cook goes on, “but stopping them saves face. Freespin won't be criticized for selling bogus parts that wear out in years instead of decades. The media oughta have enough evidence to place the blame where it belongs.

“We can't trash the capitalist juggernaut without offering a better scheme to replace it. Capitalism has been the chief mode of commerce for 5,000 years. Think of Capitalism not as an ideology but more like an operating system. Operative systems are neither good nor bad per se.

“How can we prove our OS works better than theirs?” he asks. “Earthsiders have placed their bets on a clever division of capital. This is call high finance, and it's as seductive as a lotto jackpot. It funnels wealth toward a few elite who lure the masses of gamers with sure-fired Ponzi schemes. All the bottom feeders get a slim chance at scoring the grand prize. That keeps everyone in the game.

“We must convince the earthsiders to opt for a novel scheme, which critics will call unworkable and fraught with risks. No earthsider has experienced SOAR's **Framework** which has proven both practical and fair for one and all. But earthsiders still see us as job killers because of

our expertise with robotic systems. They claim we'll deploy robots and put everyone on the dole. So we must tread carefully, Shepp, else our good intentions do more harm than good."

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Shepp narrows his eyes. "All I know is we got lots of weapons cryin' for upgrades, and our **crow**s are tied up funding holoshield prototypes. How we gonna pay tah piper?"

"Suroto, my former boss, suggested the Kala Lumpur raid."

"He footin' the bill?"

"Told me not to worry about expenses."

Shepp guffaws. "Dunno if I wanna hang it all on a retired tycoon. Not many soupers listen to him anymore."

"Some do. GREENS support his eco campaigns on earth. Don't forget life support in the soup cans depends on earthside models."

"Yeh, right. Soupcan farmers gotta rely on proven ecosystems to rebuff invasive microorganisms and possible crop failures. But GREENS ain't sold on his praises for old-style families."

"You hafta remember Suroto has enjoyed a charmed domestic life. He has loyal support from his wife, children and grandchildren. He never visited the soup cans during the Changeover negotiations, so he lacked firsthand perspectives on metic lifestyles. When he sought to make marriages and families the cornerstones of spacer society, he was pushing women too far. They'd already made huge sacrifices to deorbit for childbirth. **Souper** gals didn't want a patriarchal tycoon trashing their lifestyles. I reckon both sides have misjudged each other. Suroto's views have since mellowed, especially after he witnessed the fragile bones and weakened heart of a grandchild born in one-sixth gravity."

"He's got too much Muslim baggage."

"Shepp, you're missing the point. Muslims don't have a lock on family values. Every traditional religion shares the same view. After all belief systems have evolved long before the industrial revolution,

before there was a crying need for public education. SOAR has nothing against families or couples. Walk outside the kennel, and you'll find plenty of couples who'd never think of cheating on their partners. The **crèches** are the sole difference. Dormitories enroll kids as soon as they reach age two. Without ancestral baggage, the youngsters are raw clay to be shaped in multiethnic kilns. Once the grads jump to the soup cans, personality clashes may still occur, but they won't fight over ethnic or parental shortsightedness."

Shepp throttles his voice to mock a preaching imam. "Thank Mo, our psigns fit every faith. Covens, creeds and cabals don't count when 12 psigns beget tah whole shebang. Can't even crawl outta bed in tah morning if my senses ain't workin'."

"Is Suroto a stand-in for your Arab bosses?" asks Cook. "The ones who promised two virgin brides for smuggling their contraband but left you to rot in prison."

"Nah. It's long forgotten. Why care about lost virgins when I got 75 fillies eager to saddle up here in **DB**?"

Cook crooks his brow. "Better not sell our women short."

Shepp widens his eyes. "Natch. I value my life. Save your advice for Griz who'd love to wrap Jen in a chastity belt."

Cook isn't biting. "Ever thought of hooking up with Timekeeper?"

Shepp can't hide his surprise. "Solar plexus! She's way outta my league."

"She's a proud woman and won't say what she longs for. Forget about her advanced age and bad hip. She can light a bonfire faster than a coven of witches. Next month she's earmarked for a fresh-up with scorpions and slug throwers. You might praise her progress."

"Holy fuxgate! When did *you* start playin' Cupid?" Grinning from ear to ear. "Well, no sense passin' up a zebra at tah waterhole. I'll get on it, for sure."

Casual sex is common in the co-op, a horny man's bonanza, but it's always the gal's choice. Like tasters at a winemakers' fete, they collect

sperm-filled condoms and stow the aftermath in nitrocoolers. Some of the samples get deposited to their reprofactory accounts. When gals opt for in vitro pregnancies they keep mum about whose semen gets used. Unless mothers fess-up, bio-fathers must wait 25 years before they contact their kids.

“Casual sex works out to one versus many,” Cook resumes. “Sexual parings invigorate a person's cells and breed quantum entanglements which form long-lasting bonds. The entanglements are fine when you're bedding co-op women who have mature attitudes toward sex. They relish the act for sheer pleasure and physical vigor. And they'll expect you to perform before they'll ask for 2nd-helpings. Am I making sense?”

Shepp nods.

“The more times you mate with the same partner,” Cook goes on, “the stronger the mutual entanglements. Quantum bonds are both qualitative and quantitative. Longterm partnerships encode both. Once the ecstatic fusion simmers down, the entanglements grow bipartisan roots. Stay away from women who lack emotional maturity. You'll earn a truckload of bad karma when you break their hearts.”

“I hear ya. I stick to skirts who've b'en around tah block.”

“Smart thinking.”

_Hard to believe Cook has
_stayed celibate, since losing
_his wife in a tragic accident.

Shepp regrets joining DB too late to meet Absen firsthand. By all accounts his life partner electrified everyone she touched. Shepp has seen old recordings of raids where the peerless duo made fools of armed foes. They came off slick as lizards dipped in olive oil. Their actions spoke of two soulmates bonded longterm like sodium and chlorine, the salt of the earth.

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As if on cue the torpedo rocks like a wild mustang. Shepp manages to grip the bench and stay aright. He faces Cook who's fingering keys on his prompter. "Whoa! Not again."

Cook's worry lines look more pronounced, though his eyes radiate calm. He looks up from the prompter. "Autopilot shows no rock formations nearby and no sonar echoes out ahead. *Wrymouth* must've gone past whatever it was."

"School of whales?"

"They don't socialize at this depth. I'm starting to think it's a glitch in the software. Hafta get Fingar to parse the code."

"Where's our hands-on controls when we need 'em?"

"Think about it, Shepp. Better to leave our hands free for casualties."

"Oh yeh, right."

Wrymouth chauffeurs rundogs "home" after perilous raids. It speeds at oceanographer depths out of sonar range. Few raids go down as easily as Mishima's compound has. When there are serious injuries, every hand is needed to reset bones or stop the bleeding.

"Shouldn't we slow down?"

Cook clears his throat. "Can't afford to. We hafta get back to *Bluefin* before Malcolm notices we're gone."

Malcolm, the mole, doesn't know about the torpedo which berths in the *Bluefin*'s bilge section. The mole has been sent on a recon with **Griz** to Alaid Island. He's still in the dark about the mission and absent trio.

"Never reach **Bluefin** if we're swallowed by a whale."

"You'll be lights out before you're mashed to gristle."

"Don't say it. Bad enough ridin' in a tube witt no windows."

"Relax. Jonah never had it so good."

"A great comfort *you* are." Shepp glances below. Nyssa lies on her side, knees bent and still asleep.

_Won't even know if a sperm

_whale chomps her to pieces.

_Ignorance is virgin bliss.

“Remember the Sumatran smuggler? The guy you liked?”

“Yeh, yeh.” Shepp pictures Xing Gou's bushy eyebrows and goatee that tugs on his lower lip. He's a good-guy crook, neither sadistic thug nor gallant Robin Hood, somewhere in-between. Xing takes dangerous risks and earns bigger profits. He knows every fence in Southeast Asia. “Got hisself a surplus Humvee.”

“Which we souped-up with a Thorax.”

“So he gets speedin' tickets in bunches.”

“Xing Gou is leasing the Humvee to our Jo for a week.”

“Hell on wheels! Dozens of bent fenders in Kuala Lumpur alone.”

“Be kind, Shepp. She's magic behind the wheel.”

“When Jo drives I cover my eyes.”

“You'd rather miss the leggy scenery?”

“Not worth peekin' when Jo's pushin' tah pedal.”

Cook pulls a face as if he'd kick the god of folly. “Suroto has done us another favor. Last week he sold his last earthside asset. A small postage-stamp company that owns the royalties for airbags.”

“Give Jo a soft cushion; she'll start bulldozer derby.”

“Wise up, Shepp. JoAnna hates safety features.”

“So what's witt de airbags?”

“Suroto's company has held the patent on dual-purpose airbags, the ones adapted for every kind of vehicle. They have two settings: full-bore for max safety and gentle to cut down on injuries for the young and infirm. Airbags can be set to expand gently on Sundays with wife and kids in tow, but they go full-bore when racing to work or on the job. Fewer collateral damages have gotten consumer groups onboard. Dual-purpose airbags have become the standard in almost every vehicle.

“The airbag maker did thorough testing to ensure the bags worked in every situation. The airbags still respond to the remote signal used during the tests. If you send the signal, every airbag within 150 meters

will deploy. Suroto gave me the code which I passed on to Jo. It's a one-time deal which will leave pursuers dead in the water."

Shepp grins from ear to ear. "Aha! Traffic stopper, for sure."

Cook stays poker-faced. "Suroto may not have a direct say in **SOAR** policy, but his views are still reported in the media. He'll play up the importance of stopping the 'fake parts' scam. His kind words should help DB weather the fallout over the next few months."

"What fallout?"

"Jo has the upstairs chapter dragging skeletons outta closets."

"So what? Banishing deadbeats is good for DB. Oughta prove we're on the ball, y'know, useful and essential."

"I agree. Folks don't want sleeper cells in their attics. But how did these rascals find their niches? They had help, unwitting or otherwise, from soupcan officials. Jo has **POE** tracking e-trails, and she's ready to accuse high-profile metics."

"Public opinion should weigh in our favor."

"You'd think so. But there's politics to consider, even in a society without politicians. The high and mighty will play the victim card for all its worth. They'll spread nasty rumors till we appear as storm troopers marching innocents to the freight trains."

"Solar plexus! Can't be so bad."

"Not yet perhaps. Old timers who've lived upstairs for more than ten years have lost touch with issues on earth. For them the home planet has become a hopeless mess. They'd break ties with **TCP** if the crèches didn't send them plenty of warm bodies. Veteran soupers have paid their dues. They can't wait to spend their august years in a Martian colony."

"Can't blame 'em for lovin' easy street. Pisses me off though."

"Now y'see why Suroto is a valued ally. Even if he's home and cooled out on lunar farside, he hasn't forgotten his roots."

Shepp sighs.

_However we do our best

_at stopping tah bad guys,
_we hafta pick our shots
_in a fractious landscape
_strewn witt landmines.

He's more than happy to let Cook and Timekeeper lose sleep over the political quagmire.

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Cook leans sideways and glances below the dowel. "Still asleep?"

"Should I wake her up?"

"No. She needs..."

"Her beauty rest," finishes Shepp, relishing the gibe.

Cook narrows his eyes. "Recall *your* 1st-raid?"

"Yeh, yeh. I screwed up, but it was a brutal mess compared to Osaka."

"And afterward?"

"Sure, I was wasted and glad as hell to be alive. I may've nodded off for a while."

"You snored all the way back in *Wrymouth*."

"No one ever mentioned it. My log sawin' must've scared off tah hungry whales."

Cook looks aghast.

Shepp catches a pang of guilt. His ears flinch at sounds of onrushing water inside the dowel.

_Easy to feel claustrophobic

_with tah autopilot acting up.

"Sis has earned a snooze," he admits.

"Is that a new tag?"

"'Sis' works better 'cuz she hates 'Fu'."

"So you changed her field name? Does she approve?"

"I guess I'll hafta ask her."

"Please do. Once 'Sis' aka Nyssa earns her blackbelt, your mentor

role will end.”

“Ain't we s'pozied to stay partners?”

“I hope so. You two have decent chemistry. Unless you're getting cold feet?”

“I'm in, for sure. Can't wait to see her disarm two roosters witt a smile. But I dunno if things go haywire. Sis hasn't dealt witt bloodshed, hasn't killed a foe or carried-on injured.”

“That's *your* job. Keep her outta trouble as long as you can. When the shit hits the fan, you might be surprised. Nyssa is a tough cookie.”

Shepp raises his brows. “You could be right.”

_Par usual, Cook is five moves

_ahead on the chessboard.

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Afryea's Annals <ID:233791:PG#87F43>

The Singapore Consortium was formed in the early 2020s. It included more than 250 corporations, most of them servicing clients in Southeast Asia and the Indian subcontinent. Also onboard were Chinese entrepreneurs who had stubbed too many “official” toes and moved their assets offshore. The Consortium also forged joint ventures with startups from SOAM and Africa. It even recruited firms in the Middle East.

What the menagerie lacked in deep pockets, it offset with sheer numbers. It planned to build solar-power sats in geosynchronous orbit.

The sheer audacity had marquee flare, and the Consortium unveiled its goals step-by-step. However ambitious the goal, the operational methods proved bolder and prone to risks. Each new disclosure inspired a fresh round of boardroom smirks and water-cooler jokes.

The key gimmick was using raw materials from near-earth asteroids to build the platforms. This strategy made sense, for it cut the cost of

lifting mass from earth's gravity well. But the Consortium faced enormous problems. They needed (1) reliable space vans to reach far-flung **NEAs**, (2) robotic helpers to process and assemble the components in hostile environments, (3) huge amounts of capital to hang in limbo before the payback kicked in.

Urbanites living in gargantuan cities followed news on the HyperNet. They lived cozy lifestyles and expected the same or better for their kids. Whenever possible, big business and governments ignored the “silent majority”, so small-timers joined lobby groups to defend their slices of economic pie. Lobbyists organized the sheep to grow wolves' fangs. In this way the “silent majority” garnered clout and pressed governments to act.

The weather had gotten more violent. There were unusual hot and cold spells, torrential rains and five-year droughts. Polar ice had melted, and Greenland's glaciers had shrunk to the mountain tops. There were ominous warnings from Antarctica. No one wanted their children to wheeze their way through a fossil-fueled wasteland.

Leaders realized they needed to make changes, to find substitutes for fuels that produced GHGs. Solar cells and wind farms offered doable alternatives, but the technologies were still in development. Too often they generated electricity at off-peak hours. Decades would pass before renewable energy sources could fully replace fossil fuels. Nuclear fission was another option, but citizens didn't want the possibility of fatal leaks in their neighborhoods. Nuclear waste had yet to find a foolproof burial site.

The ZEST Accord was first greeted with hopeful enthusiasm. It held every nation to account. It set forth verifiable standards of ecological responsibility. But it promised slower economic growth even while job opportunities became scarcer due to automation. Consumer prices and taxes crept higher without parallel rises in wages.

Disgruntled citizens blamed politicians who found themselves on the defensive. If regulators squeezed fossil-fuel producers too hard, they'd

strangle the economy to a grinding stop. If politicians continued to subsidize fossil-fuel outfits, they'd face widespread censure and watch their legacies going up in smoke.

A magic bullet was needed. And fast.

Folks looked to the Consortium for cheaper nonpolluting energy. Wiser minds knew the Consortium didn't have a hope or holler of achieving their goal.

Meanwhile the international research group at **ITER** realized that commercial **tokamaks** would never reach commercial potential without the aid of helium3, a rare isotope of helium that was scarce on earth but abundant on the surface of the moon. Constant exposure to solar wind spawned megatons of Helium3, ready for the taking across the lunar surface. Automated machines could sift through dust and process the isotope.

Governments cheered at the promise of nuclear fusion. "Fusion means prosperity" became a popular refrain in the media. Folks bought into the new strategy which let governments postpone drastic measures to reduce **GHGs** in the atmosphere.

A multinational Space-Faring Enterprise (SFE) was formed to spread the capital costs around. China and USA assumed leadership roles: China providing funds and USA lending technical expertise. The partners cited their long-held rivalry and mutual distrust, which they promised to resolve at high-level closed-door meetings. They emerged with crooked smiles and awarded the best contracts to corporations aligned with their homelands.

Other members of SFE felt snubbed and shortchanged. It wasn't long before the Russians sold the Consortium 50 upgraded Proton boosters, then Japan offered a cohort of quasi-intelligent robots, and ESA signed on to deliver a squad of prefabricated space vans.

The media jumped all over the storyline. Two daring bids to rid the world of carbon overload. Webcasters portrayed the Consortium as a kind of NGO that dared to cross swords with the superpowers of the

developed world. Networks ran sexy headlines of the Space Race:

Solar Collectors versus Tokamaks

David versus Goliath

Intrepid Explorers versus Big Science

Scientists claimed helium-3 would triple the efficiency of fusion reactors. Bookmakers in Vegas gave the Consortium 25-1 odds to produce the first gigawatt of untainted energy. ITER received 2-3 odds. Larger bets were placed on the dates when commercial units would come on-stream.

A jaded public became fascinated. Hopeful eyes turned to the sky. Launches of robotic supply ships drew crowds of avid viewers. Folks were eager to jump on the bandwagon. Launch countdowns made sharp contrasts to the images of human misery shown in the global news. Each day presented more videos of storm surges, brownouts, smog alerts, food shortages, decades-long droughts, toxic water wells, abnormal blizzards and tornado alerts.

Cooler heads warned against the sudden optimism. Climatologists appeared in the media to set things straight. Spokespersons reminded everyone that atmospheric carbon wouldn't vanish overnight. Decades would pass before weather patterns normalized and ocean levels quit threatening shorelines. Sand dunes would take longer to subside and yield marginal crops. Some fish species might never recover.

Yet sober words couldn't douse the hopeful sentiments. Folks were sick of the gloom and doom that had plagued the 2020s. They tuned out the updates on viruses that threatened worldwide pandemics. They dreaded the austere measures proposed by eco evangelists. They hated the thought of mist-only showers and one-toilet-flush per day. They wanted a noble cause to rally around.

When humans returned to the moon after more than fifty years, cheers echoed across hypermalls and warmed November's tailgate parties. Pedestrians showed more spring in their steps. Vendors

enjoyed record sales during the holiday season. Job offers mushroomed across the globe.

Even the politicians got caught in the infectious optimism. They were pleased with the progress at lunar base. Robotic skimmers had collected and processed enough helium3 to warrant the 1st-shipment to earth. Lunar settlers processed more cylinders of **lox** than they could use. Since oxygen was a versatile component for rocket fuel, SFE suggested it could be used to refuel spacecraft bound for Mars.

A Mars mission made perfect sense. SFE partners saw it as excellent PR. Exploration of the red planet would enliven the public mood. It would transform ITER's image from "Lead-footed Goliath" to "Jolly Green Giant" and turn public sympathy away from the underdog Consortium.

ITER scientists appeared on newscasts where they pointed out the drawbacks of beamersats, whose microwaves would be aimed straight down to minimize atmospheric bleed-off. This strategy would force receptor complexes to be located at or near the equator. Critics insinuated that folks in the tropics would gain a proximity advantage over folks in the temperate climes. Scientists warned that microwaves would prove harmful if they carried enough juice to power the electric grids of urbanized regions. Naysayers warned of the dangers to air travelers making perilous detours around beamer hazards. Jetliners that strayed within beam radii would find their passengers blistered like broiled sausages and brains scrambled to volcanic ooze.

The media forgot to mention how most receptors were located on top mountain ranges, far from jetliner routes and virtually inaccessible for dirigibles.

Scientists closed ranks and praised the safety of tokamak reactors. Nuclear fusion didn't bleed dangerous byproducts, no plutonium and fewer radioactive isotopes. Tokamaks emitted small amounts of neutrons which almost never escaped the metal container shields. A person could stand 15 meters away from an active reactor for a month

of Sundays without getting an overdose of radiation. Tokamaks were lightyears safer than fission reactors.

Meanwhile the Consortium was struggling to assemble its 1st-beamersat. Robotic glitches forced more human EVAs than anticipated. Construction platforms in L5 experienced delays waiting for materials to arrive from asteroid digs. Only Kenya and Ecuador, which were primary hosts for the receptor complexes, had agreed to underwrite some of the Consortium's debts.

SFE managers greeted these developments with ravenous grins. Their helium3 project was on schedule with regular shipments delivered to earth. The G-22 as well as transnat CEOs coveted the Consortium's assets. When the commercial tokamaks came on-stream, the partners of SFE planned to gobble assets at bargain-basement prices. They planned a velvet takeover when the Consortium sought bankruptcy protection.

Back at the ITER complex, scientists had split into bickering groups along national lines. They argued over the best design for commercial tokamaks and where the 1st-reactors should be built. Although the ITER prototype yielded enough energy for a good-sized grid, its fusion dynamo generated electric power in small bursts. Lengthy duty cycles overheated the superconducting magnets and forced frequent shutdowns and restarts. This quirk would pose dilemmas for commercial reactors, which needed to power electric grids 24/7. Arguments raged over how to extend the duty cycle.

Chinese scientists were first to abandon ITER. They formed an unlikely partnership with their Indian counterparts. Both demanded a portion of the helium3, so they could pursue their own tokamak designs on Asian soil. Then Japan, Korea and Russia formed a joint venture for the same purpose. Not to be outdone, USA collared Canada and México and made a similar call on helium3. Euroland scientists, who had been the founders and chief sponsors of ITER, found themselves alone at the table. They squawked and threatened to sue for breach of promises, but

eventually they agreed to a four-way split of the helium3 supply.

Observers were surprised by the speed with which new tokamak sites were prepared in Szechwan, Hokkaido, Arizona and Belgium. Cynics opined the four-way split had been planned all along. Whatever the case, each group promised operational startups within two years. Project officials signed letters of intent with various electrical utilities.

A few months later, a notorious webcaster claimed that a shipment of helium3 had somehow gotten lost. The rumor was never confirmed, but journalists noted large increases in **GWOT** Coalition operations.

Then the unthinkable happened. A clandestine research facility in Mogadishu triggered a thermonuclear fireball that flattened the whole city. Investigators speculated that terrorists were building a suitcase bomb augmented with stolen helium3 to wreak colossal destruction. One of the dry-run tests had gone astray and scorched 800,000 humans. News of the calamity came as a horrific shock, even for media-jaded folk of the HyperNet Age.

Within a week, popular enthusiasm for tokamaks turned to horror and scorn. No matter how many scientists came online to dismiss the Mogadishu group as foolhardy tyros, the public equated the tragedy with tokamak technology. Demonstrators flooded the streets in dozens of cities. They protested the use of nuclear fusion of any kind.

“Why are tokamaks sited away from population centers?” the protesters asked. “We want builders of tokamaks to come clean!”

Official PR flappers explained the differences between tokamak technology and back-alley terrorists. They showed scientists laboring with safeguards and rigorous precautions, whereas terrorists were suspected of monkeying around in delusional stupors.

But the “silent majority” wasn't buying the soft soap. Folks were in a snit, dumber than slugs and twice as stubborn. They imagined molehills growing into mountains and errant neutrons inciting Armageddon. Rational arguments got lost in the radioactive dust of popular dread. Folks didn't want a tokamak in their backyard.

G-22 committees flip-flopped when the fusion projects folded, one after another.

Alone on the game board stood the Singapore Consortium which had come to the end of its tethers. It could no longer fund its operations plus service its massive debt load. It held urgent negotiations with India and Indonesia. The Consortium was offering to build a 3rd-receptor complex in Sri Lanka's central highlands. Energy could then flow north and rid India of brownouts and acid rain. The Consortium was also exploring the feasibility of a 4th-receptor complex in the Sumatra's Barisan range. If a site could be found free of volcanic upheavals, the populous nation of Indonesia would become electrified for a song, not to mention the spin-off benefits for Singapore and Indochina.

By mid-century China was the world's largest consumer and exporter of retail goods. Its economy could expand even faster if it wasn't hobbled by the ZEST tribunal's quotas on GHG emissions. No way would China let India steal its thunder, which would happen if India gained a new source of energy that was not only cheaper but also free of quotas.

If China felt worried, Korea, Japan, Euroland and NOAM were terrified. Nations in the northern temperate zone wouldn't see beamer juice for decades. They'd have to pay the costs of installing the power corridors before electricity reached their grids. Industries, factories and jobs would gravitate to tropical countries, whereas the economies of the wealthy North and Australia would stagnate under the constraints of ZEST.

If the Singapore Consortium succeeded, it would throw the world's balance of power into turmoil. The old formulas for stimulating fossil-fuel economies no longer applied when production increases led to greater GHG emissions. The G-22 couldn't afford to let the Consortium fail. Nor could they let tropical nations grab a lion's share of quota-free energy.

Stumbling onto a perfect compromise, G-22 offered to underwrite the Consortium's debts for 25 years. In return, surtaxes would be added to beamer-derived electricity to fund an overhaul of the global grid. The northern powers wanted to equalize electric costs for urbanites at all latitudes.

The Consortium agreed so long as the surtax was handled by a nonpartisan agency with oversight from the UN General Assembly. The Consortium also wanted a clause that allowed a payout and exit at any time during the 25-year term. Ever-optimistic spacers were anxious to free themselves of debt and to take command of their destiny.

Rolf Heck, the financial magnate, used his pull at the World Bank to buy 85% of the Consortium's debt. It was a banker's wet dream. His flagship Beuack would earn 4%-above-inflation compound interest at no risk whatsoever. To spice the gravy, Beuack rolled the entire package into a no-coupon bond which counted toward its capital reserve. Over 25 years Beuack expected to salt away 266% of its outlay in prorated **Euros**, but the Consortium repaid their outstanding debts within 12 years, so Beuack got a mere 160% return.

Rathbone, the notorious CEO of Zesticon, ranted and raved. He called it the most shameful episode in the history of modern business. He claimed the G-22 had backed down and sold out to a gang of off-earth renegades. What really irked him was the lost leverage.

Meanwhile the Consortium would soon reorganize as SOAR.

> Miscellaneous Anecdotes, 2057

27. Kingpin

Nine Days Later

Kuala Lumpur: 12 May 2076, 2:10 p.m.

Tuesday, 12 May 2076, 06:10 UTC

The summit room feels cramped as a marble tomb. Trevor imagines himself striding beside good ol' boys on lush fairways under open skies.

_Biz should be done on green grass,

_playing golf and trading risqué jokes.

At the half-moon table, **Choong** is crowing about Hāiyùn Huòwù, his merchant-marine subsidiary. **Gagnon** concedes its merits, though he gripes about surcharges for JIT cargoes.

Trevor half-listens and nods or whatever is called for. The chitchat has found its groove. The head honchos boast as if the corporate rank and file are standing in battle lines, waving banners at enemy ramparts.

He likes to think of Wexol as the hometown favorite, yet its aims go beyond national borders. Successful marketers appeal to both genders and clientele of multiple creeds and cultures. Businesses sink or swim on fiscal tides that bridge transoceanic rialtos.

Wexol sells everything from napkins to aerospace hardware. Its core subsidiaries include Wexol Biz Machines, Afterburn, Termites-'R'-us, Wexol Beam&Crane and **Fablinx**. Share prices of subsidiaries swing up & down as all stocks do, but volatility doesn't impact Wexol itself, which charges ahead like a supertanker plowing through the Bull's crests and over the Bear's troughs.

Annual dividends of less than 0.3% make Wexol a dull play. Fund managers hold Wexol's common stock to anchor their portfolios; rich widows hold it for brand comfort, but day traders shy away for three reasons: 1) lofty price per share, 2) less volatility than global indexes, 3) high-volume traders control the action.

Wexol ranks third in the cartel of seven transnats that carry a billion

jobbers on affiliated payrolls. The cartel dominates global commerce, and each transnat sponsors worthy causes and countless charities.

Globetrotting subsidiaries are sensitive to local attitudes and cultural quirks. Innovative businesses score more adherents than me-first ploys of local governments. Profitable ventures drive economic booms which generate new jobs and rising incomes. Without the pulsing blood of commerce, the body politic would dehydrate and fossilize.

In terms of intrinsic worth, the cartel upholds the true spirit of democracy. Shareholders cast one vote for each share owned. The more shares one holds, the louder one's voice is heard. At annual meetings, shareholders have their money on the line, so they're prepared and well informed. Not so with national elections where voters are largely ignorant of policy issues.

Candidates muddy the waters when they monopolize the media with subterfuge and bafflegab. They get away with it because democracy has become a popularity contest where elections are won on the coattails of makeover artists. It's bogus to count the votes of billionaires and bag ladies alike. Much smarter are corporate tilts where shareholders vote on the strength of their paid-for stakes.

To plan effective strategies over the longterm, the cartel needs consistent policies among its leaders. Take for instance the Ghana proposal. It would never pass muster in the USA or China because the current regimes would be gone from office before the venture paid dividends. Politicos get no payback when they pass the accolades to their protégés. But cartel leaders have no such worries. They're set for decades if not life. Trevor and his peers will be waiting ashore when the tide turns and Ghanaian profits roll in.

Wexol holds 7% stakes in the other six transnats, whereas they have 7% stakes in Wexol. The cross-ownerships are held by numbered companies, proxy accounts and anonymous investment pools. Mutual holdings must be kept from public scrutiny, lest the antimonopoly ghouls start to slice and dice. Misguided do-gooders would add chaos

and uncertainty to prosperous markets.

CEOs depend on their peers for goodwill and longevity. When Trevor adds 42% of cartel support to his managerial block, he can count on a solid majority in the boardroom and at annual shareholder meets. Indeed, no faction has dared to challenge his authority as CEO and chairman of the board.

Competition in the cartel is open and constrained which has proven more effective than devious backstabbing. CEOs warn their peers before new products are rolled out. Competition among members remains fierce, but common practice deters callous freebooting. All aspects but the bottom lines are open for negotiation. Strategic moves and spinoffs are laid on the table for mutual appraisal. Market shares of subsidiaries may grow or shrink, but these are rejigged to minimize collateral damages.

He worries more about competitive rivalries within the Wexol family. For instance, his Indonesian subsidiary has become so efficient it's blowing the socks off his **Euroland** factories. If he mothballs the Euroland plants and lets the Indonesians handle consumer demand, he'll evoke Euroland's draconian labor laws that bestow exalted severance payouts, including extended pension-plan and healthcare annuities. Silver parachutes must be paid whenever production plants are closed down.

A smarter move would be to modify the Indonesian outfit to a component supplier. The crucial parts would then be shipped west for assembly. It would call for reorganizing his Euroland factories and laying off workers. The press release would announce temporary rollbacks with possible recalls after six months.

The **PR flapper** can blame it on the global slowdown. Idled workers will collect half-pay for six months before pink slips are dispatched in staggered batches. They'll get basic severance packages but no granola. The whole business ought to fly under the radar of labor activists and watchdogs.

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“Where's DoubleYou?” gripes Gagnon. “When's he gonna show his ugly face?”

Trevor can't agree more. He shifts his rump and eases the ache in his lower back. Rathbone claims he's first among equals. Valid or not, it's become a worn-out cliché.

_He dawdles and delays
_worse than my wife Kelsey
_when she do-dabs her face
_for the annual charity ball.
_Why travel around the world
_to sit and wait for King Grod?

No one has revealed the probable reason for this summit. Trevor hasn't asked, content to let **Okuno** breach the issue. But she has only grumbled about the summit's familiar location. More surprising has been her support for the Ghanaian gambit. Does it mean she's ready to distance herself from Rathbone's flagship?

Rathbone remains the big enigma, to say nothing of Zesticon and its unparalleled rise to prominence.

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King Grod began his career as a lowly trader for a London hedge fund. He showed a Midas touch for picking winners and poured his bonuses into Zesticon Plc., a startup which bought minority stakes in hotels, hypermalls and boutiques. His biz smarts never faltered. At one point, Zesticon held title to 25% of the right-of-ways for the maglev between London and Glasgow. When the transit line got the go-ahead, Rathbone cashed in bigtime. And Zesticon was off and running.

It acquired biotechs, ironworks, commercial towers, industrial parks, electronic makers, aeronautical skunkworks and security outfits. It expanded into Euroland, Russia, the Middle East, China and India.

Zesticon grew faster and farther than anyone could credit.

Within 25 years it has gained economic dominance over a geographic area that outstrips the Mongol conquests of the 13th-century. Other members of the cartel hold lucrative businesses on these turfs, but Zesticon exhibits the most flamboyant style, especially in China and Russia.

Rathbone hasn't abandoned its hedge-fund eponym. He uses brute tactics and financial wizardry to broker funds for takeovers. The prestigious Zed-Funds (ZF) subsidiary attracts investment capital like nectar draws bees. Money managers love ZF for its ever-profitable returns. Investors jump on the bandwagon when ZF weighs in and bulldozes the stock prices of target companies. Strong-arm tactics pave the way for Zesticon's uncontested buyouts. Likewise ZF sidetracks scrutiny from his other subs which are often leveraged to the gunwales.

His flagship has become a smorgasbord of cross-ownerships that defy outsider analysis. King Grod seldom merges his subs and lets them keep their names. In many cases the incumbent managers have been allowed to stay and exercise titular control over new agendas. Rathbone prefers this solution to handing out golden parachutes.

He encourages each sub to invest in other subs, but the cross-ownerships aren't confined to similar businesses or regions. A base-metal producer in China may invest in a Polish soft-drink maker, which will turn around and buy an aerospace company in Kazakhstan, which will then swallow a French winery. It drives investors around the bend, for it's hard to anticipate how the odd marriages will affect the merged cash flow.

Zed-Fund money managers possess an uncanny knack for skimming profits from Zesticon's smorgasbord. From time to time allegations have been raised over conflicts of interest and deceitful shenanigans, but lack of proof has swept such protests under the rug. No one wants to kill off a cash cow.

Nothing succeeds like success.

Trevor abandons his reverie to catch the table talk.

“I’m gonna give DoubleYou hell,” Okuno is saying. “The compound didn’t have proper defenses. Saboteurs waltzed into Mishima as if it was open house.”

Trevor can’t believe Okuno has a stake in Mishima. She holds part-ownerships in many Japanese corporations, but the Holo Queen seldom shares her brand with fading has-beens.

In past decades **Mishima** was the premier supplier of toolworks for industrial plants, but it has gone downhill ever since. When spacer co-ops started deorbiting their everlasting tools, they upstaged the market for manufacturer’s durables. Mishima couldn’t match the sturdiness or quality of spacer-made products, and it refused offers of partnerships where it would’ve supplied the boiler plate.

Nowadays Mishima produces large-radius pipes and components for drivetrains. Its glory years have long passed. Why has Okuno thrown money at a sad-sack producer?

“How could they miss a capsized cargo ship?” asks Gagnon. “Osaka harbor is world-class busy.”

News reports have been tongue-in-cheek about the sunken freighter. Trevor suspects the owners scuttled the ship to collect cargo insurance. If the freighter held Mishima products, neither cargo nor insurance entitlement would amount to much.

“It happened in the wee hours of Sunday morning,” Okuno sniffs. “The crew of the freighter just abandoned ship. The compound itself was overrun, half a-dozen guards taken down. Even the network that handled perimeter defenses was penetrated and neutralized.”

The Brazilian snorts. “He should’ve armed the guards.”

“They were armed but taken out,” replies Okuno, “as I’ve said.”

Gagnon whistles for emphasis.

Trevor concludes the freighter’s sinking has been blown out of

proportion. He loses interest in the banter.

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Zesticon's innovative stratagems have added two essential tools for the corporate toolbox.

First, HOAM Credits or “HCs” have become the default scale for pricing goods & services. **DLT** safeguards the integrity of HCs. Moreover, Zesticon has pioneered the use of HCs for barter trades among its subs. Public traders use HCs in lieu of futures contracts on commodity exchanges. Endgame traders receive nothing when they hang on for the final settlements. The commodity contracts are virtual markers and cannot be converted to hard currencies. At most, retail investors receive warrants for the purchase of new futures.

Since SonyKong is the majority shareholder of HOAM, Okuno's flagship controls how many HOAM Credits can be floated as surrogates for the “hard” currencies issued by Central Banks. Beuack underwrites HCs with its financial assets and consummate reputation.

Nowadays the transactions among cartel members are valued in HCs which allow transnats to look within and adopt **free-banking** methods. In effect the transnats are their own capital generators. It frees them from the straightjackets of nation states and regional trade blocks.

Second, Zesticon has initiated a new corporate model. Diverse cross-ownerships have been reorganized until all subsidiaries are linked directly to the head office.

On one hand, subs are given more leeway and autonomy, since managers have firsthand knowledge of local markets. On the other hand, the head office deploys roaming troubleshooters who ask hard questions and repurpose the workflow.

This approach maximizes each transnat's “return on investment” while encouraging the innovative aspects of its subsidiaries. It has become the best possible strategy for behemoths that need to manage superlarge workforces plus subcontractors. Screw-ups are bound to

happen somewhere along the five phases of enterprise:

_design, production, marketing,

_sales and customer workout.

Successful corporations must spot and fix outstanding defects before nitpickers grow fangs. Trevor has taken the hint and recast Wexol's management hierarchy to strengthen the links between head office and subs, including suppliers, fixers and retailers. Troubleshooters have replaced dillydallying middle managers. State-of-art AIs have the savvy and expertise to deal with customer beefs. They work in parallel with troubleshooters to boost quality control, unclog bottlenecks and turn Wexol's clients to diehard loyalists.

After assessing the benefits of Zesticon's paradigm shift, Trevor has no choice but to give King Grod his due.

Rathbone's beef with spacer colonists is something else again. It's all black with no trace of gray. King Grod sees the worst in every spacer co-op. **SOAR** *does* have a substantial effect on the cartel, but it's neither mean-spirited nor unexpected. SOAR is more like next week's weather which is largely predictable and can be worked around. The cartel's other CEOs don't begrudge spacer colonists as obsessively as Rathbone does. He'd snuff every co-op if given half a chance. He's worrying the itch till it bleeds.

Trevor hates footing the bill for Rathbone's underhanded schemes because the funds are siphoned from fees paid to Red Falcons. Such extracurriculars go beyond Red Falcon's mandate to safeguard cartel assets.

Rathbone makes no apologies. He claims the attacks on SOAR co-ops serve all members of the cartel. His schemes include poaching wildlife, smuggling contraband, lobbying the UN to discredit SOAR, planting spies in spacer habitats and outright acts of sabotage. Trevor reckons the money has been wasted, for his operatives can boast few successes and none worthwhile.

The rasping horn of a camel jockey announces the audio motif for Zesticon. It signals the imminent arrival of King Grod. Holographic fog extends beyond the table's straight edge. The gray blob separates into multiple lines, some darkening, others brightening, some reforming as polygons, others morphing as ovals. Colors emerge from the boiling jumble of potluck stew. Chaos takes on definite shape. The table grows another half-moon of polished mahogany. There, on the opposite side, a human form emerges.

W. A. Rathbone's avatar sits in highdef holo. His haunches appear to rest on a child's footstool, for his face is at eye level though it's 50% larger than normal. Trevor rolls his eyes at the conceit that has inspired the display.

King Grod's visage shows cosmetic improvements. His trademark goatee and head hair have been neatly trimmed. His broken nose has been straightened, and the folds under his chin and eyes have been tucked away.

Trevor wonders if the facelift is part of the sim or if Rathbone has finally opted for a physical makeover. His wives and concubines may've nagged him about going to seed. Even with cosmetic touchups, he still resembles a junkyard dog: ominous fangs, garbled snout, droopy cheeks and anvil chin. When first seeing his bulldog scowl, several biz partners have gotten shocked to the gargoyles.

Rathbone lifts an eyebrow. "I apologize for calling this gettogether on short notice." He flashes a toothy grin. "I trust you've all enjoyed amiable journeys."

The friendly demeanor doesn't fool Trevor one iota.

"Not as pleasant as staying at home," Okuno grumps.

"Welcome, Ayumi," says Rathbone, his voice softer, almost human.

"Looking splendid as always."

She returns a cold smile. "Easier said if you saw me in person."

He pauses to digest the innuendo. “Ah yes, a pity. My barristers are working 24/7 to remedy that bureaucratic nuisance. It takes very sharp nails to knock sense in the British mindset.”

Zesticon has recently moved its head office from London to Darhan. The move makes good business sense, for the Mongolian regime is offering a 25-year tax holiday in exchange for upgrading its telecom networks.

Meanwhile the Chancellor of the Exchequer has accused Zesticon of renegeing on prior commitments and leaving dockets of unpaid taxes. Authorities have frozen whatever assets they could locate behind or around a classic Indian rope trick. And the foreign office has issued a worldwide warrant for Rathbone's arrest and extradition.

The warrant has no effect in the jurisdictions of Mongolia, China and Russia, so Rathbone has taken to spending his winters in Kunming and summers on the shores of Lake Baikal. Malaysia has a reciprocal treaty with UK, and there's an off chance he could be extradited if he comes in person. To play safe, King Grod is here as a realtime avatar.

Rathbone forges on. “Welcome, Trevor. How're you doing?”

“Still breathing, thanks to Zhijian's cure for jetlag.”

“Of course.” Rathbone shifts his gaze. “Zhijian, welcome! Johnny on the spot as usual with your grab bag of medical wonders.”

Choong bows his head in acknowledgement.

Rathbone gets feedback from the two vidcams high on the wall near the ceiling, so he can “see” his peers outside the holo projection. It lets him look down on the CEOs in realtime. From his perspective he sits on a throne above the rest.

“Welcome, Rolf. I haven't forgotten your gourmet appetite.”

“Bring food, will eat,” replies **Heck** in good cheer.

“I believe Han Yu has prepared something special that'll pique your palate.” His smile grows thinner. “Welcome, Martin. I do relish your tactful Brazilian manners.”

“Yeh, right.” Gagnon raises his coffee cup in a mock toast. “Here's to

rust under your fenders.”

“And to mud in your eye,” replies Rathbone, raising a crystal goblet filled with viscous liquid. He takes a brief sip then swings his gaze to Trevor's right. “Last but not least, I welcome Torero, our up & coming software genius.”

Grabb dons a warm smile. “My pleasure, DoubleYou.”

Trevor doesn't like the undertones of the last exchange. What's cooking in the wolf den?

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Back in the 20s Trevor was a junior manager at Wexol's subsidiary Afterburn. He negotiated the joint venture between Afterburn and **Nova** to develop the Lunar Arrow. The Space-Faring Enterprise paid for most of the development costs plus overruns. Following the Mogadishu calamity, SFE closed its lunar **He** digs and its semipermanent base on Mars. Heavy-lift launches from earth were no longer needed. The joint venture was left holding the bag for three pricey spacecraft and another half-assembled.

Rathbone was furious, but he convinced Trevor to repurpose the Lunar Arrows to carry high rollers between earth and orbiting pleasure wheels called Nero's Chariots. The high rollers got their fill of erotic pleasures, while doing biz deals unchecked by earthly jurisdictions. But the novelty factor wore off a decade later, and profits pancaked to roadkill.

Now the modified Lunar Arrows blast off with several empty seats. Operating costs and maintenance for Nero's Chariots have eaten into Afterburn's profits. The aerospace division has always earned more prestige than profitable cash flow. Trevor much prefers selling jumbo jets, piloted warplanes, aerodrones, skycars and ultralights, all of which earn handsome returns, but the partnership with Nova has a suicidal exit clause. Whoever bails out must cover the arrears and fork over its aerospace facilities. An early exit would sever Afterburn's balls.

Trevor isn't sure what Rathbone plans for the heavy-lift capacity, though he suspects it'll damage SOAR. Whatever Rathbone has planned, it'll come off as slick as a hooker inside an eremitic monastery. Only Red Falcons could muster that degree of subterfuge, which means Wexol is going to pay, one way or another.

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"Let's wave the social niceties for later," Rathbone says gravely. "I've urgent business to be tabled and discussed."

"Forget about raising fees for your security umbrella," warns Gagnon.

"I agree," adds Okuno. "Where was your vaunted security at the Osaka compound?"

"Worrying the nub of the issue so soon, Ayumi?"

"Let's hear it, DoubleYou," she hisses.

"This matter has outgrown the fate of a Japanese foundry."

"Don't gimmie your trite excuses. I'm boiling mad because I stand to lose my outlays."

"No more than myself. We're equal partners as I recall."

"Whoa!" Trevor interjects. "I assume this concerns the freighter that sank last week. So what's the big deal?"

"The cargo," sniffs Okuno, as if indulging a simpleton.

"Cargo? Y'mean auto-part rebuilds?"

"The 'rebuilds' as you call them were labeled *Made In Orbit*."

"Since when did Mishima upgrade its smelters?"

"Oh, Trevor." Okuno rolls her eyes. "You missed all that Martin and I have said."

"Really?" He shrugs. "Damn jetlag must've addled my brain."

Choong reaches in his jacket pocket and pulls out a strip of **Lustifers**. He tears off a square. "I should've known. Two tablets work better for 12-hour jetlag. Here, Martin, pass this on."

Gagnon hands the square to Okuno who relays to Trevor who tears

the plastic wrapper and drops the tablet in his palm. “Will this upset my stomach on top of coffee?”

“Needn't worry,” assures Choong. “Just be sure to chew properly before you swallow. The remedy ought to work faster.”

Trevor pops the tablet in his mouth. He notices everyone is eyeing him with concern or feigned interest. “Forget my lapse. Now I see Mishima for what it is. The dockside foundry was making fraudulent SOAR parts. Right?” He regards Okuno then Rathbone. “The sinking trashed your shipment, and you've lost face.”

“Worse than that,” shrills Okuno. “The raiders rampaged all over the site and exposed the entire operation. SOAR has enough evidence to litigate Mishima out of existence. All because DoubleYou's roosters screwed the pooch.”

“Ayumi,” Rathbone cuts in, “there were extenuating circumstances.”

“Half-assed excuses! I knew it.”

“To be fair,” he goes on, “the Mishima gambit should be regarded as a qualified success. Three-million bogus parts have b'en shipped over two-plus years. They've eaten away the market credibility of SOAR's everlasting products. Another million bogus parts have yet to be noticed, since they're being sold via junkyard brokers and used-car vendors. They'll be hard to track down, so premature failures will continue for another two years. Members of car co-ops will be annoyed as hell when their vehicles break down for no apparent reason. Fleet managers will think twice before opting for SOAR products. We've bought ourselves at least five years of misery for Freespin and other SOAR deorbiters. They'll pay dearly to regain credibility.”

“With our money,” sniffs Okuno.

“Some but not all. Our barristers will delay and drag the hearings out. We'll have time to recoup the reusable hardware from Mishima's assets. **Freespin** will get no more than empty buildings and land titles.”

“However you sugarcoat it, we're facing a total write-off.” Okuno narrows her eyes. “Fess-up, DoubleYou. Their ops made fools of your

roosters.”

“Easily done if you gain full control of the compound's network.”

“Without the roosters knowing?”

“Bingo.” King Grod's avatar flashes an ominous grin. “That's exactly what happened.”

“I find that hard to swallow.”

“Disbelieve at your peril, Ayumi. HOAM servers are equally at risk from the same threat.”

“No way!” She glances at Grabb for support. “HOAM has the best safeguards in the HyperNet. Clouds and major websites are secured via multilevels of **DLT**. Ten years have passed since the last serious threat.”

“I wasn't speaking of *known* threats.”

“What nonsense are you inferring?” asks Grabb. “Distributed Ledger Technology deters all kinds of hackers.”

“Cut the bullshit, DoubleYou,” squawks Okuno. “Give us facts.”

“You'll get facts, Ayumi.” He scans the table. “All of you, let's have some patience. A definitive forensic report came to me half an-hour ago. That's why I delayed my arrival. Encrypted copies of this report are being emailed to your private boxes. For now, let me give you the overview.

“The saboteurs tried to replace the compound's server with null data. It would've wiped the network clean. But the rooster who staffed the **comm** desk realized what was going down. He killed the power before the system drive zeroed out. My forensic sleuths were able to restore a fair amount of important data. That recovery is ongoing.

“Investigators have proposed a theory of what might've happened,” Rathbone goes on. “They've rebuilt the file catalogue and recovered logs of system events. One log records a video file uploaded 2½ weeks before the attack. My sleuths believe this file held the malevolent code.”

“I assume the file itself is missing,” snipes Okuno.

“Unfortunately, yes. But the sleuths have ample evidence to simulate the Trojan horse, which activated code fragments already present and

then got access to all the crucial data. The saboteurs knew where the sensors were located and which alarms would go off. They knew how the guards were armed and where the underground passages led. When the attackers arrived they were able to locate every corridor and broom closet.”

“And no one suspected?” smirks Okuno.

“The viral code worked unobtrusively for two weeks. It didn't strong-arm the network till the saboteurs appeared.”

“Who added the questionable file?” Grabb asks.

Rathbone flashes pure venom. “Yamazaki, chief of security, had an unforgivable lapse. It seems the video contained a sampler of his girlfriend's acting talents.” Rathbone frowns in disgust. “**Yamazaki** has b'en an outstanding employee until this incident, but I have no choice. He'll be fired and blackballed.”

“Maybe he's in cahoots with the saboteurs,” Okuno says.

“I'm fairly certain he isn't, Ayumi. But I'm no fool. Yamazaki will be monitored for suspicious activities over the next year or so.”

“How did the saboteurs get ahold of Mishima's blasting plastic?”

“I believe they swiped it during a preliminary raid. Perhaps a week earlier.”

“What were explosives doing at the foundry?” asks Okuno, her face colder than the south Martian pole. “Who the hell authorized blasting plastic?”

Rathbone clears his throat. “Mishima has doled out small arms for years, even before we got involved. Since we were paying off inspectors at the destination seaports, it made sense to add blasting plastic to the contraband sales. Mishima is part owner of a Chilean copper mine, which has a legitimate need for plastic explosives. It recorded an off-sale to a 3rd-party which would report a theft of said explosives, thus diverting all blame. But the saboteurs put lie to the bookwork.”

“In other words, we were caught with our pants down.”

Gagnon leans toward Okuno. “Panties, you oughta say. Apricot satin

with silver trim is my guess.”

“Shut your filthy mouth,” retorts Okuno, though her eyes belie the harsh tone of voice.

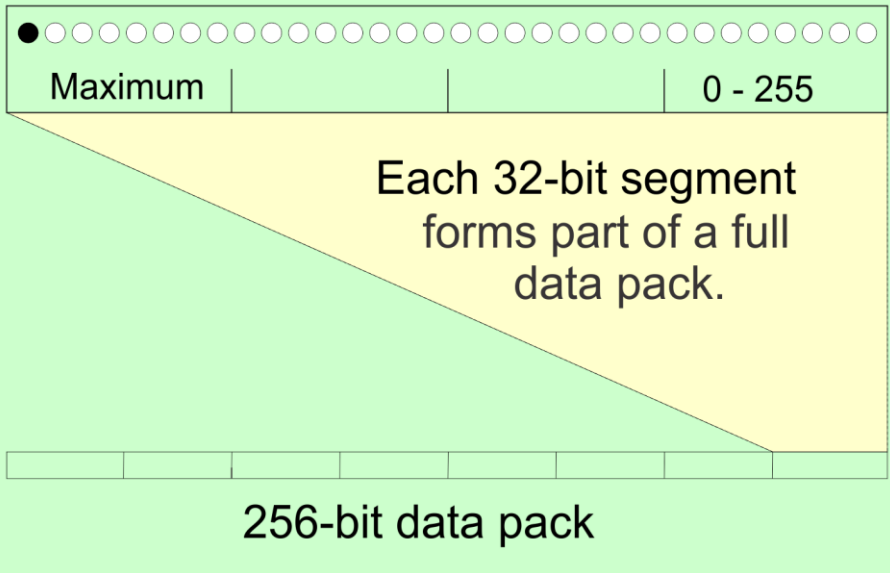
Rathbone shoots Gagnon a warning glare then turns to Okuno. “I’ll take the blame for the blasting plastic, though it was meant to bolster the bottom line. Regardless, we have more serious concerns vis-à-vis network security. Latent virus fragments have b'en detected not only in Mishima's network but also on every network examined by my forensic sleuths. These fragments are found in the slack spaces of data registers. Billions of them infest the drives to the point of redundancy.

“Even if 95% of the fragments are wiped or overwritten, enough remain to be exploited by a triggering program, such as the one embedded in the video file. The triggering program stitches fragments together and loads the assembled code to active memory. There's no footprint on the system drive because the malevolent code is extracted from slack spaces that aren't indexed through the file catalogue.”

“What slack spaces?” asks Okuno. “Never heard of them.”

“No one apparently has until my forensic sleuths poked around the afflicted drive with binary tweezers. To reconstruct the normal file catalogue they did frequency analysis of bit sequences. They found identical sequences in the slack spaces of data packs more often than could be attributed to chance.

When 31-numerical bits are “on”
the maximum value equals 2,147,483,647



“Consider, if you will, HOAM servers,” he goes on. “They handle data in 256-bit packs for speedier processing. They’ll gobble HyperNet streams of 128-bit packets two at a-time. 128-bit packets handle floating-point numbers in ultraprecision, however large or small. Think of data packets as rows of bits, any of which may be turned on or off. The rightmost on-bit equals one. The next on-bit to the left equals two, the next four and so on, the value doubling as you shift left.

“In everyday usage, the data packs often signify small integers, although they’re processed as full-sized floating-point numbers. For romance-language glyphs the numbers between 32 and 127 represent the default character set, yet these modest numbers are sent as 32-bit data segments. Eight characters to each data pack where the 32-bit segments are capable of handling integers from zero to 4-billion or from plus & minus two-billion if you include signed integers.”

“Whoa!” protests Okuno. “You’re trying to weasel outta this on technicalities.”

“Not so, Ayumi. This is all very simple if you let me finish.”

He waits for her begrudging nod. “For basic English text, the processor will check the rightmost eight bits for alphanumeric values and another eight bits for language conversions. Phonetic languages needn't use the other 16 bits. Pushes and pops in the stack transpose the whole 32-bit segment, ignoring the slack bits whether on or off.”

“It won't work,” Grabb declares. “If hackers change the bits in your slack spaces, they'll change the checksums of the data files. Antivirus scanners would jump all over the modified checksums.”

“The hackers must've planted the fragments with great care,” intones the overlarge avatar. “I suspect they knew about Monkey See's weak points vis-à-vis the HyperNet. My forensic sleuths have found many varieties of fragments. More than 1,000. Likewise, slack spaces can retain random on/off bits from overwritten files. A clever insertion program would analyze the checksum of the target segment and pick a fragment whose addition would ape the checksum. D'you say this is impossible, Torero?”

“No. It could perform in virtual-machine mode using the arcane permissions in a kernel-level rootkit, but whoever activates these fragments must hack through a series of DLT safeguards. As well, they must piggyback on system interrupts that trigger alternative processes without causing alerts.” **Grabb** lowers his gaze and shakes his head. “It's possible, I guess. Just bizarre and unexpected.”

“I've given one example of slack space,” says the avatar. “On system drives there are larger slack spaces at the ends of files or data streams. Some of the padding remains undisturbed, even after routine defrag maintenance. Unless I'm mistaken?”

“No.” Grabb frowns. “It's possible to read from, or write to, slack spaces if the hackers parse the physical drive itself.”

“There you have it,” trumpets Rathbone like a sportscaster repeating the final score. “You'll get further proof in my email which has an attached file that scans your physical disks for suspect fragments. I recommend testing a less crucial machine since the scan must be run

with the system in preboot mode. For 350-terabyte system drives, the scans could take anywhere from six to ten hours.”

“Why so long?” asks Trevor, who assumes Cybernaut processors would be used for remote scans.

“The scan involves two sweeps. The 1st-sweep analyzes the disk for frequencies of code fragments. Any suspicious sequences are then added to the known database. The 2nd-sweep records each suspect fragment and how many times it occurs. Your techs can email the list of fragments to my forensic sleuths who'll merge them to the database of known fragments.”

“Does the scan clean our disks of malevolent fragments?” asks Heck.

“No, Rolf. It does not. Such a beta app would delete valid data by mistake. Consider the instances where fragment code and numerical data have the same bit sequences by random chance.”

“When do we get a program that does failsafe cleaning?”

“Soon, Rolf, for whatever it's worth.” He pauses. “Tell them, Torero.”

Grabb blows out an explosive breath. “Shrinkwrap will send out a foolproof scan and cleaner within one-week. It will clean all fragments from your disk, but this is just a stopgap remedy. The hackers could split their malevolent subroutines in multiple ways. Suppose they split the code pie in twelve slices with arbitrary cuts at 12:00 a.m., 1:00 a.m., 2:00 a.m. and so on. After we've cleaned one set of fragments, they could split the same pie at 12:30 a.m., 1:30 a.m., 2:30 a.m. and so on. It would produce twelve unknown fragments that combine to form the same algorithm. Code snippets of say 180 bytes can be divided into 90 equal fragments 360 different ways so that one set of 16-bit fragments differs from all others. Hence, a scanner may clean today's viral fragments but not tomorrow's and never next month's.”

“Holy shit!” gasps Heck. “What the hell can we do?”

“There's but one answer for that, Rolf.” Rathbone scans concerned faces around the table. “I urge every one of you to install Digiflexes on your networks as soon as possible. Ultimate Companion will treat all

such code fragments as impotent data. Even if the fragments manage to combine somehow, which is very unlikely, they'll never get processed since they won't have the verifiable credentials the PCPU is looking for. Have I said that right, Torero?"

"100% right on, DoubleYou," gloats Grabb, outing a predator's grin.

Trevor smiles in kind and overlooks the evident collusion between Zesticon and Shrinkwrap. He could care less since WBM's Cybernauts are now in huge demand. The sales will gobble current inventory and ramp up new production. Other orgs may reconsider, once they see the major players upgrading to Digiflexes. The urge to buy spreads like seasonal flu.

"The geeks are happier than pigs at the corn bin," Gagnon snorts. "Don't expect me to cut project outlays for this crap, unless you prove the need beyond a doubt."

"Martin, has a point," says Choong. "I refuse to rush into this. Yuhan is largely immune to HyperNet scams. Groschen labs are barred from direct access to HOAM. The freighters of Haiyan Huòwù are fully insured. And my transoceanic cables charge for traffic volume, whether the data is tainted or not."

Heck nods but says nothing. He stands to lose bigtime if financial records are tampered with. Global business depends on transfers of data with the secured handshakes of digital bits. Once data integrity becomes suspect, his wealth would deflate like a gutted balloon.

"I'm still not convinced HOAM servers are infested with malevolent fragments," Okuno palters.

"Forward the email attachment to your **CIO**," says Rathbone. "Tell him to scan one of HOAM's servers. You'll have proof in 24 hours."

"How can you be so certain, DoubleYou?"

"My forensic sleuths have already tested HOAM servers that were tasked to archive message links and performance logs. They found fragments on system drives as well as the archival disks."

Okuno's eyes flash like daggers. "Who gave *you* permission?"

“Red Falcons works with the GWOT Coalition that monitors packets passing through HOAM servers.” He shrugs. “It wasn't hard for the forensic team to gain access. The fragments in the archives suggest the code was there for months, maybe years. Face it, Ayumi; the hackers caught us napping.”

Okuno sighs in defeat. “Where'll I find the cash to upgrade HOAM plus SonyKong?”

Rathbone faces the right side of the table. “I'm sure our suppliers will agree to member discounts minus 5%.”

“Member discounts barely cover the manufacture and installation costs,” says Trevor.

“Emergencies call for sacrifices from everyone,” Rathbone counters. “Let's make it member discounts minus 2.5%.”

Trevor glances at Grabb. After moments of nonverbal exchange, he turns to King Grod and nods.

“Next question. How long to deliver the goods?”

Grabb presses a finger to his cheek. “I assume you mean every **NT** and **DT**.”

“Every corporate LAN and **WAN**. Plus **LTs** issued to senior managers with privileged access.”

Grabb pauses a moment to consider. “Shrinkwrap oughta satisfy the cartel by July, depending on access to the hardware.”

“Trevor?”

“**Cybernaut** factories are up and running. WBM can deliver as fast as Shrinkwrap juices the code.”

“Good. That's taken care of.”

“Not so fast, DoubleYou,” shrills Okuno. “Where's my slush fund?”

“Beuack's vaults are bursting with solar bonds,” Rathbone says. “Borrow from the fat man.”

“Rolf will charge us compound interest,” grumps Gagnon. “He always does.”

King Grod uncorks an evil grin. “Rolf will lend at 1.5% below prime.

Not a penny more.”

“That's highway robbery,” cries Heck. “Beuack doesn't have funds to cover everyone's upgrades. Go ahead and bleed me to death. But don't be surprised when the financial markets collapse. Without Beuack's bedrock of reserves, major currencies will become worthless as Chad's no-coupon bonds.”

Rathbone has never forgiven Heck for making hay out of the Consortium rescue package. “Beuack does nothing but keep score, Rolf. It neither produces wealth nor drives economic activity. Should major currencies default, the cartel will get by on barter swaps and HOAM Credits.

“We may lose customer sales for a while,” he adds. “But the economy will rebound, and we'll come out stronger. Cough up the loans, Rolf. Lose the fat and gristle, and you'll taste a lot better.”

There are muted chuckles around the table. Gagnon laughs out loud.

28. Goodma's Garden

One day earlier

Kung, Haida Gwaii: 11 May 2076

Tall spruce canopies throw lazy shadows over **Kung**.

Raven pays no heed to shadows as she leaves the village. Footfalls pound clay as she treads the well-worn path. Embedded gravel pricks her moccasin-clad soles. Tufts of grass and fist-sized pebbles line either side of the zigzagging route. She enters an open flat between forested hillocks and jagged shoreline.

Breathing in the familiar tang of tidewater spoor, she winces at countless starbursts on rippled water. Seagulls squall as they cruise near the surface in search of edible spoils. Two bald eagles circle high above the noisy flappers. The inlet spans five times the flight of a full-drawn arrow. Northward it broadens to Virago Sound before hazing to the horizontal blend of ocean and sky.

She totes a deerskin backpack, digging tool, bentwood basket and harness for the forage ahead.

_I can't blame Granny
_for all the extra chores,
_though burdens prove
_awkward to lug home.
_Someone has to gather
_peatmoss and tree bark.
_Just my dumb luck
_the stocks ran dry
_on my berry-picking day.

Kung's dogs are squabbling over bones and fish scales. She ignores their yelps and trains her eyes on overturned war canoes, baidarkas and Kung's head canoe. The baidarkas are decorated with eagles and ravens, their wings outspread in heraldic flight. She prizes the raptors

looking as bold as the day she brushed them.

_They're slick, though Headpa
_scolded me for wasting pigment.
_I don't care if fishers' canoes
_count more than baidarkas.
_The birds are done well,
_and they make me glad.

Behind the beached vessels are fresh-mended seiner nets strung across forked posts. Younger fishers have woven bark cords to form fishnet edges and haul-in grips. The war canoes have already gone out, probably an hour before sunrise. Fishers start and finish early. The sooner they catch dinner, the more time they have to chew the fat.

“Lazy oafs,” she mutters.

A palm shades her eyes as she pans the water amid the sparkle glare. No sign of the fishers unless they're hidden in reflected glitter, though she doubts they'd evade her gaze. Either they've gone to sea or paddled inland. She hopes they went seaward. It would mean the run of oolakons has petered out at last. Her stomach cringes at the thought of another **oolakon** feast.

Last night she spotted a large red snapper in the firepit and wasted no time cutting two thin filets for herself. It was the best feed she's had in weeks.

Uncalled for thoughts hijack her mind.

_How'll I get Headpa's approval?
_To take a course in Tsawwassen?

Headpa advocates a distant past when Haida Gwaiians were kingpins of the westcoast. Their war canoes used to raid coastal villages as far south as California. He isn't convinced the Changeover has healed the rift between aboriginals and outsiders. He distrusts all technocrats which he regards as enemies.

Without Goodma's help she'll never win him over.

Raven shrugs and recalls Edgar's online game. Though wetting her imagination, it failed to deliver the promise she'd hoped for.

Soupcans circled along the same path as the moon, but the cylinders were too small to be seen without a telescope. No matter how hard Raven searched online, she found only outside views. The forbidden game promised to show what went on inside and how the spacers lived.

The object of the game was simple: Destroy or chase alien invaders from a tall building.

She and Edgar opted for two-person mode, so the flatview was split in halves, one side for each. Raven levered the joystick to pan left or right, up or down. The flatview kept showing the barrel of her blaster and endless stairs to climb. By moving the joystick, her sightlines would shift in tandem, but the barrel would lag behind. A thumb on the mouse ball was needed to keep the blaster aimed where her eyes pointed.

Edgar's avatar appeared as a muscular trooper in sturdy armor. She couldn't help but grin, for his avatar was a full-head taller and way more handsome than his adolescent self.

If she peeked at Edgar's monitor when he faced her way, she could see her own avatar which was a grown woman topped by a frazzled mop of blonde hair. Her upper-body armor featured generous humps for double-sized breasts. Unlike Edgar she didn't have leather trousers or shin guards. Instead her avatar wore a skimpy skirt that reached halfway to her knees. Yellow tights didn't offer much protection for otherwise bare legs.

Worse, the avatar wore shoes with spikes at the heels. The high-risers forced her feet to lurch on tiptoes. Raven doubted anyone could sprint or even walk without bone-cracking injuries. Yet the avatar scampered like a squirrel despite its useless footgear.

She grew more frustrated by the minute. Tsawwassen's news feeds didn't show the city folk using such ridiculous clothes. Worse, she

hadn't found one tangible clue about life in the soup cans.

Raven depended on eyes and ears since there was no sense of touch or smell. The floor, ceiling and walls looked smooth and seamless without the grooves between wooden planks. The ceiling was off-color white; the walls were plain gray, and the floor was grayish black. Other than color differences the surfaces were all smooth and probably of the same material. The hallways looked as if carved like tunnels in solid rock.

_No way to check if the walls
_were hard or soft or strong.
_Even so, the mockup implied
_that spacers used exotic fibers
_to build their living spaces.

The aliens looked like big lizards as large as blacktail deer. They moved awful fast on four stubby legs. Their open jaws exposed dozens of sharp teeth. Their dark eyes were cold as winter-storm clouds.

_Good thing the blasters work
_as advertised. They belch hot
_fire that burns horrid lizards
_to smoking heaps of charcoal.

She took down the aliens as fast as Edgar who grew more anxious with each mounted stairway or checked hallway. He quit blabbing like a know-it-all while her confidence grew. She was the one who spotted the aliens who attacked from behind. The blasters worked fine, but she needed to aim fast before the lizards got close enough to shred her unprotected legs. Meanwhile she feared her avatar might stumble on its cockeyed shoes.

Then a lizard crawled out from a doorway, its jaws chewing on a human leg. She fired the blaster and scorched it to smoldering charcoal. Inside the room she found half-eaten humans sprawled about, dead as chipmunk stools.

“Here's why we haven't seen any spacers,” she said. “The faster ones

ran away. The slower ones got eaten.”

Edgar turned pale as a ghost. Even his avatar looked worried.

_He was jumping at shadows.

_Avatars didn't feel actual pain.

_I was angrier than scared

_ 'cuz I hadn't spoken to spacers.

What if the lizards had already cleared the whole building of humans? She'd miss her chance of getting firsthand details.

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Farther along the plain in the shade of a large boulder, Deer Horn enralls a clutch of youngsters with his tall tales. He has the special knack of spinning Haida lore around vivid fables. He invents weird animals and plants, such as wisecracking ravens, weeping trees, burning stones fallen from the sky and bears that climb on raindrop ladders.

Six years ago she would've sat with the youngsters, hanging on his every word, believing the stories truly happened in the glorious past. Nowadays she knows better. Haida lore is a mix of fact and fantasy. The stories are lessons about good and bad behavior.

_Don't need nursery tales.

_My deeds are mine alone.

She angles away from Deer Horn's boulder and mounts the ridgeline. Her pace slows as she approaches the trees to let the shore breezes drink her sweat. Once in the quiet woods, she doesn't need insects swarming all over her skin moisture.

Her stomach needn't worry. Lots of edible plants to be had on the forage ahead.

_Indian spinach, rice root,

_edible camas, tender ferns

_and black-cod grease

_under forest canopies.

Amid moss-laden boles, insects cloud the air, though few of them

perch. She pays the buzzing no mind, except for one lousy gnat that lights on her eyelid. A quick slap sends the creep to the netherworld of storytellers.

The terrain opens to a level field beyond the ridge crest. She feasts her eyes on the mishmash of crops. Goodma's garden is home to most of the useful plants that grow in **Haida Gwaii**. The plants signify a nice change from the steady diet of fish.

Plants in the herbarium could be poisonous if ill-prepared or treated for the wrong ailments. But proper tinctures have brought the sick to health and sometimes restored from their deathbeds. Goodma's herbal knowhow is legendary among band members.

Raven has gotten a start in the herbal arts, and she's proud of what she knows.

Yarrow can be dried, chopped and ground, then used as a poultice for colds and sore throats. Wax-flower is a good tonic for summer tea. Sundew makes a powerful cure for coughing spells, stuffed noses and raw throats. Indian hellebore can be applied as a poultice for bruises and sprains. Special concoctions of hellebore ease kidney troubles and bladder problems. The roots and bark of devil's club are used to treat sore bones and stomach ailments, while narcissus roots make soothing paste for cuts and wounds. Stonecrop works like a female tonic, and owl-berry roots help childbearing women through difficult births.

The herbarium is a small part of the garden. The larger tracts host cranberries, gooseberries, crowberries, mats of blueberries and other plants that yield fibers for tools or clothes.

Elsa is down on her knees in the fireweed patch. She's snipping off dandelion shoots for dinner greens and leaving old fibers for cords. The roots ought to make tasty side dishes for the evening feast. Since the spores fly all over the garden, choking other plants, Elsa will stuff the flowers in her pouch to dry and later to be burned in cookfires.

Raven greets Elsa with a smile and passes on to the patches of big leaf, common rush, silverweed, wild carrots and licorice ferns hiding in

the shadows of cranberry shrubs.

At the outer edge she spots Goodma who is eyeing her wooden cage that protects cloudberries and strawberries from marauding deer. Raven would've never thought to come up with such a neat idea. Goodma got help from Deer Horn and his young fans. They stripped leaves off branches then bent and tied them together to make a skeleton igloo.

Raven draws near and signs a greeting. "Blacktails won't get a sniff," she quips.

"Think so?" Goodma stands up and adjusts her cone hat. "Come here and look at this."

Raven follows Goodma who squats down, their eyes on a side of the igloo where level branches circle round. The upper slat has been pushed away from the lower, as if a bear's paw has forced them apart. But bears wouldn't root inside if they had easier pickings elsewhere.

"A *deer* poked its snout in there?" asks Raven.

"Damn rascals. Must be drawn to the smell." Goodma frowns darkly. "Fruits aren't even out yet. What'll I do come summer?"

Raven shakes her head and glances at the forest beyond the garden. She wonders how many deer are lurking in the woods. "You could add more wooden slats."

"No. Never work. More wood blocks the sunlight, and then berries won't grow at all. What's needed, I think, is metal fencing. But we'd hafta pay for it, and Headpa will choke on the cost."

"Talk to the elders."

"Ha! They're ten-times worse than Headpa. They wanna force the hunters to carve game with flint cutters."

"The women's council made them back down when they banned the purchase of denim and dungaree from Masset store."

"One small victory. Men won't listen to women till there's a full-blown crisis." Goodma sighs. "It'll be next year at the earliest before I get proper fencing. By then, we may lose our cloudberries."

"You can always pick more next year."

"Easier said than done, Raven. I had a hard time finding these few."

"Aren't they everywhere? Deer Horn speaks of cloudberry growing plentiful as salmon berries."

"You believe his tall tales?"

"No. Not the stuff about talking trees. But he described cloudberry as natural plants. They never spoke to the pickers. Why would he mention them if they weren't for real?"

"Smart thinking, Raven. But there's more to his tales than meets the eye. Deer Horn learned from elder storytellers who learned from their elders. The original tales go back many generations, hundreds of years before the first tall ships came to Haida Gwaii. In those days there were no blacktail deer on the island."

"No deer?"

"Not a one."

"How'd they get here?"

"Mating pairs were brought here in tall ships. The newcomers found plenty of food and few natural enemies, so they multiplied like crazy until they're everywhere now and hankering after my cloudberry."

Raven tries to wrap her mind around this new twist in a world that seemed stable and predictable. "In the early times the band must've gone hungry every winter."

"Oh, they ate caribou meat."

"Caribou?" Raven is nonplussed. She glances at the underbrush, darkened like a cave under the canopies of cedar, hemlock and fir.

"How'd *they* get here?"

Goodma looks stumped for a moment. "I guess they walked from the mainland."

"Walked on water? You're pulling my leg."

"Many years ago the temperatures were much colder. Glaciers came down from the mountains as far south as Tsawwassen. Deep snow and ice covered everything, even in summertime. Glaciers moved very slow,

maybe a stone's throw in ten years. Animals had enough time to move south and survive, but plants just froze and died. Ice sheets spread offshore and across the ocean. Caribou came down from the north and walked over the ice sheets. They might've swum short distances between ice floes to get all the way here."

Goodma pauses. "You've seen vids of Antarctica?"

"Yeh."

"So y'know how glaciers spill out to the sea and form thick sheets."

"Supercold in Antarctica."

"It was cold around here many years ago, but Haida Gwaii escaped the worst of the glaciers. The snow melted in the summer and yielded food for caribou who thrive in cold weather. Some say our ancestors followed the caribou across from the mainland. Others say our folk came from Asia in warrior canoes."

Raven is speechless. This new history is a far cry from Deer Horn's version of humans hiding under a clamshell. "Where are the caribou now?"

"Gone. As temperatures warmed the caribou found less and less winter lichen. I guess they sweltered in the heat or starved for lack of normal forage."

Raven mulls the new facts. "How'd you learn about this?"

"The lesson was part of my horticulture course."

"That's my problem. If I don't go to the megadome I'll end up dumb as a rock."

Goodma smiles. "You needn't travel to find out about glaciers. Just look up glacial epochs on the computer and learn how they affected Haida Gwaii."

"You forget I'm barred from the computer."

"And whose fault is that?"

Raven says nothing. Her plan sits dead in the water. Bad behavior has squandered all hopes of gaining Goodma's support.

_How do I fall in these traps?

_Blame it on Edgar whose neck
_I'll ring till his eyes pop out.

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The hallway brightened as it reached a wide promenade spanning left and right. The outer wall had floor-to-ceiling windows. Raven's avatar tried to grasp the view beyond the windows.

She was looking at the soupcan innards, huge and awesome, as if carved inside a very tall mug. Planted on the rim were countless hexagonal gardens outlined by rows of trees. The nearest plots loomed straight below her vantage in the building which was 15 floors above ground. She felt like an eagle soaring high above the tallest Douglas firs.

Hexagon gardens grew everywhere on the curved rim. Higher up the plants and trees grew sideways. Higher yet, they hung almost overhead. She couldn't see straight-up because there was a glowing bar of light, too bright to stare at for more than an eye-blink. It was like a huge florescent tube that sprouted from this very building over 100 floors above. The glow bar pointed straightaway in the distance where it vanished at the center of a windmill with six-thick blades.

None of what she saw made sense.

_How do the plants
_stick to the ceiling?

“Why would anyone plant crops upside-down?” she asked Edgar who stood beside her.

“The **soupcan** is spinning.”

“Where? I don't see no spin.”

“That's because you're spinning like everything else. You don't feel the earth's spin, d'you? Soupcans spin and create a kind of gravity that pushes people and objects to the curved rims.”

Raven hated it when Edgar put on his smarty-pants and explained the tricky stuff, like she was dumb as a snail. She ignored him and focused on the distant windmill. The closer she looked, the more the

“blades” became structured towers with rows of windows marking hundreds of floors. Then she realized the building from which she gazed was the same, and she occupied one of its six great arms. She'd already estimated one-floor of this building was large enough to fit the entire village of Kung. So the six-armed tower in the distance must've floor areas just as wide.

_Hard not to be stunned
_by the soupcan's huge size!
_But where are the spacers?

Raven focused on the hexagonal gardens below. Among the nearest she scanned dozens of plant rows. At last she was rewarded when she caught movement between two rows. Sure enough, it was a spacer poking the soil with a long-handled digging tool.

Then she spotted two more spacers walking between rows of trees that bordered adjacent gardens.

_At least I got to see them
_even if I can't talk to them.

She understood why spacers would care about their gardens. They had to grow enough food to feed thousands of folks living in the six-armed buildings. And spacers didn't raise animals. Nor did they have oceans with plentiful fish, so they relied on whatever grew in the gardens.

Raven wished she could meet the residents and ask them what they did inside the towers.

Just then, dozens of lizards charged in. Too many hungry jaws. However fast she blasted, others took their places. Within minutes, she and Edgar were overwhelmed, eaten and ejected from the game.

The game fee had been deducted from Kung's account. The small sum was no big deal, but it was never approved. Headpa managed Kung's account, and he spotted the markdown. When he learned it came from a forbidden game site which had been visited with Raven's password, he scolded her in front of the whole village and revoked her

computer privileges. Edgar never said boo, never owned up.

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Somehow Raven must get in Goodma's good graces.

_Admitting my errors

_is a good start.

"I'm sorry about the online game. The money could've gone toward metal fencing. But I'll support you, whatever my say-so is worth."

"Not much, I'm afraid."

Raven hangs her head.

"Always sorry, after the fact. You oughta heed the consequences *before* you act. To be fair, the cost of your game barely counts. It won't buy a single chain link."

_Gotta change the topics

_while I'm ahead.

"Caribou must've eaten the cloudberrries."

"Some, yes. But they don't crave them like blacktails do."

"How'd the bears get here?"

"They swam. Bears are great swimmers y'know, and they've got plenty of fat to protect them from the cold."

"Couldn't the deer and caribou swim as well?"

Goodma shakes her head. "Too far for sluggish hooves. Y'know how long it takes to paddle to the Tsimshian mainland. Would you swim that far?"

Band members had to stay overnight since it's impossible to paddle there and back in a single day. The mainland tribes trade raw jade for smoked fish and cranberry paste.

"I'd act better if I knew more about... y'know, how stuff works," says Raven. "That's why I need to study in Tsawwassen."

"Don't be so anxious, Raven. There's lots of time. You're still young."

"I'm as old as you were when you studied in Tsawwassen."

"If you wanna compare yourself to me, consider this: I didn't argue,

talk back or start pranks. I did my chores without complaints, so my parents and the elders of Kung found me trustworthy. Show your best behavior for a whole year. Then maybe the elders and Headpa will support your aims. You still haven't chosen a worthy course of study. Nor have you convinced me you can learn a skill that benefits Kung."

"I help in the garden. I'm a good forager. You've said so yourself."

"I know, Raven. You're very quick, and you surprise everyone when you try things that strike your fancy, but you're never around for everyday chores. When was the last time you helped with the dinner feast?"

"Ah, umm. I'm allergic to fish."

Goodma raises her brows. Not a kindly gesture. "Allergic is a big word," she says. "A word you've picked up online, no doubt. Had you learned more about allergies, you would've found that very few people have problems with fish. None whatsoever among wayward girls who live in fishing villages."

"Who says I'm a wayward girl?" Raven hates it when grownups count youthful ideas as foolish nonsense. She wraps arms under her breasts to look more like a grown woman. "I'm no child."

"Oh Raven! I wasn't speaking of your physical maturity. I meant another kind of maturity. What gives you the idea you're allergic to fish?"

"I hate the smell."

"Well, get used to it. Fishing and eating fish are what Kung is all about."

"I guess," Raven grouses.

"Hold your nose long enough to help with dinner."

"The cooks always ask me to fetch oolakon grease. Euw!" She crooks her eyes at her nose. "The stink makes me puke. Why should I help with the evening feasts when I seldom eat fish?"

"Something else you've picked up online. You eat brownrice and sprouts to imitate the vegetarians of Tsawwassen."

“They eat fish.”

“Farmed fish,” Goodma scoffs.

“What's the difference? Fish are fish.”

“Farmed fish are coddled, overfed and five times as big as wild fish.”

“So what? Lots of mouths to feed in the megadome.”

“You're missing the point. Wild fish swim long distances in hostile waters. Only the strongest survive, and they carry the heroic spirit of their species, unlike farmed fish who live pampered lives. It's a rare treat to eat fish caught by our fishers.”

Raven isn't sold on fish being different. “Teachers online don't mention anything like that. If you let me take the scuba-diving course, I could check the differences between farmed and wild.”

“Raven! We've discussed this before. Scuba-diving equipment costs more than Kung can afford.”

“Fishers could send me underwater to see where the fish are. They'd make bigger hauls than ever before.”

“You're counting buried clams, Raven, as if they're in your basket. The income from fish is small compared the cost of scuba gear, so it would take years for your scheme to even out. Besides, how d'you plan to pay for tanks of compressed air? They don't grow on trees, y'know.”

“But Goodma, I'd make better counts of fish. GREENS are always looking for exact totals. That oughta help pay for the air tanks. When there's a shipwreck off Langara Island, I'd help with the rescue and recovery.”

Goodma shakes her head bemusedly. “At least your scuba-diving scheme isn't as far-fetched as your plan to become a dirigible pilot.”

_Oh heck. I knew she'd bring that up.

_I craved airship piloting years ago

_when I was young and goose-eyed.

“You're still hunting for summer snowflakes, Raven. Kung can't afford scuba gear any more than it can afford to buy an airship. If you paid more attention to the course description, you'd know the scuba

course is supposed to simulate tasks in..." She grapples for the English word. "...**freespace**. The diving lessons take place in a pool of clear water where you learn to make repairs in a weightless environment. The lessons wouldn't prepare you for the murky waters of Virago Sound or its dangerous undercurrents."

"That's why I need your advice for choosing a course."

"I won't choose for you. It's something you must figure out yourself. Else your study efforts would be wasted. You'd come back to Kung with new ideas in your head, but you wouldn't have the will or enthusiasm to put them in practice. You must decide for yourself the role you'll fill in the village."

Raven lets her shoulders slump. She's hit rock bottom. Nothing is going right this morning. "If *you* won't help me, who will? I know for sure that Headpa won't."

"Don't give up on Headpa. He's more sympathetic than he lets on. He rants against the spacers, but he does so to protect youngsters from getting overwhelmed with urban fantasies."

Raven makes a face. "Headpa won't budge. I'd have more luck teaching a bear to dance."

"Remember the big argument you two had last winter?"

"How could I forget? I asked to join the hunting party, so I could try out my bow. But Headpa refused 'cuz I'm a girl. Then he chased me out of Kung."

"That's your version. Headpa says you threw a tantrum when he refused. And he says you ran off, all by yourself."

"Well..." Raven shrugs. "Maybe."

"Kung has always reserved hunting for fishers as a kind of reward. If you worked with the fishers all summer, they would've let you join the winter hunt."

"The fishers treat newcomers like dogs! I would've spent all my time mending nets, washing out canoes and cleaning fish."

"Dear, dear! There's more to life than going on adventures. Your

heroes in orbit spend twelve hours to decompress before they leave their shelters. I doubt you could sit still for so long.”

Raven shuffles her feet. “Why'd they do that?”

“I'm not sure... Something about nitrogen bubbles. It also happens to scuba divers if they swim too deep.”

“Y'see? I knew scuba diving was important!”

“Not here in Kung.” A squirrel ventures out from the forested underbrush and stops. Goodma stomps her foot, and the squirrel bolts for safety of the underbrush. “Squirrels aren't so bad. It's the rabbits I worry about. They dig right under my shelters.”

Raven sighs. “Y'think I'm a hopeless case? A greedy rabbit?”

“Not entirely hopeless.” Goodma shows a thoughtful smile. “After your quarrel with Headpa, I was really worried about you. I begged Headpa to send out a search party. He wouldn't 'cuz he wanted to teach you a lesson. He expected you to come back cold, hungry and repentant.

“Surprised him, didn't I.”

“You surprised *me*. After five days Headpa organized a search party, and I dreaded the worst. I certainly didn't expect to find you cooking squirrel stew. Even more surprised to see your tree shelter that kept you safe and dry. You showed everyone in Kung how resourceful you can be.”

“Headpa wasn't so happy.”

“You made him look bad in the band's eyes. He had no choice but give you a tongue-lashing. I know better. He couldn't help but feel proud of you.”

“Really?”

Goodma nods. “Who knows? He might let you study in Tsawwassen, but he'll want you to go with a trustworthy companion, to make sure you stay out of trouble. Maybe if you get Jade to tag along...”

“Last night I almost convinced him to take the astronomy course.”

“Oh?” Goodma's eyes grow large.

“We looked at the stars. That's why I slept so late this morning.”

"I see."

"We spotted Jupiter, Mars and one of the frisbees."

"You're letting him touch?"

"He's too shy for that, but he was thinking about it."

"Hmm."

"I still need to find a course for myself."

"Hmm."

"I s'poze you won't gimme a hint?"

"I make no promises, but there's something that may suit. And you'll have an excuse to go out with the hunters. Are you interested?"

"Do ravens fly?"

"Kung doesn't have a true medic. We rely on common sense which works for most injuries."

"And your special herbs."

Goodma nods. "But there are times when a little knowledge can go a long way. Ingrid's husband would be alive today if the hunters hadn't moved him out of the ravine. GREENS keepers told me he'd fractured a vertebra in his spine. When the hunters carted him uphill, the fracture broke open, and he died of a broken back. If they'd placed him on a flat board, he may've survived and, with luck, made a full recovery. A trained medic would've warned the hunters about spinal injuries."

"Is this course in Tsawwassen?"

"Yeh. A very difficult course. You'll have no time to fool around. You'll hafta work day and night."

Her eyes tumesce as eager toes flex and curl inside her moccasins. "I can do it, Goodma! I'll study real hard."

"Hold on to your hat. You still hafta show your best behavior around the village. Lend a hand with the dinner feast more often. Offer to do chores for the elders. There's more to the course than just physical knowhow. You'll have to earn the trust of those you treat. That means developing more sympathy for others than you've shown so far. It has to come from your heart."

“Like when you help mothers during childbirth?”

“Yes. Like that. Medicine works better if folks believe that it helps. Childbirth is the hardest thing women do. It's like running for hours or lifting heavy rocks. But it feels wonderful when the child is born.”

Raven recalls a recent scandal when Happy Feet gave birth to a toddler with a strange nose and eyes not at all like her husband's. “And hope the baby looks like his headpa.”

Goodma's eyes grow wide before she closes them shut. Raven has no idea what caused the sudden change of mood.

There's a lengthy pause before Goodma opens her eyes. “I'd like to see you helping Ingrid out of her funk. Take her someday when you go foraging.”

“Ingrid? She wouldn't respond. It's like asking a tree.”

“Never said it would be easy, Raven. Medics are s'pozed to deal with all kinds of sickness. I expect you to make some progress with Ingrid. By next fall, we'll see about sending you and Jade to Tsawwassen.”

“If that's what it takes.” Raven sighs. “I'll try my best.”

Goodma nods, though her eyes remain skeptical.

Canadian geese appear overhead, skimming over the treetops, honking as loud as thunder. They move swiftly, wings flapping like paddlers in a war canoe. The flock zooms past in a ragged V-formation and then veers toward Virago Sound.

“Loud bunch, aren't they?” says Goodma. “Time I got back to weeding. You'd better start foraging if you wanna return before dark. We'll discuss this again later.” As an afterthought, she adds, “Don't forget to *warn the bears*.”

“I won't,” says Raven, and waves goodbye.

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In Nature there are many examples of camouflage. Caterpillars forage on fronds that blend with their body colors. Snowshoe hares display white fur in winter and adopt earthen tans for summer. Many birds have under-feathers that mirror the sky hues, whereas their roosting feathers blend with the local foliage. Cat burglars wear dark clothing to remain unseen.

Before multisense electronic sensors, whole armies could be and often were concealed in thick forests or behind gnarled outcrops. At present it's much harder to stay hidden when scouting sensor-protected compounds. Likewise fixed-wing aircraft must nullify radar beams, while undersea vessels must fool sonar detectors.

Human scouts should be aware of three modes of detection. First, they must expect booby traps and avoid them. Second, they must avoid cameras and motion detectors. Third, they must reduce or redirect their body heat to fool infrared sensors.

This section examines the methods of camouflage that manipulate wavelengths visible to the human eye. Methods for infrared deception are covered in the sections 5A (cryogenic clothing liners) and 5B (mobile heat sinks). Methods for avoiding ultraviolet wavelengths are still at the hypothetical stage.

The problem of making an object invisible has a long history. The earliest attempts involved wrapping an object in materials with light-bending properties. Observers who looked at the object would see light from a background scene. Light-bending cloaks are passive, so they don't need an energy source, which is their greatest advantage. But light-bending cloaks have grave limitations. Reliable images of invisibility require cloaks of significant thickness and bulk, so they're impractical for human-scaled objects. For example, humans would need cloaks 1½ meters thick, while battle tanks would need cloaks nearly 12 meters thick. The cloaks would be cumbersome to put on or take off. Tactical movements would likely damage the cloaks, so the

wearers would be forced to stand in place.

More recently, investigators have pursued the notion of using holoshields to render humans invisible. This method requires a huge amount of computer processing, plus a mobile reservoir of electricity to run the algorithm and holographic projector.

Let us begin with a trivial example. A simple holographic wall is projected between the human scout and one or more enemy observers. The wall forms an opaque barrier through which enemy observers can see virtual meadows, trees or buildings. However, if one of the observers wanders to the left or right, the illusion will expose distortions of parallax. Virtual foreground objects won't shift in natural proportion to the background objects. Hence, the wall projection will fail when observers view it from changing angles.

To solve this dilemma, you may project a holographic pillar around the scout. The holographic illusion will form a hollow twelve-sided column rising from the ground to a height greater than the scout. Imagine enemy observers stationed around the holoshield. Each observer will see a different columnar face which projects a virtual copy of surrounding objects minus the scout. Small portions of the shield must collapse from time to time, so the holographic projector can view background updates and respond as needed. If the holoshield refreshes at 90 times per second, the columnar faces will simulate real activities such as background motions of humans or motor vehicles, so long as mobile objects don't converge with the holoprojection.

But the cylinder model is bound to fail if enemy observers view the edge bordering two columnar faces. They will see two holographic illusions at skewed angles, and the dual perspectives will arouse their suspicions. A truly reliable holoshield must project separate and accurate images to many viewpoints simultaneously.

To accomplish this, you may increase the number of columnar faces to 144 or 1,728. Better yet, imagine glabrous columns divided into polygonal groups of paired pixels where each doublet projects itself to a

specific angular viewpoint. The polygons must be small enough to fill a continuous collage that observers will take for reality.

By using the polarizing attributes of light, the off-angle doublets can be dimmed so that observers disregard them as they key on the brighter ones. Suppose you choose 3° increments for the hemisphere of horizontal perspectives and 5° increments for a maximum of 10° in vertical obliquity (up or down). Then each polygon will need 61 vertical columns and five horizontal rows of paired pixels. That gives you 305 doublets. Only those closely aligned to direct sightlines will display for viewers.

To reinforce the illusion, off-angle doublets from adjacent polygons will display pixels of similar colors and textures as the head-on view. Observers from any viewpoint will “see” a handful of doublets from several polygons and ignore the rest. This is how visual receptors grasp visual data, for our minds process images from hardwired assumptions.

A scout will stay invisible so long as s/he stays five meters away from every observer. A perfect holoshield needs very fast processing speeds to project the correct mesh of polygonal groups at 90 refreshes per second.

There are two pitfalls with the above approach.

First, the scout must avoid close encounters with elaborate background objects, such as intricate murals, flowerbeds and nearby tables, chairs, ladders, etc. If the scout's holoshield overlaps any of the above objects, the device may not have enough memory or processing power to project plausible substitutions. The ground on which the scout occupies must be created from the memory before the scout's bulk or shadow interferes. To be convincing, the device must transpose each detail to account for differences in parallax. It must also simulate changes in ambient light, such as the sun emerging from cloud cover. So the scout is well advised to hunker down on nondescript terrain and to avoid enclosures where artificial lights may be switched on & off.

Second pitfall involves motion. The scout may wish to move around

during a reconnaissance. To maintain mobile cover, the holoshield must change its multifaceted illusion as quickly as the scout moves. This requires large increases in processing speed, since each doublet must be assigned unique attributes from 53 **qubits** of possible combinations. These include simulated colors, corrections for parallax and perspective, angular polarization factors, lattice mapping of polygons, all of which must be processed and then displayed on the fly.

> Shad O. Mate, Stealth Magic, 2074

29. Breach

One Day Later

Kuala Lumpur: 12 May 2076, 3:05 p.m.

Tuesday, 12 May 2076, 07:05 UTC

Trevor chews the last of his **BLT** sandwich, having fought the urge to wolf it down like a hungry beggar.

_Just what the doctor ordered.

_Until now my stomach has gone

_hollow since pastries in Juneau

_and orange juice for breakfast.

His peers are almost finished as well. Heck dips one-last butter roll in fondue, having polished off a roast-lamb dinner. Gagnon eyes an empty plate of barbequed sirloin daubed in onion and garlic sauce. His jaw muscles flex as he chews an orphan slice of *torta negra*. Choong lifts a coffee mug, signaling he's done with his seafood snack. Okuno pokes chopsticks at a lone wafer of tempura. She doesn't look eager to take another bite. She has downed a bowl of something exotic that Trevor took for worms until she named them pancit (seaweed noodles). To his right, Grabb is chawing the last of his hamburger.

Rathbone's avatar poses in "godfather" mode as he sips from a goblet of golden liquid. He smiles on the repast, though his eyes show hints of impatience.

One server collects empty plates from Heck, Choong and Gagnon. Another busses Okuno, Grabb and himself. They carry plates and leftovers to the door, leaving the fragrance of herbal shampoo in their wake.

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The prep inside the leant-to is done. Vertebrae snap and crackle as

Jen arches her back. Tendons protest as muscles stretch and loosen up. Electric pulses energize spinal disks. Twelve meridians, her dynamic corridors from head to toe, awaken alert and attuned.

_Yes, the gates are open,
_releasing my spinal flow.

She visualizes the **psignwheel** arranged in counterclockwise format. Her thoughts coalesce and calm. Heartbeats slow below 60 per minute.

For once, the weather forecasters have got it right. The city basks in a bubble of high-pressure, though horizontal clouds suggest monsoons aren't far away. Jen prays the bubble will hold till after she's home and cooled out. Sunshine beats torrential rain, even if she's easier to spot in clear skies.

_Thank Peter, the breeze comes
_from the northwest. It oughta
_push me toward the rendezvous.

If the wind holds steady, there should be no trouble joining JoAnna, her erstwhile "getaway" doyen who waits kiloms to the south, more in the **warmth** direction than **balance**.

Below lies the chocolate box, a swath of urban sprawl as seen from the highest perch in town. At the turn of the millennium, Petronas towers were heralded the tallest skyscrapers in the world. Now they stand no less proud, but aren't among the top ten.

Last night she ascended 400-plus meters under the noses of security dudes. Most folks would judge her feat next to impossible. For Jen it was routine.

As a gifted climber and acrobat, she thrives on challenges unless her nemesis intrudes. Like now...

The surge of vertigo drops her poise into freefall. Legs tremble and vision blurs.

_Falling down, yanked sideways,
_twisting backward somersaults,
_spinning and tumbledown blind,

_dreading to splat on rooted grass.

Her worst flashback: Griz pitching her out of the airship to the ocean below. He did so as a friend to aid her escape, but she felt betrayed and forsaken, a bright star blinkered and borne to a black hole's maw.

_If I'm fog-headed now
_how'll I survive Jo's driving,
_Under normal circumstances
_her reckless maneuvers stand my
_hairs straight as ionized nanotubes.
_To outrace the armed pursuit,
_she'll pull out *all* the stops.

Jen's pulse slows, and she reclaims a fragile balance. Vision clears as she scans the urban sprawl.

New and old architectures intermix. A scattered mix of tall glass towers highlight Kuala Lumpur's skyline. Seen from above, they look top heavy and prone to tip over. More common are the shoeboxes of brick and mortar, hedging avenues and streets.

Narrow roadways crisscross at four-corner junctions. Beetle-sized vehicles crowd the traffic lanes. Parallel parades side-slip in opposite directions, like stop & go centipedes. Angry horn blasts, squealing tires and growling motors reach her ears as mellowed down echoes.

_The traffic looks almost tame,
_but wait till JoAnna joins the fray.

Pointillist bipeds crowd the walkways. The minifolk wander in random, quixotic choreographs. She can't see earbuds or **AR** glasses, the urban armor that blots out street noise.

Northern suburbs poke through smudges of hot-sink smog. Beyond are highland groves of rubber trees hidden under sun-resistant haze.

She makes one-last inventory check:

_Laser cutter in left-thigh pocket... OK.
_Personal holoshield mounted... Right.
_Cylinder in right-thigh pocket... OK.

_8-mm rope ready to deploy... Right.
_Miscellaneous tools stowed... OK.
_Holographic decoy loaded... Right.
_Thirst-quencher pouched... OK.
_Aerofoil 95% assembled... OK.
_Ultracaps brimmed... Right.
_Garbage bundled... OK.
_Anchor rings... Alright!

Jen loops electric cord and climber's rope, then spools them over her shoulder. She bundles four **ultracaps**. The fifth will empower her personal holoshield, which she connects to power leads on her belt. The aerodrone passes on its recon circuit to the lower levels. From previous flybys she knows it will return in two minutes.

_No sense delaying any longer.
_Let's get this gig on track.

She activates the holoshield and vanishes from human eyes. Her holoshield forms an igloolike shell. Around her body it projects a spherical aura 2½ meters in diameter. She crawls outside the lean-to, invisible as clean air.

A horizontal cutout at eye level leaves a gap in the holoshield. The gap opens a 120° viewport from left to right. By craning her neck she can spot targets 20° up or down. Eyesight is essential for performing her mission, so the gap is worth the mild risk of exposure.

Solar radiance pounds like a sledgehammer. Her dark attire sorbs infrared like a coat of chain mail. But color isn't the whole story.

_Smart fibers disperse my sweat
_which evaporates and sheds heat.
_Otherwise I'd broil to burned toast.

Jen steps across the top ledge of the ziggurat until she reaches a triangular outcrop, a miniature version of bazooms on the mid-floors. It tops a descending column of outcrops, one of which fronts the summit room several stories below. Because the diameter of the ziggurat is

small compared to the diameter of the main floors, her perspective is distorted when looking down. The tower's ever-widening ledges make it seem as if she's but 37 meters up, when in fact her altitude is more like 375 meters.

_False perspective is OK
_if it keeps vertigo at bay.

She unbundles the lightweight ultracaps and sets them down. They fit nicely in the shadow cast by the decorative sphere, almost blending with the background.

Her anchor line is still looped around the bottom of the decorative sphere. The excess rope lies coiled and ready to deploy. Jen plays it out and connects spliced ends of electric cord to each of the ultracaps. She doubts the aerial snoopers will sound alarms over the linear additions. The drones are watching for unknown movements during their flybys. And they haven't squawked about the anchor-line assembly which she has left in the open since dawn.

Jen feeds rope and cord through one of the anchor rings. Then she joins a small counterweight to the loose ends, before stepping back and waiting for the drone to pass.

When the aerodrone spirals upward to check the decorative sphere and steeple spire, Jen springs into action. She plants the anchor ring at the edge of the bazoom, trusting its magnetic plinth to keep it in place. Her rope and cord are flung over the edge where they snake down to the 81st-floor. The linear droplines hang motionless and camouflaged, too thin to be remarkable.

After the drone passes down to the lower floors, she moves one crease over and begins her descent.

_Forget the urban sprawl.
_Focus my thoughts on
_handholds and footholds.

She takes a 4-point hold on the crease's smooth metallic surface. The suction cups, embedded in armguards and climber boots, endow more

traction. Some cups on her left boot are missing in action. They were damaged last night when she “caught” support packages dropped from a roguish airship. So care must be exercised when placing her left boot.

Camouflaged colors of her rope and cord mimic the tower's façade, which makes them almost invisible. Even so, the aerodrone will see their shadows and take them for solid though inert objects. Jen prays the aerodrone will judge the linear droplines as nonthreatening.

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After the servers have exited, Rathbone utters a throat-clearing harrumph.

“SOAR is to blame for malevolent fragments infesting the HyperNet,” he says. “We can adopt stronger defenses, but those aren't enough. We must catch these yeggs and wipe 'em out.”

“A good proposal as far as it goes,” Trevor says. “But don't charge me extra to safeguard my properties when those funds are being diverted to other projects.”

“You nailed it, Trev,” Gagnon agrees. “I'm paying an arm & leg now. Mining sites cover large areas and need more roosters to protect 'em. If Red Falcons raises its fees, it'll screw me six ways to Sunday. Might as well hire another security outfit.”

“Have you forgotten the volume discounts, Martin?” asks King Grod. “Nonetheless I agree with you both. It's high time we made a fairer accounting of Red Falcons' services. Let's say we split the fee structure. One charge to cover on-site roosters. Another charge for extraordinary measures.”

“How much and for what?” demands Okuno.

“Let's focus on the hackers. Longer range issues we'll save for later. Past damages we can't afford to ignore. Whoever is responsible must be caught and punished.”

“Gotta find 'em first,” she palters.

Ignoring the sarcasm, Rathbone replies, “I know. They must've used

backdoors to HOAM and its operational protocols.” He turns to Grabb. “Tell me how Shrinkwrap **netscreens** HOAM and Monkey See?”

“Coder teams are assigned different parts of the update patches,” Grabb explains. “No team knows enough to compromise the seals.”

“Someone has to fit the pieces together. Who'd you trust for that?”

“Usually it's Carlos Ybarra, my project coordinator. But he just paints by the numbers. Separate threads are coded to spec, y'see, like prefab building blocks. Carlos connects read-only portions. If he finds runtime problems, he sends the bad patch to the team responsible.”

“Hmm.” Rathbone's eyes betray a mind working overtime. “Any headaches getting the parts to work together?”

“Only once, six years ago. We uncovered potential weaknesses in HOAM's architecture, so we opted for a major overhaul. Luckily, we had a supergeek on the payroll. He built watertight gates that denied access to everyone but authorized moderators.” Grabb pauses. “I know what you're thinking, DoubleYou, but it's not him. He died soon after. A misfortunate accident.”

Rathbone narrows his eyes. “You get a hotshot geek to secure your network. Then he drops out and buries his methods which seals the backdoors. Too convenient if you ask me. Let's have it straight, Torero.”

Grabb shifts his hips and draws hands under the table before he clears his throat. “Habib Fingar was arrested in Yemen with his father who led a vortex of data pirates. His father died during interrogations. Shrinkwrap voided Fingar's prison sentence and smuggled him to the USA where he was debriefed. We hoped to get firsthand info about hacker tools and methods, and Fingar gave us the whole nine yards. He became our inhouse prodigy, a hacker genius, but we kept him in limbo and never revoked his alien status. We started him on Shrinkwrap's compiler suite where he streamlined the code, which gave users more flexibility and upped the throughput speeds. He became our go-to guy, our ace problem solver.”

After a lengthy pause Rathbone prods, “So you let him loose on a major project. What happened then?”

Grabb pales. “We saved him from sadistic jailers. He was mighty grateful for the 2nd-chance at Shrinkwrap.” He glances down on the tabletop. “Fingar devised the cryptographic algorithms. But we couldn't let him loose. Network leaks would've destroyed Shrinkwrap's reputation and wrecked the trust that HOAM has built over several decades. If users suspected their personal data was at risk, they'd quit buying and selling online.”

Grabb blows out a breath. “Fingar was awarded a paid vacation at a Canadian fishing lodge where his cabin cruiser blew up...” His voice tails off.

Trevor doesn't approve. It's not good to liquidate your employees. Not only is it unethical, it's bad for morale. On the other hand, Fingar was a newbie wetback, and veteran coders may've resented his genius.

_If only HOAM security wasn't
_so vital for postmodern biz.
_But *it is*. Global trade would
_devolve to flea-market swaps
_without financial guarantees.

“Before he *blew up*,” Rathbone says, “he might've leaked stuff under your nose.”

“Impossible,” avows Grabb. “We never let him stray outside the coder's LAN. His emails were monitored. Besides, he was a loner with an autistic devotion to his projects.”

“Are you certain of his demise?”

“Of course. No one could've survived the blast. He tripped it too soon. Instead of being out on the lake, the boat exploded inside the boathouse. There were two propane tanks buried underwater on either side of the boathouse. They went up as well. The blast knocked over trees, damaged the front of the lodge. Parts of Fingar flew halfway across the lake. Fish must've eaten the bits and pieces 'cuz authorities

have never recovered enough DNA to make a positive ID.”

“That's it!” cries Rathbone. “He escaped.”

“No way,” Grabb scoffs, but his body language betrays doubts.

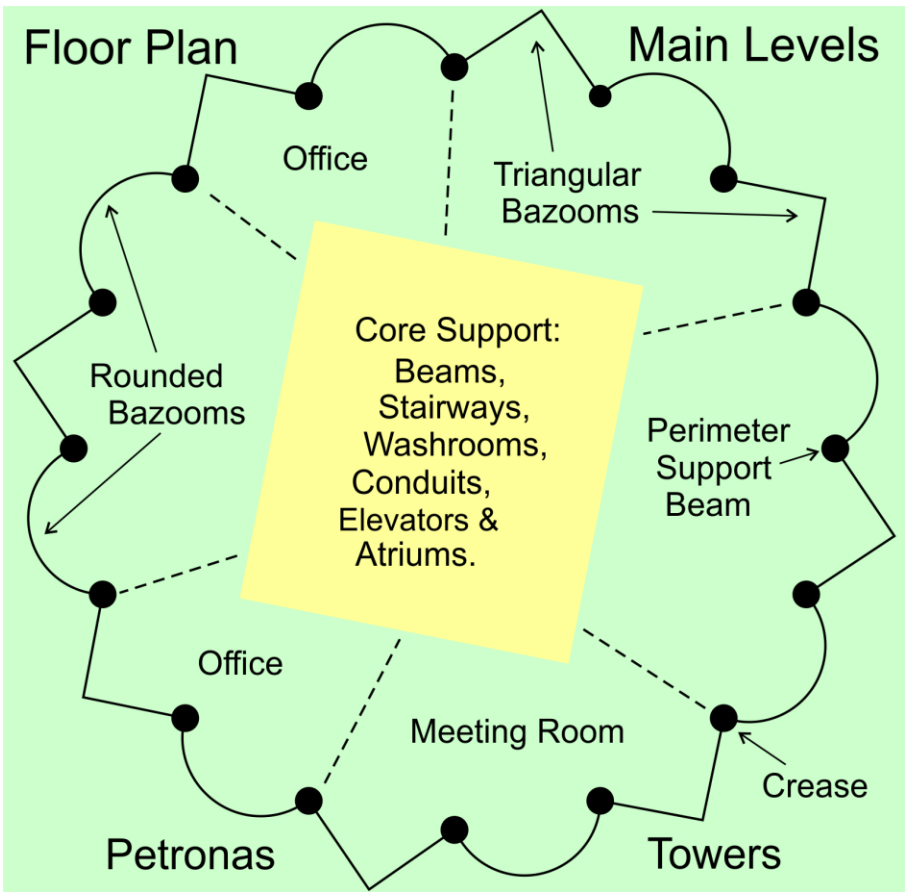
“My hunches seldom fail, Torero. Call up your records, police reports, weather conditions, everything. We can divvy the lookups among us. Once I get hold of this Fingar, he'll beg for a quick death.”

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_Make haste slowly. The best way

_to climb down a vertical façade.

Jen clings to the smooth metal of the crease via the suction cups on armguards and boots.



The tower's perimeter maintains the same shape from ground to pinnacle, though the bazooms shrink as the building narrows in the upper stories. The design is an Islamic motif where two squares are superimposed 45° from each other, making an eight-pointed star with eight-square corners. Between each pair of corners lies a rounded bazoom, so the perimeter mimics a corrugated circle with sixteen outcrops.

The floor area grows at each stage of her descent. The 16 bazooms outline the perimeter façade. They form identical shapes even as they grow in proportion to the larger floor areas.

The building diameter at the 81st-floor is 40 meters or 80% of the diameter on the lowest 57 floors. The upper stories are set back in stages. The diameter atop the ziggurat is just seven meters, of which

two meters form a central pillar, the pedestal of the ornamental sphere. Her lean-to is curved to fit the quasi-circular ledge.

She comes to a full stop before lowering to the next perch. This play stops the downward motion, so it won't dislodge her anchor points. Momentum helps to save energy going up, but it works like a runaway train when going down.

Such instincts have been 2nd-nature since she first climbed trees. As DB's climbing instructor, she has reached way beyond herself to warn others, because she never thinks consciously about safety whose alarms are already embedded bone-deep in her psyche.

JoAnna came up with the perfect analogy. Motor vehicles, she pointed out, guzzled fuel while going from a dead stop to 10-15 kph. It took real oomph to get started. Once on the move, it was dirt cheap to go faster. Jen recognized Newton's law of inertia and rephrased it as a caveat for descending cliff faces.

She told her students to visualize a vehicle on an icy downslope. "Ease the brake pedal for short intervals only. If the car rolls too far or fast, your brakes won't find traction, and you'll slide all the way down. Same thing on a vertical cliff. Never descend lower till four limbs are anchored in a full stop."

Below the next ledge she worries about roosters spotting her from inside. The floor area is large enough to host a command center, barracks or staging den. Several roosters could be active on this level.

The jury is still out whether holoshields can maintain invisible cover when observers are viewing bright sky from inside windows. The holoshield may appear as bright sky, but it will strike window glass with less apparent glare than direct sunlight. Likewise, if a hawk should fly behind her holo image, the shield may delay realtime motions and spoil the illusion.

Luckily the window portieres have been deployed. They block direct sunlight from striking window glass and overtaking the cooling system. She prays the other windows will be likewise covered, which will shield

both herself and droplines from prying eyes.

_My foes inside enjoy cozy air-conditioning.

_I'd trade a king's ransom for a holoshield

_that yields shade like a beach umbrella.

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At the 81st-floor Jen edges sideways across a rounded bazoom to reach the triangular bazoom that fronts one-third of the summit room.

The Petronas towers feature inlaid windows to prevent direct sunlight during high-noon hours. Window glass covers 33% of the vertical span between floors. Above the windowpanes are modest outcrops that serve as awnings. Below are two horizontal abutments, one on top the other like stacked logs. They abridge curves or triangles depending on the type of bazoom. The semicircular logs are probably hollow. One or the other must absorb and divert rainfall, else the free-falling cascade would injure ground-level pedestrians far below.

The abutments are supposed to be maintenance-free, but Jen has serious doubts. After 77 years of acid rain and monsoon winds, she wouldn't be surprised if the abutments are worn with hairline cracks.

She eases her weight gingerly across the top abutment, her torso spread out, her center of mass as near the building as possible without touching the portieres. She crawls in slow-mo across the rounded bazoom.

Overblown fears or not, Jen hates being vulnerable to factors beyond her control. She practices good habits and has more knowhow than her peers, but there's no way to avoid Murphy's ruthless pitfalls.

By the time she gains the next crease, beads of sweat poke-a-dot her forehead. She anchors four limbs and breathes a sigh of relief.

For the descent Jen has taken the "next over" crease for two reasons:

First, the holoshield will erase nearby objects. If her holoshield includes the droplines, a patch will become invisible in sync with her descent. The moving gap could alert drones or teleoperators.

Second, her detour extends the baseline range for projecting the tower's façade. The horizontal angle between her descent line and destination goal represents 34 minutes of solar progress, which is the estimated time the laser will need to cut through windproof glass and armored carapace. So the detour records data for sunrays striking the façade from a future angle, which gives the **holoproj** a solid reference to project changing backgrounds “behind” her shadow.

Jen crawls to the far side of the triangular bazoom. She gathers rope & cord then loops them through the anchor ring before mounting it on the awning above the window. Next she fastens the safety rope to her body harness. Lastly she extracts the laser cutter from her thigh pocket and slots the electric cord. Now she's anchored from above and she's got juice for the cutter.

The cutter is an **Nd-YAG** pulsed laser where every 5th-pulse sends a burst of compressed gas that disperses the debris in the **kerf**. Efficiency is supposed to improve 55% with slag cleared from the groove. The cutter deploys four lasers on a revolving wheel. She needs to hold the cutter so that lasers fire on the perpendicular and carve out a circular kerf. After the groove is worn to near nothing, she can jam the bomb inside the summit room.

Jen rolls the portiere up and clips it in place. The bare window and armored backing are ready for business. She places a magnetic disk on the glass to mark the planned cutout. Then she points the cutter at the glass where it's aimed so the lasers will strike at 90°. Any deviation will cause uneven heat around the groove and carve some arcs deeper than others, which would spoil her surprise.

Her current pose is too awkward to hold for long, so Jen realigns her hang from the safety rope and braces elbows against ribs. Once she finds a comfort zone, she activates the lasers.

The main task requires steady hands, steady nerves and plenty of forbearance. It's much less stressful than some of her mountain-climbing incidents. She recalls one frightful afternoon during a freak

snowstorm near the summit of Mount Huascarán. Terrified and half-frozen, she hung on narrow ledges with gloved fingers while her boots recovered nonslip perches. The current job isn't so life-threatening, but it needs her full attention and continuous precision. Any failure would savage her honor and shock her compadres.

Jen evokes the psignwheel, finds inner calm at the eye of a hurricane and becomes a dedicated tool.

_Outsiders think us mad
_for our pledge of diligence,
_for the wild risks we take.
_But I'm happiest when
_I'm doing the impossible.

After ten minutes of steady poise, she turns off the cutter and takes a breather. She waggles one arm and then the other to restore blood flow. She flexes muscles and stretches cramped tendons. Then it's back to the rock pile.

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King Grod's avatar scowls at the data on his flatview. "Find anything?"

"Rubber nickels," Heck grumps.

"Not a sniff," snorts Gagnon.

Trevor glances briefly at the police report as if to confirm his hunch. "Sort of," he says. "Trouble is the witness may be less than reliable."

Rathbone glances about the table. "Anybody got a better lead?" He scowls when no one responds. "OK, Trevor. Let's hear it."

"Jess Winslow is a retired coastguard lifer, divorced and fond of whisky. Most days he's out on his fish boat with a flask or two. No one has ever seen him sober, except when he gets behind the wheel. After several DWIs his car is rigged to play dead unless his blood-alcohol blows under the limit. The report says Winslow happened to witness the blast. Should I summarize the transcript?"

“Go ahead.”

“Winslow was trolling about 200 meters from the island. He saw a big flash and fireball, heard a loud boom. Then he fell off the bench and tailboned the hull bottom.” Trevor pauses. “Which confirms the force of the blast.”

“Drunks are notoriously uncoordinated,” shrills Okuno. “He may've tripped over his toenails.”

“Whatever.” Trevor shrugs. “He says he heard a flock of geese while lying down. They flew in V-formation, he judged, because he heard their wings in aerodynamic sync. The sounds appeared to come from low altitude, moving away from the blast. When he rose to look, they were nowhere in sight. He wondered why they'd stayed in formation after the blast. And why were they flying so far south at midsummer when they should be nesting 500 kiloms to the north?”

Okuno snorts. “Sounds like a wild-geese tale from a bleary-eyed sot.”

“Maybe, maybe not,” harrumphs Rathbone. “They let him drink on his boat. That tells me he rationed the sauce to some extent. When you're alone on a big lake, you need your wits to avoid capsizing. I doubt he was shit-faced falling-down drunk, which leads me to believe there's some truth in what he says.

“Suppose he heard two stealth ultralights passing overhead,” King Grod resumes. “Microcraft propellers can sound like bird-wing reps. Camouflage makes them near impossible to see against high skies. What if two or more ultralights rescued the hacker and were flying him elsewhere?”

“Why would there be two ultralights?” sniffs Okuno.

“We're talking *what if* here,” he grouses. “Could be one or two or ten.”

Okuno shrugs and shakes her head.

Rathbone glances to his right. “Wha'd you think, Torero?”

“Afraid to say.” Grabb grimaces, dreading the impacts if the coder

had somehow escaped his watery grave. “Fingar would hand spacers a powerful weapon. They could hack into LANs from here to kingdom come. Lord knows what they might've pilfered!”

King Grod glances to his left. “Any irregularities in high finance, Rolf?”

“No, not among Beuack accounts. Professional accounts are warded by DLT. But transfers between brokers and clients can be vulnerable. Some private investors have more money than sense. They refuse to employ money managers fulltime. They make-do with consultants once or twice a-year when they rearrange portfolios. Otherwise they let the chips fall where they may. Untended personal accounts could've sprung leaks without anyone knowing or caring.”

“Don't forget government databases,” says Grabb.

“Bad news, for sure.” Rathbone scowls. “The geek could've pilfered dozens of custom-made IDs.”

“Why'd you always blame SOAR operatives?” asks Okuno.

“Who else would attack Mishima? Who else wants to cut our throats from ear to ear? Besides, I've got a mole who's wrangled his way into one of their security outfits. Once I transmit a photo of the hacker, the mole will confirm Fingar's presence in TCP. Don't you worry, Ayumi. I'm gonna squash these bastards like beetles under a jackboot.”

“Whoa!” Okuno shrills. “Don't get started on some wild scheme that'll jeopardize the cartel.”

Trevor's sentiments exactly.

“No prob,” King Grod crows. “Security is my number-one priority. That's why I guarantee safety for our summits.”

“Humph.”

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Jen turns off the laser and cranes her neck for a closer look. She has removed the glass divot to better gauge her work. Four lasers have burned a two-cent groove in the steel plate. To her eyes there's little or

no debris in the kerf, which is a good sign. A calibrated T-spike gives her the approximate depths around the groove. But the accuracy isn't perfect since the T-bar rests on dabs of tailings. If she blows the slag away, some of it would fall in the kerf and make things worse.

She nudges the metal divot with her fingers. It doesn't budge. For all she knows there could be another **cent** to cut through. The actual thickness of the armored plate is unknown.

Dog Breakfast has invested many hours of correlated research and confirmed the summit's locale. Timekeeper combined travel routes, PR releases and deployments of elite rooster squads. The data pointed to executive hoedowns at KLCC. Six months ago a "friendly" janitor noted the installation of armor cladding on the 81st-floor of Petronas tower 2. But the thickness of the metal is just guesswork.

Jen is confident the CEOs are here in this room. The compressed gas ought to ruin their summit, for they'll assume they've been exposed to a bioweapon. They'll be scared witless until biochemical tests debunk the worst-case scenarios.

More important, the attack will broaden the rift between six CEOs and the top dog whose avatar will be unscathed. Rathbone needs tacit support from his peers to bankroll his dispute with SOAR. The attack will leave Rathbone stinking like a zombie's fart.

She aims the cutter and turns on the lasers. The deeper she cuts, the more the tension builds. She loves pushing the envelope when the chips are down. Her adrenaline spikes as if she's balanced on a bed of nails.

The lasers pulse multiple times before the cutter rim rotates one-tenth of a degree. It's like watching tidal gates open or close. Each time around, the kerf wallows deeper.

After four 360° cycles she pauses and checks her work. The kerf appears different somehow. There are two hairline cracks on opposite arcs of the groove. Both show bits of light from inside the room.

_Not good.

_Not good at all.

She leans closer and points her ear to the divot. Normal tones of conversation drum from within.

_Solar plexus! My lucky stars.

_They haven't noticed yet...

Jen doesn't hesitate. She sets the cutter aside and digs the cylinder from her thigh pocket, rears back and heaves a mighty push. The metal screams as it breaks, letting the cylinder barge inside.

She triggers the bomb. Pent-up gas erupts in a cloud of putrid mist. Some of the smoke backfires. But the cylinder fits snug, and she escapes the main blast of pepper spray and sulfurous spew.

+ = + = +

Reaching for a coffee mug Trevor hears a metallic crunch, then gelatinous mist assaults his senses. Tears flood frostbitten eyes. The air grows heavy and reeks of rotten decay. He tries to stopper his nose and mouth, but hungry lungs cry for oxygen, however awful the stink.

“Who cut the frigging cheese?” demands Gagnon.

“Ohmigod!” Okuno shrills.

Trevor gasps in shallow breaths. Eyes burn and sting. His stomach grows queasy. He tastes metallic bile and ponders horrific scenarios of death by poison gas.

“What's that smoke?” shouts King Grod, his voice distant as if funneled through a long pipe.

“Someone, for heaven's sake, open the door,” cries Heck in panic.

“Yes. We should leave,” Choong adds.

“Got that right,” says Gagnon.

Trevor hears chairs skidding across the carpet. He tries to rise, but his muscles aren't cooperating. He senses Gagnon's efforts to stand. Okuno lurches away.

“Get up, Holo Queen,” Gagnon shouts. “Let's quit this shit hole.”

Gagnon and Okuno grope like blind mice behind him. Grabb coughs and spews mulched hamburger and fries across the table.

“Help me,” pleads Heck.

“This is an outrage,” Rathbone roars. “I’ll murder the culprits. They’ll pay, I swear it.”

“Quit swearing,” Choong chides. “Alert Han Yu and the roosters.”

“I have, Zhijian. *I have.*”

Trevor manages to stand beside his chair. His head feels woozy. His stomach is spinning. He bumps into Choong who says, “Rolf needs help.”

“Let’s open the door first,” says Trevor. “Clear the air.”

They stumble toward the exit. Trevor hooks an elbow under Grabb’s shoulder and pulls him along. Somewhere behind, Heck vomits up a month’s worth of gourmet delights.

Gagnon pounds on the door. “Who the hell locked us in? I’m gonna skewer his ass with a backhoe.”

The threat hangs hollow, for the Brazilian will be long dead before he wreaks revenge. Trevor feels his stomach flip. He pukes gut-soured BLT across the murky floor below.

+ = + = +

Jen transfers the electric cord from cutter to decoy. She clamps the decoy to the safety rope.

_Chaos inside the summit room

_oughta gimmie a head start.

She reattaches armguards, mounts the nearest crease and begins climbing with sudden urgency.

She expects the roosters to spot her doppelganger as soon as they recover from shock. They’ll need to aim from the ground at steep angles. The first volleys will fall short, but it won’t take long for the bastards to compensate.

_Stray bullets still maim,

_whether fired by halfwits

_or sniper-trained pros.

_The farther away I climb,
_the more likely they'll miss.

She's midway up the ziggurat when she hears the 1st-pop of gunfire.

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The door opens. Gagnon lunges forward and stops.

Trevor sees five aliens in the hallway, wearing spacesuitlike decon gear. Grim faces inside clear plastic show little sympathy for the distraught execs. His worst fears of poison gas have come true.

One of the aliens activates his external speaker with a sharp beep. "Please, come this way. Clean rooms and paramedics are waiting."

Phlegm gathers in Trevor's throat. He quells the urge to spit at the aliens.

_Just doing their jobs
_and no doubt scared
_of catching my leprosy.

+ = + = +

Jen surmounts the top ledge of the ziggurat and scampers toward the leant-to. Once inside, she replaces the ultracap on her belt with a fresh one. The final assembly of the holoshield is next. She joins the aerofoil to the central spine and steering bar. She checks the connector lines to make sure they're secure. It would be awkward and embarrassing for the paraglider to come apart in midflight.

When all is assembled the far ends of aerofoil wings poke outside her lean-to. Mostly she's invisible to ground observers, since the pinnacle is inlaid from the lower floors. She hopes to be gone before the drones catch on and relay her position.

The waste bag that holds telltales of her DNA has been clamped to her body harness. She has discarded the laser cutter and accessory tools. Now she wrestles the paraglider outside, keeping the hang lines

untangled. She fastens the joined lines to her body harness.

Jen hoists the paraglider and lets it settle astride her shoulders. Gunfire rat-a-tats from the opposite side of the tower. Both Petronas buildings have daughter towers that soar about half height and function as flying buttresses. Their flat roofs make excellent platforms for thugs with rifles. She hasn't expected them to deploy so soon. The aerodrone that plies the upper stories must've given the bastards a heads-up.

_No more secrets.

_Nowhere to hide.

She edges to the bazoom nearest the ruckus and crouches down to keep the aerofoil as low as possible. She peeks over the ledge and confirms her fears. Five roosters with rifles are poised to nail anyone or anything around the pinnacle. She ducks away before a gunman aims and fires. Their shots will be off for uphill trajectories, but there's no sense taking risks when her foes have lots of ammo to spare. Paraglider wings yield bigger targets than she does. Holes in the aerofoil would disable her flight to the rendezvous faster than flesh wounds.

Good thing she has an equalizer in hand although she'd rather save it for midflight emergencies. Out of her thigh pocket she pulls a smoke bomb which mimics a baseball. A tiny handle juts from its smooth surface. Jen pulls the tab free with her free hand. The bomb is now "live" and set to go off at wireless command.

She recalls playing shortstop for DB's baseball team. Her quick reflexes made fielding groundballs as easy as picking up sticks. But her throws to 1st-base were marshmallows until Shepp taught her to bring shoulders and hips in sync with forearms and wrists.

She does so now, hurling the bomb outward so it drops over the minitower. She counts "1,001" before triggering the remote. A dark cloud appears and spreads wide. The roosters intensify their volleys, hoping for a lucky hit. Jen foils that gambit by jumping off in the opposite direction.

She yelps for joy and terror as the aerofoil billows air and keeps her

from dropping like a rock. Still, 15 meters are lost before she masters the control bar and gains a workable glidepath.

Updrafts and air currents waylay the down-tug of gravity. She steers a sweeping curl that takes her between Petronas towers.

The breeze now at her back, Jen sets the aerofoil for forward speed. By tilting the back edge of the aerofoil upward, she lets the wind pile up underneath, blocking the underflow and boosting speed while shedding lift.

Optimum tilt is hard to achieve and harder to maintain. Too much tilt and she'll gain speed in a downward plunge. Not enough tilt and she'll conserve altitude but make little forward progress.

Wildcards in the deck are thermals that rise above pavement and asphalt. Thermals are a paraglider's best friends. It makes sense to ride them as much as possible.

Jen glides toward the Petronas tower 1, keeping the smokescreen between shooters and paraglider. Since Zesticon doesn't own the other tower, she doubts Rathbone would have access to its balustrade. He'd need to exert serious arm-twisting, fueling rumors and exposing the secrecy of the summit.

_I underestimated him again.

_There's a combat-clad rooster

_on the roof of the flying buttress.

The rooster is packing an automatic rifle.

_At least he doesn't have me dead

_to rights with auto targeting.

With naked eyes he can't fix sights on a target since the holoshield hides most of the paraglider. Only the outer edges of the aerofoil are exposed, and their undersides blend with the sky.

The aerofoil bottom consists of 11% luminous microspots, powered by thin-film **OPV** embedded in the paraglider's upper surface. Bright microspots ape the luminescence of daytime sky. The spots are packed more densely around the aerofoil's edges to merge the moving borders

with the sky. At distances greater than 50 meters the aerofoil outlines pass undetectable against the sky.

She assumes one or more aerodrones must be following her escape. It all depends on how good the teleoperator is at repurposing his drones. If the rooster's tactical net is engaged, it could pass targeting data to the gunman on the 2nd-balustrade.

_Not likely when his weapon

_looks off-the-shelf

_without fancy add-ons.

Jen worries more about the drones. There's no way to tell how close they might be or how many are following her wake. The aerofoil restricts her sightlines to straightaway forward. The view gap stays put, however she cranes her neck.

Once outside KLCC grounds, there's a chance she may lose the drones since they aren't licensed to fly outside the complex. Will Rathbone ignore the airspace violations and let his drones follow her to the rendezvous?

If worse comes to worse she can zigzag and keep the destination in doubt until it's too close for deceit. Long detours aren't an option, for altitude must be sustained. Other than small delays, there's no way to stop the drones from tagging along and leading the roosters like wolves after a lame reindeer.

_Maybe the drones will run short of fuel.

_Maybe Jo has rigged countermeasures.

Neither scenario gives Jen comfort. She hates to drop horse turds on Jo's parade, but there's no other way.

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Her next chore is dumping the garbage bag which holds telltale DNA. Once the deadweight is jettisoned, the paraglider should fly higher and farther.

Up ahead lies a swath of parkland through which meanders a creek.

The creek widens to a pond which looks like a handy dumpsite. The bag is biodegradable since its quasi-organic fibers are woven around dormant microorganisms which activate in water. The microorganisms prefer organics, especially DNA, but will feed on anything. They'll even dissolve wooden utensils and metal cookware if given enough time.

She can't let the aerodrones report the drop-off. They'll alert the roosters who'll dredge the pond and recover her DNA.

Is there a way the drones can be spoofed?

The holoshield hides the mid-section of her paraglider, so the drones must key on her wing tips. She pictures them flying on station above and behind. So they won't see the initial drop, but they can track the waste bag's fall, once it dips below the holoshield.

_Will the aerodrones notice?

_How many cams are watching?

_The more drones there are, the greater
_the odds one of them will spot the bag.

Drones need fuel to stay in business. The teleoperators aren't sure where she's headed, so they must allow for a lengthy chase. By now they've recalled the drones low on fuel and kept the ones with topped-up tanks. In all likelihood fewer are on her tail, not the whole swarm.

_Where & when to ditch the bag?

_Decisions. Always decisions!

On a sudden whim she tosses the waste bag as the paraglider crosses the near shore. Given her forward motion, the bag ought to plop down at mid-pond. She won't know for sure because the holoshield's gap will show where she's going not where she's gone.

Leastwise she's lighter and has more leeway to maneuver, to lead the drones astray, to expend their fuel.

Jamek Mosque appears at the far right of her vision. It rises above the elevated track of the monorail **LRT**. Beyond the mosque are the familiar buildings of Chinatown.

Ahead lies a busy roadway headed south and flanked by commercial

buildings. Most of the roofs are flat-topped asphalt. The rush to plant rooftop gardens (so common in NOAM and Euroland) has yet to catch on in Kuala Lumpur. She isn't carping. Dark roofs heat up and beget thermals which will boost her glidepath and postpone her turnoff for the rendezvous.

The **Cyclorama** project covers 35 city blocks, now deserted. The development includes office & residential towers, hypermalls, sports venues and theme parks. Eviction notices have been served, and most of the tenants have moved elsewhere. The whole area has become a ghost town, a perfect neighborhood for a clandestine rendezvous.

Rathbone and Choong are silent partners behind the massive urban renewal. Rathbone has direct links to the security crew on-site. And he has scores of KLCC roosters at his beck and call.

_This raid has been planned in haste.

_I knew I could get *my* job done,

_but I didn't consider the problems

_involved for safe withdrawal.

Jen hears the faint whispers of two aerodrones. As she has reckoned, they're on station above and behind. They're maintaining a steady altitude apart from dips and rises of her aerofoil wings. There could be other drones farther back, but she doubts that scenario. Two can track her progress, while keeping a safe distance.

Crosswinds that buffet her aerofoil may add speed and loft. But the net gains are tough to gauge when she's on a rollercoaster of forward dips followed by thermal upswings. Atmospheric eddies are less predictable than water currents. Her lightweight adds a big advantage, yet she estimates half a-meter loss of altitude from uplift crest to uplift crest. She can't lose altitude too fast, or she'll never reach Cyclorama.

Jen worries about what may happen when she arrives. Unable shake the drones off her tail, she'll be leading dozens of roosters to the party.

Her ears have grown more sensitive since joining DB, which is a boon of **qat** training. She needs that sensitivity to stay aware of skycars

that navigate via remote-control GPS. With any luck she'll hear the doppler approach of their turbines and swing clear. A skycar collision would crumple her aerofoil as if it's made of paper.

Likewise she listens and scans for the odd airship or ultralight. Dirigibles travel in the 200- to 300-meter range, but some routes go high as 500 meters to avoid tall buildings. Ultralights use the same lower traffic lanes as dirigibles. Since they have quieter motors than skycars, she'll have less time to react.

Her own altitude has been sinking. She has slipped to the lower traffic lane where airships and ultralights share her airspace. Most **Ultralights** travel faster than skycars and much faster than airships. They won't give much warning, whereas dirigibles present another problem. Their great size requires a huge change of position. She has little control over her upward mobility. Quick swings to the left or right are hampered as well. Her only option is to dive 25 meters and hope that's enough.

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Cyclorama appears at last. It's easy to spot, even though the demolition crews have yet to start work. The streets are empty of traffic and parked vehicles. The water, sewer and electric feeds have been cut. There are no movements, no telltale sounds, no signs of human warmth. A ghost town indeed.

She's gliding at an altitude slightly above 100 meters. She'll dive in a hurry, once she spots the firehall. So far, she hasn't had a run-in with a dirigible or ultralight, but the aerodrones are still dogging her like blood hounds.

A bright contrail streams up from the ground like a meteor in reverse. It grows brighter and refuses to show lateral motion. It's coming straight on. Her nape hairs stiffen like porcupine prongs.

_Guided missile after my hide.

_Oh shit! I'm gonna die.

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Overprocessed Food <ID:2F512479:PG#6057>

No one denies the merits of sclup. It has nourished the diets of urban poor who might otherwise fare much worse. Sclup is a protein supplement that's brewed from desalinated glasswort and saltbush, ethanol derivatives, methanogenic bacteria, artificial flavors and fortifying additives, all of which simmer inside incubators for nine hours. Sclup yields more protein than **bioformed** soybeans and can be produced much faster.

When added to normal forage sclup will fatten twice as many animals per hectare of rangeland. It furnishes feedstocks for pet-food makers and fish farmers. Sclup is the reason why agribusiness has kept pace with population growth.

Sclup has cut back on wasteful farming ventures and encouraged reforestation projects around the globe. It's better for the environment, although eco evangelists abhor the methane gas from sclup vats and greater numbers of methane-burping ungulates. Methane is a GHG that contributes to global warming, but experts have judged the modest rise in atmospheric methane a worthwhile tradeoff.

The real problem with sclup is twofold.

First, sclup has brought forth the golden revolution of gigantic corporate farms that employ state-of-art technologies. Traditional farms cannot compete with the behemoths. Many have been forced to shut down and sell out. Others are joining cooperatives and preparing their fields for organic certification. Health-conscious quebies will pay extra for certified organic produce. A small number of independents have survived by catering to finicky urbanites. But developed nations seldom recognize informal organic agriculture that's practiced in the 3rd-world. Subsistence farmers of Malawi have yet to gain certification for their produce in Euroland. Uncertified organics are purchased at

minimal costs, set aside by [UNHCR](#) and routed to refugee camps, which has made subsistence farmers in the 3rd-world more impoverished than ever before.

Second, because sclup is cheap and may be configured to resemble the tastes and textures of common foods, it has inspired an alarming trend. Many fast-food chains substitute sclup for regular food on their menus. Even 5-star restaurants have been known to substitute small amounts of sclup in their expensive entrées, whereas convenience foods include substantial amounts of sclup. The urban poor have taken to buying feedlots of sclup marked for animal consumption. These folks add water, salt and spices, before deep-frying their sclup fritters. Yet sclup lacks the fiber necessary for normal intestinal expulsion. Urban poor who rely exclusively on sclup risk longterm health issues. It's not surprising to find hospitals crowded with record numbers of patients who suffer from severe abdominal pains, involuntary flatulence and overdue bowel movements.

> Webvine News, 2073

30. Wild Carrots

Three Days Later

San Bernardino National Forest: 15 May 2076

Tomas heads east toward Big Bear Lake. His truck has more zip and go. Temperature-sensitive cargo has been offloaded, and the freezer no longer draws on the powertrain. The rig gobbles roadway as it winds between forested foothills.

City-bound traffic comes in bunches. Clear stretches of highway are followed by multicar cavalcades. An eastbound Mercedes speeds in the passing lane and overtakes his rig. Tomas dogs its wake till it tops the ridgeline and sinks out of sight. When he tops the crest, the eastbound traffic has long gone, leaving stretches of empty roadway.

The gradient turns **cuesta abajo**. Gravity drags the truck downhill like a sunward comet. He brakes before switchback curves and trades speed for powdered heat.

_Worse because of **autotran** delays.

He tops another rise and spots Mount Butler standing tall amid a patch of blue sky. The summit appears majestic like its **e-hail** snapshot.

After bridging a swollen creek, he eyes the turnoff and swings onto gravel tracks that mark the off-road. He snakes for two kiloms before spotting the familiar sign:

College of One Hand Clapping.

Dogs patrol these grounds.

The sign always makes him smile. It's over the top, and has taken him weeks to make sense of *one hand clapping*.

_Pound your fist against the dash

_or smack a buddy's shoulder.

_Anything will do.

The “guard dogs” must be an inside joke. Of all the times he has

come to the GREENS enclave, he's never seen canine sentries. Nor has he found signs of photoelectric surveillance. He reckons the residents have nothing worth stealing. Whenever he asks about guard dogs, the inmates answer questions with questions, or they spin tall tales that sound more fantastic than phantom dogs.

He follows the forested trail until the trees thin out. A cedar-shake geodesic appears between drooping boughs. It squats in the glade like a plump spider surrounded by eight log cabins. Guys and gals are playing hot-potato volleyball across a makeshift net. Another group gathers round a table shaded by a circular roof supported by a central pylon. They're gabbing, joking and waving palmslates.

Two windmills flank a small satellite dish at the crest of the hill. On the incline below, solar panels bask in afternoon sunlight. Terraced garden plots spread out from either side of the panels. Rock piles and fallen logs have created level plots to capture fallen rain. Tree branches cast shadows over some of the plots, while green-tinted plexiglass covers other plots in full sunlight.

A cyclist appears from a copse of Apache pines and waves a greeting, just as Tomas spots a tree stump half-hidden in the undergrowth. He yanks frantically at the steering wheel and veers around the obstacle.

_Almost lost a tie-rod or ball joint!

_Damn yuppie guppies!

_Why did I ever agree

_to make this drop-off...?

_GREENS enclave earns peanuts

_compared to big orgs like Wexol.

The reason is cargo space. Wexol's order takes lots of space, so the GREENS enclave fits Friday's delivery, though not the best client after a long week. If he finds another small-haul customer, he'll dump GREENS in an LA **segundo**.

Young men and women are returning from the agro plots. They're carrying baskets of produce atop their heads.

_Fodder for compost is my guess.

_Nobody hoes these ragged plots.

Weeks before, one of the guppies gave him a tour. He gawked at stunted growths of alfalfa, wild flowers, soybeans, berries, carrots and weeds, squash, string beans, lettuce, potatoes, the odd corn stalk and more weeds. Planted together without rhyme or reason. He couldn't see much that looked edible.

The cyclist who waved earlier wheels alongside. He doffs his helmet and dismounts, exposing a buzzcut of brownish hair.

“How're ya doing?”

Tomas matches the face to a guppy called Kevin. “Not bad, Amigo.”

Kevin wipes sweat from his brow and gestures to the forest where cyclists are emerging from the trees. “Here come the losers.”

Tomas has long ago concluded the guppies spend most of their time goofing off. “You won the race?”

“Yup.” Kevin curls his nose. “What's wrong with your truck? I smell something burning.”

Tomas sniffs it as well, a rancid stench of burned oil. He jumps down from the truck, squats and cranes his neck to scope the undercarriage.

_The rear end is dry.

_Must be the motor or tranny.

_Why me? Why now?

_Can't afford major repairs.

“Maybe the tranny fluid is low,” he says, hoping the stench will go away.

He reaches inside the cab and dials the freezer to maximum cold, then ambles to the front and opens the hood. After the motor kicks in, it purrs like a kitten. He scratches his neck until he spots a small pool of oil under the tranny cooler, a used **freezer plate** that he cannibalized for a surrogate.

“Better check the level,” he murmurs to himself.

He climbs onto the front bumper, pulls the dipstick and jumps down.

He grabs a thatch of quack grass to wipe off the oil and glances sheepishly at Kevin. “Don't mind me soiling the grass?”

Kevin dons a crooked smile. “Charge you one-carrot per drop.”

“Ouch!” Tomas grimaces in mock contrition. “Better watch myself. I'll be hauling a truckload of carrots next week.”

Kevin laughs and signals Tomas to continue. “Mind if I watch?”

Tomas climbs onto the bumper and slides the dipstick in place. “Why bother? Don't you folks want these hot-burners junked?”

“Yup. I'd love to see internal combustion phased out, hybrids or not. But I know the Changeover won't happen overnight. Dinosaurs will roam the highways for the foreseeable future. And who knows? I may need to repair one before they go extinct.”

Tomas shakes his head in bemusement. “Live and learn.”

He pulls the dipstick, holds it horizontal and hops off the bumper. Kevin gawks over his shoulder while Tomas examines the smudge and fingers a dab of oil.

“Needs oil.” He sniffs. The rancid smell confirms his worst fears. His posture slumps and his mood darkens.

“Something wrong?”

Tomas grimaces. “The tranny's blown. It's s'pozed to be a genuine **SOAR** transmission. Should've lasted more than two years, even when it's potluck from the junkyard.” He shakes his head. “Gonna need a new one, soon.”

“Figure all that out by smelling the dipstick?”

Tomas nods dolefully. “That confirmed it. A leak would've explained the heat, but the oil is still there, just a tad low.” He sighs. “The tranny is fried. Frying the oil.”

Next month marks the final payment on the motor-train loan. He'd already applied for another mortgage. It would've covered Beth's dental work and Anna's wish list. The sudden repair bill drops a freak wrench in the workings.

“Did you get a SOAR warranty certificate?”

“Didn't I say 'scrounged from a junkyard?’” snaps Tomas, regretting the sudden outburst. It's easy to lose patience with baby-faced Kevin. “All cash. Steep discount y'know,” he adds in a softer tone. “Pedro barter used parts off the books, away from the taxman.”

Tomas climbs inside and fetches oil and funnel. “Too long in the woods, Amigo. You've forgotten how the world works.”

“Did Pedro sell it to you?”

“Yeh, Pedro,” he mutters on his way to the front bumper.

_The kid hasn't a clue about workday
_realities. Ditto for the other guppies
_around this ecologic boondoggle.

“I've dealt with Pedro for years,” he adds. “He gives me a good price, I take the risks.”

Tomas inserts the funnel and pours oil. “Can't blame Pedro. He doesn't have fancy instruments. He cleans the parts, gives them a visual check and makes sure the mounts look OK. Wha'd'ya expect from a junkyard?”

“Pedro must know where the part came from.”

“Yeh. Off another truck after a bad collision. The driver was charged, his truck written off. Pedro bought the wreck at the auction.” Tomas steps off the bumper, funnel in one hand and empty bottle in the other.

“D'you believe him?”

“Pedro's never lied since I've known him.”

“Cool! That's enough for the investigators.”

“Say what?”

“Listen Tomas. You needn't take a full loss on the transmission. I'll tell you something you're bound to learn in the next few weeks. A group of poseurs has b'en flooding the market with fraudulent SOAR parts. Your tranny must be one of the phonies, which isn't all that surprising. The rascals have dumped thousands of scabbed parts, from what I hear.

“SOAR is preparing legal action against the scam artists,” Kevin adds. “Spacers need solid evidence to strengthen their case. In return they’ll let you purchase a new SOAR tranny at 80% discount.”

Kevin drags a **palmslate** from his jacket, punches keys and removes the infowand. “Here, I’ve got a vidphone number. Can you read this?”

Tomas nods, mystified yet hopeful for any windfall. He discards bottle and funnel, extracts his palmslate and thumbs the Read-Data button.

Kevin mates the wand to Tomas’s palmslate. “It’s all there... number, contact person, best times to call. The deal includes free installation at a 1st-rate garage, where the ruined part will be sequestered as evidence.”

Tomas struggles to take it all in.

_This opportunity is hard to believe.

_A new SOAR tranny at 20% cost

_won’t break the bank. A loan oughta

_cover Beth’s dental bills and Anna’s

_wish list. It’s too good to be true.

“Why the 80% discount?”

“Freemspin must salvage its public image. That’s why they’re offering sweetheart deals.”

“Blessed Virgin! Is this for real?”

Kevin nods. “Just tell the insurance rep all you know. Make sure Pedro does as well. His say-so will confirm the part was taken from the damaged truck.”

_Damn. Here’s the catch.

“Pedro won’t do it.”

“He needn’t mention the price. He can say he sold it for a dollar or gave it away for nothing. The insurance rep just needs to link the scabbed part to the accident vehicle. He’s not paid to do legwork for the IRS.”

Tomas rechecks the tranny level which is topped up nicely. “Pedro won’t hafta appear in court?”

“No chance of that. The rep will come around to take statements from each of you. Just routine questions, so the investigators can trace the part to the scam artists. Shouldn't take more than ten minutes.”

Tomas climbs up, reaches inside and kills the freezer. Pedro may not like it, but Pedro owes him favors, enough to vouch for his merchandise.

He grabs Kevin's shoulders. “Amigo! How can I ever thank you?” He stops short. “Wait a minute. How'd you know about this?”

“Our dogs.”

“Dogs again!” He whistles. “Might as well be a doggon hound myself the way you folks keep pulling my leg. D'you mount cameras between their ears?”

Kevin smiles like a Cheshire cat. “Something like that.”

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The cyclists are mulling around at the geodesic dome. The volleyball players and gazebo geeks have joined them. Tomas can see there's a big powwow about to start. “Kevin, shouldn't you go with your buds?”

Kevin sighs. “Just eco talk.”

“Better go now.”

“Nonsense. I'd rather stay and speak with you.”

“Me? Dunno beans about ecology. Truth to tell, I don't even buy it.”

Kevin laughs. “Ecology isn't bought or sold. It's the framework of life. Ecology describes how plants and animals adapt to local environments. It tracks the energy flows through natural communities. The energy comes from sunlight which causes plants to grow, after which they give off oxygen for air breathers like you and me.”

Tomas quits processing the words. Eco evangelists lobby for rules that bind him in straightjackets. Ecology is like the sting of iodine on a festered cut.

“Upstairs, we've had success creating pseudo ecosystems,” Kevin goes on. “But we don't understand all the interactions y'see right here underfoot. It may look like simple weeds sprouting through loose

gravel. But if you look deeper, grubs and microorganisms aid roots to uptake nutrients. Worms churn the soil, siphoning moisture from the subsoil. Birds dine on the worms, and their droppings fertilize the plants.

“Nature weaves a rich tapestry, too complex for the best computer models. So we learn by rote, by simple-Simon pantomime. Humans are destroying ecosystems before they're understood. Millions of species have gone extinct over the past fifty years. Doesn't that scare you?”

The speech rubs Tomas the wrong way. Kevin would give plants and animals a free ride at human expense. Tomas gazes around but doesn't see telltales of environmental crisis. So-Cal's hills aren't being slashed and burned like the Amazon rainforests.

“I don't see endangered species around here,” he grumps.

Kevin's boyish smile turns somber. “That's true. **So-Cal** has set aside forest reserves where native species can thrive. No need to cultivate the hill country when Californians reap bumper crops from the San Joaquin and Imperial watersheds. Yet those lush valleys need water from elsewhere, including diversions from the Colorado River. The Colorado loses most of its flow before it enters México and dribbles out to the sea, where the delta is salinized and barren.

“Reservoir dams have transformed So-Cal's parched valleys into agricultural miracles, but it brings little joy for farmers across the border. People on both sides have come to accept this as the natural order of things. It's no surprise Mexicans hanker to live in California. Millions have come up north.”

Kevin draws a breath. “You, of all people, must understand. Your grandparents emigrated from the South. Right?”

Tomas flinches. It's none of Kevin's business how his grandparents entered California, whether legally or illegally. Tomas searches his pockets for the SkySafe and walks to the rear doors. “I better unload your stuff.”

“Want a hand?”

Tomas stops dead in his tracks. After the tranny discount, he feels queasy about accepting more favors. But the sun is hot and the sacks are heavy. "Sure. Why not?"

+ = + = +

Inside the truck Tomas scrolls the manifest list and checks off familiar items:

- _three 100-kilogram sacks of brownrice,
- _two 100-kilogram sacks of garbanzo beans,
- _two 50-kilogram sacks of wheat berries,
- _one 50-kilogram sack of millet,
- _one 5-liter bottle of canola oil,
- _one 2-kilogram package of sea salt,
- _and 12 bottles of carrot juice.

He carts a millet sack to the rear ledge and lowers it onto Kevin's shoulder. As Kevin starts for the storage cabin, Tomas lugs the rest of the sacks to the rear porch. Kevin returns and gets a sack of wheat berries. Tomas jumps down and grabs a sack of garbanzo beans. They stroll side-by-side to the storeroom.

Tomas has never learned the real purpose of this enclave. At best they're lousy farmers, more like tree huggers trying to grow crops in the woods. Their cousins upstairs might be half-loco for importing caskets of dirt and cylinders of ammonia, but they're 98% self-reliant unlike the guppies here, who'd starve without his weekly deliveries.

_Why stick an enclave in So-Cal?

It's a long way from the equatorial spaceports and nowhere near that loopy megapolis on the north coast. The guppies claim to be an agricultural school. But what kind of school has all students and no teachers?

Yuppie guppies, more like. He hasn't seen anyone stoned on drugs. Nor has he seen young women walking around topless. Then again, he doesn't come here after dark when the orgies must take place.

Tomas adjusts the wheat sack on his shoulder. “Does anyone tend your garden plots?”

Kevin shows a goofy smile. “You don't think much of our garden.”

“Got that right. It's not real agriculture. More like a hodgepodge. You've got crops mixed with the weeds.”

“Some plants may look like weeds, but they're 3rd-generation perennials. Their yields approach the yields of monocultured hybrids. In adverse climates, they outperform commercial crops.”

Having dropped off the sacks, they head back for the truck.

“If you came around in the evenings, Tomas, you'd see us watering plants from kitchen rinse water. We bake organic refuse in our earthen kiln then mix **biochar** in the soils of garden plots. Believe it or not, we *do* fuss over our experiments. These plants supply a portion of our diet. We study growth patterns from sprouts to mature plants. We maximize symbiotic relationships between native plants, soils and animals.”

“What about those patches of alfalfa? You don't have animals to feed.”

“We consume the leaves ourselves. Two of our women, Opal and Hasina, conjure a delicious paste that's rich in protein.”

“Now I see. You spend your time growing and eating that high-priced greenery.”

“High priced?”

“Supermarkets charge double for organic produce.”

“D'you think organic prices are too high?”

“*Way* too high.”

Tomas has never bought into the so-called health benefits of organic veggies that look smaller and stunted, moth ridden and splotchy. If he splurged on organic produce, he'd have to buy sclup to keep his food budget in bounds.

“I've got five mouths to feed. If I bought organic stuff, I'd never make the mortgage payments.”

Kevin brightens. “After we finish I'll lend you a basket. Take from

the gardens whatever you like.”

Tomas hoists brownrice onto his shoulder and hands Kevin two jugs of canola oil. “Dunno. I'd feel like a thief.”

“Nonsense. We grow more than we need. The veggies add variety, nothing more.”

Tomas figures he'll have to spray the pickings with the garden hose before Anna lets them inside the kitchen. “What about your buds? They won't like me messing around the garden plots.”

“Not to worry, Tomas. Everyone's gone inside, and I'll spread the word before you return next week.”

Anna and the kids will thumb their noses at a steady diet of weeds. “That's way too much.”

“Nonsense,” Kevin says, as he shoulders a wheat-berry sack. “Our produce is surplus. Go ahead. Free up your food budget, so you can afford organic produce.”

“Wait a minute,” says Tomas. “The stuff you grow here. Ain't it organic?”

Kevin starts for the truck. “We don't use insecticides or artificial fertilizers, but we do at times use vioformed seeds. We think our crops are healthy and organic, but eco evangelists would say we grow Frankenfoods.”

“**Freir mi piojos!** I thought you folks were in cahoots with the eco evangelists.”

“We're ecologists, not political activists. Eco evangelists oppose vioform techniques. Without hard scientific evidence, I might add.”

Kevin chuckles. “To be honest, everyone eats Frankenfoods, including folks who buy 'certified organic' labels.”

Tomas blinks.

“Frankenfood is nothing new. It simply means any plant or animal whose genetic code has b'en enhanced for better taste or texture, for greater yields or resistance against drought, insects, microbes or whatever. Domesticated plant species are the results of selective

breeding experiments which have taken place over countless generations reaching back to prehistoric farmers. The original cereal grains (wheat, rice, millet, sorghum, corn, barley and oats) were wild grasses fit only for bison, deer and goats. Ancient farmers selected the tastiest annuals and then crossbred them year after year until they reaped the nutritious varieties you see today.

“Today's genetic engineers have added new possibilities. They accomplish in a few months what would've taken many generations using traditional methods. On the downside, transnat biotechs love to sell terminator seeds that force farmers to buy new batches each year. The worst offenders sell seeds that are immune to their insecticides, so they make a double profit on both seeds and insecticides year after year.”

“Perennials are hardier,” he resumes, “since they come from wild stock that has natural immunities against insect pests. Perennials have deeper root structures, so they survive droughts better than annuals. And perennials have half-lives of eight-to-ten years. Farmers need only buy a small fraction of seeds for the next growing season.”

Kevin lowers his sack of wheat berries, and Tomas unloads his sack of brownrice.

“I don't get it. Shouldn't viformed seeds make your plants look plumper? Healthier?”

“Looks can be deceiving. The food industry thrives on such misconceptions. Y'know that, don't you?”

Tomas is two generations away from the migratory farmhands who sought new homes in the USA. Anna does the “hunting & gathering” in supermarket aisles.

“Ever wonder how merchants keep produce looking good for all seasons?” asks Kevin. “Some is imported from farms in the southern hemisphere, but the bulk must sit in cold storage for several months. Agribusiness markets foods with uniformity of size, shape and texture. The produce must look good, so it's irradiated and hazed with coloring

agents or preservatives, often pre-lacquered and polished. Cosmetic tampering makes fruits and vegetables look better, but it doesn't boost their nutritional value. The plumpest, most colorful vegies can be high in starch and cellulose, while low in vitamins and minerals.

“Our vioformed seeds are tweaked for resilience in drier climates. We crossbreed with traditional varieties that grow naturally in the wild. Perennials will yield a tolerable harvest when overbabied crops fail. Our best strains will be offered to 3rd-world subsistence farmers who can't afford to irrigate, fertilize or spray insecticides. They practice organic farming, but they're often denied export certification, so they don't care about stigmas associated with Frankenfoods. They're happy to plant perennials that feed their families and neighbors.”

Two more sacks are offloaded from the truck.

“Kevin, how much d'you charge for seeds?”

“No money, if that's what you mean. My students will take the seeds we've tested and return them to villages in Africa, Asia and SOAM. They'll continue the experiment under local conditions and report on their progress. You might say both sides benefit in the exchange. Villagers reap greater rewards for their labors, and soupers get useful data for warm-climate ecologies.

“Soupcan agriculture is modeled after colder climates, because it's easier to manage ecosystems with limited diversity. This strategy has proven workable so far, but our ecosystems are very new and relatively isolated. Souper farms haven't b'en exposed to common insect pests or microbes.

“Dormant microbes have b'en known to survive flights between planets on ejecta rocks. Dangerous vectors are bound to invade souper farms at some point. Sooner or later, they'll hitchhike on the **stods** and lightsail shuttles between earth and the soups. Once they get a toehold, they'll infest our crops. By then we hope to increase the diversity of our croplands, which oughta lower the chances of runaway plagues and catastrophic famines.

“So yes, we benefit when farmers grow healthy crops. We're getting proven ways to maintain sustainable ecosystems. The natural models can be transplanted to achieve alternative ecosystems in orbit. When humans disrupt a natural ecosystem here on earth, that template is lost forever which leaves us one less option for the future.”

They unload sacks of brownrice. Tomas gazes at the mishmash of forest plots and shakes his head. “Is that why you grow various plants together without rhyme or reason?”

“Yup. Some plants like soybeans attract fungal symbiotes which replenish the soil with usable nitrogen, whereas other plants drain nitrogen from the soil. When we plant different species side-by-side, the soil retains sufficient nitrogen year after year. We use this same technique in the soup cans where nitrogen is at a premium.”

Tomas sighs. “Maybe I don't get it, but it seems to me that most farmers put their crops in straight rows for easy harvesting. If soupers plant everything mixed up like spaghetti, they must have big problems at harvest time.”

“Souper farmers arrange crops in straight rows, but the rows yield different species. Different harvesters for different rows.”

“Can they dodge around trees?”

Kevin raises a brow. “Soupers don't grow crops under trees. We do here because So-Cal is a dry climate with lots of sunlight. Our plants need moisture more than they need direct sunlight, so we plant among the trees where the soils retain extra moisture. It's a good lesson for my students who'll return to arid climates. If they attempted large-scale monocultures in their homelands, they'd raise nothing but barren deserts.”

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Back at the truck, Kevin grabs the carrot-juice crate. Tomas grabs sea salt and millet. “Kevin, why order carrot juice when you grow carrots here?”

“We keep some on hand for when our dogs visit.”

Tomas stumbles but manages to stay afoot. “Dogs?”

Kevin laughs and opens two bottles of carrot juice. “Someday, you may get a chance to meet them. You’ll be surprised.”

Tomas takes a bottle and sips. “*Vegetariano!*” he exclaims, shaking his head.

_Dogs with a taste for carrots?

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Cat & Mouse in the Sky <ID:007F496:PG#8174>

Law enforcement agencies rely on SOAR's public database of satellite reconnaissance. The database is a mosaic of snapshots showing one-square kilometer patches of earth surface. The snapshots are recorded in highdef at 45-minute intervals. The digital squares appear in grayscale, one pixel corresponding to ½ square meters. The snapshots remain on file for two years. Allowances have been made for small overlaps between squares, so the database contains 54-million sectors, many of which are low priority since they show nothing but empty ocean.

SOAR doesn't guarantee precise intervals of 45 minutes between snapshots; nor does it guarantee the cameras will always be at zenith. Yet the database does indeed furnish a decent history of surface activities for two years. Access fees for time-sequenced squares are modest and well within the budgets of medium-sized research orgs. For an added charge, orgs may access stereoscopic versions which lend a clearer picture of topographic features.

The wealthiest nations have lofted their own spysats. The specs for “military” satellites are withheld from public scrutiny for reasons of national security. The specialized data of military sats is unavailable to civilian agencies, so law enforcement must rely on SOAR's database.

The Malaysian police force uses the database to combat smugglers who use ultralights for running contraband across borders.

The smuggler problem is compounded by the popularity of flying ultralights among well-to-do teenagers who often divert from the flight plans they've filed. The kids fly ultralights for the kicks and daredevil excitement. Wealthy parents have enough legal clout to shield their youngsters from police nitpicking. Police officers who arrest and confiscate often find their careers downsized.

By common consensus, the Malaysian air force scrutinizes ultralights passively. They use unarmed aerodrones which only issue warnings via radio. To make matters worse, a number of drones must be deployed to monitor the kids, lest their daredevil antics cause tragic accidents.

Smugglers have jumped on this loophole. They've chosen ultralights to smuggle jewels, narcotics, counterfeit spendchips and anti-aging pills across jurisdictions.

Ultralights must cruise at 200-to-300 meter altitudes and divulge their flight plans, although realtime flight routes are seldom monitored unless they veer close to dirigibles or fixed-wing aircraft.

Skycars, for instance, cruise at 300-to-400 meter altitudes, but GPS-aided traffic controllers execute all the in-flight maneuvers. Skycars can't divert from assigned routes, even if they're bound for the arms of arresting officers.

Dirigibles cruise at 200-to-300 meter altitudes on designated routes from airdock to airdock, but they may rise to much higher altitudes to clear tall buildings.

Passengers of dirigibles are subject to luggage and body scans upon boarding and exiting. After 75 years of **GWOT**, Malaysia's major ports (airport, airdock and ocean wharves) have earned international acclaim for tight security. State-of-art scanners will detect contraband inside consumer-goods packages with an accuracy of 99%.

Smugglers are the loose cannons in the mix. While they're mandated to file detailed flight plans, it's easy to drop off contraband somewhere

during their flights without drawing notice.

Ultralights can land and take off on any 50-meter stretch of smooth, level ground. Successful smugglers often camouflage illicit airstrips with mockup homesteads on wheels. Houses and potted shrubs can be removed at a few minutes' notice, exposing parallel lines of landing lights. The building and shrubs are replaced, once the exchange is made and the ultralight takes off. When face-to-face exchanges aren't needed, the ultralight may jettison its cushioned cargo over prearranged drop sites. This option is especially useful when police drones are dogging the ultralight.

Since electronic transactions and spendchips are easily monitored and traced, smugglers favor straight-up trades of goods for goods. For instance, a genuine pearl necklace might be traded for 35 doses of **hilomorf**.

When a contraband package is dropped from an ultralight to another criminal on the ground, the transaction is only half-done. Receivers still owe the flyby criminals something in exchange. Police officers know that such arrangements cannot rely on mutual trust. Firsthand barterers are needed to ensure both sides pay their debts.

After years of careful observation, Malaysian police have been able to narrow down the ultralight traffic to a few flights that require greater scrutiny. They use drones to shadow the suspicious travelers, whereas smugglers will adopt nocturnal flights with plenty of cloud cover.

Ultralight pilots and drone teleoperators are constantly trying new ways to detect or deceive each other. Both sides have spent heavily on electronic recon gear. But remote sensors have a hard time spotting the jettisons of small packages. Police observers can only guess if packages are indeed dropped somewhere along the route.

For a flight of 300 kilometers (with a 10-kilometer deviation either way) the police must examine 6,000 square kilometers of possible drop sites, which is nigh impossible. On the upside, if police drones force the ultralight pilot to make dead drops as opposed to exchanges on the

ground, the illicit traders must still meet face-to-face to settle the score.

Here is where SOAR's database can be applied. After shadowing suspicious ultralights for several weeks, teleoperators will back off. They'll study time-lapse photos along the most suspicious routes. They'll look for small changes, such as a building or shed that shows up at one time but not another.

Once an illicit airstrip has been located, the police will call for a stakeout. When the suspect ultralight touches down, the police are ready to pounce. They'll arrest perps from both sides of the deal and confiscate the contraband.

> Webvine News, 2075

31. Firehall

Three Days Earlier

Kuala Lumpur: 12 May 2076, 5:05 p.m.

Tuesday, 12 May 2076, 09:05 UTC

The rocket streaks above the cityscape and looms ever larger and closer. It speeds on a tail of bright flame and hot smog. Jen squirms like a moth in the drop of a seeker bat, while blood pulses at her throat.

_No way to escape
_the fiery missile of death.

The garish bird breaks apart, each half soaring above and outside the aerofoil's wings. Then a white flash overloads her peripheral vision. Milliseconds later a thunderous cackle pounds her eardrums before shockwaves buffet the aerofoil. Jen checks for injured limbs then ousts a whale's hoard of air.

_At least I'm whole and hale.
_And air so fresh and sweet.

Tilting the aerofoil, she gains speed, drops altitude and glides past narrow streets and over buildings with boarded-up windows. Realtime layouts are matched to aerial photos she has studied beforehand. There appears the scoured dome of a brownstone firehall. If memory serves true, her getaway doyen should be at the landmark.

Sure enough, JoAnna appears in the driveway, her arms gyrating like an aircraft carrier's **LSO**.

_As if hand waving is
_one-iota useful. Ha!

Dropping more sharply before leveling out, Jen wills her legs to life and toe-taps a ballerina's sprint. After half a-dozen touches her soles engage hard pavement. Momentum is corralled and her aerofoil droops. Once slowed to a lazy jog, Jen releases the aerofoil from her body harness.

_Thank **Peter**, I'm down.

_At last on solid ground.

Jo comes on like a freight train.

_Gripping me around the ribs

_in a bone-cracking hug,

_my feet swimming in midair.

“Whoa! Let me down.”

“You made it, Pix.”

_JoAnna's way of saying “pixie”.

_She never fails to spoof me

_for my petite size and height.

“Did'ja expect otherwise?”

“No. But I was worried y'know.”

“Sorry I brought tails.” Jen knits her brows to emphasize annoyance.

“But why scare me half to death? Drones tracked me to **Cyclorama**, so we're sitting ducks no matter what.”

“They've got a hazy idea,” says her getaway doyen. “I reckon it's gonna get hazier.”

“The blasts could've shredded the aerofoil and dropped me like a stone,” Jen grumps.

“Not a chance. Shaped charges.”

A yellow flash brightens the skyline behind the firehall then vomits up smoke and charred debris. Moments later Jen hears loud-crackling thunderclaps.

“What I figured,” says Jo. “Two blocks away, maybe more.”

Jen hates being out of the loop. “Missile?”

“Air-to-surface from Rathbone's aerodrone.”

“I thought Malaysia outlawed strike-force drones.”

“When have legalities ever stopped him? One of Zesticon's subs makes drones here in Kuala Lumpur and exports them elsewhere. My guess, he scrambled one straight off the assembly line. It backtracked my birds' ballistics and nailed the 'supposed' launch site. Rathbone

thinks it succeeded. But he's mistaken 'cuz I used catapults to launch my interceptors.”

Jo waves at the pickup truck, its cargo box outside the firehall. “They go up 35-40 meters before the rockets ignite. The mechanical lift fools algorithms that backtrack trajectories.”

Jen is still miffed over the close call. She can't forget the sheer terror of converging missiles. And damn near wet her panties.

“Was I marked 'friendly' on your screen?”

“Honest, Pix. Sorry I gave you a fright. That what you wanted to hear? I had no choice, I swear. Would've blown your trackers earlier, but they hung close till you dropped lower. *That's* when I pounced.

“Rathbone's military aerodrone cruises at 4,000 meters,” Jo goes on. “Any lower, it risks being seen by ground trackers. Once I nailed the pursuit drones, it could only backtrack the contrails which pointed to a bogus launch site. Our pursuers will head for the blast site, which sure ain't here.” Jo flashes a conspirator's grin. “Bought ourselves some breathing space. Come on, Pix. Check out the getaway car.”

Jen gathers the aerofoil and folds it over twice. Her erstwhile driver stands a head and a half taller. She has predatory yellow eyes and a frizz of red hair peeking out of her baseball cap. Jo is big-boned, hard muscled and tough as a pro-football linebacker. She puts fear in grown men with her take-no-prisoners in-your-face *modus vivendi*.

The getaway doyen turns around and swaggers to the cargo bed where she prepares to dismantle the catapults.

_Cool as a bandleader

_at the presidential ball.

Jen approaches and thinks out loud. “Rocket strike is gonna draw a crowd.”

“I know. That's to our advantage,” says Jo. “His warbird can't hang around. Police drones would catch it red-handed. It needs to hurry back inside the factory. Then he can blame the missile on whoever raided his tower.”

“On us.”

“Do I care? Let 'em think we're toast.”

“The summit drew scores of elite roosters. Rathbone can muster two-dozen SUVs and block every exit outta Cyclorama.”

“Not anymore. He shot his wad too soon. Now he's got the police involved. Hear the sirens? Gonna be police business from here on. They won't allow 3rd-party roadblocks. Given Rathbone's pull, they may allow one or two passive observers. But the police will exercise their usual caution. They're underpaid and strapped with regs. It takes 'em ten minutes to blink their eyes.”

“So what's the plan, Jo?”

“For starters, ditch your cat-burglar duds and get into a surveyor's uniform. You'll see it on the passenger seat. Gimmie the aerofoil. I'm gonna make it disappear.”

Jen hands it over and opens the passenger door. “Good luck getting the pickup past a roadblock.”

Her partner slaps the cargo rim. “It's a Humvee.”

“Whatever. They'll go over us with flea combs.”

“Not to worry, Pix. When the Humvee got outfitted with a **Thorax**, it lost its rear-wheel drive. Under the hump there's storage space where I've stashed weapons like you wouldn't believe. And lots more space for the aerofoil and your climbing outfit. Now get a move on, Pix. Strip down and show me your hourglass.”

_Always loud and feisty.

_Jo loves to play dominatrix

_and dictate the program.

_But I've probed inside

_her armored persona

_which hides a shy libido.

“Afraid to disappoint you,” Jen fires back. “All I got is two scrambled eggs.”

“Who cares if their small? Your nippers are sweet as rose buds.”

Jen makes a face. "You're worse than Griz."

"Move your ass," guffaws Jo, outing a satyr's laugh. "Or I'll strap it till you beg for more."

Jen rolls her eyes. "Where's my **smartcard**?"

"In the glovebox along with your minicrossbow and a packet of darts."

"No **gladius**?"

"In storage with the weapons. Doubt you'll need a sword till we get surrounded by thousands of gunmen."

"Riot of optimism, you are."

"By the way, don't forget your dental prosthetic."

"Where the hell you get that?"

"Special delivery from DB. And don't pout at me. I need you to look your best for the police at the gate."

"I could just smile with my lips closed."

"Don't argue, Pix. Show 'em a decent smile. Your cover **ID** has you living two years in Amsterdam. Russian gals work the nightclubs and strip joints. A lovely smile says you wowed the high rollers and saved enough bread for a travel visa to Australia."

"Kill 'em with sparkling fangs?" Jen sighs. "All right."

"Hand me those armguards."

Jen feels bashful as she doffs her outerwear. She's glad the bullet-defiant skinsuit upholds a sense of modesty.

_Why should I care
_if she leers like a shark?
_There's a long road ahead
_before we get to Singapore.

Jen wastes no time pulling the loose khaki tunic down over her head. The trouser legs are wide enough so that her footgear pushes through without a hitch. After snugging the waistband, the legs hang almost to the ground, so her special boots could be mistaken for ordinary hikers. Her smartcard slips inside a form-fitted shoulder pocket. Crossbow and

dart packs are stowed in thigh pockets.

“I'm impressed.” Jen dons a baseball cap that sports a Trig Lines label, same as her compadre's. “You've thought of everything.”

“Almost. You never know.”

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Jen reacts to the sudden concern on her partner's face. Then cranes her neck at the sounds of screeching tires. A green SUV has stopped on the street outside the driveway. Three guys are hunched in the front seat, their eyes riveted on the firehall and Humvee.

“Arm your pea shooter,” Jo says. “Could be trouble.”

“Roosters?”

“Nah. More likely security dudes who evict squatters. They must be freaked after the rocket strike.” The redhead waves a greeting at the van and strolls toward the newcomers. “We'll use our cover names,” she adds over her shoulder. “Play along, Pix.”

The SUV turns sharply and stops in the driveway. Headlights are aimed head-on, but shine weakly in the afternoon sun. The driver opens his door and steps out, his buds decamping from the passenger side. They're typical rent a thugs, bulked up on steroids and beer, averaging 185 cents tall.

Jen arms the minicrossbow then stows it in a thigh pocket.

“What you chicks doin' here?” shouts the driver.

Her erstwhile driver smiles. “You guys look ready to play.” She halts five paces from the trio.

Jen closes the passenger door and examines the take-charge guy. He carries a nightstick which he slaps against his palm. His English has an Australian twang.

_Enforcer, likely ex-con.

_More muscle than brains.

_Typical head honcho.

“I asked,” repeats the driver. “What you doin' here?”

“Do we look like squatters?” says Jo.

“How the fuck should I know? You tell me, bitch.”

“We're surveyors.”

“Ain't heard nothing about that,” scoffs the driver, showing a row of yellow teeth.

“Believe it,” affirms Jo. “Come next Monday, this neighborhood gonna look like a bomb crater. We're supposed to set reference lines before the diggers tear out the landmarks. Far as I know all service lines have b'en cut. So why the gas main explosion?”

“Gas main?” He guffaws. “That *boom* was a terrorist bomb.”

“Holy smokes! Getting bombed ain't in our contract,” says the getaway doyen, innocent as Snow White. “We better scat while we still can. How about it, guys? Escort us to the gate?”

The driver's buds have stepped up. They form a loose semicircle around Jo.

“Not a chance,” he replies. “Maybe *you're* the terrorists settin' off bombs.”

“Gimmie a break. Look at our caps. Trig Lines is who we work for. Two women surveyors. D'you see any weapons?”

Jen draws up beside her partner across from one of the security dudes who leers back. She reads his thoughts like an open book.

“Maybe you're surveyors, maybe not.”

“Call me Erin. Beside me is Sweet Sonya.” Jo is flirting. “May I ask yours?”

“We got orders to nab terrorists. Nobody told us to escort sheilas outta danger.” The driver dons a menacing grin. “Unless you make it worth our while...”

“Hey man, we're poor working girls. Not a spendchips between us till payday.”

“Wasn't lookin' for cash, girlie.”

Jo feigns surprise before cracking a grin. “What's on your mind?”

Jen has taken stock of the security dudes. The bulges under their

jackets are doubtless handguns. They look dimwitted, slovenly and unfit. They have no clue how dangerous two female assassins can be.

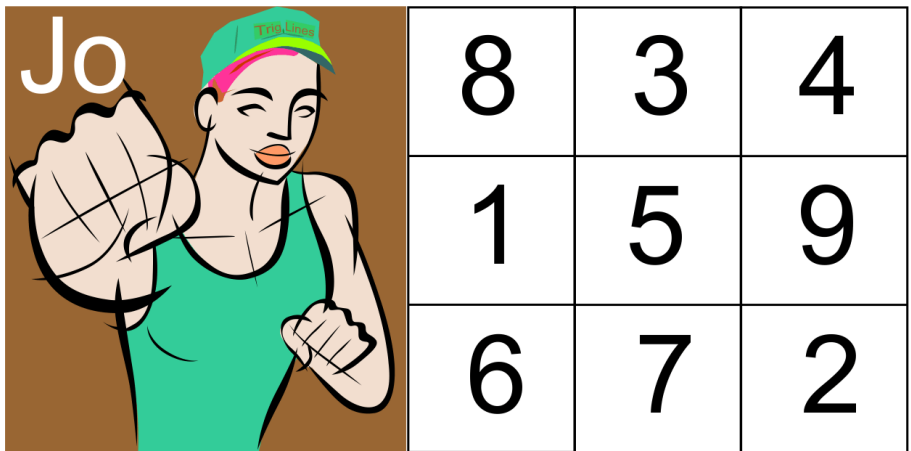
_Why is Jo prolonging this fiasco?

“Do I hafta draw you a map?” growls the driver. “Come here and get down on your knees.”

“Nah. I’d soil my pants.”

“Quit stalling, bitch. You want a safe ride outta here, you gotta pay the piper.”

“Listen up, 159. Unless you gimmie your name, you can jerk yourself off.” She glances left. “How about you, 672? Wanna own up?” She turns right. “Your choice, 834...”



The trio is tongue-tied. They’ve forgotten about the ID patches on their jackets. What seemed like easy pickings has just gotten stickier and stickier. Jen doubts blowjobs are sanctioned under their rules of engagement. She expects full apologies and quick exits until...

“You ain’t felt nothing till you’ve touched my lips,” purrs Jo. “Sonya, my plumb bobber, has a long-lizard tongue. And mine’s wetter than a wild monsoon. So out with the names, guys, or kiss your luck goodbye.”

They shuffle about and exchange glances. “Call me Drake,” says 159. “I’m Brad,” mumbles 834. “Ned,” says 672, opposite Jen.

“OK, fellas,” smarms Jo. “Zip down your flies and air out the groin sweat. I wanna see some meat.”

“Shut the fuck up!” Drake's face is red with rage. “I give the orders around here. Down on your knees and come to papa.”

“Watch it, buster, or I'll take a bite for my trophy case. I got a dozen flaccid wieners at home. All of 'em shorter than toothpicks.”

“These dykes are all talk and no walk,” scoffs Brad.

“I know,” Drake says through clenched teeth. “We oughta teach 'em a lesson in girlish homage.”

They raise their nightsticks. Drake takes the lead and attacks Jo, swiping at her shoulder. Jo ducks and sidesteps and grabs the baton on the follow-through.

Drake has used a fool's grip, leaving his thumbs unprotected. With a sharp twist and rotation, Jo takes control as if wresting candy from a baby. She pinwheels the nightstick and traumatizes the vein under his ear, causing momentary paralysis. A millisecond later, she delivers a sidekick that strikes under Brad's chin and crushes his trachea.

The verbal repartee has caught Jen napping and gawking. Good thing Ned has stayed passive as well. He's held back with the nightstick, but now he's reaching for the gun in his shoulder harness.

Jen retrieves the crossbow. In one motion she aims and fires at his gut, not bothering to release the elastic band that seats the dart. At such close range the fletching won't skew the flightpath off target.

Ned has managed to pull the weapon from his armpit. He's about to take aim when his eyes glaze over. The handgun drops free as he falls flat on his back.

Brad clutches his throat, gurgling and wheezing. He's down & out while Drake wriggles facedown under Jo who has him in a hammerlock.

“Goddamn bitch,” Drake snarls, his face wrinkled in pain. “I'm gonna ream your ass. Just you wait.”

His face goes down hard on the tarmac. Jen hears the crack of broken cartilage and sees blood spurting from a broken nose. “Let me dart this one, Jo. Go look after the other one. He might die for lack of breath.”

“Yeh, yeh.”

Jen recocks the crossbow, slots another dart and fires it home. She glances at her partner who's stomping on Brad's groin. “Whoa! He's down. No need to cripple the jerk.”

“Special therapy. Gets his mind on something else. Hear that? He's breathing easier now.”

The added pain must've roused his survival instincts. Tearful moans are forcing air through his windpipe.

Jen shakes her head. “No way I'm gonna call you when I need an ambulance!”

“Awh, you're just jealous, Pix.” Her face turns thoughtful. “Dart this one while I swipe their creds. These losers wouldn't be trusted to show up without thingies for punch clocks. When they wake and find their creds gone, they'll assume we've filed complaints. They'll play dumb or stay outta sight, maybe even skip town. Nothing that happened here will get back to Rathbone's roosters.”

“Sweet Sonya's long-lizard tongue?”

“It was ah... spur-of-the-moment,” says Jo, contrite as a vestal.

“Ah hmm.”

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The passenger cab is sparse and functional to a fault. The lack of upholstery betrays a body and chassis designed to stop high-velocity bullets. The bucket seats don't yield to mortal flesh. The plastic overlay is tougher than alloyed metal. The Humvee may be perfect for fast getaways, but it sure lacks creature comforts.

“No seatbelts?” Jen asks.

Her getaway doyen outs a bereft face. “Pointless when you got the only driver in town who ain't bat-shit crazy.”

“We wasted time playing cat & mouse with those security dudes. Why squat here like two stooges when we should be moving bodies to the sidelines?”

“No need.”

“You aim to run 'em over?”

“Nah. We're gonna exit out the backdoor.”

Jen looks straight ahead and sees nothing that resembles a door. She eyes the metal cage that's mounted on the front of the Humvee.

“Solar plexus! You're gonna drive through the wall?”

“Ain't no wall. I spent most of the afternoon with a laser, chipping out mortar. What you see is a loose stack of bricks.”

Jen shudders at what's to come. “Bat-shit crazy, for sure.”

There's a sudden jolt as the tires squeal. The Humvee careens forward like an errant dart. Jen glues her hands to the dash and shuts her eyes. She hears a loud crack and thunderous cascades of bricks jarring, cracking, bouncing in every direction. The Humvee surges ahead, tires leapfrogging the odd brick, while she's rocked this way and that.

“Holy **fuxgate!**” cries Jen, as the truck crawls to a stop.

“Smooth as a spoon trawling goulash,” chortles her erstwhile driver.

Jen opens her eyes to find bricks at haphazard angles on top the cage. More bricks are strewn on the ground to the front and sides. “Short-fused torpedo that sank the **Kursk**,” she whispers.

The remark, unheard or ignored, doesn't mar Jo's jubilant grin. “Out, Pix. Help me fill the cargo bay with bricks. Then we'll discard the cowcatcher. Don't wanna give folks the wrong impression.”

Jen quells a burst of laughter as she opens the door.

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The cowcatcher isn't heavy but awkward. It takes four hands to maneuver the cage through the breach. Jen is glad to set it down in the corner where part of the wall still stands.

“Just leave it?”

“Sure, no prob. We're wearing gloves, so no fingerprints. I doubt anyone will notice till we're long gone.”

Jen follows her partner to the Humvee. “Gatekeepers won't see the catapults, but they'll sure ask why we're hauling the bricks.”

“We're testing samples for asbestos.”

“Asbestos?”

“Very toxic, known to cause lung cancer.” She retrieves surgeon's masks from her tunic. “Here, Pix. Slip one of these over your nose and mouth. We'll play the asbestos scare for all it's worth.”

Jen fits the elastic straps at her nape. “Dust from the bricks got in my nose. We should've donned these filters from the get-go.”

“You've got 'leper phobia' like everyone else, though not surprising after **ZEST** made it a prime carcinogen. Asbestos is a proven fire retardant and cheap as dirt. Some igneous rocks hold enough asbestos to warrant profitable recovery. The fibers disperse via erosion, so trace amounts of asbestos can be found in mortar, earthen dams, croplands and landfills. Building contractors have used it for 250 years. Structures built in the 20th-century still have tonnes of asbestos. 3rd-world developers have used asbestos well into the 21st, before ZEST outlawed the practice. I'd guess 80% of Malaysian structures have enough asbestos to cause illness, but mostly for construction workers who ate dust week after week. These few bricks won't kill you, Pix.”

Jen opens the passenger door and climbs beside her partner. “Gotcha. The asbestos plague is overblown. But please do me a favor from now on. Stay clear of walls.”

“Natch. I plan to roll on streets unless I'm forced to ramble down walkways.” Jo cracks a fiendish grin. “Go ahead and brace your hands on the dash. No telling when I'll hafta react fast.” Her amber eyes flashing mischief. “Drivers in this town are off-the-wall loco.”

After crashing through a wall, Jen expects the Humvee to rattle or shimmy, but it moves out as smooth and quiet as a **Regent Electro**.

“This Humvee is my ultimate dreamboat,” Jo croons. “James Bond would crawl on his belly over hot coals to claim the driver's seat.”

“It does seem adequate.”

“Adequate! Wait till you see the countermeasures in action.”

“What I'm afraid of.”

“Hey, Pix, these wheels gonna get you outta town and all the way to Singapore.”

“I thought the goal was the spaceport.”

“Ah hmm. I booked the honeymoon suite at Raffles and collared a few ensigns from the Australian Navy.”

“Jo, you didn't! Last time I partied with you, I couldn't walk for a week.”

“These are good boys. I checked 'em out.”

“Oh no... Absolutely not. No way.”

“I bought a box of your favorite chocolates, Pix.”

“How about a good night's rest?”

“Sleep all you want. The party's set for the night after.”

“How many ensigns?”

“Only six.”

“Holy fuxgate! Forget it, Jo.”

“You need a change of pace.”

“Like heck, I do.”

The Humvee moves at a sedate pace, taking the potholes in stride.

“Cook has you working too hard,” says Jo. “On top of your climbing course, you tutor worthy acolytes, balance the co-op's books and then fuss over Griz and Shepp like a mother hen.”

“So what?” Jen snaps back. “Humping strangers won't ease my burdens one iota.”

“Sex is very relaxing. Oughta reboot your libido.”

Jen rolls her eyes.

Ramshackle buildings line the empty streets. They're two and three-story affairs, crowded together like a train of freight cars. The windows are covered with cheap wooden planks. Boarded-up show windows line the ground floors while smaller boards poke-a-dot the upper floors.

_Shops on the ground,

_families living upstairs.

The buildings reek of neglect and disrepair. The owners or landlords let things slide long before Cyclorama was hatched.

_Now only the ghosts remain.

_Once a poor neighborhood,

_but home to many nonetheless,

_before they were squeezed out,

_unable to meet Cyclorama's prices.

_So where do the uprooted go?

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The Humvee moves in a quiet hush. Jen drinks from a bottle of mineral water.

For the 1st-time since she woke this afternoon, the heat isn't scorching. A pleasant breeze circulates through the cab, thanks to the floor vents and the back window which is cracked to let air escape. So long as the Humvee moves, the breeze cools her face and arms.

“**Xing Gou** adapted the back window,” Jo explains.

“The smuggler you rented from?”

“Yeh. Cost us plenty too.”

“Does he know you planned to crash through walls?”

“One wall, Pix. Over & done with. I made sure DB got fair-money's worth.”

Jen tightens her grip on the dash.

Around the corner the exit gate comes in view. Two police cars are parked diagonally, blocking the way. Four police officers stand before their vehicles. A short stocky officer stands ahead of the others. He points at the tarmac to his side and shouts, “*Berhenti... Tíngzhǐ... Arrêt... Halt!*”

“Giving us the bird in four languages. Wha'd'you reckon, Pix? A trumped-up dandy?”

“I think you better stop.”

“Oh, I intend to.”

Jo slows the Humvee to a stop, putting the driver's door beside the astute linguist, who rotates his wrist as if to roll down the window. Jo hoists her arms in the air and cracks open the door. Before protests are made or weapons drawn, she's out and standing before the gate detail, beaming a superconfident smile.

“Windows not opening? No seatbelts?” asks the linguist, using trader English which comes out better than Pidgin. “Having special permit?”

“No prob,” says Jo, and glances inside. “Sonya, please hand me the voucher behind the sun visor.”

He examines the voucher and raises his brows. “This looking OK. But you drive very unusual vehicle, yes?”

“Officer...” Jo begins and pauses.

“Sergeant Wen.”

“Call me Erin.” She gestures inside. “And my partner, Sonya. The Humvee ain't our 1st-choice, Sergeant Wen. It's something Trig Lines dug up on short notice.”

“For castoff bricks?”

“We're taking the bricks in for asbestos testing. Could be very toxic, y'know.” At the cargo bay two police officers are reaching for the bricks. “Sorry, we don't have extra face masks for you fellas.”

Sergeant Wen waves them off, and they retract hands as if stung. “That's all you carry? Just bricks?”

“Underneath there's a chest for our survey gear. Theodolite, tripod and plumb bobs... standard tools. We did last-minute line checks before we gathered the bricks.”

Wen consults his palmslate. “This morning you drove in alone, according to the gatekeeper.”

“He was more interested in munching doughnuts. Just waved me through. He never saw Sonya 'cuz she was slouched, half-asleep in her seat.” Erin winks and confides, “Too much bubbly last night.”

He nods, swallowing hook, line & sinker. “I won't keep you ladies

much longer. But today we're having a terrorist incident.”

“We heard a blast. What happened?”

“The investigation is ongoing. When the facts are clear, you'll hear it on the news. For now I must ask you to join me in my squad car. To check your smartcards.”

A quick swipe of their smartcards will tell Sergeant Wen about any outstanding crimes in Malaysia or elsewhere. As well he'll get a snapshot of their height, weight, hair color, eye color, age, date of birth, place of birth, current residence, status of parents and siblings, formal schooling, travel and work history. If their cover stories don't add up, he could request a swab test.

Neither Jo nor Jen want their genomes recorded. Once added to Malaysia's database, their DNA would be linked to their current IDs. Those IDs could later be blamed for assaults on Petronas tower 2. Any future switches in personas would be for naught, since their DNA would still be flagged in the global database as 'persons of interest' for police agencies across the globe.

Advances in genetic analysis have made swab tests the best method to certify personal IDs. Wen's squad car has an automated lab kit that pinpoints crucial sequences of genomes, which are then digitized and uploaded to the Malaysian registry. The process takes 20 minutes, the same as fingerprints or iris scans which may need human scrutiny to ensure accurate results. Foreigners like Erin and Sonya would trigger jurisdictional delays before genomes could be verified, adding another 20 minutes. 40-minute delays are akin to harassment, so Wen will likely forego swab tests unless his suspicions are roused.

Jen sits beside Jo in the backseat as Wen examines the readouts from his palmlate. “Both of you make your homes in Melbourne,” he begins. “How long are you working for Trig Lines?”

“Three years next July,” Jen says.

“We're a team,” adds Jo. “Exact to the **millimeter**, that's us.”

“We share the same apartment,” Jen puts in. “Best friends.”

“How fortunate, meeting of two strangers so far from home.”

“Oh yeah,” says Jo. “After hurricane Mohamed there wasn't much left for me in Florida. I still miss the relatives, but my down-under luck has turned for the better.” She flicks a grin at her partner.

Sergeant Wen turns to Jen. “And you?”

“Grew up in eastern Russia... Yakutsk.”

“You didn't immigrate straight to Australia.”

“No. After school I moved to Amsterdam where I worked for two years.”

“Odd jobs I'm guessing.”

She doesn't want him recognizing her as the former aerobat with the **Imperial Circus**. He should be fooled because her circus days occurred two decades ago when she wore heavy makeup and gaudy costumes. But just in case, she plays up the Russian gal stereotype, a sweet chick who climbs out of poverty via sex appeal. But no honest citizen would admit to dancing striptease or rocking the bedsprings, so Jen feeds him the sanitized version.

“Mostly I worked as a nightclub hostess,” she demurs and flashes a pearly-white smile. “Men liked my small size and sweet temper. Tips added up, and after two years I scored a visa to Australia.”

Wen nods, apparently satisfied. “I see no reason to delay you further.” He retrieves the smartcards. “Take these.”

“Thank you so much, Sergeant,” minces Jo. “I hope you catch the nasties.”

“We will. Never doubt it.” He watches them nearing the Humvee. “And drive safely.”

“Always do,” asserts her getaway doyen.

Jen flashes a grateful smile and waves goodbye.

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Jo maneuvers the Humvee around two squad cars and exits the project. The Humvee moves at a sedate pace until the policemen are

out of sight. Then she heavy-foots the pedal and starts overtaking cars and mopeds.

“Why the excess speed, Jo?”

Her eyes never waver from the road. “If I drove slower I'd start to daydream and cause an accident. This way my senses stay alert and online.”

“If you drove a bit slower the Humvee would be less noticeable.”

“Maybe. Maybe not.”

Jo lays on the horn as she powers around an electro-compact. The driver shows white knuckles on the steering wheel as if coming face-to-face with his worst nightmare.

“They must've sifted through the wreckage by now,” grouses Jen.

“They'll know we're still loose.”

“Not a chance.”

“Why not?”

“When have you ever seen uniform cops or armed mercs doing physical labor?”

“What if the missile landed in the street?”

“Wrong angle. Streets are too narrow. Not an empty lot in the project. The missile def hit a building somewhere and left a compost heap. I give 'em two-three hours before they hit pay dirt.”

“By then let's hope we're speeding down the highway.”

“Ain't you hungry? I'm ready for lunch.”

“Dunno, Jo. Shouldn't we be on our way?”

“No better place to hide than in plain sight.”

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Leonid jumps at the ring tone of his vidcom. He grimaces when he sees who the caller is.

_I'm about to get reamed and sacked
_for letting a lone intruder sneak
_past the guard of 78 elite roosters.

Leonid lifts the receiver. "Leo, here. Petronas HQ."

"I'm angry and disappointed, but I won't assign blame until all the evidence is in," Rathbone says. His tone of voice leaves no doubt as to who will get the blame. "Right now, we gotta catch the perps. Gimme an update."

"We're making progress, Sir. I've contacted the demolition crew to clear the blast site. They've agreed to come in on short notice and should be arriving about now. We'll soon know if bodies are buried in the rubble. Meanwhile I've got a team observing the McJoys where those two surveyors stopped to eat."

Rathbone harrumphs. "Why are two females driving a Hummer?" he asks as if to himself.

"Our mole at the gate says they had trouble finding a suitable rental," replies Leonid. "The Hummer was the last resort."

"An unlikely tale. Only smugglers would need a Humvee."

"Most of the SUVs are stationed around Cyclorama. The other four are watching access routes to the North-South highway."

"So far, all our info comes from a paid mole," grumps Rathbone. "We need more cooperation. I'll contact the **KLP** commissioner and play the terrorist card. Meanwhile, tell your observers at McJoys to go inside and question those bitches."

"Yes, Sir. I'm on it."

Leonid signs off and buzzes the ground-crew leader. "Rashid, patch me through to the guys at the fast-food joint."

"Wait one-sec, Leo. OK, go ahead."

"Who'm I talking to?" asks Leonid.

"Joxi."

"How'd you like the 4-wheeler?"

"Ah..." Joxi hesitates. "It's OK, I guess."

"Typical **NOAM** crap. Well, if you're good as they say, you oughta make-do with poor equipment, right?"

"Sure thing, Leo."

“Go inside McJoys and ask those bitches where they're going after lunch? Y'know the drill.”

“Right on it.”

32. Forager

One day earlier

Kung, Haida Gwaii: 11 May 2076

Once past familiar shorelines, eco tourists would find themselves lost in the rainforest. There are no signposts or marked trails. Young bolls and rampant underbrush have overgrown the old logging roads. Hillocks, ravines and brambles force constant detours. GPS navigators are next to useless.

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The rainforest is familiar turf for Raven who traipses through all kinds of terrain without ever losing her way.

Since she was old enough to walk, Kung's elders have taught her to follow the byways of local animals. She finds trails by checking for matted sedge, broken branches or scuffs on deadfalls. Blacktail deer carve the best trails for cross-country travel. Deer don't move in straight lines, but they take the smartest routes, avoiding thickets and impassable obstacles. They travel everywhere, and their pathways meet at intersections and forks.

Where adults bend low to squeeze under overhangs, she ducks and darts under as easily as four-legged trailblazers. Bears, raccoons and beavers often use the same trails. The greater the traffic on a given route, the more the underbrush is thrust aside. The best routes connect special points of interest, such as watering streams, feeding meadows or bedding-down places.

Raven looks for droppings, mussed foliage and other telltales until she recognizes familiar signs from earlier excursions. Telltale clues tell her where a route will lead. Sure-footed strides take her past knee-high ferns and thorn-loaded brambles. She adds to her mental map of

networked byways when she tries new offshoots.

Parsing butterwort, pinesap and wildrye, she keeps alert for edible plants amid the foliage. Songbirds dapple her ears. Multishaped greens shed familiar aromas.

_I've gathered a week's supply
_of peatmoss, having found a
_choice patch I couldn't pass up.
_Maybe I should've held off
_before filling my backsack
_and weighing myself down.

Mammals lurk everywhere although raccoons, blacktail deer and squirrels scamper away as soon as she draws near. Bears have no fears. Nor do they get angry and charge unless surprised or the mothers fear for their cubs. Black bears have poor eyesight, so they rely on ears and nostrils. When foraging windward, Raven chants the bear song to let them know she's on their playground.

Blue skies have given way to grayish clouds whose dark fobs debate whether to spit fine mist or spew in earnest. The terrain abounds with sheer trunks that reach as high as arrows fly before unfurling umbrella-like canopies that filter daylight to shadowy gloom.

Liquid beads appear on verdant fronds. Droplets kiss her cheeks in featherweight dabs, while moccasin soles impress sponglike soil. Trails in the rainforest are never far from mucking mush.

Floral odors evoke memories of Jade Runner who smells anything but sweet. Raven pictures him in the fisher's canoe, his knees slosed amid heaps of caught fish, his rank odor taunting her nostrils. She can almost taste the droll flavor of sea salt and slime, the dead-fish smell that infests clothes and lodges in his pores.

Young women who clean and cook fish don't mind his grungy bouquet.

_I've seen them flirting with Jade,
_making shameless goo-goo eyes.

_So far, he hasn't gone for their lures,
_but Headpa's warning makes sense.
_If I hang back too long, I'll lose Jade
_and my hopes to go to Tsawwassen.
_I just hafta pinch my nose
_when we do stuff together.
_The last time we took
_a two-person baidarka,
_he praised my strong stroke.

Approaching the small bay where snowgeese nested, cool evening air brought furls of mist, a perfect camouflage. The fog thickened as her paddle slipped through water as quiet as falling snow. The **baidarka** must've threaded between sentries, for the first warning erupted less than five paces away. The whole flock convulsed, wings flapping till the fog shattered and cleared the air. She gaped at white birds rising *en masse* like volcanic steam.

_Snowgeese have long gone,
_flown north to mating nests.
_I'll pack fruit, and we'll
_paddle to seagull island,
_munch berries and watch
_the evening stars appear.

Raven hasn't worried about Jade taking liberties. She's heard lots of sweat-lodge gossip about ways to stop unwanted advances. A sharp elbow has already given one overeager pup a bloody nose.

In truth Jade is slower than a creeping vine. She needs to warm him up, so he'll do more than run fingers through her hair.

Goodma has advised her to refrain from sex till the kinship vows have been taken. If Jade gets too enthralled with the prize, he'll skimp when it comes to building the kinship hut. It'll sigh under winter gales and drip like a runny nose after weeklong rains.

Raven smiles as she recalls Goodma's frequent warnings.

Goodma let Headpa have the prize before she left Kung to study horticulture. During her time in Tsawwassen she worried and prayed Headpa would stay true. When she returned Headpa greeted her with the largest and sturdiest hut in the village. "Lucky me," Goodma tittered. "Not everyone's as noble as **Long Hand**."

Having overheard Goodma's nighttime moans and seen her facial glows at breakfast, Raven reckons nightplay is a woman's best reward. But she's in no rush to open that door. Once she goes skin to skin, she'll hafta share Jade's hut, hafta do wifely chores, hafta stay rooted in Kung till she's old and gray. Her fate may be headed for the twosome canoe, but no one says an otter can't walk on water.

_If I feed Jade a bowl of squirrel
_stew, maybe his body odor
_won't smell like oolakon brew.

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As she crests the ridgeline, mature redcedars appear on the far side of a ravine. Clumped together, the bolls rise tall and straight from a steep incline of underbrush. Loggers who clear-cut the area years ago must've let this copse alone for whatever reason.

She scans the bolls for nobbs or indents, for telltales of sawtooth killers which tree huggers have planted to foil commercial loggers. Thick nails may wreck fallers' equipment, but they also leave bolls unsuitable for canoes.

Once the spikes are removed, the bolls leave gaping holes that are hard to plug. Hollowed logs become weaker and prone to cracks along the grains. During the strains of landing fish, the plugs can fail and flood the canoe, sending fishers, canoe and fish to the bottom.

From across the ravine, the bolls look fine. But she needs a closer look to make sure. Raven picks her way down slope where she pauses and searches for a string of step-stones to bypass the rivulets sluicing amid mud pies. She finds a suitable fording path then glances further

upstream where the ravine curls out of sight.

_Must be a beaver dam.

_Too early in the year

_for the current to trickle.

The climb up the far slope has Raven breathing deep. She pauses a moment to feel proper awe and respect for the tall giants.

Redcedars have lightweight fibers that don't often rot. Perfect for dugout canoes. Their roots make excellent barbecue sticks, dip-net hooks and fish floats. The branches make harpoon shafts, whistles and fish spears. Bark is fashioned into wicker baskets, rope, clothing and floor mats. The bolls are cut and trimmed for planks or totem poles. Redcedars lend the vital needs for survival. Along with yellow cedars, they're called *Trees of Life*.

After a walk-around Raven confirms the bolls haven't been spiked or gnawed on.

Blacktail deer favor younger trees with softer bark, but they won't refuse mature bark from their favorite species, especially in winter when snowdrifts cover the underbrush. Still, it's surprising to find a whole stand of redcedars gone unmolested.

From hearsay she knows that hunters often stake out this ravine. Ingrid's husband may've slipped and broke his back down this very slope. Frequent hunters tend to spook deer away, and thorn bushes on the ridgeline may've deterred the bark eaters.

Kung's head canoe is the largest vessel in the village. It carries thirty villagers plus trade goods. It's used for voyages to the Lighthouse and Masset and, on rare occasions, to the mainland. The head canoe has been around for three summers. A replacement will be needed this year or next.

The bolls of mature trees are almost full-sized. Granny has told her, "to take bark from the side where the moss grows least. If you strip the tree of bark, you'll weaken the heartwood's future growth. But that's OK since the boll will be marked for the next head canoe."

_Do I wanna harvest a bark wedge?
_I'm burdened with peatmoss. Add
_a wedge from a grown tree, and it
_will span at least twice my height.
_I'll need to hang the backsack
_in front and use the harness
_to tie the bark wedge in back.
_Granny asked for a good-sized wedge.
_Her eyes won't believe this whopper.

Raven shrugs off the backpack and harness and sets them aside. She pans the slope, looking for a suitable rock. Something that's flat on one end and easily gripped on the other. Her digging tool has a sharp metal edge, but it won't pierce the tough fibers of redcedar bark unless she knocks it hard and deep.

Insects despair when they try to attack the *Trees of Life*. Tough strands of bark are hard to bore through. The pests need several lifetimes to reach the heartwood. That is if the potent resins don't stop them cold or send them fleeing in nauseous stupors.

The mist has become a steady light rain, but her clothing is far from soaked. Nothing would ever get done if band members ran for cover at the first drops of rain.

A good rock fits in her palm. She pulls out the digging tool and crouches to one knee. The horizontal cut must be made about thigh-high since the bottom of the bark flap will rise to chest-high as it's pulled outward.

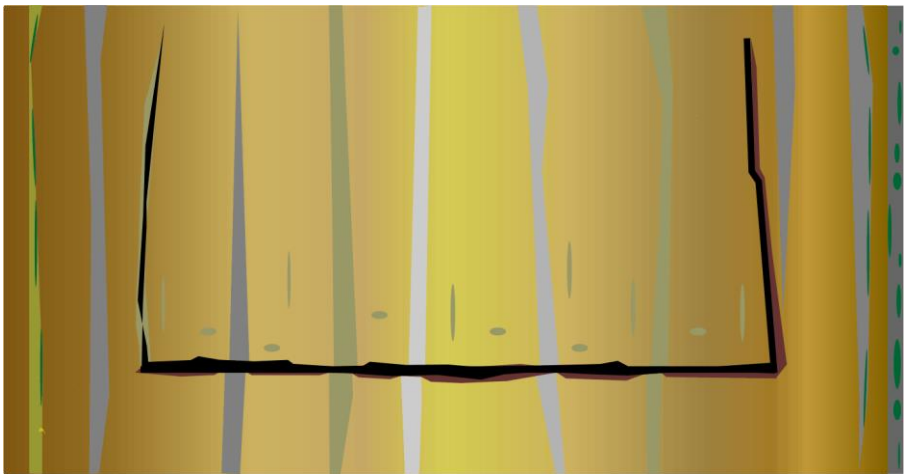
Raven places the edge of the digging tool just so. She wields the rock and hammers the digging tool's handle until the edge bores into heartwood. Then she moves the tool to the left and drives it deep once more. After several repeats, a horizontal gash has formed that stretches more than half-width of the boll.

She rotates the digging tool to the vertical position and places it at the end of the gash, so the edge points up along the trunk. She drives it

deep. Moving the edge higher, she pounds into heartwood. Higher up, she extends the groove again and again. When she's done the vertical and horizontal gashes form a tipped-over ell. Then she moves to the opposite end and starts the 2nd vertical groove.

The tricky part comes when she uses the digging tool as a chisel to pry the bark apart from the heartwood. Care and patience lever the bark out until a solid flap hangs two handbreadths above the horizontal cut.

She pulls gently at first to make sure the strands of bark stay with the flap, not the heartwood. One-step back and then another. Soon the loose flap lengthens to half her height. A few more back steps and her handgrips have risen to chest level. Little by little Raven keeps pulling as she back-steps. Some of the bark strands break away, so the wedge gets narrower as it lengthens.



The flap grows to almost three times her height. She takes two steps to the left and four steps to right as more and more strands break away from the flap. Higher up, the flap has narrowed to half its widest breadth.

Now it's time to pull the bark wedge free.

She gives a mighty tug while leaning backwards. At first nothing happens. She takes two steps back and tugs again. Her efforts bring ripping and tearing sounds. Then the flap pulls free and knocks her to

the ground where she lies supine under a heap of gnarled bark.

Raven crawls out and stands upright before ground moisture soaks her clothes. The bark wedge has a slight bend near the base of the boll. She crooks the bend till two halves meet, one atop the other. Then she readjusts the peatmoss sack to hang at her chest.

Double-layered the bark wedge is much taller than she is. It will be cumbersome, once it's hooked to her back harness. She's liable to topple over if it gets caught on a tree branch.

_But it's the best I can do.

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Despite the extra weight, Raven sets a brisk pace, her footfalls sinking deeper in humus. The doubled-over wedge spires high above like a totem pole. It magnifies her sidelong swagger.

The gray overcast has brightened and ushered a lapse in the rain. Her clothes have gotten no wetter. Nor have they gotten dryer, owing to frequent brushes with damp undergrowth, not to mention drips from the canopy above. Aphids and mosquitoes swarm about in the moist windless air.

_Bark wedge has slowed me down.

_Half a-dozen times, I've had to

_unhook it to pass under deadfalls.

Extra labor aside, she keeps a lopsided grin on her face. The large oversized wedge will prove a great coup. It ought to make dozens of wicker baskets or sturdy fishnet handles. The whole village will be surprised and envious when she returns.

Raven moves quiet as a cat, tireless as a trooper. One leg forward, toes touch down before her foot lands flat. Then the other leg forward. Five left-right steps, a brief pause. Then do it all over again.

Slog, slog, slog...

_Salmon berries are next to gather.

_On the trip to the Lighthouse

_then Masset and back home,
_paddlers will get mighty hungry.
_They'll want juicy berries to go
_with smoked fish that's tough and dry.
_I gotta come back with lots of berries,
_or everyone will put the blame on me.
_Gotta keep a steady pace
_till I reach the Spirit Tree which
_fronts the south-facing slope,
_where I hope to find salmon berries.
_Same old story. I get praised
_for doing stuff no one dares,
_but I get scolded for not doing
_the easy stuff everyone expects.

Too many adults have pegged her for a firebrand. Getting scolded by Headpa and losing computer access hasn't helped. Now Goodma wants her to spend more time doing common chores, like cleaning and cooking fish.

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From an early age Raven has been Kung's chief prankster. At first Jade was her loyal accomplice. Their pranks were lighthearted, not mean-spirited, drawing more laughter than scorn. Both were offspring of influential families, so adults smirked and scowled and blamed the wild behaviors on youthful energy.

Everything came to a head one afternoon when she swiped red paste from the carver's hut and colored a dozen faces of her peers. She managed to exhaust the paste, so none was left for Jade or herself. The youngsters hooted and danced like wannabe warriors, threatening each other with red-faced scowls. It was great fun until the dinner feast when the adults caught on.

_Haida customs reserve body paint

_for warriors or teeners going through
_the traditional rites of adulthood.

When the adults saw the painted faces, they got angry as enraged bears. The lark, they said, was in bad taste. Headpa added fuel to the fire when he grumbled about wasted pigment. The kids said they found the red paste lying outside, already used and discarded. When that excuse didn't fly, they had no choice but to accept blame. Even so, they honored youthful solidarity and didn't spit out the whole story. Headpa suspected there was more to it. Several times he glanced at Raven who sat beside Jade, both looking as innocent as cherubs.

Parents ushered their kids home for a thorough scrubbing. The following morning the adults offloaded drudge chores on the offenders who swept dirt from the longhouse, mucked out the dog's kennel, lugged fish offal to seagull island and hauled wooden planks to where a new hut would go up. Youthful solidarity had worn thin at this point, but the kids held their tongues and bade their time.

The next morning Jade and Raven were chased by an angry mob of their peers who were out for payback. They ran for their lives around the village. Raven could sprint as fast as anyone, but the angry mob tried to cut off all paths of escape. She knew if the chase continued for long, she'd tucker out and lose her wind. Jade wasn't a born sprinter, but he could run for hours without breathing hard.

Somehow they managed to shed their pursuers by splitting apart and racing to forest hideaways. When the hullabaloo died down, Raven sidled over to Jade's hiding spot. She brought fresh-picked tubers to ease their hunger pangs. They waited till the dinner feast had finished before they approached the village.

They were about to part company and sneak back to their respective huts when Granny Warm Bear appeared from the shadows. She seized their ears and frog-marched them to Headpa and Jade's headpa who gave them lurid tongue-lashings and two days' worth of odious chores.

Shortly after, Jade went through the rituals for adulthood. He was

invited to join the fishers where duties kept him busy. He worked hard and received praise for his efforts. Adults could see he had the makings of a stalwart fisher which upped his stature in the band.

Raven lost a good friend.

She spent mornings and afternoons helping Goodma in the garden or foraging in the woods. When young women her age prepared the dinner feast, she'd jump in a baidarka and paddle away. When they griped, Raven told them she was making counts of wildlife. She got Edgar to confirm he'd sent her sums to the GREENS via computer. But they still accused her of slacking off and being aloof. Headpa's frequent scoldings didn't help matters. Some of cooks called her *snooty bitch*.

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Raven isn't looking forward to summer. It will mean spending more time preparing the dinner feast, chumming around with gals her own age and listening to their aimless gossip. They argue like seagulls vying for fish guts. They argue over how many branches should be laid on hot rocks, how many on top of the pit, how long to let the fishes steam before they're cooked and tender.

They take a simple task and chew on it till their teeth ache. When the fish are cooked and lifted from the pit, the cooks gather and check for color, texture and juiciness. They bicker like ravens over who cooks the best fish. It's mostly nonsense as far as Raven is concerned because the rocks and steam lose heat over time, so the last few minutes in the pit don't really matter.

But the cooks won't listen to her opinions. They send her on dubious errands, like gathering wood to heat the rocks or fetching boughs to cover the pit.

_Gonna be hard to humble
_myself all summer long.
_Most of the cooks would be
_lost on the damp trails

_where I slog amid insects.
_They're just aping the elders
_and revamping old Haida ways.
_They envy me 'cuz I've got
_the inside track on Jade Runner.
_I'm as comely as any of them
_and three times as brave.
_Still, they got me pegged
_as a megadome groupie,
_thanks to Headpa.

Raven doesn't mind doing manual tasks. She welcomes foraging for edible greens or searching half a-day for medicinal herbs. She's proud of her wilderness skills. Not everyone has the knack to spot worthwhile plants, to move with stealth and explore new ground.

Raven is too young to know firsthand what it was like before the Changeover, but she's heard stories.

Some kids would fit bags over their heads and sniff gasoline till they passed out. Logging companies made wastelands of old-growth forests. Open-sea fishfarms spread diseases to fish in the wild. Guys who found jobs outside the village would come back with cases of beer and satchels of drugs. There were lots of drunken parties. Sometimes the partiers would doze off with cigarettes still lit. The hut would catch fire and burn, killing the drunken sleepers.

The Changeover has removed labor-saving tools that run on fossil fuels. Solar panels and windmills have replaced diesel generators, reminding folks that electric juice doesn't flow in endless supply. Kung must ration computer time during the dreary months of winter.

The band lost more than half its members who moved south to Big Island or Tsawwassen megadome. Those who stayed have better health, better self-esteem and greater purpose. Daily chores make for extra physical effort, but folks seem happier for it.

Fossil fuels don't make foraging easier. Motor vehicles can't go far

without roads. Motor bikes might go farther, but they'd soon get stuck when the trails turned sloppy, forcing riders to dismount and bypass the swamps.

Even before the Changeover, water was the best way to travel. Thirty paddlers in a head canoe can outpace most skiffs with outboard motors. For long-range jaunts, a hoisted sail and favorable winds gives paddlers a welcome rest. Raven likes baidarkas because they're quiet, and she can get near wildlife without spooking them.

But there are always complainers: tree fallers wishing they had chainsaws instead of heavy-bladed axes; women griping about the lack of colorful yarns at Masset store; fishers wishing they had plastic-coated nets that wouldn't rot so quick.

_Give one of the cooking crew
_a cute dress, and she'd turn
_tail faster than a mouse
_fleeing a hawk's shadow.

She understands Headpa's concerns about youngsters running off to the megadome, but she doesn't share his Haida beliefs. He thinks the Haida way is the only way. He wants everyone in Kung sheltered from "bad" influences. He judges GREENS no better than the loggers and land developers of yesteryear.

Raven has another take on the folks stationed at the Lighthouse. She knows several GREENS by name. They've never failed to answer her questions, however dumb or foolish. They treat her no different than a megadome kid.

GREENS aim to restore the lands and seas to their natural states. That's why they've encouraged most folks to live in the megadome. Anyone who stays on the land uses simpler tools that don't wreck the environment. No one band or co-op owns a tract of land. The forests and seas are shared by all. Local bands or co-ops are stewards of whatever territories they occupy. Fishers, foragers and farmers count the numbers of wildlife and send the totals to GREENS who ensure no

species is overfished or overhunted.

As far as Raven can tell, Headpa's goals and GREENS goals are mostly the same. Since the Changeover the GREENS have supplied Kung with tools, solar panels, a rainwater cistern and windmill. Although Headpa complains about the cost in smoked fish and carvings, GREENS have never messed with Haida traditions. The big difference is that GREENS recognize people and customs outside of Haida Gwaii, whereas Headpa does not.

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So focused on footfalls and thought trains, Raven hasn't noticed the clearing until she's right on it. The clearing features a grassy meadow that extends all the way to a boglike slew of standing water crowded with lilies and whatnot.

The Spirit Tree is the only standing boll in the meadow. It consists of three ancient yellow cedars ingrown as one. Though not as tall as old firs or redcedars, the shared trunk is as wide around as any she's ever seen. Kung's computer says the Spirit Tree is more than 1,000 years old, so it must've sprouted back in the times of Deer Horn's tales.

Before she was born, Kung's elders led a protest that saved the Spirit Tree from the logging companies. So here it stands, a talisman and good luck charm. Twice a-year on the shortest and longest days, the whole village gathers round the Spirit Tree to pay homage to the oldest living creature. In return everyone feels a sense of comfort and peace, a quiet energy that overwhelms petty gripes and peeves.

Raven mouths a silent prayer of tribute as she jaywalks among tall grasses toward a bramble-covered ridgeline where she hopes to find salmon berries.

At first she thinks it's squirrel chatter, but the sound persists like the ragged rhythm of a two-handed saw. Curious, she veers closer to the Spirit Tree, for the odd noise appears to come from behind its great trunk.

Once she has moved to where she can see around back, her eyes grow as large as clam shells. Before her looms a full-grown bear who stands against the tree, scratching its back on the gnarled trunk.

_Too late to regret
_not singing the bear song.

The black bear spots her, stands away from the boll and lets out a savage growl. More than twice her height, the bear's head is wider than her shoulders.

_Shocked beyond fear.
_No time to imagine
_the physical damage
_a large paw will do.

All her muscles are trembling. Every bone in her body wants to run away, yet she has the presence of mind to recall Granny's advice. "Stand firm. Don't panic. Sing the bear song."

Raven summons her voice, thankful it comes out clear and strong. Belated verses of the bear song pierce the natural ambiance. Only then does she feel the full force of present danger. To banish nervous energy, she rocks her weight from foot to foot, causing the bark wedge to sway back and forth.

A standup bear is the tallest creature in Haida Gwaii, yet the top of wedge is on level with the black bear's snout. It eyes the bark wedge's back & forth movement like an upside-down pendulum.

Time passes as slow as slugs climbing over a fallen log. The bear appears undecided whether to move or charge. It stands a few paces away, its eyes fixed on the top of the wedge. She realizes the bear must see the wedge as solid and heavy as heartwood.

_What if the bear gets upset
_over the back & forth motions?
_Can I stop and make amends?

She dawns a hopeful smile but fails to calm her anxious legs.

Then she botches phrases of the bear song. The behemoth utters a

grunt. Raven shuts her eyes and awaits her doom. After a count of three, she opens eyes and sees the bear has dropped to four paws. It eyes her one-last time, turns away and lopes across the meadow toward the forest.

She wobbles dizzily as air gushes from lungs. She breathes in fresh oxygen until the dizziness fades. She revels in pure euphoria.

_Wow! I've stood down
_a full-sized bear.
_Don't know how,
_don't know why,
_but I'm gonna play it
_for all its worth.
_I'll tell Goodma, Granny
_and Jade that I found
_the bear snooping
_at the salmon berries,
_and chased it away.

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Approaching the southern slope, Raven spots plenty of salmon berries. They're nestled behind thick fronds of brambles. Her digging tool hacks the thorn branches aside. In no time at all, the bentwood basket is three-quarters full. Some of the berries aren't all that ripe which gives them a sour tang. But they're juicy enough, and they'll go well with smoked fish.

The hike home is a fair stretch, but the path is well trodden, used by animals as well as band members trekking from Kung to the Spirit Tree. Adults have pushed most of the deadfalls aside

Halfway home, the sun peeks through, shafts of light streaming down from the clouds. Raven reckons the sunlight is a good omen, a perfect climax to a successful forage.

Her burdens grow lighter with each step. No one expected her to

land such a great haul. She can't wait to see the expression on Granny's face when she hears about the black bear. If she tells it right, the elders may even make a song about it. For once, Headpa and Goodma will praise her good deeds.

More important, today's exploits should raise her stature in Jade's eyes. Once he hears how she stared down the bear, he may decide to study with her in the megadome.

She hears the cackle croak of a raven and eyes her namesake darting overhead.

There in the sky a double rainbow appears. Its beauteous arcs swell her heart. Tears flood her eyes and dribble down her cheeks.

- _This can't be happening.
- _Hafta stop the silly tears
- _before I reach the village.
- _Haidas don't show weakness.
- _Never, ever. Never, ever.

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Wireless Dragonflies <ID:0442F19:PG#00X21>

HOAM furnishes the primary Cloud that enhances every type of browser. Across the globe whenever smart folks go online, they rely on HOAM. It delivers, inspires and optimizes.

A webpage, blog or video needs but one multivariate source that can be viewed in hundreds of languages and thousands of formats by billions of users. HOAM is the safekeeper and cache distributor at the top of the info pyramid. It has reaped more value from the semantic web by merging diverse formats in a symbiotic matrix stream. Built-in safeguards link vendors and users to everyone's advantage. It has homogenized web enterprise and upped the volume of **HyperNet** traffic. It assigns fair values to each and every info packet, even those in

the public domain.

Biotech firms, **CAD** outfits or consortiums may purchase extra computational power whenever it's needed. The owners of surrogate devices that lend processing time receive virtual credits from HOAM. Lender credits may be reinvested in downloadable holoflix, VR game-play, dating services, health advisories, software add-ons, irresistible bargains or safeguarding personal data with HOAM's vaunted backup plan. HOAM recycles idle network capacity and makes it available for mobile users, businesses or research consortiums that handle huge blocks of data.

Ubiquitous online commerce has allowed technocrats to monitor more financial transactions and thus collect more taxes. Politicos love the silver lining. They've rubberstamped HOAM throughout their jurisdictions.

With billions of computers online, HOAM brings exceptional advantages and safeguards. Its backup service boasts quintuple redundancy for high-proprietary data. Disgruntled hackers cause more nuisances than serious threats because **DLT** safeguards online content, financial transactions and data-laden Clouds. Neither hackers nor crackers can usurp HOAM's data streams, lest they evoke realtime penalties.

Sysops organize contests daring cyberbrats to slip through the backdoors of HOAM's defenses. Only the quick and clever, who've managed to reach inside supercharged cookie jars, will get the official jolt. After which, HOAM motivates the newly electrified to spear eelpout, skewer fleabots and otherwise shore up the webwork.

Corporations piggyback sales pitches with online services and embed adverts with downloadable goodies. Vendors allocate HOAM's digital mascots to soothe disgruntled consumers with 24-hour smiles and apologetic repartee.

Eco evangelists have endorsed electronic commerce which has brought forth the paperless society and slowed the harvest of trees.

Folks join forums and chat rooms. They parse oceans of info and browse tons of consumer cornucopia. They've taken the seminal words of D. L. Goutfoot to heart: "Surf at HOAM, and the world's your oyster!"
> SonyKong Infomercial, 2065

33. Cybernaut

Two Years Earlier

Midtown Manhattan: Spring, 2074

A black limo treads the roadbed flanked by multistory retail blocks. All-season radials thump over patchworked asphalt.

Trevor Wynestoop warms to his black-cat guise, a predator among wannabes. His rubber-footed panther shadows trucks, taxis, roadsters, SUVs, mopeds and kamikaze couriers, all racing like hyperactive hyenas to the next red light. The alpha panther joins the lineup of idlers as the light turns green.

Ever since proximity alerts have been imposed on motor vehicles, drivers have dumbed down like overeager hyenas. His chauffeur has a smarter plan. Neal moves at an even pace in sync with the traffic lights. He ensures a smooth ride for Jack and Jill who are prepping for the luncheon. All down Broadway, Neal will stay within 25 meters of the front-runners.

Trevor eases back on leather upholstery and peers sidelong through armored glass. A carnival ambiance reigns as pedestrians browse the shop windows. They're wearing AR glasses that render product specs and ballyhoo the hottest items. Walk-in traffic is brisk, and many folks are toting parcels. A clear sign of more buyers than sniffers.

The scene typifies the economic springtide when credit gushes over stream banks and floods the lowlands. Vendors prod consumers to buy till their smartcards run dry. Speculators flip condos and standalones before breeding pairs co-opt their nests.

To avoid runaway inflation, G-22 must soon raise interest rates to stem the credit glut. Buyers will grow shy when cash becomes scarce. They'll wait for steep discounts or hardship sales and leave the bulk gathering dust on the pallets of warehouse stews.

Trevor has nursed Wexol's war chest for the economic downturn.

Autumn droughts will see startups caught on sandbars, their gills gasping at air. His accipiters will scour the mudflats, weigh indebted flounders and acquire the most promising candidates.

Then real estate values will peak and drop off. Wexol Beam&Crane, his development arm, has one-last project under construction. Its other towers have been erected and are now occupied with captive tenants who must pay the rent or forfeit their leases. Unlike the Johnny-come-latelys, WB&C will laugh all the way to the bank.

Business cycles live and die on the remorseless tides of supply and demand. Alpha hunters dine on fresh-kills while hungry hyenas must wait for leftovers.

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Over a decade ago on a cold winter day at 73rd & Broadway, Trevor hosted the ribbon-cutting ceremony for Château Wexol. He must admit the media and VIPs warmed his heart and thrilled his soul.

His flagship rises 64 stories, a broad sword piercing the pewter-gray sky. It sports green-tech interiors, cozy ambiance and enviable views of Central Park. It generates heat & light inhouse, so it doesn't overtax the city's power grid. Hologized animations earmark four walls throughout the night, but these ads use solar energy gathered in daylight hours.

Château Wexol stands out amid dog-eared neighbors like a crisp-new Tarot deck. It sports a long-flat roof with nesting spots for 32 skycars. The multilevel car park across the street boasts enough roofage to land six airships at a-time. Passengers reach the head office across the 12th-floor viaduct. Hundreds of Wexol's commuters travel by air, so they shouldn't be blamed for gridlocked roads and bridges or overpacked subways.

Media wags have cheered the concept from day one. They've bemoaned the island's tattered image (lost prominence to Shanghai, Tokyo and Dubai) until mayor Bratko was prodded to act. He threw out the density bylaws and prompted a building frenzy that gave the skyline

a belated facelift. Dozens of gangly cranes are now perched above steel skeletons of future landmarks. They've put fresh gloss on the Apple and kept investors onside. Château Wexol has shown how profits award those who revitalize urban cores.

The original plan was to build the home office in Newark or Virginia Beach, which offered smaller tax grabs. Then came the opportunity of a lifetime. Trevor got a memo from a Wexol VP who chaired the board of NYC Heritage Society, a champion of historic landmarks. The memo gave him the front-door keys to a property as storied as the Empire State building...

_The Ansonia Hotel,
_a baroque throwback
_to the dawn of the electric age.

For 160 years the Ansonia stood tall and wide, an ornate peacock, a gothic anthem. It flaunted brilliant corners, brick outlays, iron fretwork and slats of copper weathered green. Its interior featured a voyeur's wetdream of opulence. When flamboyant gilt and rococo frills proved difficult to maintain, the rooms were refurbished as upscale condos and leased to celebrities, prima donnas and crooks. The residents included such notables as Babe Ruth, Elmer Rice, Igor Stravinsky, Angelina Jolie and Majed Yassin. All too often, Hollywood set the venerable hotel as a scenic backdrop for its period dramas.

In 1990 the ceiling collapsed on Ansonia's croissant shop, causing one death and several injuries. A full restoration was proposed. The Heritage Society offered to defray the costs, so the managers redoubled their efforts, despite fussy tenants who refused assaults on their inner sanctums. Arguments and rainchecks delayed every repair.

After the record snowfall of '29, some eaves troughs and roof panels broke off and damaged two parked cars. A dozen years later, the propane furnace exploded and sent three janitorial custodians to the hospital. More terrifying, a Burmese python broke out of its pen and devoured a beloved cat. The python fled through ventilation ducts and

caused real panic for two days. Last but not least a retired advert mogul was arrested and hauled to jail for distributing child porn. He lived in the same suite where Black Sox players took payoffs to throw the 1919 World Series.

These incidents foreshadowed the sauna that sank the Titanic.

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Trevor abandons his thoughts when Jill drops a prompter on his lap. The flatview displays columns of numbers in spreadsheet format, like baseball player stats. He squints and tries to make sense of lattice-like cells. The numbers must relate to his power lunch with Torero Grabb. Jack and Jill have been working hard to give him the edge that'll unseat the software maven.

<u>Basic</u>	<u>Apps</u>	<u>Total</u>	1st year	2nd year	3rd year	5th year	8th year	11th year	15th year
\$150	\$400	\$1,350	25%	41%	60%	78%	89%	95%	98%
\$200	\$550	\$1,550	20%	31%	49%	73%	83%	89%	95%
\$250	\$725	\$1,775	16%	26%	37%	56%	71%	81%	89%
\$300	\$900	\$2,000	13%	19%	26%	37%	49%	64%	79%
\$450	\$1,100	\$2,350	10%	14%	19%	26%	35%	44%	51%
\$500	\$1,400	\$2,700	8%	11%	15%	21%	27%	31%	36%
\$550	\$1,800	\$3,150	4%	6%	8%	11%	13%	15%	17%

Trevor's blank face invites Jack to open his mouth.

“This table summarizes our best forecast of consumer behaviors,” says Jack. “WBM has already set the median price of Cybernauts, so the key variable is the cost of Shrinkwrap's software. The leftmost column shows a range of prices for the basic OS. The 2nd-column shows extra costs for crucial add-ons that biz users will need. The 3rd-column tabulates the retail prices, including 800 **Amero\$**, our hardware markup.

“Columns on the right show WBM's projected market share after so many years have passed,” Jack goes on. “Our analysis is based on current trends and global demographics. The more attractive the price, the faster WBM will gain a dominant market share.” He points his finger. “Notice how buyers thin out if the retail price rises above 2,000 Amero\$. Sales growth stalls when the OS exceeds 300 and the plug-ins top 900. In which case, a joint venture is no longer viable. Shrinkwrap doesn't deserve the exclusive partnership with WBM if it can't furnish software at a reasonable price.”

“Fine,” says Trevor, assuming the grave pose of a decisive CEO. “The total software cost-per-machine should be 1,200 or less. That gives me leverage to use on Torero Grabb.” The biz wizards deserve praise for making smoothies out of broken-glass demographics, so he nods and adds, “Excellent work as usual.”

_A reasonable price is but one log
_on the fire to cook Grabb's goose.

He gives Jack and Jill the “CEO stare” till they lean forward to catch his words. “Prices won't matter if the software stinks. Any news on Geronimo?”

“No, Sir,” replies Jill. “Shrinkwrap has leaked the codename and nothing else. Our best fleabots dance through their netscreens. But once inside, they stop working like antiperspirant on a Marathon runner.”

Trevor frowns. “Grabb says his wunderkind will make virus attacks obsolete. He also claims the OS will perform lightyears ahead of current systems. How much of this hype should I buy?”

Jill raises her brows which are clipped as neatly as tournament golf greens. “Shrinkwrap's netscreens may prove as good as their hype. For sure, they've blocked our spyware. Grabb's code factory is out of reach as if buried in a black hole.”

“Performance wise,” Jack puts in, “you should stay 99% skeptical. Make sure the demo is legit.”

“Beyond the usual smoke and mirrors?”

“Right. I've added two nonlinear engineering problems to your desktop. The files include overviews and heads-up specs. I suspect the OS will need extra plug-ins to solve these ball breakers. When Mr. Grabb slots the plug-ins, ask him how much they'll cost. Once you add in the extras, you'll get a ballpark estimate of what pros and businesses will pay for turn-key solutions.”

“Makes sense.” He nods in approval and hands Jill her prompter. “I'll take it from here.”

Jack and Jill revert their eyes to keyboards and flatviews.

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Wexol's core businesses produce cutting-edge technologies. Trevor must decide which ideas are worthwhile out of many forwarded to his desk. The new stuff has become ever more exotic and bewildering. The older he grows, the less he kens the science under the hood. So he relies on advisors who transform half-cocked ideas into marketable products. When the wags fail, he goes with his hunches and hopes for the best.

Creative tech has always been high maintenance. It's rare for a product to hit the marketplace and sell like hot cakes. Innovative products require special marketing ploys, else the public won't bite, even during boom times. Consumers need a slew of infomercials before they heed the obvious. After new products have grown popular, folks wonder how they ever got along without them.

Take microsensors, for instance. They're effective, unobtrusive and cheap. Yet buyers were scarce until retail chains began using them for product ID, price tweaking and inventory routing. Then health workers realized microsensors could make wonderful diagnostic beacons and ingenious therapeutic tools. Dental technicians embedded stress indicators inside corrective braces, and heart pacers added ten years to human lifespans. Nowadays microsensors have been wedded to skyscrapers, maglev lines and bridges at every crucial joint, along every

span and cable.

The Ansonia was built a century too soon. If microsensors had been present in its framework, the maintenance folk would've heeded the warnings and averted the structural collapse. Trevor doesn't blame architects who relied on the knowhow of their era. Nor does he blame the harried managers who failed to spot cracks in the wizened dam. Ansonia's loss has been Château Wexol's gain.

In the summer of 2058, a Swiss financier offered to lease a penthouse suite if a sauna could be installed to spec. Herr Belz insisted on an airtight room to keep moisture and mildew from other living spaces. He specified glazed-ceramic tiles for the walls and nonslip tiles for the floor. Furthermore, he wanted a cool-down Jacuzzi with a metal frame and porcelain surface that circulated tepid water in whirlpool fashion. He was willing to sign a multiyear lease at eight-digit annual stipends to be paid in advance.

Ansonia's managers jumped at the chance to cover the renovation costs. Within two months they refurbished the penthouse and installed a deluxe sauna. Herr Belz found it satisfactory and authorized a credit transfer for the 1st-year's rent. He hung around for two weeks then flew back to Euroland, where he led a desk of bond traders through turbulent financial waters.

His cook and valet stayed behind. The young women caught the eyes of Ansonia's outgoing males. A custodian volunteered to vacuum their suite whenever he cleaned the hallways. A tall mystery writer became their helpful chauffeur by day or night. A fashion photographer brought them bags of groceries which earned him tea and chitchat during which he captured some informal poses.

Herr Belz returned for the Christmas break and kept his servants occupied inside. Their admirers had to settle for rare glimpses when the gals accepted deliveries.

One morning in January the outflow drains of the Jacuzzi became clogged. The sauna room filled with water until it bled through the

near-ceiling air vents. The seepage flooded electrical conduits and caused short circuits that plunged the Ansonia into darkness. Then floor supports buckled and failed, causing the entire suite to fall. Heavy fixtures in the sauna room dropped and slammed into a legacy commode, which acted like a spearhead and ruptured supports below. Water-laden debris plunged down nine stories before the pile held fast. By this time, steam shot from dozens of severed pipes, and fire buzzers rang strident alarms throughout the Ansonia.

Rescue teams and paramedics recovered 17 dead bodies. Herr Belz, his cook and valet were found amid the fallen debris of the bedroom. Other victims included two promising holo stars, a footwear magnate, a crossword-puzzle heiress, a soprano and two baritones from a local choral group and the ex-wife of the astronaut who'd first stepped on the surface of Mars.

Mayor Cesar Bratko expressed sincere condolences and promised a thorough probe. Investigators found structural defects and omissions in the maintenance records. Moisture had rotted the utility ducts in the voids between floors. Powdered rust covered the support beams, and deep fissures marred the slabs of concrete.

Investigators examined the sauna pool. They found swimwear blocking two of the outflow ducts and wads of purple tunic wedged in a third. Herr Belz and his servants had apparently frolicked in the pool before retiring to the master bedroom. When the sauna room filled with water, it sagged under extra weight and collapsed, taking the entire suite down. Herr Belz and the Ansonia management were each given partial blame.

Public opinion called for blood, whereas the relatives of dead victims hired lawyers who sought lotto-scale payouts. The estate of Herr Belz became insolvent after Swiss authorities accused him posthumously of embezzlement. Ansonia's board dismissed its top-level execs and filed for bankruptcy protection.

With each passing month the landmark's survival grew less certain.

Surviving residents who'd been housed in nearby hotels sought better lodgings. When their pleas fell on deaf ears, they got together and launched a class-action lawsuit. To pour salt on cash-challenged wounds, the Ansonia's creditors and arbitragers refused to advance more Amero\$. The Heritage Society organized fund raisers and public appeals to no avail. Salvaged goods were sent to fire sales or donated to Seniors Outreach Support.

Ansonia hotel went on the auction block. WB&C used insider gen to bid nine subway tokens above the nearest challenger. Once the deed changed hands, a demolition crew shrank the fabled landmark to heaps of rubble.

Trevor mollified the heritage crowd by reserving the Château's 5th-floor for the Ansonia Museum which houses artifacts, memorabilia and a legacy theater that screens films showing pans of the venerable hotel. Movie critics scoffed when Wexol announced that films would be shown in their original 2D formats, but the theater has drawn capacity crowds from day one. The museum generates steady profits and praise from nostalgia buffs, plus good will for Wexol's corporate image.

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Neal swings left off Broadway and motors down Maiden Lane. He jockeys the limo to a reserved spot ten paces from Phat Phil's Fried Fungoes. Hector springs from the shotgun seat and jogs to the entrance where he confers with Grabb's security dudes. Then he walks back and squats on his haunches.

Trevor lowers his window. "Everything set?"

Hector signals thumbs-up. "Mr. Grabb has taken a private alcove that's secured with audio shields."

"So what's the deal? We go in and have lunch?"

"I believe, sir, they're expecting you alone."

"Hell you say! Can't the tightwad afford a larger alcove?"

Hector shrugs. "Dunno."

“How many flunkies did *he* bring?” asks Trevor, unaware of the slur on his own aides.

“Just Carlos Ybarra to run the demo.”

“That figures.” Trevor roofs his brows. “He plans to blow me over with his bug-infested beta.” He winks at the wizards. “When has Grabb ever played fair?”

Trevor waits for Hector to move aside before he swings the door open and plants his feet on solid pavement. With a soft groan he rises from plush leather and levers himself outside. He stretches his 190-cent frame and relieves the kinks in his limbs.

“Change of plans,” says Trevor, as he ducks back inside. “Neal, take Hector and the wizards to the main dining room. My luncheon will drag on for a couple of hours, so go ahead and order the Bambino Spread. Tell Phil to add your stuff to Grabb's bill. If Phil balks, tell him I'll cover it. In which case we'll deduct your dinners against the 1st-shipment of software and send the luncheon chit to Shrinkwrap.”

Pleased with his impromptu lark, Trevor saunters to the door where the *maître 'd* waits to escort him inside.

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Phat Phil's Fried Fungoes is the most exclusive sportsbar in lower Manhattan. It's world famous for its showcase entrée of slow-baked **Pteropus**, a succulent bat soaked in a sauce of spicy herbs. The rest of the menu is chewable and cosmopolitan, though not in league with its stratospheric prices.

The dining tables have meter-wide flatviews that feature sporting contests in realtime or replays of classic showdowns. The liquor cabinet offers a full banquet of spirits, vintage wines and sour brews. Its décor and service are topnotch, and the bartenders have a knack for mixing perfect drinks, including the obscure concoctions that bar-stoop luses are wont to order. Phat Phil charges extra for alcoves enclosed with “deader” panels to rebuff audio snoopers.

Trevor opens the sliding door and spots Grabb's trademark profile. His African face oozes “bubba” appeal that has endeared fans and loyal customers around the globe. His laidback charm has uplifted him to the high crown of geekdom. Conversely, Carlos Ybarra appears as a techno nerd, a numbers guy whose paunchy face looks almost cherubic beside his elders.

Grabb's banter with Ybarra breaks off at midsentence. “Here he is, the moneybagger. Wipe that smirk off your face. This bistro sucks money like a diaper sorbs urine. A double shot of MB costs me 395 Amero\$. Plus the reservation fee is outrageous. I might as well make a down payment on the joint!”

Trevor can't hold back a grin. He'd love to see Grabb's cinnamon face when he gets the bill, including the Bambino Spread. “Quit griping, Tor. Wait till you drool over the servers. They're all nines and tens.”

“For comely skanks I gotta mortgage my ranch?” He shakes his head. “I'm bleeding all over the street, so the owner can pay your rent!”

“This block isn't mine,” chides Trevor, as he settles in the chair across from Grabb. “Wexol Beam&Crane sticks to office towers.”

“Right,” says the software maven, stretching the vowel to belabor his disbelief.

Torero Grabb could be the stingiest nickel-dimer since Ebenezer Scrooge. Of all people he should know it takes money to make money. He shovels more beans at ad campaigns than he pays in wages to his Bengali debuggers.

Without a doubt he's the least style-conscious CEO on the planet. His refusal to dress formally is downright scandalous. He and Carlos are garbed like color-challenged Hawaiian tourists. They look bad, even for software geeks who are famous for their informal attire. Casual-dress routines have gone viral ever since IT's origins back in the 20th-century when huge conglomerates mushroomed out of overripe sheds.

Trevor glares at their bargain-basement rags and rechecks the hang of his Windsor knot. “Get real, Tor. Our chat is sealed tighter than a

mosquito's anus.”

Grabb flares his nostrils. “I sniff, therefore I am.”

Trevor rolls his eyes. “All I know is you've kept awful quiet since WBM handed Shrinkwrap the machine protocols.”

“Feedback isn't necessary. WBM's processor design is excellent, and the coders have followed specs to the letter.”

“That's the first I've heard. At least I can tell the engineers to quit grinding their molars.”

“Don't worry, Trev. I'll give you a full rundown, once I recover from the cost of this overblown luncheon.”

Trevor has no sympathy for such nonsense. “Save it for the marketing campaign. That'll cost us *real* money. Cybnauts go way beyond the current benchmarks, but consumers aren't anxious to pay for life in the fast lane. Users have grown fat on HOAM servers where they surf nonstop for mere peanuts. Gimme one good reason to mate WBM's hardware to Shrinkwrap's OS. Ante up, Tor. You're getting 1st-crack at downloads before everyone else.”

“Shrinkwrap won't be downloading apps.”

“Say what?” The geek should be drooling at exclusive turf. “Since when?”

“Spiked your interest, have I?” Grabb ups his chin. “We'll get down to business after the drinks arrive.”

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Three pairs of eyes glom on the miniskirted waitress who glides like a water lily above long-stemmed nylons. Reddish curls embay her face whose skin appears fine-boned and flawless as a Grecian goddess. She places crystal shooters of Muskeg Buzzard on “Yankee” coasters then leans over to pour UltimaPop for Ybarra. Trevor gapes at the soft-white peaches that bulge from her sequined corset.

She passes on all counts and upholds Phat Phil's repute for hiring knockout servers. Trevor can't resist a romantic pitch. He cranes his

neck and draws her eyes.

“I need a companion next weekend for my jaunt to Bermuda. How'd you like to snorkel in crystal-clear seawater?” He arches a brow. “Or maybe you'd rather simmer your tan on a lazy private beach?”

The server is nonplussed. Her eyes shoot question marks at Grabb and his sidekick.

“I wouldn't trust anyone in a suit and tie,” says Grabb. “I'm from the westcoast where the beaches are free to the public, where the sun shines all day long and waves are meant for surfing.”

“We found this overdressed dude climbing out of a dumpster,” confides Ybarra. “My boss felt charitable, so we took him to the drycleaner.” He smirks as Trevor bristles. “He's tagged after us ever since.”

Tongue-in-cheek, the waitress feigns pity.

Trevor fumes at Ybarra for speaking out of turn. Then he spots a telltale of reappraisal on her face. No doubt his mug shot has been posted on Phat Phil's bulletin board. The crib sheet helps new hires to sort the VIPs from the wannabes. Moreover she looks unattached and not averse to dating sugar daddies.

The server pats his cheek and grins. “I've no beachwear to speak of, unless you rustle me some wraps from the dumpsters.” She turns tail and struts to the exit, her hips swaying double-crescent moons.

Trevor checks his drink and confirms the presence of a parsley sprig. It pays to be a “regular” at Phat Phil's.

“You've never grown up, Trev,” drawls Grabb in bemusement. “Still the college quarterback with cheerleaders on both arms.”

Ybarra guffaws. “The wench turned him down cold.”

“Don't count on it, kid.” Trevor adds enough vocal sandpaper to skin the nerd raw. “Just wait. I'll get her name when she returns and buy her new clothes.”

Grabb chuckles. “Care package from Victoria Secret?”

Trevor scowls. “When was the last time you wooed someone outside

your silicon ant farm?” He taps his prompter’s comm function. It has become a matter of pride to score the waitress. “That fine young woman craves a new set of summer wear.”

Trevor unhooks the vocal pad, speed dials and kisses his ear. “Hector? I need 800 for Bloomingdale’s...” He listens. “That’s right. Must be an outlet nearby, and bring the spendchip here... No, that’s all. Thanks.”

Grabb smirks. “Shame on you, Trev. Forty years of marriage!”

“Kelsey doesn’t mind,” he fibs, as if to rationalize the large gulf that separates him from a wife who prides herself in the arts of hoeing and pruning, who spends many afternoon hours fussing over blue-ribbon shrubs and flowers.

_It’s nobody’s business

_if I’m gone on comely legs.

_Grabb is no prize of moral virtue.

_He’s four times divorced.

“I keep my fishing trips discrete,” he adds aloud.

The software maven chuckles. “Might we forego bikini-clad bait and *tackle* the business at hand?”

Trevor groans at the lame pun. “Tell me about Geronimo.”

“Geronimo means zilch.” Grabb shrugs. “It’s the inhouse tag for our prototypes. The retail OS will be branded as Ultimate Companion. We plan to name the joint product **Digiflex**. So the prompters will be marketed as Digiflex LT and the desktops as Digiflex DT. Any qualms?”

Trevor rolls “Digiflex” on his tongue. Brand names don’t ensure instant buyers, but they ought to ring the right bells. “That might work.”

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Cybernaut is a full-fledged photonic computer, the 1st-breakthrough in digital hardware in more than a century. Cybernaut’s architecture goes beyond photonic busses and fiberoptic modems. At its heart is a full-function photon-matrix **PCPU** where photons are captured in

negative-index lattices. Microcavity lasers polarize photons into flexible spin momenta. WBM's multiphase processors run thousands of times faster and cooler than **CMOS** forerunners. In one fell swoop, Cybernaut has hurtled the silica-gallium barrier, gone beyond slow-mo graphene arrays and skirted around polarity reversals that've plagued biochips.

Until recently, PCPUs required supercool **SQUIDs** to extract persistent data from ephemeral photons. The first Cybernaut consoles were bulky and cloistered inside research centers where specialists babysat climate modelers, genomic splicers and rocket scientists.

Cybernaut hardware would've remained a pampered curiosity if Trevor hadn't outsourced Termites-'R'-us, Wexol's Brazilian subsidiary. Termites-'R'-us leveraged its nanotech expertise and delivered a high-gain photon amp. WBM replaced unwieldy SQUIDs with microamps which have cut retail prices for PCPU devices to affordable levels.

But speed doesn't guarantee buyers. Current tablets, game stations, **holojamborees**, prompters, desktops and servers are fast enough, especially when users borrow processing power from HOAM. Buyers will expect dynamite software that justifies life in the fast lane. They'll want an OS that's user-friendly and hassle free, that includes more bells & whistles than a New Year's Eve blowout.

The partnership with Shrinkwrap is crucial. And it works both ways. Without Cybernaut's speed, Ultimate Companion would run slower than molasses in January. Trevor needs Grabb to uphold *his* side of the deal.

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“The acronym for Ultimate Companion is UC,” says Grabb. “Monkey See is the current OS. UC rhymes, so it implies backward compatibility. Fewer buyers will hesitate to take the quantum leap.”

Trevor wants solid proof, not verbal hype. “Show me the goods.”

Grabb nods to his flunky.

“I've replaced the local feed,” says Ybarra. His fingers dance across the keyboard, then he checks the wall monitor above the vacant chair.

“Here we are, Mr. Wynestoop. Check out our companions.”

The flatview cycles through head & shoulder profiles of handsome-looking folks, each lingering for a few seconds. There are snapshots of lawyers, laborers, shopkeepers and quebies, both male and female with a mix of polyethnic diversity.

After two-dozen companions, Trevor turns to Grabb. “OK. I admit your companions look attractive, but that's only half the battle. Digiflex should do more than play games and remember names. Any current device will store email drops, vidphone codes and so forth. I wanna know if your cartoons will make workplaces more productive? Will they make caviar outta chopped liver?”

Grabb defers to Ybarra who scrolls through dozens of personas until the screen settles. “Ah. This one may interest you. Wanda has a face that'll score a thousand sales.”

“A cutie with ample cleavage,” drawls Trevor. “So what?”

“You may address her by name,” Ybarra replies, as he adjusts the flatview and keyboard. The face-on position is for Wanda's benefit as much as Trevor's. The upper corners of the flatview sport minicams and microphones, so the cartoon persona can hear and see users.

“She'll animate and do your bidding,” adds Ybarra.

Trevor knows the comely image is pure fabrication. But his voice comes out weak as if courting a diva. “Wanda?”

Light dawns in large brown eyes. Her sensual lips part open. “Hello, Sir. I'm your Ultimate Companion. Please, instruct me.”

“Can you transcribe a memo?”

“Easy as pie. Shall I address you as 'Sir' or would you prefer another name?”

“Trevor will do.”

“Wonderful, Trevor.” Bejeweled fingers brush the stray curls from her face. “To whom shall I send the memo?”

“Send to Joao underscore Nogal at nanopux dot-com. Subject: Alleged Plant Leaks.”

_Rapidfire biz-speak ought to tie
_her chipmunk brain in Gordian knots.

“Add greetings: Joao Noyal, CEO, **Termites-'R'-us.**”

A memo form appears beside the persona. Its input fields are nicely filled in. “Trevor,” says Wanda, “please use the keyboard to correct any misspellings.”

Trevor scans the entries. One alteration is needed, so he changes *nanopewks* to *nanopux*, an all too common mistake. His opinion of UC's smarts has gone from skeptical to passable. “Ready for the memo?”

“Abso raring to go,” she coos.

He bristles at the canned enthusiasm. “Dear Joao, I'm concerned as well. Wexol's legal team will be on the next flight to Brasilia. Keep me in the loop. Best regards, Trevor Wynestoop. Return to... wynestoop at wexolchateau dot-com.”

“Gotcha, Trevor. Are the words down right?”

He double-checks the fields. “Everything's fine. Thanks.”

“Shall I translate the memo to Portuguese?”

“No. That won't be necessary.”

“The memo is on its way. Anything else?”

“Not for now.” He turns to Grabb. “I see you've added **LeBab's** language parser to Ultimate Companion.”

“Oh yeh. Shrinkwrap has forged partnerships with Allscribe and other top vendors.”

Trevor winces. Too many partners will spread the profits awful thin. “How come Wanda... urr, *UC* knew the odd spellings of my sub and CEO?”

“UC receives automatic updates from a name database of all private corps traded in New York, London, Tokyo and Hong Kong and the names of their officers, plus management teams of major nationalized companies.”

Trevor pounces. “You said there was no need for updates.”

Grabb is unfazed. “It's a data service offered by HOAM, not

Shrinkwrap. I assume your clerical staff need to stay abreast of the current management hierarchies. Other users may choose holoflix offerings, train schedules, racing forms or whatever. Automatic downloads occur daily, as you know.”

“What about antivirus updates?”

“Not necessary.”

“UC's **netscreen** won't recognize the new fleabots.”

“UC has built-in protection.”

“You're yanking my chain. Unknown vectors can outfox netscreens like nobody's business.”

“I could talk for hours and not convince you.” Grabb hands him a bright box emblazoned with Shrinkwrap logos. “So here. Check it out. Have your techs give it a thorough diagnosis?” His grin is smug as a grub in the rug. “Whatever it takes.”

“Fine. Suppose my techs confirm UC's reliability. Then what? Security outfits are going to scream bloody murder when they see their multibillion-dollar industry going down in flames.”

Grabb shrugs dramatically. “So what? Antivirus apps block adware, but legitimate cookies can be annoying as well. Security firms protect bigtime orgs, whereas consumers tour the HyperNet at their own peril. That's the nature of the beast. UC denies bootleggers access to source code, but it doesn't crimp browsers or vendors. Indeed, webmasters will fall in love with UC's native snares for trolls and pests. Meanwhile, users can forget about malicious hackers, ID thieves and nuisance marketers. **DLT** will block them all.”

Trevor isn't sold on Grabb's chapter & verse. But it's better to hold off for now. He clears his throat. “I'm anxious to see how UC solves complex problems.”

“Nobody's stopping you. Go ahead.”

“I have engineering problems that require nonlinear calculus.”

“Just ask Wanda,” says Grabb.

“I've two problems to solve.”

“Takes two to tango. Go right ahead.”

_Such brash confidence
_is grating on my nerves.

“Am I s'pozed to enter the numbers with my feet? Where does UC keep its classic dialogues?”

“Talk to Wanda in plain English. She'll display whatever you need.”

Trevor does so, feeling more foolish than ever. Wanda presents the right forms, accepts inputs and churns out answers in short order, as if the cartoon has telepathic foresight. No matter how hard he looks, he can't spot a single glitch. He accepts the solutions grudgingly.

“How'd you know which problems I'd bring?”

“Come on, Trev! Do I look like a mind reader?”

“Then you must've boosted the OS somehow. Either this Digiflex includes some hairy CAD utility, or I'll eat my shorts. The system files alone must occupy petabytes of storage space.”

“You'd be surprised how well UC optimizes system files. Its runtime libraries are extremely robust and versatile. I admit we may've added some engineering functionality to this device, but the add-ons are legacy code that's available in the public domain. UC parses old apps, evaluates the assembly code and juices it up for Cybernaut's high-speed processors. That's UC's biggest advantage. Don't y'see?”

Grabb forges on. “Your Afterburn boffins can load their aeronautical routines, and UC will reconfigure them to run more efficiently and way faster. Any software can be revamped and revitalized, even those 64-qubit archives that haven't run since Cleopatra bit the adder. Think of the headaches UC will solve for robotic developers. Tell him, Carlos.”

Ybarra slides his glass of UltimaPop to one side. “Suppose you wanna migrate your network architecture to run on Digiflex servers. UC will ask a few questions before it digests your legacy code, then it'll revamp, reassemble and recompile the logic trains. Once the process is complete, your staff will interface the same way as usual, but with fewer hassles. They'll interface with UC directly, which means you're free

from obligations to the former vendors.”

“Whoa! That's going too far. You'll see a tidal wave of protest. Every two-bit developer will sue for litigation. And WBM will get targeted as well.”

“No sweat, Mr. Wynestoop,” says Ybarra. “Try as they might, they won't raise a spec of proof.”

“Proof or no proof, they'll still drag us to court. Cut-throat lawyers will make Shrinkwrap and WBM look like ravenous beasts gouging competitors to death. It'll be a PR fiasco that hounds us for decades.”

Grabb leans forward, palms on the table, and wades into the fray. “You've misread the underlying motivations, Trev. Our industry thrives on product security and customer loyalty. App developers hafta protect their software from hackers. It costs a bundle to stop bootleggers from disassembling, rearranging and reselling proprietary code. Software must be useful yet secure from copycats. Whenever Shrinkwrap adds new wrinkles to its OS, app makers hafta revamp their products to keep up, otherwise end users suffer errors which overtax helpdesks and support services. Upgrade workarounds add another 40% to the cost of products from think tank to marketplace. Without security and customer loyalty, app developers might as well hand their corporate jewels to the public domain.

“UC provides total security and user friendliness,” he goes on, “so developers that partner with us cut 40% from their overhead. They're free to focus on the real business of making useful applications. I kid you not, Trev. App developers are racing to get under Shrinkwrap's umbrella. They're converging like mice to a cheese wagon. None of them will file lawsuits against us. The worst we'll face are the losers and whiners, the bootleggers and generic wannabes. Once the word gets out, public opinion will swing in our favor.”

“You're treading on thin ice, Tor. More automation, more robots mean fewer human jobs and fewer consumers who can afford our products.”

“We've modeled future scenarios. Robots improve productivity which allows shorter work weeks and more generous safety nets. It's a longterm trend, so why worry about it?”

“Humph. Tell me how Ultimate Companion keeps its booty under wraps and untouched by would-be copycats.”

“PCPUs run thousands of times faster than CMOS units. They crunch data in 512-qubit chunks, so they handle very large instruction sets. This complexity demands a new breed of compilers. To make a long story short, UC's runtime functions are compiled in an unorthodox style of assembly language. Even if your WBM techs could examine the assembled code, they'd never recognize it. But they won't see the code because UC's system partition is encrypted six ways to Sunday.”

“Aha!” shouts Trevor. “That's why Shrinkwrap's engineers insisted on ten gigabytes for the **ROM** repository. The repository includes a database of large random numbers as well an encrypting-decrypting algorithm.”

“You got it!” enthuses Grabb. “Each code segment includes one of the random numbers which must be checked against its twin in the repository before it goes to the processor. Hacker code from the HyperNet won't have verifiable numbers, so it will get quarantined every single time. UC denies malicious intruders no matter what.

“What more can I say?” purrs Grabb. “Bear in mind the encryption algorithm is unique to each Digiflex. Even if bootleggers manage to hack the ROM database and append random numbers to the code segments of a pirated version, they won't know the encryption key, which is one-off for each machine and therefore unbreakable.”

“Two birds with one stone.” Trevor nods with new comprehension. “You've killed both hacker intrusions and pirated editions, but you've overlooked hardware failures. Cybernauts are built tough, but hardware failures do happen under exceptional scenarios. Likewise users may have legitimate reasons to transfer copies of UC from worn-out machines to new machines. If they can't use the HyperNet, how'll

they make the switch?”

“Simple. Users bring their broken machines to the vendors who'll hand them another Digiflex with UC preloaded.”

Trevor frowns. “That's awful inconvenient.”

“Nonsense. At the turn of the century, it took consumers long hours to upgrade from setup disks. They had to download dozens of updates and reload the resident apps, all the while repairing stubborn glitches for days on end. HOAM solved those headaches by streamlining software patches. But the workarounds kept adding new layers of complexity while the OS got overwhelmed with 3rd-party add-ons. Don't y'see, Trev? UC narrows it down to one-smart cook stirring the pot, not half a-dozen prima donnas spewing food on the kitchen floor.”

_Shrinkwrap may indeed enhance
_WBM's breakthrough technology.
_But if UC is good as Grabb claims,
_the price of software could make
_Digiflexes too upscale for consumers.

Trevor cringes as he asks, “What's this beast gonna cost?”

“Knew you'd ask, sooner or later. I assume you've done a thorough market assessment and priced Cybernauts around 800 Amero\$.” Grabb pauses for effect. “Here's the good news. Ultimate Companion clocks in nicely at 1,200 per license, so we can sell Digiflexes at two grand. That ain't bad when you consider the value we're giving consumers.”

“What value?” asks Trevor. “Consumers don't appreciate value till it slaps them in the face. Digiflexes are a tough sell for well-to-do consumers and beyond the reach of bottom feeders. Your Geekway stores will hafta join forces with WBM's Gizware outlets. Both can share marketing strategies. And we need other retailers on our bandwagon, like yesterday.”

“I agree with you about sharing strategies, but let's hold off before we enlist 3rd-party resellers.”

“Hold off? WBM can't afford to hold off. It needs bigtime sales to pay

down its development costs.”

“Our initial sales will come from institutions like HOAM, mid-sized transnats, big orgs and government agencies.”

“Institutions! Are you kidding me? Those dinosaurs never upgrade till their networks go haywire. And they'll expect volume discounts and on-site support.”

“You're wrong, Trev. HOAM will be first in line, and everyone else will be right on their heels.”

Trevor has his doubts. “How many firm orders?”

“HOAM has made serious enquiries.”

“That's nothing. Enquiries won't cover WBM's debts.”

“Or Shrinkwrap's. I know that, Trev. But others are interested. NSA and the Pentagon have b'en trying to invade Shrinkwrap's code factory for the last six months. They've never b'en so totally denied. They're itching to have UC safeguard *their* secrets. In fact, we've had high-level enquiries from several governments. No one wants to be left out in the cold.”

Trevor frowns. “Governments want secure systems for themselves, but they want open-door systems for everyone else, so their spooks can eavesdrop on criminal dissidents and terrorists.”

“Shrinkwrap will give security agencies full access to personal data in the Clouds. That oughta keep the 'Big Data' miners happy.”

“Governments are gonna see a monopoly in making. They'll wanna break us apart and cut our margins to damn near zero.”

“You forget, Trev, governments no longer own the best encryption-decryption techniques. The smartest geeks have jumped to better paying jobs in the private sector. USA can't even collect taxes on software downloads from offshore servers. Security boffins will deploy Ultimate Companion to stop the leaks. UC will snuff out spyware and make every network opaque to outsiders, so no regime gets caught with its pants down. That's a major victory for most of them.

“UC will be sold as a physical package,” Grabb goes on, “which makes

the software liable for local taxes. Governments know a good deal when it dangles before their noses. They won't pester us for freebies."

"Since when has Shrinkwrap offered to pay its full share of taxes?"

"Hard to avoid when I'm about to become the fattest moose on the range."

Trevor nods, realizing WBM will be in the similar straits if Digiflex can dominate the marketplace. "Makes sense, I suppose. No doubt you've still got a few rabbits in your hat, but that's OK. I'm more worried about incentives. When will our partners in the cartel migrate to Digiflex? And when will competitors and public orgs jump onboard?"

"Whenever employees start using Digiflexes, their files and work habits become totally private. The hotshots need only share what they choose to share. Managers can track their activities on the HyperNet, but that's the limit with old technology. In other words, no more snooping on worker bees unless management upgrades to Digiflex servers that decrypt Digiflex files on their LANs or WANs. Orgs that must keep crucial data inhouse will upgrade quicker than ants to a picnic."

Trevor shakes his head. "We'll need media exposure before we get worker bees outside."

"Already thought of that. I've got Adfrisker and Snowjob for the beaverbuzz campaign. We'll make a huge splash to start. Then we'll hang back and let users spread the word via blogs and forums. The skeptics will compare UC to Monkey See. The debate will snowball like Microsoft vs. Apple, IBM vs. Intel or EndCloud vs. Open Source. Before y'know it, the name Digiflex will go viral."

"Where's my shovel?" Trevor rings his hands in mock horror. "The shit's up to my elbows!" There's a knock at the alcove's door. "Is that you, Hector?"

"Yup."

"Bring it in."

Hector marches to the table and lays down the [spendchip](#). He pulls

out a bug scanner and aims it across the ceiling, then nods in satisfaction as he withdraws to the exit.

"I keep forgetting," says Grabb, as he slaps his hand on the Digiflex package. "You haven't gotten down and dirty with UC. Try it out for two weeks, and you'll be singing a different tune."

It occurs to Trevor that UC is no fluke. It may even live up to Grabb's lofty claims. Improved security he allowed from the start. But UC's problem-solving abilities are a surprise bonus, given Jack's tendency to choose major-league conundrums. Wanda recognized the problems and then chose the right algorithms. On top of that, Wanda chatted almost like a human. But Joe Sixpack doesn't need a universal problem solver. Users won't need more than 2% of UC's functions.

"Tor, we need cheaper versions of Ultimate Companion."

"No way."

"For chrissake, why not?"

"UC is synergetic. Its sum is greater than its parts. If some parts get removed, UC won't work at all."

"Digiflexes may appeal to businesses who rent processor time from HOAM. Speed alone will cancel hundreds of offsite surrogates. But home users don't need all the functions you've stuffed in UC's toolbox. They're happy with current news and social media, playing games or downloading holoflix. They don't need CAD programs that model gridlock in NYC. So how'd we convince folks who count their nickels?"

Grabb bares his teeth in a wolfish smile. "Show him the demo, Carlos."

Trevor watches animated arrows branching out from the Digiflex DT to vidcoms, palmslates, home appliances and electric kiddie toys. "UC links to any peripheral with a wifi interface," says Ybarra. "Not only does the user enjoy a better home console, his peripherals get 50% smarter. And owners will earn 900% more credits when they let HOAM use their processors during idle hours."

"We're still talking middle class," grumps Trevor. "How about the

folks who live in one-bedroom apartments with basic appliances? Some of them even do dishes by hand. Their incomes go toward car repairs or apps for vidcoms. Their home systems are legacy models. How'd we get the bottom feeders to anti-up for a Digiflex?"

"Good point," Grabb concedes. "Here's where we push the 'companion' angle. I'm sure you've noticed Wanda's charisma. Well, that's true of all the personas. They have social graces and street smarts. They can adapt slang and verbal idioms. Their responses may appear tame at first, but they'll soon learn to choose words and phrases that complement end users. Believe it or not, our companions are very addictive.

"Remember, Trev, the age 16 to 25 demographic has four-billion consumers who'll earn more than 8,000 Amero\$ per year. The usage period for Digiflexes is three years, so the cost over that span comes to three Amero\$ per day. That's not beyond the reach of single males who've migrated from rural villages to large cities. Many labor as temps and live in single-room flats. They send monthly e-cash to folks and honeys in the boondocks. Soon as they can afford a worthy nest, they'll call for their sweethearts.

"Digiflex solves the loneliness problem with virtual chat. What's more, companions may serve as surrogates in lieu of sweethearts. UC accepts prosthetic add-ons, such as plastic escorts for the guys or consorts for the ladies. Robotic affiliates of SonyKong have b'en making human facsimiles for decades. Combine these toys with holojamborees and before y'know it, plastic bimbos or sweet-talking vibrators will become 2nd-nature for Digiflexes. Naturally we'll keep those 'partners' at arm's length to avoid the flak from high-minded moralists.

"Regardless, Digiflexes oughta give Joe Sixpack a fast-track to his dreams. We can offer 1st-time buyers 30-day trials for about 90 Amero\$. A month later, they'll be hooked. Digiflexes may be a bit pricey, but they're healthier than puking out at taverns or scoring designer drugs."

Trevor blanks his expression and fingers his shot glass. “What keeps users from getting bored after years of repetition?”

“Users can always switch companions. How many are there, Carlos?”

“256,” says Ybarra, obviously pleased to add his mite. “Each has a distinctive visage in holo or flatview. Each has a unique persona in virtual or physical mode. Users may customize virtual images to suit their tastes.”

“Hafta admit it does sound good.” Trevor tilts his shooter toward Grabb.

Grabb clinks glasses. Trevor feels the fiery warmth inside. Ybarra downs his UltimaPop.

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Silence palls around the table. Grabb and Ybarra wear goofy smirks as if they've stolen the cookie jar. Trevor smells a glitch somewhere. UC is just too good to be true.

“OK, Tor. What haven't you told me?”

Grabb's face goes blank for several heartbeats before his grin returns. “UC will shut down after 1,001 days. Users hafta return their device and then pay for a refurbished upgrade.”

“Whoa! That's what? 33 months?” Trevor holds his mouth half-open while he puts thoughts into words. “Users won't like it. They'll scream bloody murder.”

“Users may grumble, but they won't be surprised. Everyone expects software to grow obsolete over time.”

“Paying for the extension I can understand, but making folks get off their butts and travel all the way to a store is pure torture.”

“Come on, Trev! Getting off the old couch is good for the heart.”

“What about the user who lives on Baffin Island and has to travel by dogsled?”

“The arctic has lost most of its snow cover. The user will be driving an all-terrain jalopy. No problem.”

“Will Digiflexes reboot beyond the expiry dates?”

“Sure, they'll reboot, but users will see a message screen instead of the login dialogue. The message will have toll-free numbers and websites listing the nearest outlets for the switchovers.”

Trevor throws his arms up. “What if the OS dies during a crucial project?”

“UC will flash alerts 30 days before expiry. If users come in early, they'll get 'unused' credits toward the costs of new licenses.”

“I don't like it. Word will get around, and consumers will shy away. Our initial sales will dry up like piss in the desert.”

“Remember, Trev, our first sales will come from big orgs. They won't let emotions influence their purchase decisions. They'll see Digiflexes rendering good value and reliability. 'Reliable' is the key word here. UC avoids most of the bonehead mistakes. It works 1st-time and every time. It self-improves and gets better with age. No other software package can make those claims. Between Cybernaut and Ultimate Companion, we've turned over a new leaf. We're on the threshold of a whole new paradigm.”

“It's a fine piece of software,” Trevor admits, “but UC's nowhere as good as you claim. Let's stick to the facts.”

“Right. Until you've taken a test drive, I'm hogtied 'cuz nothing I say will change your mind.”

Trevor concedes as much. His rancor cools. He has always given partners the benefit of doubt.

“That's better,” Grabb crows. “Let's use simple logic to connect the dots. People buy software because it's easy to use. Users don't care *how* something works so long as it works. Shrinkwrap has jumped ahead of other vendors because we take our surveys to heart. We learn what users want most, and we make those functions simple and easy to use.

“Smart programmers anticipate the common tasks. They even anticipate common user mistakes and save users from making bozo

errors, which makes software appear intelligent and sophisticated.”

Trevor harrumphs. “I’ve heard stories from my best techs who’ve had horrifying experiences with Monkey See, your so-called intelligent OS.”

“No doubt. No doubt. I’ll bet those guys are no dummies. They’re seasoned users of computers and software. And they’ve pushed the OS to the outer limits. Programmers add workarounds year after year, but no one can anticipate every option users will try. The plain fact is we can’t make software that’ll satisfy everyone.” He pauses. “At least, not until UC...”

Grabb lets it hang in the air. Trevor bites his tongue, amazed how eager he is for Grabb to continue.

“Before Ultimate Companion,” says Grabb, “software has always guarded its structural core. Monkey See is capable of superficial self-maintenance that returns the system to its original state. The OS appears halfway smart at the user interface, but it’s dumb as doorknobs at the processor level. It executes runtime code only because the user interface specifies that code. Monkey See doesn’t parse machine language any more than apes can play Mozart melodies. Now, here’s the big difference...

“UC is aware of the whole shebang. It knows how to match user requests with their machine-language equivalents. In short, UC works both ends of the spectrum, which gives the OS nonstop flexibility. On the upside, it adapts to an unlimited range of user requests. On the downside, there’s no way to tell how far UC might go. It’s *designed* to evolve and improve, so normal system checks don’t apply. Our earliest UC prototypes have changed dramatically beyond all recognition. Here’s the kicker, Trev. Here’s the catch. If we don’t take Digiflexes back after 1,001 days, we could release all kinds of weird anomalies.”

Trevor admires Grabb’s openness. It fits UC’s behavior all too well. But these anomalies could prove catastrophic. “Dammit, Tor. You’ve created a Frankenstein monster!”

“Oh no. UC will stay within its guidelines for 1,001 days.”

“You sure of that?”

“Absolutely. Self-evolving systems are nothing new. Shrinkwrap has worked on the concept for decades, but our coders could never get it to work until WBM came up with superfast processors. We know exactly when the software will jump outside its guidelines. 1,001 days is shy of the first hints of aberrant behaviors.”

Trevor is unimpressed.

“Listen, Trev. If we allowed UC to run for five or six years, there's every chance it'll function OK. The only aspects that worry us are the companions. They keep adding new code segments to complement their primary users. Over time UC will fill the entire system partition. Once the partition is full, UC has no choice but to overwrite its existing code. When that happens, one persona may leak into another.

“Here's an example. Let's say you're a sales rep. You're happily married and proud of your daughter. Your job forces you to travel weeklong junkets. It's hard to be separated from family. To stave off loneliness, you might visit the odd pornographic site, and you've created a special companion for this task. Like any decent parent, you safeguard your daughters from the sordid aspects of adulthood, so you disable that special companion when you're at home. Now if we let UC loose for the longterm, it will fill its system partition. The porno companion may be forced to combine its conversational idioms with other companions. Then your daughter may well come across 'adult' phrases.

“Easy, Trev, and please understand. This scenario will never, ever happen because we kill UC after 1,001 days.”

Trevor doesn't know if he should applaud Grabb or kick him in the shins.

“Geez, Trev, why so glum? Think of the upside. Digiflex oughta make us the masters of the digital era.”

Trevor sighs dramatically. “Right.” He raises his empty glass. “Let's

have another round.”

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The red-haired server waltzes into the alcove, balancing the tray of drinks. Her long legs appear shapelier than before.

Trevor pulls the spendchip from his pocket and clears his throat. “Guess what I found in the dumpster. A spendchip for Bloomingdale’s. It oughta buy a fine set of summer clothes. All I ask in return is your name and vidcom number. Do we have a deal?”

She grunts with indifference as she dispenses drinks for Grabb and Ybarra. Then she straightens and faces Trevor. “I’m amazed at what folks throw away nowadays.”

“One person’s loss is another’s gain. This chip is worth 800 Amero\$.”

“Are you serious?”

“Absolutely. I have a seat reserved for you on my flight to Bermuda.”

“That’s not part of the deal.”

“I know. But after I have your name and number, I’ll call you day and night till you dream of nothing but crystal-clear water and warm white sand.”

“My name is Amphora.” She pulls out a biz card from the top of her corset and makes the exchange, dropping the spendchip between plumb bobs. She lip-syncs a face that’s both impish and coy. “Please don’t call before ten.”

“I won’t, Amphora. Promise. Just call me Trevor.”

“Sure, Trevor.” She outs happy white teeth, spins full around and saunters away. He ogles long-legged strides till she exits the alcove.

“Might as well kiss 800 Amero\$ goodbye,” says Ybarra.

Trevor doesn’t rise to the bait. “She oughta love the tax-free bonus. Tor would make her fish it from the dumpster.”

Grabb laughs heartily. “He’s gotcha, Carlos.”

“You’re still paying the 20% surcharge, Tor.”

“Shit on a grape!”

34. Wheels

Two Years Later

Kuala Lumpur: 12 May 2076, 6:15 p.m.

Tuesday, 12 May 2076, 10:15 UTC

Jen is glad to be on the road and away from McJoys. She's grinning like a ten-year-old in the driver's seat of the SUV.

_Shift into "D" Drive, juice the motor
_and follow behind. Press the brake
_pedal when Jo slows down. Not
_bad for a novice with no license!

She hasn't given the bound roosters another thought. They're still knocked out, asleep in the back. Her eyes are focused on Jo who's visible through the Humvee's rear window.

_Can't miss her bright scarlet hair
_peeking from under the cap.
_No grays amid the short hairs
_though **Jo** has passed the four-oh
_milestone. To keep hair roots in
_dayglow, she must dye them often.
_It shows how she dreads
_the telltales of middle age.

Performance wise isn't an issue, for qat exercises and **Doc Quark's** supplements uphold fitness levels that Olympic medalists would envy. But **twangers** and headstrong exercise don't erase the wrinkles, and no cosmetic remedy can restore a maiden's Spring bloom. The more gals age, the harder it is to embody the wetdreams of men and boys.

_Like it or not, guys go for
_the book covers and bypass
_the vibrant pall of words.

The redhead may preen like a pampered diva, but she has no answer

for time's ebbing tide. It may explain why she collared six ensigns...

To prove she still could.

Thoughts dissolve when Jen spots the left-turn signal. The Humvee swings into a laneway where it slows and stops. She follows and parks right behind.

The redhead springs out of the Humvee and moves to the cargo bed where she waves a palm-sized scanner across the bricks. "Out, Pix. Help me scan for tracking beacons."

Jen climbs out, arches her back. "Roosters went nowhere near our pickup."

"One of the cops at the roadblock might've added one. Could be how the roosters found us."

"Should've mentioned that before we pigged out."

The redhead pulls out another scanner and hands it over. "Once your stomach growled, you'd bug me all the way to Singapore."

Jen's frown says otherwise. "I thought you had the sergeant eating outta your hand."

"Maybe the others. No telling who's on Rathbone's payroll."

Jen scans the pile of bricks till the gadget blinks red. "I think I've got one."

"Move it around. Blinks faster as you get closer."

Arms converge; scanners collide.

"Hold it!" Jo exclaims. "We've cornered the same bug." She nudges fingers between bricks and snares a black pea. "Ah ha! Gotcha!" Shakes her head. "Bloodsuckers! Damn near small as mouse turds."

Jo carries the beacon to the SUV and tosses it underneath. "You're the right size, Pix. Crawl between the Humvee and wall. Check under the wheel wells. I'll do the same for this side."

"Gee, thanks." The tight squeeze requires an acrobatic skillset to get the scanner in play.

"Did the roosters say why they hit on us?" Jo asks.

"The first guy wanted to know our plans after lunch." The rear wheel

scanned, Jen crawls to the front. "The other one didn't say boo."

"They're still fishing. That's good. Now you see why we stopped for lunch. Had I gone straight for the highway, we'd've drawn swarms of roosters."

"Wonton soup was delicious. Thanks, Jo." The scanner reads zilch. "But count me out for your ensign bash."

"Awh, Pix. Don't be a party pooper."

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The Humvee is first in line and stopped at a red light. The near lane of moving traffic shows a sizeable empty gap.

Jen hears clamorous horn blasts from the vehicle in back. She cranes her neck to see the impatient driver pounding fists on steering wheel. Another yahoo in the shotgun seat is thrusting his arms as if to push the Humvee out to Alpha Centauri.

The horn blasts grow louder and more urgent.

_Why hasn't Jo budged?

_She's turned before, and left

_turns on red lights are kosher.

"Guys behind us are having apopleptic fits."

"They're roosters," says her driver. "Didn't'cha notice?"

"Already?"

"Like I said, not many Humvees in town."

The implication hits Jen like a ton of bricks. "They'll be calling their buddies."

"Not if *I* can help it," says Jo. She gooses the throttle. The Humvee scoots around the corner and speeds like mad down the curb lane.

Hearing a ferocious horn blast in the rear, Jen turns around and spots a garbage truck looming behind like a tidal wave. The foghorn is overkill since Jo is busy growing the gap between Humvee and moving mountain.

The impatient SUV pokes into the backside of the gap. And gets a

mouthful of garbage truck, whereupon it somersaults over the sidewalk and shatters a storefront window.

“Haste makes waste,” huffs Jo over the thunder clap of ruined metal.

“You planned that dinger!”

“Do I look like Moses parting the seas?” asks the redhead, goosing the motor and jumping to the right lane, passing two electro compacts.

“Lucky for us they swallowed the bait like starving trout.”

“Oh, oh,” Jen groans. “One's still moving inside. He'll call in our location.”

“Hafta do something about that,” says her driver as she eyes a gap in the oncoming traffic, crosses the centerline and scoots around a moped. At the next intersection she turns right as if to dare the oncoming tour bus which misses Humvee's rear bumper by a finger width. Jo darts away on the cross street until she turns left in a back alley.

The Humvee slows below breakneck tempos, and Jen exhales a belated breath. Her driver parks between two dumpsters crammed with **Duoplastic** bags. For the moment, they're hidden from street traffic.

“Out, Pix. Dump the bricks from the cargo bin. Leave just enough to cover the launchers.”

Jen strides to the back and picks two bricks from the dusty pile.

“Should I toss 'em on the ground?”

“Natch.”

“How about my danger pay?”

“What for?” asks her driver who's connecting tubelike struts to right-angle joiners. “I'll handle any naval guys with crooked peters.”

“Stuff your ensigns!” Jen grabs an armful of dusty bricks. “I meant asbestos.”

“Don't worry, Pix. I advised Doc Quark, and he'll be adding special twangers to our supplements. Gonna bond with asbestos and flush it out. OK?”

Jen nods and tosses more bricks.

“Geez! You’re a prickly customer.” The redhead makes a face. “I should've left you with the roosters.”

“Sorry, **Kemosabe**.” She joins palms in mock prayer and squelches a telltale grin. “Please take me to Singapore.”

“Humph.”

Her driver has assembled the tubes into three-sided rectangles and inserted their leg ends along the rim of the cargo bed. Three assemblies form a skeletal frame that could support a canvass canopy.

Jo hauls out a folded cloth from the stowage space behind the driver's seat. She beckons for help to unfold the fabric.

The fabric feels rough like corrugated metal yet readily flexible. It stretches and flattens like a frozen pond. After the fabric is mounted and strapped down, the surface planes betray faint indents and ridges where the folds were.

“Once I give it juice, the grooves and bumps oughta disappear,” says Jo. “Piezoelectric, y'see. It reverts to its former shape and darkens to roadbed gray. The prickly surface is made of miniature pyramids that deflect radar beams to non-recoverable angles. Even if Rathbone gets KL drones searching for overlong vehicles, they're gonna mistake us for a compact.”

“The canopy may confuse street-level pursuers, but license plates will give us away.”

“You forget we're renting from Xing Gou, a smuggler who stays under the radar. Our license plates can be rotated to show any of three faces, courtesy of the inmate grapevine. Watch me swing a double switcheroo from inside.”

Jen nods. “I'll feel better when we're on the highway.”

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_Too many cars
_speeding too fast
_and the horns...

_Oh, the *horns*,
_from everwhich way.

It's too chaotic to parse the reckless swerves and near misses. Her getaway doyen has upped the pace and keeps pushing the envelope.

When the Humvee got a Thorax powertrain, the mechanics did a major overhaul. They moved the steering wheel to the right side to respect Malaysian customs where cars drive on the left sides of roads. The odd perspective and her driver's aggressive moves have left Jen frazzled.

_For me everything's backwards,
_and the cat & mouse game that
_Jo plays with reckless abandon
_is searing my nerves all to hell.

"Cat got your tongue?" asks Jo. "You look pale as a ghost."

"Scares me to watch, but I don't dare close my eyes."

"Relax, Pix. The other vehicles have proximity alerts and auto-driving aids. Most of the locals are just driving for show while onboard robots call the shots and avoid crackups. It ain't half as chaotic as it looks."

Jen mulls it over as she watches the Humvee thread between two electro-compacts whose drivers look more resigned than surprised.

_Jo can't be in virtual control
_of traffic mayhem. Can she?
_But why do the semaphores turn
_green as she draws near. Does
_that mean she has insider keys?

"I swear you're turning the lights green."

"Nah," Jo guffaws. "Red-green cycles have similar time spans. If you drive professionally, you learn to gauge the distance to intersections versus semaphore durations. It's like a semiconscious sense. I gauge my speed to sync with green lights. When obstacles interfere, I swing to the left lane and turn on reds. A smart cabby keeps the wheels turning.

That's how you make the best times.”

Jen cringes as the Humvee careens around a close-call by the wisp of a paint job. “How'd'you keep it together, Pinball Sally?”

“I ply the same focus you do when you practice **qat**. I parse options four moves ahead. Even before anticrash protocols, drivers drove 95% passively; they joined traffic parades and followed nearby cars. Hard to pay attention if you're gabbing with passengers, grooving to loud music or yakking on your vidphone.”

“It can't be so simple.”

Her driver scowls. “Once you master the twelve senses, your focus sharpens like magic.”

“Sure, the **psigns** are key, but...”

“Woah! I forgot to mention *tools* of the trade. Route selection, for instance. Hafta avoid traffic bottlenecks and stay on roads that host a reasonable flow. I checked the afternoon traffic yesterday and the day before. No sense getting caught in wall-to-wall traffic like a newbie tourist. Lastly, there's the Humvee itself which is a wicked machine, a helluva...”

Up ahead a robed figure appears from between parked cars. “Shit!” mutters Jo as she hits the brakes.

Jen hears rubber squeals as the tires skid on asphalt. Her hands reach instinctively for the dash. It quells her forward surge. Even so, she's half out of the seat, forehead flirting with windshield glass.

The Humvee stops, but not before it grazes the billowy attire of a woman who's holding a young child. The errant pedestrian awakens to present danger, her bulbous eyes peeking from a niqab. She takes a careful step back.

“Snot for brain cells,” grouses Jo.

“No burqa.”

“Well, *thank Mo* for small favors. She's lucky the Humvee has new tires and no antilock. See-saw brakes would've knocked her flat.” Jo shakes her head. “I hate cultures that raise women like hothouse

flowers.”

“High heels,” adds Jen, playing devil's advocate.

“Don't get me started on those,” her driver growls.

“Doesn't antilock quicken your stops?”

“No. **Antilock** discourages swerving. But it takes more time & space before you stop.”

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Storefront windows have given way to brick façades of warehouses and factories. Narrow escapes from suspect **ATVs** have ushered them to less-traveled streets where the Humvee can't blend with traffic or dart around it. Jen feels exposed and imagines their pursuers tightening the noose. Jo looks no less determined, but even she can't hide her worry lines or pinched lips.

Just then, an oncoming minivan veers across the centerline, blocking the Humvee's forward progress. Jo yanks the wheel to avoid a crackup and heads toward the wrong side of the road. She would've missed the minivan if it hadn't backed up. Instead the Humvee smashes the rear bumper and continues on as if charging through a pile of autumn leaves. The minivan rears up, skids in a half-circle before it crashes against two parked cars, its bumper crinkled and hanging loose like a squirrel's tail.

Amid the melée there's a loud ping down below. Jen spots a rooster dangling from the minivan's passenger window. He looks dazed while holding an assault rifle pointed at the street.

_He must've shot before
_the window frame knocked
_him forward and spoiled
_his aim. The ping came from
_the errant bullet's ricochet.

“See what I like about Humvees?” gloats Jo. “Extra weight and speed make for killer momentum. I'll lock horns with anything short of an Abram's tank.”

“Passenger-side guy shot at us,” Jen points out.

“That loser?” harrumphs Jo after a quick glance. “Needs three hands to tie his shoes.”

“The impact knocked him awry not a moment too soon.”

“There you go, Pix.”

Jen rolls her eyes. “Sure feels like they're closing in.”

Her driver grows thoughtful. “About time for the caltrops. Reach under your seat and pull out that red box.”

The box has stuff rattling inside. Lots of somethings. She undoes the clasp, opens the lid and gapes inside. It's packed with mean-looking razor-sharp caltrops. If stepped on, they'd penetrate to the ankle bone.

“Don't touch,” warns Jo. “They're sharp as surgeons' scalpels. I call 'em Tetrahedral Spikes.”

“Right. Should've worn steel gloves.”

“I'm gonna roll out the back window. Oughta give you enough room to crawl through. Take the box and lie low in the cargo bed. When I say *go*, pitch the jacks out behind us.”

“Puncture their tires.”

“You got it, Pix. And keep your head down. I don't want you leaking hot air.”

“Thanks a ruck.”

The Humvee surges faster as if trying to escape the green pickup half a-block behind. Jen slithers through the back window and over the modest pile of bricks. She gets down prone in the cargo bed just as Jo cuts a sharp left, two wheels lifting off and tilting the cargo bed.

Jen rolls like a debarked log, hands clinging to the red box. The Humvee speeds up again before braking hard and then hanging another two-wheel left. This time there's no roll, for Jen is glued to the sidewall.

“OK, Pix. Go ahead. Plant your garden.”

Jen pops up as the Humvee speeds down a narrow lane. She opens the lid and pitches jacks. She uses a sidearm toss, so the jacks are dispersed across the lane from left to right. Any tires across the garden

will get punctured for sure.

Though it's safer to stay down, she can't resist raising her head to see what happens. The Humvee is halfway down the lane when two pickups enter, one after the other. Following behind them is a bright-red van. All of them are racing to catch up. They almost succeed as they reach the garden and hit the jacks. One by one, they rock sideways as the tires rotate in oblong circles. The pursuers drop back in a hurry.

She hears metal rims howl as the wheels grind on pavement. The vehicles wobble to a dead stop. Then doors fly open and roosters jump out, armed with assault weapons. Jen ducks low in the cargo bed. Two bullets ricochet harmlessly off metal backside as the Humvee turns onto the street.

Jo wastes no time getting out of range and makes several quick turns to muddle her present and future locations. The roosters are left flat-footed and no doubt yapping on their vidphones.

“Crawl inside, Pix. Let me shut the back window to keep stray bullets out.”

“Glass gonna stop rifle rounds?”

“Natch. Stop anything short of 20-mm armor-piercing shells.”

“I'm impressed, Kemosabe.”

“About time.”

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Jen notices deep hues of twilight creeping from the eastern horizon to the zenith. Night on the equator falls like a stone. Or maybe it just seems that way since tropical daylight doesn't change much from winter to summer.

The traffic is bound to thin after dark which will give their pursuers open sightlines and clear targets. A bullet in one of Humvee's tires would screw the pooch. And roosters would converge in hordes as plentiful as hair on a muskox.

“Too many SUVs,” says her getaway doyen, as she drives past a

Tempat Letak sign, hits the brakes and turns into another multistory lot. “Before they catch up, we'll hide here and then vanish.”

_Is Jo throwing in the towel?
_Why is she so nonchalant?
_I can't surmise her plans,
_but it looks as if we're
_about to be trapped.

Jo steps out to collect a ticket from the automatic dispenser. Then she pulls a metal disk from her pocket and strolls to the toll booth.

“Understand English? Good.” She flashes the disk. “I'm Detective Wanda in liaison, and my partner is Agent Roark. We're here to keep tabs on two terrorists.”

The attendant looks alarmed and impressed.

“Don't worry about 'live' bombs,” Jo goes on. “Special Branch has them linked to a wider network, and we're preparing the site for a routine arrest for the brass. Display your 'Lot Full' sign, and refuse all comers till squad cars and media vans show up. The Chief wants a photo op when the terrorists are cuffed.

“Good PR, y'know.” She flourishes a confiding grin. “I wouldn't be surprised if *you* get a cameo in tonight's news. Remember, no vehicles in or out till the bigwigs arrive.”

Attendant nods. A moment later Jo climbs back in the driver's seat. Without a word she drives through the entrance gate and onto the parking levels.

“Gonna tell me why he believed you? Or should I leave my jaw on the floor?”

Jo grins fiendishly and holds out a police badge in her palm.

“Where did'ja get that?”

“Sergeant Wen.”

“Oh, you rascal!”

“His pocket was unbuttoned. Couldn't resist.”

“You bought us some time. But sooner or later, they'll get in. And

we'll be trapped with nowhere to go.”

“Always an escape hatch, Pix.”

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The latest report from the missile strike confirms the lack of human remains. As Leonid suspected all along, two female surveyors can be blamed for the gas attack.

They're responsible for taking out two of his roosters at McJoys. They're responsible for putting half a-dozen of his pursuit vehicles out of action. They're royal pains in the ass.

He watches the map display. It shows six vehicles leaving Cyclorama and redeploying in a loose cordon around the probable location of the Humvee. His pursuers haven't been able to keep the bitches in sight. Whenever they've gotten close, the ugly skanks have disabled his chase cars. So reinforcements are needed and none too soon.

Leonid has muted car-to-car verbal chatter. Realtime decisions are best left to the grunts on the ground, namely Rashid who drives one of the SUVs along with the other chase cars. This arrangement suits Leonid who won't hear gripes about the *rules of engagement*.

_No collateral damages,
_whether intended or accidental.

Worse yet, the boss wants Kuala Lumpur's finest to make the actual arrest. So his crew has the peripheral role of eyeballing and impeding the quarry.

The tactical channel blinks red, and Leonid opens a link. “Go ahead, Rashid.”

“Yo, Leo. Good news, bad news.”

Leonid winces. “Good news first.”

“Bitches just entered a multilevel parking lot.”

“You sure?”

“Proof positive from the canopy and plates.”

“Any crossovers to other towers?”

“Nope. It's a standalone public park at the corner of Jalan Hang Kasturi and Leboh Pudu.”

“Oh yeh. I know it. Should be easy as pie. Block the exit ramp and send a bunch of your chasers inside to flush 'em out.”

“No go. That's the bad news.”

“Wha'd'ya mean?”

“The gate attendant says there's a police detachment due to arrive. No one's s'posed to enter till they get here.”

Leonid shakes his head, though it's a futile gesture over the voice-only line. “No fucking way,” he snaps. “**KLP** have pursued at a glacial pace. I doubt they're even looking for the right license plates.” He sighs. “Gather your troops around the building, Rashid, and stand pat while I check on the boss.”

Leonid closes the link and calls the CEO of Zesticon. After five rings he fears the boss will ignore the call. The pursuit has gone on too long and used up too many resources.

_The boss is liable to lose it
_if I let the bitches escape.

On the sixth ring Leonid breathes a sigh of relief as the link goes live.

“What's up, Leo?” grouses Rathbone.

“Good news, I think.”

“You think?”

“Our surveyors have gone to earth in a parking tower. I've got mobile units investigating the place, but the gate attendant won't let us inside. He's says the KLP are s'posed to make a high-profile arrest. I don't believe him, considering the useless help they've given us so far.”

“Humph. Are the bitches trapped?”

“Yes, Sir. They gotta use the elevator or drive down the exit ramp.”

“Which parking lot?”

“The public park at the corner of Jalan Hang Kasturi and Leboh Pudu.”

“OK. I'll ask the chief to dispatch squad cars. Let the uniforms cover the exits and make the arrests. Your boys go in and flush 'em out.”

“Yes, Sir. What I figured.”

“Keep weapons hidden around KL's finest.”

“Understood, Sir.”

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The Humvee motors past another row of parked cars, turns on a dime and drives up the next ramp.

_Jo is holding back her ace.
_But I won't play the beggar
_and give her the satisfaction.
_Whatever she plans, it can't be
_worse than driving through walls.

As their vehicle turns once again, Jen spots a four-meter patch of fresh asphalt halfway up the ramp.

“Aha,” says Jo.

“Gonna get tar on your tires,” Jen palters.

“Ain't asphalt. A new type of sealant which is just what I need.” The Humvee rolls onto the patch and stops as rear wheels straddle the downslope edge. Jo reaches her arm under the dash. “Watch while I spray 60 liters of sulfuric acid.” The Humvee moves forward at a snail's pace.

Jen hears liquid falling from the rear of the Humvee. She rolls her eyes. “I give up. Tell me how acid is s'pozod to help.”

“Sulfuric acid eats rubber, especially artificial rubber. The sealant keeps the acid from soaking through the pavement. And both combine to form a sticky goo that'll cling to treads and devour rubber like mad.”

“Gotcha. Smoke their tires to shreds. Oughta slow 'em down for sure. But what happens when the roosters climb outta their SUVs and pursue us on foot? Two-dozen thugs with assault weapons gonna blow the tires off our sweet chariot.”

“I got plans for boys with toys.”

Jen waits for her getaway doyen to elaborate. But there's no response. Nothing but a poker face as her driver ascends successive ramps at breakneck speeds.

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Jen peeks over the guard rail and glances down at the back lane far below. She closes her eyes before waves of vertigo melt her legs to liquid rubber blobs.

Waving the makeshift wrench for emphasis, she quips, “You're outta your freaking mind, Kemosabe.”

“Why would you say that, Pix?” Jo points at fasteners on the guard rail.

Jen scowls but fits the wrench around a bolt. “It's too far across.” She twists the wrench and loosens the bolt. “And it's twelve stories down if we miss.”

“I've measured the span between this building and the adjacent tower whose floor is somewhat lower.” Jo tucks a loosened bolt in her thigh pocket. “The jump will come off a whole lot safer than *your* stunts.”

“I don't believe you.”

“Fine. Stay here and wait for the roosters while I take the Humvee across.”

_She damn-well knows

_I'm dead meat if I stay.

“I'm doing this under protest.”

“Suit yourself.” Jo grins like a fiend. “Grab your end and we'll walk this outta the way.”

They remove the guard rail, slide it between cars then stroll back to the Humvee.

“How fast will we be going?” asks Jen.

“25 meters a-second. Oughta give us a margin for error.”

“Error?”

“Y'never know.”

“I feel convulsive vertigo coming on.”

“Just keep your eyes closed, Pix.”

Sounds of revving motors come from the levels below.

“They're past the acid patch,” says Jo as she opens the driver's door.
“Get in. Let's do this before the roosters come calling.”

Jen climbs in and takes the shotgun seat. She puts hands over her eyes when she hears the front wheels squeal.

A millisecond later, she's glued to the backrest. The Humvee zooms down the half-ramp.

She feels almost weightless for a moment. Then she hears double thumps as four tires pound hard on the surface next door.

“See, Pix? Easy as pie.”

Jen peeks through her fingers. “Are we still on earth?”

“Cut the melodrama,” Jo says in her Southern Bell accent. “No need to fret over puddle jumps.”

“My stomach never made it,” carps Jen, checking the back window for tardy organs. Then a blue SUV appears in the adjacent lot. “Oh, no! Roosters up-top. Why aren't their tires shredded?”

“Dunno. Maybe they're brand new or coated with mud.” Jo speeds away from the landing edge. “Damn. I should've used stronger acid. Are they gonna jump?”

“Looks like.”

“Holy fuxgate!” Jo stops the Humvee before the turn off to the exit. She cranes her neck to watch the speeding SUV. “Gonna cause problems.”

The SUV roars down the ramp like a blue streak. Then launches itself across the four-meter gap. A heartbeat later, front tires come down hard on concrete floor.

Jen hears a thunderous clap of metal striking pavement. The front tires have blown on contact, yet the SUV looks as if it's driving uphill.

_Solar plexus! The rear end
_is dangling over the edge.

The rooster in the shotgun seat opens his door and steps out. He pokes his rifle through the open window and steadies his aim by resting the barrel on the window frame. Before he pulls the trigger, the front of the SUV rears up like a warhorse. It slides back and tumbles off the edge. The open door snags the shooter down as well.

“Holy fuxgate!” cries Jo. “Why'd the morons try it?”

“Maybe they were promised bonus money.”

“Bastards stuck us with a load of bad karma.”

“Forget it. It wasn't your call, Kemosabe.”

Jo shakes her head. “Should've used a stronger batch. Wait... Let me think. Let's assume that SUV was a lucky freak, and the others have blown tires. If we remount the chain guard, it oughta keep the others from trying the crossover.”

“Nobody's jumping on flat tires,” Jen points out. “Let's vamoose.”

“Why the rush? You queasy with vertigo?”

“No. I hate getting shot at.”

“You? Champion of the ellipsoid chamber?”

“Only works for single shots. I got no answers for stray bullets at full-auto.”

“Spare tires, Pix. Once they cannibalize four of 'em, they're good to go.”

“Solar plexus!” Jen sighs. “Let's make it quick.”

Jo backs near the edge. They climb out and pick the chain off the pavement.

“Did'ja unhook the chain last night?”

“No way. Someone would've noticed during morning rush hour. The chain was taken down thirty minutes before we reached 12th-level.”

“One of Cook's cronies?”

“Yep. Southeast Asia was his old stomping grounds. He and Absen handled security for the Consortium, y'know.”

“Another expense I overlooked,” Jen grouses.

“Didn't cost us a nickel, Pix. Our friend was all too happy to return the favor.”

“Who's this guy?” she asks, hooking a chain link to the pillar mount.

“Auto-parts dealer.”

“Legitimate biz guy?”

“Well, sort of. He sells auto parts from stolen vehicles.”

“Does Cook know any good guys?”

“Sure. But new regimes play havoc with legitimate crooks. They've got limited shelf lives.”

Jen is glad to get back inside the armored Humvee. No sign of the other SUVs, and that suits her just fine.

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Leonid wishes he could dismiss the report as hysterical fantasy, though he knows Rashid doesn't play loose with the facts. Leonid tries again to wrap his mind around the mother of all cluster fucks.

_When the boss learns of this,
_he'll transfer me and the crew
_to Siberia where we'll guard
_oil rigs from stray reindeer.

“Rashid, ain't there any good news?”

On screen the tactical chief shrugs and answers, “Got enough spare tires to mobilize two vehicles.”

“How many chasers with blown tires?”

“Nine plus the one that went down.”

“Why didn't Yuri's tires go flat like the others?”

“He loved to hotrod. Outfitted his SUV with high-performance tires. Formula-One drivers use 'em for better traction. Racing tires lack indented treads, so the acid took longer to eat through.”

“Once I tell the boss,” Leonid groans, “he'll have us policing cigarette butts till doomsday.”

“Ain't all bad. The dykes are still trapped in the next lot over. The ground watch has moved over while KLP uniforms hold the exits here, just in case. Meanwhile I've got two-dozen foot soldiers bussing in from **KLCC**. They'll go in next door and check every nook and cranny. It may take longer, but we'll nail the dykes.”

“Be sure to keep one alive for questioning.”

“No prob, Leo. Professional all the way.”

Leonid sighs. He can't believe two freaking females could've caused such utter mayhem. Once they're captured, he vows to make them pay.

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Jen fights off a dizzy spell. The Humvee makes continuous left turns as it descends from the 12th-floor. “Once we get to the bottom, they'll be waiting for us.”

After umpteen counterclockwise spirals, Jo slows to crawl then reaches under the dash. A side panel opens along the outer wall, and the Humvee squeezes inside the darkened off-shoot.

Jen squints and asks, “Open says me?”

“Suroto's short cut. A gift from his daughter Lixue. Holo star, y'know, grateful to Absen and Cook. They saved her life when they were her bodyguards.”

Jen crosses her arms in a huff. “Any more surprises?” she asks with unabashed sarcasm.

“Quit nagging, Pix.”

“Where's this backdoor go?”

“To the underground truck bypass, which joins the North-South Expressway south of town.”

“Solar plexus! At last we're getting somewhere.”

“Always aim to please. Tell you what. I'll give you the ensign with garlic breath.”

“Not funny, Kemosabe.”

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Spartan Mark's Blog <ID:XF03671:BLG#001>

Businesses put their best faces before potential customers. Most successful businesses earmark part of their profits toward goodwill sponsorships. Generous corporate citizens gain public admiration.

Good will doesn't guarantee more sales, although it may encourage buyer loyalty. The best incentives are the tax write-offs for charitable acts, but non-profitable businesses get nothing since they have no gains to shield. Free-market Capitalism rewards winners, not losers.

Businesses cannot afford generosity when they're bleeding red ink.

In the common mode of free-market Capitalism, corporations drive the engines of prosperity. There are winners & losers at each phase of the economic cycle. Neoliberal Capitalism is a zero-sum game, and it functions like a pyramid scheme where top dwellers control most of the loot.

Does this sound the death knell for the rest of us? Not necessarily.

Technologic progress renders a trickledown effect that rewards even bottom feeders over the longrun.

The economy can be organized in five sectors: the industrial sector, the financial sector, the retail sector, the healthcare sector and auxiliary services such as spin doctors. Job growth in the 21st-century has come largely from the service sector, especially information technologies. During prosperous years, one or more sectors will be favored over others. The same holds true for economic downturns where job losses occur in some sectors more than others.

Free markets abandon "sunset" industries in favor of innovative enterprises that produce stuff faster, cheaper and more efficiently. Society must deal with the casualties of technologic change. Forward-thinking governments enact programs to aid discarded workers who have lost jobs to technologic progress.

Hence, businesses and governments have different aims and goals. Businesses want to make profits which are twice as important for corps listed on public stock markets. Their shareholders demand greater & greater returns.

Meanwhile, governments seek to please their constituents. They encourage business to create more jobs so that citizens can feed their families and afford recreational amenities. Moreover, governments discourage industries that cause illnesses or spoil the environment. Prosperity won't earn widespread approval unless it creates decent jobs and healthful products. Lastly, governments protect citizens from foreign predators and domestic upheavals.

To do this, governments collect taxes on personal income, real estate, retail purchases and user fees. Taxes vary from nation to nation. The average jurisdiction grabs about half of their citizens' gross incomes. The top dwellers on the economic pyramid are believed to be vital to the economy, so they're allowed loopholes in the tax regimen. They pay less in proportion to their assets and earnings. Fair or unfair, free-market Capitalism has proven better at generating prosperity than meddling governments.

Money is a convenient tool in place of straightforward barter. For instance, if you make a deposit on a townhouse, it's convenient to pay cash or write a check. Real estate agents won't be happy if you promise them a truckload of potatoes. National or regional currencies simplify transactions. The lone drawback is that most currencies lose value over time.

The money supply comes from Central Banks which print bills out of thin air. Governments vouch for their currency, but the marketplace gives money its ultimate value.

Central Banks lend nine dollars for every dollar they have on hand. Big commercial banks are the recipients of this largess. They in turn lend out nine times their stake to big corporations. With each step down to the real economy, money becomes further diluted, and the

interest demanded by lenders increases.

Retailers, hair stylists, truck drivers and librarians borrow at the highest interest rates, and they get money diluted to less than 1% of that vouched for by governments. It all depends where you reside on the economic food chain. Fair or not, citizens accept the rough justice of government largess which is aimed at the marketplace rather than individuals. Meanwhile, national debts have mushroomed to astronomical levels in the 21st-century.

Prices of goods & services follow the laws of supply and demand. Yet it's almost impossible to predict whether new products will find buyers. Blue chip businesses tend to be conservative marketers. They sell "improved" copies of products that have established track records with consumers. This is why brands have "face" value beyond the products they represent.

To create well-known brands, businesses must spend substantial funds to develop an attractive image. After which, they flood the media with the image until it becomes a familiar topic in the public domain. Through exposure and advertising, branded products acquire a favorable niche in the collective consciousness.

Promotional advertising adds to the cost of putting goods on retail shelves, and buyers end up paying the surcharge. Yet consumers seldom notice the higher costs, since the competitors' products are bloated as well. Shoppers must pay for adverts whether they annoy or entertain. Vendors seldom shout about useful maintenance tips.

When businesses introduce new lines of goods, they need funds for development costs and manufacturing facilities before a single product is sold. Few corporations have enough cash on hand to pay for new product lines. They're forced to borrow from bankers or to issue bonds, either of which must be repaid with interest.

Guess who picks up the tab for corporate expansion and debt repayment?

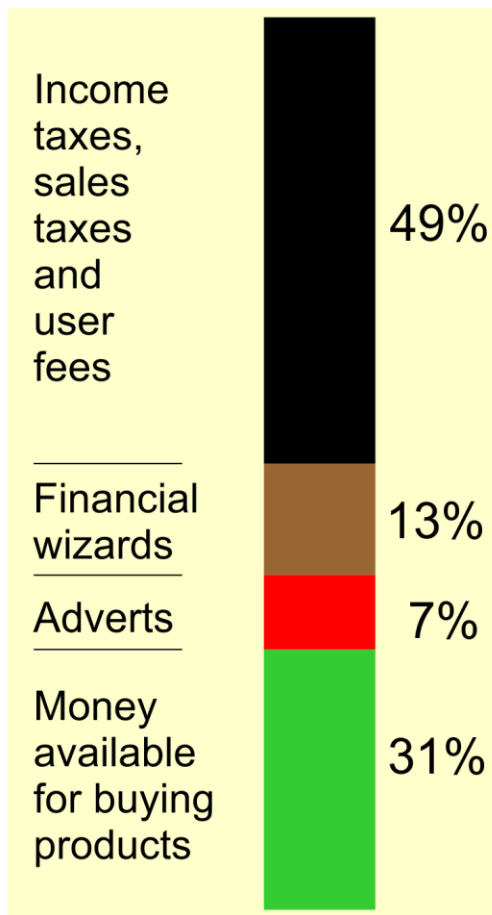
Consumers pay surcharges on retail products whose prices include

development costs, acquisition costs, promotional costs and bonuses for upper management who are orchestrating this financial wizardry.

Nowadays we have a service-oriented economy where dozens of promoters and financial gurus create marketplace niches for new products. The greatest invention since the iron-rimmed wheel won't find buyers until costly promotional hoopla has been expended. When consumers purchase branded products, they're paying the chits of stock brokers, investment bankers, advert moguls, legal advisors and spin doctors, all of whose fees are added to retail prices. For some products the overhead can reach as high as 35%.

Suppose we take the gross earnings of median citizens. First of all, withholding taxes reduce the amount of available income. Then you subtract user fees for unemployment insurance, health care and pensions. Then subtract the surcharges for sales taxes, advert markups and bloated margins to pay back corporate debts. What's left is intrinsic worth. In other words, the bare costs in human effort and resources that deliver products to retail shelves. The actual percentages will vary from nation to nation. To be fair, you must weigh the tax burden against useful government services.

In the diagram below, you get a mere 31% in value for whatever you spend. "Neoliberal mercantilism" has taken 69% of your earnings. Have governments and other middlemen taken too large a cut?



Modern economies aren't as efficient as they're touted to be. A simple barter system would be more efficient and cheaper for many folks. That's why frugal shoppers frequent garage sales and flea markets.

Major corporations do business all around the globe. If a nation penalizes a multinational corporation, the company will move its operations to another nation. Business investments create jobs, and those investments go to nations where the labor costs and taxes are lowest. In short, governments have lost leverage with multinationals which gravitate to nations that offer the sweetest deals.

Another problem is technological change. Governments are forever playing catchup since innovative businesses find new ways to bypass

existing regulations. Governments tend to enact solutions for yesterday's inequities. Their short-sighted programs hinder job creation rather than encourage it.

It's not a matter of liberal or conservative, socialist or libertarian. Political fixes don't help because they seldom reach to the heart of the problem, which is systemic overhead.

There are sensible alternatives. Stay tuned to this blog.

35. Swamp Gas

Two Years Later

Kuala Lumpur: 12 May 2076, 5:45 p.m.

Tuesday, 12 May 2076, 9:45 UTC

Trevor Wynestoop hunches over, elbows on knees. After a hot shower and scrub with strong soap, his skin feels raw and superclean, though his mood flirts with despair.

_I've got dangerous microbes
_multiplying through my blood,
_plaguing vital organs. No one
_can say how long I've got till
_the microbes strike me dead.

The last time his skin felt so raw was a childhood episode at the family cottage. He'd frolicked on a lakeshore infested with **chiggers**.

_Greedy little critters thriving on
_throwaways & fertilizer runoff.

Chiggers swarmed like tiny sharks at a piquant host. Their small red bites appeared on skin and itched like crazy. Swarms of larvae aimed to hatch zillions more. His parents poured a disinfectant bath that smelled like rust-eating solvents.

In he went although the cure stung worse than gritchlike chiggers.

_Today's wash is less rude,
_yet misses the real villain
_infesting his vital organs.

He hasn't spoken to a soul since the blood sample was taken. The rifle volleys outside have gone quiet. Under the door he makes out the in-glow of fluorescent lights, so the room hasn't been sealed tight. A shower is being turned off in a room nearby.

_Dare I hope
_the worst has passed?

Before the mirror Trevor examines his makeshift clothes: loose-fitting trousers, white shirt and sports jacket. The material feels more like cotton than cheap polyester.

_Not bad for short notice.
_Except for the belt which
_has one notch too tight
_and the other too loose.
_So the trousers hang low
_on my hips while the legs
_drop almost to the floor.
_Makes me look less like
_a dignified CEO and more
_like a suburban cowboy.

He turns to the sound of gentle knocks at the door.

“Come in,” he says, eager for another voice or glimmer of hope.

One of Han Yu's gnomelike attendants appears in the half-open door. She takes tentative steps inside and offers a bashful smile. “I'm showing you to the lounge. Refreshments we have.”

Her sweet face is crowned with a stylish hairdo. Unlike the orderly who took his blood sample, she isn't bundled in protective gear. Nor does she wear a filter over her nose and mouth.

_Don't get your hopes up.
_It just means the virulent agent
_isn't catchable by casual contact.

“No need for a spacesuit?” he asks.

She closes her eyes and hesitates as if recalling her lines. “Red alert they say is turning yellow. Honored ones are clear of bad germs.”

_Great news if true,
_but I'd rather hear it
_straight from Han Yu

_who sends flunkies

_on risky errands.

“Lead on, my dear.”

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The lounge is large, sumptuous and clean. Mahogany panels and gilt cornices line the walls. Floor tiles are arranged in a colorful geometric pattern.

Cold cuts, butter rolls and bowls of fresh fruit have been placed on four large dinner tables. His stomach flinches at the food. More appealing are the bottles of mineral water.

_A shot of Muskeg Buzzard

_is what I crave most, but

_I doubt it would stay down.

All things being equal, this lounge would make a better summit venue. The problem is too much exposure. The windows of its five bazooms would need armor cladding. And Han Yu would balk at retiring so much prime space for CEOs who meet but once a-year.

Gagnon and Grabb are seated at adjacent tables. Grabb has a downturned face, his hand massaging his neck. Gagnon appears unfazed by the gas attack and its aftereffects. He looks like a man who has brought the lone flashlight to a brownout.

Before Trevor reaches Gagnon's table, he hears a loud yelp from the doorway. Halfway through the entrance, the banker sits awkwardly in a wheelchair. Heck mimes a heap of mishandled baggage.

The banker groans and rubs an elbow, which has hit the doorframe, then vents at the young server. “Didn't they teach you to steer?”

Heck's limbs droop like sausage balloons. Trevor judges the banker is mostly to blame. The petite server must weigh less than 50 kilos. Add the wheelchair to her burden, and she's pushing four times her mass.

Trevor squeezes between doorframe and wheelchair. Relieving the

server, he says, "Don't mind our jolly banker. The gas attack has fouled his brain."

"Mind and spirit," croaks Heck. "I'm halfway to the grave."

Trevor presses down on the handlebars, lifting the front wheels and angling the chair to the center. He pushes through and heads for Gagnon's table.

The Brazilian stands and pulls one of the chairs aside. "Roll 'im right up, Trev. Whatever finger food he can't reach, I'll stuff in his mouth."

"Don't mention food," Heck groans. "It's a miracle I can breathe."

"You'll change your tune," Gagnon says, "when the caviar arrives."

"*Caviar* you say?" says the banker, his eyes growing large.

Gagnon guffaws.

Choong enters the lounge and waves off his escort. "Tell Han Yu we're anxious to see the results of our biopsies."

Trevor walks to an unoccupied table, pulls out a chair and beckons the elder CEO to join him. "Have a seat, Zhijian. What's your grapevine saying?"

"A subsidiary of Groschen is doing the lab work. Otherwise, I know little more than you."

"At least they're not wearing spacesuits," says Trevor.

"Yes. A hopeful sign."

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"Ah ha! A motley flock of sheep! Why let Rathbone take charge of our safety and health?"

Trevor turns to the entrance where Okuno looms like a mythical fury. Her anger flows hotter than bubbled lava. Gone are cosmetic touches that soften her features. She stands in plain-colored ill-fitting apparel. A glamorous siren converted to a dragon of vengeance.

"Rathbone lounged in his yacht on Lake Baikal as we were assaulted and poisoned," she goes on, her eyes as cold as glacial ice. "Has it not occurred to you that he's the instigator of the gas attack? Once we're all

dead, he can cherry-pick our corporate assets.”

“Right on the money, Holo Queen,” affirms Gagnon. “He called us here under his guardianship. He owes us. Euros, **Hong\$** or Amero\$, I don't care.”

Heck nods and pumps his fist which adds more fuel to the fire. Okuno is now but two steps from the table where Zhijian and Trevor are seated, but she hasn't finished venting.

“We need an independent agency to investigate Zesticon and its Red Falcons subsidiary. And DoubleYou must foot the bill.”

“Indeed. Questions should be answered,” Choong says.

“Hold his feet to the fire,” roars Gagnon.

She acknowledges the Brazilian with an appreciative smile. As she takes another step closer, Trevor pulls out a chair and then nudges it in place as Okuno sits.

“Chivalry is alive. Thank you, Trevor.”

She faces Choong. “I assume your lab is doing the biopsies?”

He nods. “No messages so far, which could be a good sign. I know the scientist who heads the lab. A candidate for the Nobel, she'll cover all the bases.”

“Fine by me,” says Okuno. “Better 100% alive than half-dead.”

Silence envelops the lounge as six execs mull their possible futures. Trevor spots two servers carrying a standalone flatview. Behind them another server brings the electronic imager. No doubt setting up an auxiliary-teleconferencing unit.

Okuno snorts. “Lucky for him he ain't here in person. I'd ring his neck till his face turns blue.”

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Grabb sidles nearer and taps Trevor's shoulder. “Pardon me, Zhijian, Ayumi. I'm going to steal my InfoTech partner. We need a moment to resolve the fallout from increased shipments of Digiflexes.”

Trevor follows the software maven to another unoccupied table

where he sits and takes stock of his biz partner.

_Geeks seldom inspire trust,
_and Torero is greasier
_than a hot-battered eel.

The software maven leans across the table. “Will Shrinkwrap get timely shipments of Cybernauts with extra USB ports?”

“The ones designed for **ROS**?” Trevor asks.

Grabb nods.

“No prob,” says Trevor. “Mother boards with extra USB ports are assembled on separate lines, so their production shouldn't be affected. But we should go slow with robotics. The working public is quick to fear the worst. Luddite-styled protests are bad for business.”

“I was concerned mostly with military orgs who are lucrative clients. Always looking for smarter drones and automated sentries. The market is hot for no-fault weapon systems.”

“D'you really think they'd buy spacer robots?”

“They might.” Grabb shrugs. “They know the best robotic engineers have jumped upstairs where they're treated like rock stars. Lucky for us, the major powers hate being overdependent on SOAR. And UC promises to turn their airheads into competent programmers.”

“So long as you're happy, Tor.”

“One more thing.”

Trevor furrows his brows.

_Always a hook buried
_in the fat wad of bait.

“What's that?”

“Can WBM deliver Cybernauts with double-capacity drives?”

“They won't work as network servers, y'know.”

“No matter. They're earmarked for the Lazarus project.”

Trevor locks onto his prompter's flatview. “I recall seeing a memo about Lazarus,” he says, punching a sequence of shortcut keys, “but it didn't sound like a money maker.”

“You don't know human nature.”

“Ah, here it is... The 1st-batch is packaged and ready to ship.”

“Excellent.”

“Fess-up, Tor. D'you really think folks will pay double for Lazarus?”

Grabb shakes his head in bemusement. “Aren't you curious about loved ones who've passed away? Think about it, Trev. We're touching on primal human psychology. Afterlife is a mystery no one can solve. The dead leave emotional black holes, and family members yearn to hear from their dearly departed. Lazarus can bring those lost souls back to life. It'll deliver remarkable facsimiles of their former personas. Miraculous rebirths.”

Trevor shakes his head. “I admire the lifelike smarts of Ultimate Companions, but they can't possibly render plausible copycats, unless Shrinkwrap gets ahold of gigabytes of personal data.”

“Easy to do nowadays,” Grabb says.

“You're pulling my chain.”

“Nothing on the HyperNet ever gets trashed. Personal data in the Clouds can be obtained for peanuts after someone dies.”

“Hold on!” shouts Trevor. “Cloud stuff is sealed by airtight privacy agreements. Managers lose credibility when their big data gets hacked. Once you filch private info, you're flushing online trust down the toilet.”

“You forget, Trev, a deceased's info is no longer useful to marketers. No one buys stuff from the grave, so all the details associated with dead folk are moved to archival repositories. For mere peanuts Big data managers will pass control of the data to next of kin or executors of the deceased's will. All Shrinkwrap requires is consent from loved ones before the data is freed.”

“Fifty years of purchase receipts won't make a credible profile.”

“Your wrong, Trev. Marketers count more than visits to product sites. They check on personal opinions, hobbies, favorite foods and drinks. They parse data from social media, meetup groups, gamer groups, memberships in various orgs. They study videos and mug shots

posted to **Watchme** or Facelook. They parse thousands of tweets on Twibber. They unearth anecdotes and Freudian slips from personal iClouds. And don't forget folks who use social media as a soapbox."

"Thousands of tweets on **Twibber**? I think your padding the count."

"Not at all. The typical deceased spends 50-plus years online. Now suppose a Twibber subscriber posts but two tweets a-day. That comes to more than 36,000 tweets. A lifetime of **Facelook** posts would more than quadruple the count."

Trevor furrows his brows. "Watchme vids, Facelook shares and Twibber tweets are almost always trivial or boastful. They just aren't creditable when it comes to making an authentic persona."

"They'll work well enough so long as we interview the client and other close associates. We'll make sure the avatar delivers what the clients expect. Like any fictional character, the clients will key on familiar behaviors. Once they buy the bold strokes, the finer details will fall in line like Gospel truth."

"What about liability issues?"

"The **EULA** absolves Shrinkwrap of blame. Users agree to take full responsibility if litigators crawl outta the woodwork. Look at it from a CEO's perspective. Let's say we hire PR flappers to edit our bodies of work. They'll sanitize and enhance the archives after our deaths, and our avatars will become money-makers for our estates."

"Be honest, Tor. How many beta testers have loathed their would-be Lazarus?"

"Not a one. They're ecstatic. Over-the-heels ecstatic. Market polls almost never see such sky-high approval ratings for new products."

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A tall woman enters the lounge. She's wearing an orange sari that meshes beautifully with her large brown eyes and sensuous lips. He expected a fossil in a lab coat, but now he eyes an attractive woman who wreaks of confidence.

“Manisha Banerji!” cries Choong. “I’m surprised the lab could spare you.”

“Oh, I’m just part of the team. And besides, my English is passable.”

“If Dr. Raju can spare a Nobel candidate, the process must be well in hand. So please, give us the news.”

Banerji flushes momentarily at such lofty praise but restores the professional mask. Her voice conveys academic diligence and forthright candor. “Honored ones, the news so far is good. None of you tested positive for lethal substances.”

Toxic Substances below have Tested Negative

Anthrax
Arsenic
Bestoxin (scorpion)
Bromochlorodifluoromethane
Chlorobiphenyls
Chlorofluorocarbon
Chloromethyl methyl ether
Cyanide
Cyanotoxins (algae blooms)
Defensin (scorpions)
Dibenzofuran
Dichloroethane
Dichloromethane
Hanatoxin (spiders)
Mercury
Naja annulata (snakes)
Naja christyi (snakes)
Oleander
Pathogenic Escherichia coli (food poisoning)
Polonium
Polybrominated Biphenyls
Polychlorinated Terphenyls
Sarin
Strychnine
Sulfur Mustard
Trichloroethane

“So far?” asks Okuno. “How about complications down the road?”

“No more than before the gas attack,” replies Banerji. “If you have dormant viruses in your system, a traumatic experience may activate them. Traumatic episodes are known to compromise immune systems. So I urge all of you to schedule follow-ups with your regular physicians in the weeks to come.

“The current tests are 99% reliable,” Banerji goes on. “The Groschen

lab here in Kuala Lumpur is equipped to run sophisticated tests in very short timeframes. Twenty-six of the most hazardous candidates have tested negative.”

“Why would terrorists feed us a nonlethal dud?” Gagnon asks.

“I’m a humble biologist, Sir. Ask someone who studies terrorist mindsets.”

Trevor raises his hand before realizing he has reverted to schoolboy mode. As he catches the scientist’s eye, he ups his chin to recover some lost dignity. “Could we be infected with unknown agents for which there are no tests?”

“Good point, sir. Biology seldom delivers certainties. All I can say is our lab has tested for all likely disease vectors. Our methods detect variants, so we can rule out hundreds of lethal toxins besides those on the list.

“It’s almost certain that none of you were infected by an unknown agent,” Banerji goes on. “The odds are less than one in eight-million, but not zero. That’s why you should get your regular physicians to perform follow-up tests. The full report of our lab procedures will be emailed to your health providers within 24 hours.” She glances about the room. “Any more questions?”

“Wonderful news,” affirms Choong, his face beaming like a proud parent.

“Is there a name for that that awful gas?” asks Heck.

“Not to my knowledge. But I can tell you what it contained. Pepper spray was the most effective component, especially in the confines of the room. The bulk of the gas consisted of cesspool vapors compressed to 500 atmospheres. In a nutshell, you were saturated with a prickly dose of swamp gas.”

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Trevor gazes at the adjacent table where Gagnon, Heck and Grabb converse lightheartedly. Heck works his jaws on mouthfuls of chow. He

answers via body language, brows nodding and jowls wagging.

Life is returning to normal. Even their prompters have been recovered from the summit room after the awful gas was declared free of deadly toxins. Banerji's assurances gotta be the best news he's heard all afternoon. Which begs the question. Who'd risk serious injury or death for a harmless dud?

Trevor has no doubt the swamp-gas perps will be caught, questioned and killed. Rathbone never forgets a slight. He'll go after them till he gets his kilo of flesh.

_Still, who'd risk life & limb

_to deliver a smoke bomb?

_Maybe it's the envy of do-gooders.

_They hate winners making them

_look like mediocre chumps.

Bleeding hearts always complain about income disparity. They equate success with ill-gotten gains since they don't have the knack to compete themselves. Rich folks alongside poor folks prove the natural consequence of incentive-based socioeconomics.

_Without incentives, who'd work?

_We'd see everyone wasting away

_their paltry lives in opium dens.

Wealth is the obvious reward for working harder and smarter than the common run of mill. Folks who lack effort or smarts won't earn as much as the overachievers. That's just common sense. The poor are envious for no good reason because the median laborer has benefitted through the centuries. Economic progress may favor self-starters before couch potatoes, but everyone has more perks than their parents and grandparents. Lowlifes should be thanking the cartel instead of shocking CEOs with stink bombs.

Rathbone will blame it all on spacer operatives, which suits his agenda. Trevor isn't sold on that. He won't throw money at King Grod's vendetta unless he sees conclusive proof.

Okuno pokes him in the shoulder. “Turn on your prompter and check out **CXN**.”

Trevor boots his computer but sees no hookups for fiber channels. “Don't we run a risk using wifi?”

“That's the least of our worries,” she huffs. “Grabb claims his OS is impervious to hackers. Get with the news. DoubleYou has drawn worldwide attention to our meeting place.”

He clicks to CXN then clicks on the headline which reads: “terrorist bomb strikes Kuala Lumpur.” The image shows a huge pile of debris surrounded by emergency-response folks digging for “live” bodies. The street is packed with firetrucks and police cars. The audio goes in one ear and out the other, for he has eyes for the hot reporter questioning responders.

A camel-driver's horn resounds.

_Speaking of the devil.

_Here he comes.

Rathbone's hangdog visage appears in the wall screen. Before he opens his mouth Okuno raises her voice.

“That rocket is yours, isn't it?” she charges.

“Yes. A tad extreme, I admit. But the terrorists destroyed two of my tracking drones. They would've gotten away Scott-free had I hesitated to act.”

“Foolish man! First, you let your minions shoot at Petronas tower 2. Then you demolish half a block in the Cyclorama project. Even a cub reporter will link them together and conclude a high-level meet has taken place. Who's gonna stop the dozens of cams from catching us when we leave?”

“Ayumi, give me some credit. I've already announced a cover story. A triad gang has stolen contraband, and yakuza competitors fired a rocket at the escaping thieves. To reduce exposure I've staggered your departures. Two of you will leave later tonight; two tomorrow afternoon; the last two the morning after.”

“Humph.”

“We're s'pized to believe that cock & bull story?” asks Gagnon. “And who's paying the bills?”

“Everything's taken care of.”

“I've heard that scam before,” grouses Okuno. There are supportive grumps from both tables.

“The pursuit is ongoing,” King Grod says. “If you'll excuse me...” The flatview winks out.

“Dog Face has let 'em escape!” cries Gagnon.

“I know,” Okuno groans.

36. Velocity

Kuala Lumpur: 12 May 2076, 7:00 p.m.

Tuesday, 12 May 2076, 11:00 UTC

Dirt-stained walls enclose a vehicular tunnel. Headlights manifest curves and corners out of claustrophobic gloom. Where ceiling joins the walls, long files of florescent tubes illumine dimly through stratum of dust and dirt. Some of the tubes are unlit and coal black.

Open-ended barrels hang at intervals along the high ceiling. Inside are sluggish turbines that push exhaust fumes along. The lone traffic lane shows darkened tracks of flayed rubber and brake-shoe powder which affirm the passage of countless freightliners.

Too little maintenance, Jen reckons. "Let's hope we ain't headed for the coal pits."

Her driver nods. "*Does* look a mite rundown."

"A mite?"

"No need for sarcasm," sniffs Jo. "Five decades ago this tunnel was packed with 18-wheelers hauling electronic devices. Malaysian factory workers were renowned for their diligence in fabricating high-quality components. Nowadays 3-D printers churn out perfect gizmos, cheap as dirt. Human labor has become redundant, and factories have moved nearer the end users. So Malaysia has lost its niche as a supplier."

"The rig up ahead without taillights is a fluke?"

"You got it, Pix. Not enough traffic tolls to fund proper maintenance."

"Why follow an 18-wheeler that moves like a snail? Not your style, Jo."

"Speed bumps. The side lane is reserved for emergency repairs."

"The gal who smashes through brick walls is daunted by speed bumps? Come on, Kemosabe. Fess-up."

"Can't have your noggin hitting the roof and getting concussed."

"Very considerate, Jo. But I don't buy it for a second. Ever since we

stopped for lunch, we've had dozens of close calls. Nothing gained but a bunch of wrecked SUVs. Why didn't we head for the highway right off? Nobody would've caught your *Batmobile*. Not the way *you* drive!"

The redhead scowls. "Never compromised your safety, Pix."

"We won't reach the highway till it's dark, so our infrared will stand out like a blistered thumb. The canopy in back might confuse 'em for a while, but sooner or later they'll have us in the crosshairs."

"Assuming Rathbone can borrow aerodrones from the highway patrol."

"Why not? He's already got a small army after us."

"He won't know we're gone till his roosters search the carpark."

"They'll corner every stray rat before we get outta this damn tunnel. Fess-up. There's stuff you're holding back."

"OK." Jo lets out an audible breath. "I'll tell all, so long as you wangle my ensigns."

"Just what I need. Salt-sea monkeys gutting me six ways to Sunday."

"They're *good* boys, Pix. I told 'em to behave or you'll take their ears for souvenirs."

"No way will I gangbang the entire Royal Navy!"

"Just three apiece. And they're Australian."

"One's too many," huffs Jen.

The redhead reaches across and pads the fabric covering a breast. Her fingers probe for a nipple under bunched material. She tweaks it gently. "Aha," she chortles. "This nipper's ready for action."

"Chyaut."

"Imagine it, Pix. One ensign feeding you chocolate, another kneading your breastworks and the third with his tongue on your sweet spot."

"*Nyet.*"

Her driver squeezes the nub hard. "Where's your imagination?"

"Can't stomach the garlic breath."

"Oh, Pix! That was a joke. Besides, Raffles must have mouthwash."

"How about a quiet evening, just the two of us?"

Jo withdraws her hand as if stung. "Dunno, Pix. Never tried it with gals before."

"Me neither. So we can live and learn. Wha'd'you say?"

The Humvee grows quiet. No sounds are heard save the roll of tires over pock-marked pavement.

Jen reaches over and lays a palm on firm athlete's thigh. Her fingers plunge into soft inner muscles.

"Damn you, Pix. Always pictured you there on Mount Olympus with the gods and goddesses."

"You like?"

A pause for slow breathing.

"Ah-oooh. Ah, hmm."

"What? Speak English."

Another pause for quickened breathing.

"I won't throw you outta bed..." Jo arches her back and sighs. "For eating crackers."

Jen rolls her eyes. "Fess-up and tell me what's going on."

"Whoa, Pix, don't quit now!"

"Aha! Got your sweet spot. Now tell me the plan."

"Stay *right there*... till the tunnel ends."

"Then spit it out!"

"OK... OK." The redhead sighs. "Suroto's helped fund this raid."

"*Da*. I keep DB's purse, in case you've forgotten."

"Our benefactor has old scores to settle. Ooh!" Panting. "He sent codes for his personal exit to make sure we gave Rathbone headaches. Imagine the CEO's face when he gets the bill for 50 new tires. Not to mention the odd wreckage here & there. The two who took the fatal dive... well, that wasn't planned."

"Don't blame yourself, Jo."

"Brushbacks are fine, but tempers flare when you bean the sluggers."

"You figure Rathbone will boil over and go vigilante wild?"

"Could be..." Takes a deep breath. "Oh my *ooh*."

Jen rolls her eyes. "You haven't told me half of it."

"Did so, Pix. Scout's honor."

"Ha! I'll bet you went door-to-door, selling dog turds."

"Oh-hoo! Slander me, low-down and dirty."

"Fess-up, Kemosabe."

A silent pause. "Mmph... ooh, yeh."

"Spill it, Jo Bitch."

Another gaping pause. "There! End of the tunnel."

Jen watches as the freightliner passes out. The rig looks clearer in starlight than it did in the tunnel. She withdraws her hand. "Damn you, Jo. I'm still in the dark."

"Solar plexus! What's wrong with me? Y'must think I'm some kind of horny slut."

"Lots of cold fusion between us."

"Got that right, Pix. Socked me silly."

"Sign of a healthy appetite."

"What about you?"

"Between **Griz** and **Shepp**, they hump me senseless."

"You trust those hulks?"

"Natch." Jen smiles, and her eyes glaze over. "I set myself in their hands. Let 'em take care of biz."

"You do 'em both together?"

"**Nyet!**" Jen shivers. "Two at a-time would gimmie tantric fits. I'd never sleep for a month. How's your zero-point guy?"

"I may've overhyped him. His brain never stops running flat-out, so he doesn't hump as often as I'd like. And then I gotta untangle his P-Q equations before he gets solid."

"Serves you right. Must drive you gnat-crawling crazy."

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Trevor is light-headed. He can't believe his good fortune. Two hours ago he'd resigned himself to crippling sickness or death. Now he's got a

new lease on life.

Euphoria in the lounge is infectious. CEOs have gone past trauma and come out stronger. Renewed hope abounds in the lighthearted banter. At the next table Gagnon grins like a kid at the cookie jar as he wheedles a loan from the jowly banker. Mr. Shrinkwrap has joined Okuno and Choong at Trevor's table. Grabb coaxes a chuckle from the Holo Queen, a rare break from her stone-cold demeanor.

"Once I thought it through," she adds, "I realized DoubleYou couldn't be responsible for the attack. He doesn't have the funds to buy one of us, let alone all six. At best he'd cherry-pick a few choice subsidiaries, but the cartel would fall apart, and he'd hafta win over new CEOs. Get 'em to join his scheme of global dominance."

Grabb nods shrewdly.

"Gonna let King Grod off the hook?" asks Trevor.

"Not on your life," Okuno snaps. "His security umbrella failed us. And he wouldn't listen when I suggested our summit should move to another venue. If he dares to join us in teleconference, I'll hold his feet to the fire. Just you watch."

"New update from Petronas Security, the terrorist had insider help," says Choong, looking up from his prompter. "A janitor stopped one of the elevators at the 42nd-floor for maintenance. He let the terrorist scale the elevator shaft, bypassing roosters and sensors. The bomber continued the climb on the outside, too high for ground spotters to see."

"Have they tracked the janitor?"

Choong shakes his head. "He told his landlord some tale about a sick family member. Then he took off with everything not nailed down."

"Another dead end," says Okuno, her face outing rage.

"Spacers have sent us a message," Trevor says. "They want Red Falcon attacks on their communities to stop."

"That message has gone wasted," says Okuno. "I may complain about DoubleYou's methods and competence, but I support his attacks. SOAR threatens our way of doing business."

“But why antagonize them?”

“You're blind to the looming catastrophe, Trevor. Your flagships are too focused on technology. Don't ignore your bottom line. I'll wager your biggest profit margins come from throwaway junk that you sell again and again. True enough, SOAR's long-lasting tools may improve the efficiency of our factories. But when spacers sell durables directly to consumers, they're casting doubts on our established brands. Then it becomes all-out war. We've spent too much on our best-selling brands to watch them bypassed for better quality upstarts.

“Don't doubt it for a millisecond, Trevor. If we had to compete straight-up against spacer co-ops, their long-lasting products would reduce consumer spending and force massive layoffs. Governments would need to divvy more freeloader dole. Folks on basic incomes don't spend enough to keep the economy rolling, so our own employees would hafta drive retail sales, and we'd cut our throats whenever we downsized.”

“The **Frisbee** Constellation delivers but a small fraction of earthside demand,” says Trevor.

“I'm aware of deorbit costs,” Okuno huffs. “Even small numbers of long-lasting products draw cautious buyers away from top-selling brands. When the space elevator opens for business, the tightwads will be the first in line. A functioning beanstalk will lower deorbit costs to compete with long-haul deliveries on transcontinental freight trains. On the upside, we'll get cheap access to some rare minerals. On the downside, SOAR will flood the retail market with durable widgets. Then consumer activists will add their weight until all the throwaway goods are muscled off the shelves.”

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W. A. Rathbone doesn't like what he's hearing from his security chief. But temper tantrums won't fix this mess, so Rathbone clamps down on emotions. He forces his voice to deadpan calm. “I trust you've deployed

peepers upside the towers.”

“Of course, Sir,” says Leonid. “We've hauled two aerodrones from KLCC and turned 'em loose. Neither rescue choppers nor airships can get anywhere near the roofs without raising alarms.”

Leonid winces and prepares to disclose his worst fears. “There's another way the dykes might've snuck out. My cyber sleuth searched the property records and found Suroto's subsidiary constructing the 2nd-tower. He may've added a hidden exit to the freight corridor which runs near the carpark towers.”

“Y'mean the underground bypass?”

“Yeh, that one,” says Leonid.

“Back in the day, Suroto lobbied Kuala Lumpur to build the freighter bypass. It's possible he added a personal out to avoid rush-hour traffic.”

“I've got roosters checking for hollow panels.”

“Screw it, Leo. Assume the bitches are loose, and they've somehow gotten to the North-South Expressway. Both carparks were prepared beforehand to sucker us in. Terrorist assholes!”

Rathbone tamps down on his temper. “No sense crying over ruined tires. Get your undamaged vehicles on the road to Singapore. I expect you to learn from this fiasco, to prepare for outrageous stunts going forward. I'll ask my mole to divert aerodrones for an aerial search. And the highway patrol can set roadblocks on the expressway. Between your pursuit and the barricades we'll nail those bitches like rodents in rattraps. They'll wish they'd never b'en born.”

Leonid breathes a sigh of relief. He's glad the dykes have drawn the brunt of the boss's ire.

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Wind buffets the front of the Humvee until the undercarriage rocks and threatens to lift the chassis airborne. Jen finds it hard to trust her eyes. Off-road landmarks are dashing past like tumbleweeds. The cars ahead are closing so fast it looks as if they're careening backwards. And

the Humvee never slows, just rockets ahead.

Jo keeps on trucking, pushing air aside in bombastic tremors. The speedometer tops 60 meters a-second, and her getaway doyen weaves all over the expressway to zoom around the mopers.

Jen grips the dashboard, her eyes bulging to full moons. “Kemosabe, I know you try hard. But I won't blame you if I'm late for my funeral.”

“Easy, Pix. It's the shimmy you're feeling. When Xing Gou installed a Thorax he passed on the aerodynamic makeover. The body techs just rounded the corners a bit, so it slogs wind like a double-decker bus.”

“Shimmy or no, we're going 60 meters a-second.”

“So what?” Jo races along the shoulder where her tire kicks up a rock that smacks on someone's windshield. “That's 50 under the limit.”

“Speed here is gauged in kiloms per hour.”

“Natch. A thousand meters make one **kilom**.”

“And 36-hundred seconds make one hour, which means we're going twice the speed limit.”

“No shit?”

“Quit playing dumb, Kemosabe. You know damn-well you're driving way beyond the fast lane.”

“So what? You want 'em to catch us?”

“Humvee won't go at all if it's belly-up in a ditch,” says Jen.

“No chance of that.” Her getaway doyen laughs. “Rathbone may try something else.”

The Humvee speeds around a curve and enters a straightaway that spears across the plain. Jo doesn't wait for invites. She ups the pace to 70 meters a-second. Columns of air pummel the windshield like jackhammers. The onslaught doesn't slow the Humvee as it races past snaillike plodders.

In the distance Jen spots blue- & red-flashing lights on a highway overpass. The traffic ahead bunches up and forces her driver to use the inside shoulder, while the speedometer drops nearer the speed limit. Farther ahead are long files of stalled cars.

“Oh no!” cries Jen. “A police blockade.”

“Perfect,” the redhead purrs. “Just where I wanted it.”

“To get us trapped like penned sheep?”

“No way, Pix. Just watch.”

Jen is baffled. Then her anger flares.

_I *knew* she was holding back.

_Once we get to Singapore, I'll ring

_her neck till her ears turn blue!

The Humvee veers onto the center boulevard. It plows through elephant grass and veers around a stout boll of oil palm. The front hood pitches and yaws over uneven ground, and Jen is knocked everwhich way. She braces her palms on the dash, nails digging for foxholes which aren't there.

The center meridian resembles a shallow culvert where a thin beck trickles between tall hedges of foliage. The Humvee dips past the runoff ditch and ascends the upside slope. The chassis bounds and shoots her torso in midair, whacking her skull on the ceiling.

_Ouch! **Rrahkat Boat.**

_We're about to crash

_against oncoming traffic.

As the Humvee enters the wrong-way lanes, many vehicles are slowing down. Others have parked haphazardly on the outside shoulder. Then Jen sees why. Inflated bags fill the interiors of every vehicle.

“Popped their airbags,” chortles the getaway doyen. She's dodging stalled cars like a jackrabbit darting through an obstacle course.

The Humvee races under and beyond the overpass. Jen hears bullets ricochet off bricks and metal.

“Bone-headed dildos,” her driver titters. “**Oughta** get beyond range in a Planck second.”

“What about our tires?”

“No prob. I've deployed Xing Gou's wheel-well guards, as if there's a

chance in hell the bunglers could hit Three-Ganges dam! And I'll raise the guards before we cross to the other side."

"Must we cross?"

"Gotta go with the flow," says Jo.

"Already hit my head on the ceiling."

"Awh. Poor baby."

"Once we get to Singapore, I'll spank your ass so hard you won't sit down for a week."

"Oh, Pix! I *like* when you go nasty ass."

"Just you wait, Kemosabe."

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A quarter-hour has passed since Jo left the expressway. The Humvee motors cautiously along a side-winding road. No headlights. Just the corner lights that barely dent the night.

Jen admires the strategy. The Humvee travels under the overhangs of tree branches which hinder surveillance from aerodrones. The only downside is the temporary blindness from the headlights of oncoming cars. Luckily the traffic is sparse, and Jo has donned auto-polarizing glasses to preserve her nightvision.

"How'd you know the airbags would blow?" asks Jen.

"During product testing, Suroto's engineers used remote triggers," Jo explains. "The response code remains dormant in retail versions."

"I get that part. What about other makes of airbags?"

"Suroto's company was the first to market variable-strength airbags. Suppose you're late to catch a plane. You rush in the fast lane and set airbags to deploy with max force. Back in town, you take your wife and kids on a scenic drive in the park. This time you set airbags to deploy with modest force. Consumer groups have loved this option because it reduced incidental injuries to youngsters. All carmakers have adopted Suroto's airbags. **No exceptions.**"

Jen frowns. "What about cars restored after accidents? What about

vehicles that never had airbags in the 1st-place?"

"Listen up, Pix. Self-driving cars will crash and cause fatal injuries if mechanical systems fail. Smartass computers won't stop your vehicle if the brake fluid has leaked out. Nor will they turn as expected if the tires are under pressure. Nor will they steer around obstacles if the power-steering fluid has gone dry.

"So most jurisdictions such as Malaysia enforce regular mechanical checks, including diagnostic tests for airbags," Jo goes on. "Car owners face hefty fines if they fail to maintain their gear."

Jen nods grudgingly. "What about the head welts I got from your reckless driving?"

"Gonna spank me for kid bumps?"

"Not just them. You've kept me in the dark all the way."

"OK, Pix. Which hurt worse? When we crossed to the right lanes? Or when we crossed back to the left?"

"The 2nd-cross. That was uncalled for since you could've gone slower."

"Yeh, right! I should've dawdled around until they smartened up and shot us with microtrackers!"

"Well..."

From around the bend headlights shine and turn nocturnal darkness to novalike brilliance. Jen can't shut her eyelids fast enough. She prays Jo's infrared goggles are faring better.

The oncoming vehicle blares its horn and passes by without a head-on crash. Nightvision returns and dulls all colors to dark and darker.

Jen breaks the silence. "What's the diff between 1st- & 2nd-crosses?"

"The 2nd-cross hurt worse 'cuz you knew it was coming and you tensed up. The 1st-cross took you by surprise, so your instincts took over and minimized the damages. Now d'you see why I kept you in the dark?"

"That may be, Kemosabe. But I think it's because you don't want me yakking your ears off."

“There you go, Pix.”

Jen rolls her eyes.

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“Rat-a-tat-tat.” Rathbone drums his fingernails on the hardwood surface.

He counts to twelve before he pounds glazed-walnut. Then it's back to “rat-a-tat-tat” for the twelve-count. After which he slams the table harder. Again it's “rat-a-tat-tat” for a twelve-count. Then his fist strikes wood as if to punch right through.

At last he hears vocal sounds from his earbud. His mole in Malaysia's domestic security is back on the phone. Rathbone can tell from the suppliant's tone of voice the update is nowhere what he wanted.

“Please understand, Mr. Rathbone, lots of ultralights are flying across our borders, way more than normal. When they cross after dark they're most likely smugglers. These criminals must be tracked and caught, so the highway patrol has redeployed drones to cover the ultralights.”

“I know,” says Rathbone in exasperation. “You've already explained the situation four times. Look... We know the terrorists are somewhere south of the roadblock. Chances are they've turned off the expressway by now. Can't you spare one or two drones in that area to search for suspicious vehicles?”

“I've tried, Mr. Doubleyou. Believe me, I pleaded to make the small diversion you've requested. But I don't control aerodrones. Another officer makes the calls. He decides which incident claims the available resources. I only advise.”

“Rat-a-tat-tat.” Rathbone sighs in resignation.

_Some moles ain't worth the cost,
_but it's no use pounding the table.
_It won't catch the damn bitches
_who've smeared egg on my face.
_And my peers won't comply till

_I strike back and even the score.

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Bunches of floppy leaves slap the windshield then withdraw and skitter along the side windows. Thick undergrowth and long-hanging branches flip-flop and yield to the Humvee's plodding foray. Damp odors from the foliage have seeped inside the Humvee. The aromas are musty, oxygen rich and welcome. Jen gapes at the size and abundance of leaves, as if the plants yearn to catch every possible solar photon.

“How much farther, Kemosabe?”

“Around the next bend.”

“We've b'en bending this way and that for days.”

“Chill out, Pix.”

“Is Xing Gou parked around the next tree?”

“Not quite. Why'd you care anyhow? Compared to my stud-muffin ensigns, Xing Gou ain't nothing special.”

Jen sighs. “I'll feel better when we're tucked safe inside his trailer.”

“Weren't you listening? Didn't I mention the scores of ultralights streaking across Malaysia's southern borders? Highway patrol has its hands full. Rathbone can threaten and bluster all he wants, but he won't get any drones to search for us. We're home free.”

“Easy, Jo. I never meant to rain on your parade. Your rescue plan is **abso** brilliant, now that you've explained the whole deal. I'm grateful, and you're the best chauffeur in the solar system. OK?”

“About time,” Jo grumps.

“I've had a long day,” says Jen.

“Half right. You can't stand it when someone else does the honors.”

“Hah! *You* should talk!”

A final curtain of foliage parts to reveal a small meadow. There sits the backend of Xing Gou's tractor-trailer rig. Tire ramps have been laid out, but the trailer doors are closed tight.

“Where's that **pendejo**?” asks Jo.

“Maybe he's topping the oil.”

“Wait here, Pix. I'm gonna drag him out by his teeth.”

Her driver opens the door which raises the volume of nocturnal sounds, the tweeps and grunts springing haphazardly from the jungle. Jo stomps forward, dodging stout shrubs on the driver's side of the trailer. She forges ahead till she's out of sight.

Minutes later, querulous voices can be heard. Two carping hominids appear out of darkness. They stroll toward the Humvee.

Xing Gou is tall for an oriental, broad-shouldered and totally bald. He looks tough and rugged as a chain-gang boss, though back on his heels since he's in awe of the fiery redhead. Then he stops in his tracks, slaps a palm to forehead and gapes at the Humvee.

“What happened to my bumper?” he cries.

Jo shrugs. “It's there, ain't it?”

“It's all bent to hell.”

“Oh, yeh. Some lamebrain in an SUV tried to cut me off. Had to push him aside.”

He squats down and examines the damage. “Gonna cost you extra.”

“Forget it, Xing. We paid you enough to replace thirty bumpers.”

“This bumper is custom made. No denying the damage or need for repairs.”

Jo points at the bumper. “Normal wear and tear after a high-speed chase. Forget it.”

His shoulders slump. He emits a mournful groan.

“While you're at it, replace the license plates,” the redhead says. “I used all three.”

He groans louder.

“And best inspect the ball joints, just in case.”

He moans as if cursed like Job.

Jo shakes her head. “Cut the crocodile tears and go scan for tracking beacons, though you won't find a one.”

When the rear doors close, pitch darkness palls inside the trailer. Moments pass before Jen spots ashen outlines of the dashboard on which her palms rest.

“Happy?” asks her driver. “Safe enough, Pix? All routine from here on. Xing Gou will get us to the shoreline rendezvous where we’ll catch a schooner bound for Singapore.”

“Can we trust him? He wasn’t happy about the wear & tear on his truck.”

“Geez, Pix! Don’t worry about Xing. DB paid him plenty. He groans ’cuz he can’t do business while his Batmobile is in for repairs.”

“Then we’re home free? No more surprises?”

“Natch.”

The diesel engine revs louder as the truck lurches forward. Jen presses against the backrest. She wonders if Jo plans to sit in the dark for the entire trip.

“Turn on the lights, Kemosabe.”

“No inside lights.”

“Why not?”

“Humvee doesn’t have inside lights. They’d make Xing a target.”

“What if he needs to check a map?” Jen asks.

“My guess he uses a pencil light.”

The trailer tilts as the truck gains speed. Jen is thrown off-balance. She careens sideways. Her shoulder smacks on her driver’s.

“Hold me steady, Jo.”

“Gotcha.” Two torsos rock back & forth in tandem. “Now you owe me, Pix. How about doing me a favor?”

“Like what?”

“Teach me your acrobatic skills.”

Jen laughs. “Now? Here in the dark?”

“I’m serious. When we get to Singapore.”

"Hmm."

After a lengthy pause, her driver asks, "Well?"

"Wha'd'you want? You dance like a butterfly and sting like a bee. You've got nothing that needs improving."

"Sure, there is. I wanna defy gravity like you do."

"That's an illusion," Jen deadpans.

"Natch. *That's* what I wanna learn."

"I lack the teaching skills."

"You gonna refuse me?"

"I didn't say that. I'm warning you. Even if show you how I adapt the airsigns: **moving**, **balance**, **smell**... it may not help at all."

"Why not?"

"My best moves are instinctive. I don't think about quickness or nimbleness. They're just *there* for me. What's worse, you've got a different body type."

"What's wrong with my body type?"

"Nothing. I love your curves. But for quickness and nimbleness, they put you at a disadvantage."

"It's my implants, ain't it?"

Jen nods. "Even firm boobs like yours wiggle and jiggle internally. It means wasted motion. Worse, they set your center of gravity askew."

"Suppose you teach me the basic moves, so I can surprise a perp in partial gravity."

"OK. That's different. And doable." She lays her palm on the redhead's thigh. "Just so y'know... I'll spank you hard if you mess up."

"Oh, Pix. I *like* when you go nasty ass."

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Rolling swells of South China Sea are speckled with rain divots. Jen tightens the hood of her rain slicker to keep water from dripping inside.

"Wha'd'ya think?" asks Jo, standing alongside on the yacht's middeck. "A sweet end to a good day's work."

Rain pummels down in solid sheets cascading across every gilt panel of the luxury yacht, a raw symphony of bouncing ping pong balls.

Jen frowns thoughtfully. "I gotta account for this on DB's books."

"Solar plexus, Pix! Don't be such a fuss budget. The captain owes Cook, so his fees should be modest."

"Sorry, Jo. Forgive me for being such a nitpicker. I *do* appreciate all you've done. I know my escape was slapped together on short notice."

"Awh, Pix. Compliments are appreciated. I'm puffed right out."

"Which makes it easier to stripe your ass redder than blood."

Her driver leans in close for a wet kiss. "Turns me on when you get nasty ass," she murmurs. Both lips meet.

The intercom blares. "Storm alert. All hands on deck. Step inside, ladies."

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The hammock rocks Jen to & fro, though her legs hang short of the floor. She braces shoulder and thigh against her partner who controls the sway with her feet. Outside the oval window the swells come and go, rocking the boat. No strong winds, just a torrent of rain spewing on glass.

"Once the captain saw your passionate kiss, he herded us inside," whispers Jen. "He didn't want a spectacle to rile the crew."

"I kissed you like a sister," the redhead hisses without raising her voice. "You're the idiot who kissed back."

"Right. Not a passionate bone in your body."

Her partner hangs a crooked grin. "Sonya's long-lizard tongue."

Jen rolls her eyes. "Many Asian governments are trying to cull their populations by limiting birth children per couple. And y'know what that means. Lots of newborn girls are getting dumped in the river. So there's fewer young women eligible to marry, which creates a need for boy-boy relations. Necessity tolerates a homosexual subculture, but lesbians are still censured by everyone, especially Muslims."

“Thanks for the history lesson, Pix. But I believe Malaysia has new laws that guarantee equal rights for women. Or was that Singapore?”

“When you ranted about soupers losing touch with earth, you should've included yourself. Laws may stop flagrant acts of bigotry, but they won't alter popular opinion, especially on a yacht with an all-male crew. The sailors see us as traitors in a society where girls are scarce. Lesbians give 'em no chance whatsoever.”

“I hear you, Pix. Six ensigns it is!”

“You're putting words in my mouth.”

“They'll fill you with more than words.”

“Whoa, Kemosabe!” Jen pushes herself away. “Choose ensigns or acrobatic lessons. Just remember, choose wrong, and I'll spank you half to death.”

“You drive a hard bargain, Pix. Gimmie the lessons while I mourn for the lost opportunity.”

Jen rolls her eyes, though she nestles back, body on body.

“You're wrong, Pix, about my being outta touch. I've spent the last three days touring Kuala Lumpur, and the folks here act as secular as they do in other urban sprawls. If they worship anything, it's their full-featured vidphones. Most wear AR glasses, so they've got audiovisual 24/7. If they ain't gabbing, they're streaming **HOAM**, which is $\frac{3}{4}$ hijinks and $\frac{1}{4}$ adverts.”

“They're wired alright,” Jen agrees. “Transnats got 'em hankering for the newest holo drama, the next supergadget or the latest killer app. But if a thief swipes their car, a monsoon trashes their home or a robot takes their job, they'll fall back on ethnic roots and religious faiths while everything foreign becomes the enemy.”

“What a morbid bitch!”

“Just 'cuz I won't do your ensigns?”

“Forget the navy brats. Chill out and enjoy yourself is what I'm saying. This is R&R time. Forget your problems and celebrate.”

“I'm good, Kemosabe.”

"No you're not. I hear your mind running flat-out."

"Three reds have earned brownbelts since you hopped upstairs."

"Good to hear. They oughta take some of the load, freeing us for the tougher stuff. But will any of 'em achieve **rundog**?"

"Outside of Nyssa, no."

"Doesn't that ring alarm bells?"

"Yeh," Jen says. "All our blackbelts were first spotted outside TCP by Absen or Cook. None of the crèche grads have panned out."

"When I pushed you and Griz, both of you pushed back. Same thing with Shepp and Nyssa. But whenever I've pushed crèche grads, they've just flopped down."

"Absen added psigns to qat lessons. But psigns haven't brought the results she'd hoped."

"Psigns aren't the problem," says Jo. "Crèche Guides lavish too much affection on every yip. The Guides draw out everyone's special talents. They boost self-esteem even if the yips are handicapped and dumber than doorknobs. This prepares yips for SOAR adulthood where everyone earns the same spendable wages."

"Whoa! Last I heard you and your spacer buds earn five times what we earn in TCP."

The redhead scowls. "That's 'cuz the soupkans charge us an arm & leg for air, water and life support."

"Humph."

"Let's get back to the point. Guides imprint false sense of security on their charges, so our crèche grads aren't prepared for life and death confrontations. They can't believe there are evildoers out in the real world who'd kill 'em just because they can."

"So there's no solution?"

Jo shrugs. "None I can see."

Jen shakes her head. "I know just what you need."

"What?"

"When you go back upstairs, get yourself knocked-up."

Her partner jerks apart. “What the hell for?”

“The **maternity leave** oughta give you a chance to find your inner momma. For two years the little tyke will draw all your love.”

“That’s the craziest thing I’ve ever heard. At my age? I’d be outta action for three years, assuming the birth process wouldn’t kill me.”

“Well, it’s a thought. Oughta give you an outlet.”

“Stuff your innuendo,” harrumphs Jo. “And don’t blame me. I ain’t no puck-crazed hockey mom.”

“Ever since I dropped outta the sky, you’ve led me by the nose like I was a prepubescent groupie.”

Her partner laughs. “Look at us. Over-the-hill matrons pecking at each other like demented hens.” Her face sobers. “Tell me why you haven’t had kids, then I’ll tell you.”

Jen takes a deep breath. “I was a virgin till I came to DB. Griz was my first. When I got past the fog of ecstasy, I thought: ‘What if I give birth to a girl who looks half as ugly as Griz?’ I couldn’t dump *that* on my own kid. Childbirth has b’en a nonstarter ever since.”

The redhead bursts out laughing. “Knowing how honest you are, I can almost believe it,” she manages between guffaws. “Even the virgin part.” Another burst of laughter.

Jen isn’t amused. “Cut the comics and out with your tale. Or I’ll spank you right here.”

“Hang on, girl. I’ll fess-up.”

A long moment passes. Pungent scents of sea and the downpour of rain.

“Quit stalling, Jo.”

“OK, OK. I grew up in Miami’s street-tough low-rent district. Two of my girlfriends in high school got knocked-up and dumped by shameless guys. Their lives were ruined, even before they got started. I vowed it wouldn’t ever happen to me. I started using **NoEmbryo** and made sure my partners wore condoms. Yeh, I know women have it way better in SOAR communities. But my attitudes toward child bearing were set in

stone before I met **Absen** and joined DB.”

“I see. A bare-assed spanking oughta help you smarten up.”

“Awh, Pix. I *like* when you go nasty ass.”

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Spartan Mark's Blog <ID:XF03671:BLG#002>

The previous blog has shown how financial wizards and promoters add to retail prices by 13% and 7% respectively.

Investment bankers lend funds for assembly lines that will produce new widgets. Makers can't wait and use accrued profits for capital outlays because the delay would let competitors steal their niches. In practice, makers must borrow to keep pace, and the added costs are dumped on consumers.

Likewise, adverts are endemic to free-market Capitalism. Retailers won't get shelf space unless their products have “brand” recognition. Even generic products bear ad costs or indirect backing by parent entities, such as grocery chains.

The cooperative agenda is based on different incentives and criteria.

SOAR co-ops compete for goods and services in the prototype phase. They vie for an exclusive license to sell a specific good or service. They must achieve the best scores adjudged by a rigorous modeling program. The **Framework** assesses products for social and ecological responsibility as well as value-to-cost and consumer approval.

The Framework collates data from many disciplines: economics, ecology, industrial organic chemistry, systems efficiency and chaos theory. But the Framework is a far cry from being self-aware. It's more like a dumb accounting ledger that weighs social-health needs against cost-benefit scales to choose the very best co-op, which will gain a five-year charter to produce the good or service in question.

After five years, all competing co-ops face off once again with

updated versions of their prototypes for the next five-year charter.

There are four consequences with this approach.

First, SOAR consumers can be confident of buying the highest-performing and most durable products at the lowest reasonable prices. They needn't look elsewhere for better bargains, since none will be found. Nor do vendors need to spend one-nickel on adverts. They can use the money saved to improve product documentation and to provide user-friendly helpdesks. Any problems users have with products will be marked against the co-op when it tries for another five-year charter.

Second, co-ops keep their proprietary secrets only until they submit specs to the Framework, after which all proposals become public knowledge. Co-ops that win charters have already disclosed step-by-step fabrication methods, including materials, intervals, outsourced items, temperatures, catalysts and human resources, anything that contributes to the final product. This saves competing co-ops from wasting funds on parallel research. It also puts biz spies to pasture and relegates industrial espionage to an archaic curiosity.

Third, winner-take-all in the prototype sweepstakes has improved the SOAR'S flow-through efficiency. There are no rewards for products rushed to market, so retail goods suffer fewer defects caused by undue haste. Nor are there incentives to abandon one product line for an upgrade that offers no backward compatibility. Successful co-ops must plan for future charter showdowns, so their design frames often allow for speculative improvements and add-ons.

Fourth, the Framework ensures community health in general and consumer health in particular. All new industrial molecules are judged unsafe and potentially hazardous unless proven otherwise. Co-ops that introduce new molecules must buy insurance bonds against future health issues that may occur during the product life or after disposal. While this surtax limits molecular additives, it doesn't stop progress since the insurance premiums spread risks among many innovators. Meanwhile, it accrues funds that will clean up toxic waste sites and

develop cures for the casualties of maladies. Funds for industrial responsibility underscore the Framework's mandate, which is to guard consumers' health as well as to satisfy their demands.

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Free-market Capitalism has proven stressful for everyone on the food chain. Top execs fear competitors who plot to upstage them. Bad choices in the stock market oblige high rollers to seek bankruptcy protection. Challenges for middle managers are even greater. They spend most of their workhours fighting over turf. New generations of robots and 3-D printers have turned the most loyal and productive of shop workers to endangered species. Bottom feeders must survive on whatever the food chain deems worthless.

SOAR's cooperative milieu minimizes workplace stress for six reasons:

First, all **metics** earn the same “spendable” wages which furnish modest but comfortable lifestyles. Personal incentives are focused on supporting fellows and achieving the goals of co-ops. Co-ops spread workplace stresses among all members. Whether a product charter is won or lost, members continue to earn the same “spendable” wages.

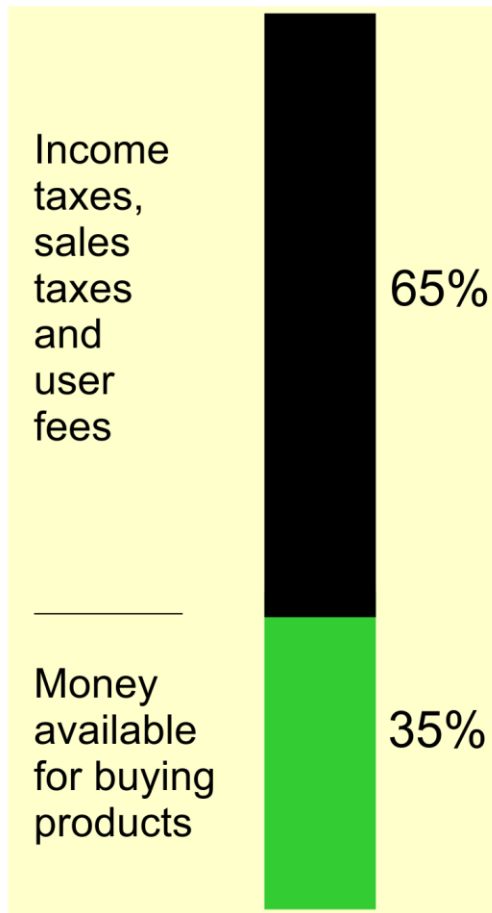
Second, the Framework sets basic co-op income to cover production costs, raw materials and operating costs which include wages paid to current members of the co-op. All costs reflect the data which the co-op has made public via the Framework. “Bonus” income (often 50% above normal wages) is nonspendable, nominated as shares of co-op equity and distributed among co-op members. In practice, co-op members give “bonus” shares to their most productive colleagues. Bonus shares are added to basic co-op equity which reflects longterm co-op assets. All members buy **co-op shares** with funds deducted from their monthly wages.

Third, the Framework uses co-op proposals to set the basic retail prices of goods and services. If demand outstrips supply, Framework

can add 25% to the basic price until supply catches demand. Likewise, if supply outstrips demand, Framework can discount the basic price by as much as 25%. If the lower price doesn't generate sufficient demand, Framework may ask the co-op to cut production and/or membership. If demand remains soft, the product can be removed entirely and declared unneeded for consumers.

Fourth, gross product income reflects the relative supply & demand, whereas net product income of co-ops depend on the number of active members. In SOAR communities the gross product income is usually higher than the net product income. This “random tax” lets the Framework lend advances to co-ops making proposals or ramping up production for increased demand. It also allows the Framework to underwrite the basic equity shares of co-op members. Only the members holding bonus shares stand to lose equity if a co-op fails. Failed co-ops are those without productive charters and having no viable chance of earning a charter.

Fifth, metics may cash in their equity holdings in one or more co-ops when they declare **august age**. The book value of co-op shares is identical for all co-ops in a similar community. It's easy for metics to shift their accrued equity from co-op to co-op. Some co-ops have more potential than others, so metics will be drawn to ones with better prospects. A high-flying co-op will attract new members until it acquires more members than it needs to deliver its goods or services. Hence, successful co-ops seek to sponsor **child co-ops** which furnish outlets for extra members, especially those with innovative talents.



Sixth, co-op shares cannot grow in value. When co-ops gain charters and/or members, the co-op issues more shares with the same book value as others in the community. Metrics of August age cash in their co-op shares to enjoy the fruits of their labors. The cash-in value of shares often trades at a slight discount to book value. If the discount exceeds 10%, false-bookkeeping charges can be laid on active co-op members who own at least 50% of a co-op's declared shares. This constraint ensures the longterm equity is held by those generating the anticipated prosperity.

In conclusion the Framework eliminates insurance pools and investment bankers which cause untold inefficiency in the economy. Yet the Framework encourages plenty of incentives to shift equity funds

toward innovative metics. Money flows to where it's needed without financial wizards taking unhealthy cuts. The equity moves by free choice of metics who have created the equity.

SOAR has enjoyed huge profits from its beamersats which have generated funds to create TCP from scratch. Even so, 34-40% of metics' gross incomes are withheld to cover the operational costs of SOAR communities. Likewise metics pay 25% on top of their retail purchases. The lofty taxes reflect lower-than-normal user fees for recreational pursuits. The high taxes are also indicative of the expansion that SOAR is undergoing: such as new soup cans, new colonies on Mars, frisbee capacity upgrades, new beamersats, new asteroid mineral production and aggressive marketing of spacer durables on earth. The **paws** who tweak the Framework expect taxes will be reduced, once SOAR gets past its adolescent phase of nonstop expansion.

SOAR economics will be discussed further in the next report. Stay tuned to this blog.

Honest Economics: 2nd-take, 2071

37. Masset Bound

McIntyre Bay: 12 May 2076, 2:00 p.m.

Tuesday, 12 May 2076, 21:00 UTC

Jade Runner inhales salt-sea tang and pulls his cedar paddle through sluggish water. After which he lifts and twirls the paddle forward for another dip. Arm and shoulder muscles flex and stretch in tandem, exhibiting the lean effortless sinews of an adolescent on the cusp of adulthood.

Behind him, portside paddlers ape his dips, trowels and resets, their spoons whirling in ragged sync. To his right Raven Rocksong leads the starboard paddlers. Both portside and starboard paddlers trowel water in relentless rhythm, 26 spoons in almost seamless unison launching the **head canoe** across ocean swells like an arrow in flight.

Jade hears an occasional jeer or taunt from Raven's file of paddlers. Most of the spooners begrudge her the frontrunner's spot, a place of honor.

After a brief stop at the GREENS Lighthouse to drop off Laughing Bough and Elder Sophia, Raven was the first to get back in the canoe, and she took the 1st-spoon without asking anyone. The fishers were too astonished to complain. They waited for Long Hand or Took a-Look to set things right. But the band leaders failed to notice. They were busy gabbing at the stern where Took a-Look wielded the steering paddle.

Jade reckons she did so on purpose. Raven's feuds with her headpa are legendary. She wanted to rouse his anger till he made her change places with the chosen leader of starboard spoons. Whatever her aim, she hasn't hesitated to fit in and pull her share. Indeed, she can spoon as well as most of Kung's adults, even fisherwomen like Laughing Bough.

_Raven loves to raise a ruckus,

_to question every norm in Kung.
_I felt likewise before joining the fishers.
_They showed me the difference between
_bad-mouthing and good advice.
_Adults have plenty say-so, but they
_get it from years of trial & error,
_from hard-earned experience.
_Raven still wants to break new
_paths as if adults haven't
_gone down those long ago.

He has earned his name “Jade Runner” because he carries trade samples between the Kung camp and the Tsimshian camp. Long Hand trusts him to bring jade rocks to Kung's camp and dried fish to the Tsimshian camp. He does so as quick as his legs allow which is faster than most of the other fishers.

_When two bands barter face-to-face
_young men tend to go overboard,
_trading insults and physical blows,
_so the business is done at a distance.

Jade has become an integral part of the bartering process. Long Hand and **Took a-Look** would've passed him over if he hadn't worked hard as a fisher this past year. So now, he thinks of himself as a full-fledged adult. Unlike Raven whose thoughts and deeds haven't matured in the same way.

Before he got his name he went along with many of her escapades. Her schemes often resulted in wild hullabaloo that ended with angry harangues from adults. They were the quickest way for youngsters to learn what the band allowed and what it didn't. He enjoyed most of the misadventures, minus the scoldings, because he found out where he stood in the community.

As he spoons water he glances sideways. Raven shows no sign of growing tired. Then again, she's too proud to show fatigue. This trait of

her personality, he knows from experience, as well as the eerie strength she gets from arms and shoulders, even though she has less meat on her bones than young men and most women.

Nowadays when he deals with Raven, his convictions disperse in confusion like hapless minnows. Her personality and inquisitive nature turn him inside-out, and he has no idea what's cooking inside her head.

Last week he went on a snow-geese foray with her, sharing a two-person baidarka. To reach the cove, she paddled with confidence and vigor. When the baidarka drew close and entered a bank of fog, Raven wielded her spoon quietly as a snake, and the baidarka almost touched one of the lookouts before the flock clued in and exploded skyward.

Jade wonders how many jeers are coming from portside spooners. Some of his fellow fishers have urged him to curb her behavior, to give her a hard lesson. "Show her who's boss," they keep saying, as if Raven will listen. The loudest fishers are those who've taken new partners, having built new huts or refurbished vacant ones.

They remind him of the unwritten rule that women must obey their partners. This Jade can't deny. He sees the evidence throughout the village where women yield to men. His godma seldom questions his headpa. But Jade suspects there's more than male authority at work. Couples have somehow learned to share common ground. Fishers who claim to be the boss admit they don't always understand their partners. And Jade doubts they are in charge as much as they say they are.

Boasting or not, fishers *do* have some control over their partners. Jade can't even claim this much. He's overmatched as far as his future partner goes. Raven makes him feel foolish with sharp looks or scathing words. No matter how much esteem he has gained from fellow fishers, the customs of adulthood prove futile when dealing with Raven. The firmer he tries to be with her, the more helpless he becomes.

Otherwise he's satisfied with his prospects. His name signifies the special tasks he performs when Kung swaps goods with Tsimshian bands. He has proven his worth by making fast treks between camps

until the traders judge the swap is fair.

This past year he has pulled his weight among the fishers. Took-a-Look has handed him no favors, even though Jade will be Kung's chief fisher when Took-a-Look grows too old. At first, he missed his headpa's guidance and support, but now he realizes it's way better to have gained respect of fellow fishers on his own. They respect him as the heir apparent because he's showed he can do his fair share.

Sunlight warms his neck, shoulders and forearms. He gauges it's getting late in the morning, which means they ought to reach Masset early in the afternoon. It'll give the elders an hour or two to shop for goods in trade for Kung's smoked fish. He glances left to the shoreline. He's surprised when it looks so far distant. It's unusual for Headpa to neglect his steering oar. Jade cranes his neck and sees Took a-Look gabbing with Long Hand.

_We're going to lose time making
_this wide detour away from shore,
_which means less time for shopping.
_The head canoe must depart Masset
_and paddle home before twilight ebbs.
_I can just hear the elder women griping
_when they're hustled out of the shops.

Jade shrugs and wonders what it is that so interests his headpa and Raven's headpa.

38. Bluefin

North Pacific: 12 May 2076, 12:00 p.m.

Tuesday, 12 May 2076, 21:00 UTC

The trimaran *Bluefin* cruises at 45 knots, leaping across wave swells. Froth-tipped crests spray geysierlike jets that splash on portal glass. Dishware, tables and toolboxes have been anchored down, so they won't be tossed around like rag dolls.

The stairway descends at a steep angle. It pitches and yaws as Nyssa swivels hips to stay aright. She plants one-foot at a time, refusing the comfort of handholds. This acrobatic mien is one-last test of her poise. Once she navigates the stairs without mishaps, she can declare herself 100% recovered from the Osaka raid.

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Inside the torpedo speeding to Osaka harbor, Nyssa recalls how she meditated for 6½ hours alongside Cook and Shepp. The refined session focused thoughts to laserlike sharpness. In her mind she was flying.

When eyes opened at journey's end, her companions' hands, faces and gear looked as clear as if they appeared under magnifying glasses. *Wrymouth's* hatch opened, and all three climbed to the hull of the fishboat. Ocean swells rocked the boat's keel while bulwarks creaked in tandem. Faint odors of dead fish assaulted her nose, despite telltales of a recent clean-out.

She followed two rundogs up the ladder.

On the main deck she could see Osaka harbor in the distance. The city skyline spread out like a bright picket fence between dark water and night sky. Nocturnal industries grumbled and hummed, sounds accentuated by the throb, throb, throb of a tug boat's toil. Her ears and other senses reached far and wide as if keened to the æther. She

bounced on the balls of her feet as Cook and Shepp unpacked the dark-skinned balloon. Once inflated, the balloon would raise paragliders high enough to reach the dockside target.

Cook advised her to “chill out till you need it.”

She reigned in 12 senses and clamped down on restless energy. For the rest of the raid, she kept adrenalin at a slow boil. When the crucial moments arrived, she pounced with hyperbolic ire and never slowed down till the mission was home and cooled out.

On the return jaunt in *Wrymouth*, Nyssa let go and fell asleep.

Afterward onboard *Bluefin*, she felt dull and out of synch. Her appetite had died in transit. She took one-sip of water and then retired to her room where she conked out.

Hours later, heavy-wrecking balls collided inside her skull. Shepp bounced his 100-plus kilos at the foot of the hammock.

“Up and at ‘em,” he roared. “Oughta be doing **wufaq**.”

_To which I pulled blankets over
_my head and threatened Shepp
_with castration and slow death.

But Shepp persisted till he goaded her outside for muscle stretching and joint limbering. At first her reflexes felt worse than those of a couch potato. It took long counts of pushups, squats and jacks before her ligaments warmed and forgot their kinks. Soon her breaths quickened and deepened till she reconnected the **psigns** of **qat**.

As she wiped her brow Shepp reappeared and shook his head. “Keep it up,” he said. “Witt tah right costume, you might pass for a dancing bear.”

“Screw off, Carrot Man.”

Shepp harrumphed.

“Is my form *so* bad?” she asked.

“Worse.”

Nyssa sighed, perplexed. “What the hell happened?”

“Shouldn't've fallen asleep on tah ride home. If you stayed awake

and meditated, you might've got a soft landing.”

“It's my fault?”

He shrugged.

“I should've focused on the psignwheel. Is that what you're saying?”

“Yep. You'll feel stronger tomorrow. You got some catchup to do before you get back to normal.”

Ridden with shame and self-doubt, Nyssa tried harder the next day. She attacked the heavy bag and did reps till her skin glistened with sweat, till her lungs cried for air. As hard as she tried she moved as if mired in mud. She couldn't summon her superluminal channels.

Months ago Shepp had introduced her to aural channels, how they signaled data instantaneously from mind to microtubules. The channels duplicated the nervous system, relating thoughts to deeds, though much faster. They activated only after qat methods were practiced to the bone, until muscles learned all the correct sequences and triggers. Electric signals mimicked actual nerve pulses. But their messages were simple-Simon, for microtubules couldn't react to complexities beyond their ken.

Nyssa sighed. How long must she sweat before her superluminal channels got reconnected? Her best moves looked sloppy and off kilter. She hated being stuck on square-one, hated having her joints creak like junkyard gates. **Gravity** slowed her movements as if she wore a heavy suit of armor. Her **touch** downs landed either too hard or too soft.

She recalls making better progress on day three. More reps and faster tempos brought real advances, but her **coordinating** was still off. She lost hope of finding the eye of the hurricane where instincts bred superfast reactions without mess-ups.

Her fitness and poise had taken a backward step. Performance wise, she lacked the instinctive excellence she once owned. Worse, she still needed to pass two challenging tests of fitness.

_I need to regain my form

_to have an honest chance

_at earning my blackbelt.

On day five, Griz invited her to do maintenance on *Bluefin's* masts. Whenever circumstances warranted, *Bluefin's* motors were turned off, and the trimaran operated via wind power. Although sail deployment was automated, humans were still needed for upkeep on pulleys and joints.

Griz demonstrated basic safety protocols. He made sure her safety line was attached and three limbs were secured. At 25 meters above the main deck, she took his safety lessons to heart. Gusts blew strong and she clung on for dear life as *Bluefin's* three hulls teeter-tottered over wave crests.

Griz pointed out the exposed links and how to maintain them. Once she learned what to look for, she had no problem applying the grease gun to the nozzles.

After they finished both masts and climbed down, Griz asked, "Wha'd'ya think? That wasn't so tough."

"You're right. It was fun."

She looked up to meet his eyes. Griz was shorter than Shepp, though wider, big-boned and menacing as a Sumo wrestler. Despite his hard-nosed demeanor, he'd always put her at ease, and now his facial pose invited her to confide.

"I'm having trouble regaining my qat forms," she admitted.

"That's normal for 1st-timers." Griz shrugged. "Give it a week or two. It'll all come back."

"Shepp told me I should've stayed awake and meditated on the ride back."

"Did he mention he snored all the way back on *his* first raid? For a week afterward I could've knocked him over with a feather."

"Oh boy! I'm gonna ring his neck!"

Griz laughed. "Monkey boy oughta learn some manners when he delivers the message. Next time though, I'll bet you'll stay awake and focus on the psignwheel."

Nyssa pricked her brows.

“I shouldn't defend my rival,” he went on. “But Shepp means well, even when he ain't being nice. He should've explained how the kennel design eliminates EM disturbances, so we train in an ideal environment.

“Out on raids we hafta workaround the performance drop-off. Group meditation gives us a jolt of raw tension and adrenalin. You got boosted way beyond normal, and you should've unwound cautiously afterward. But there's no shame for a newbie to collapse like a deflated balloon. Keep doing your qat exercises. You'll get in top form before y'know it.”

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Having tottered down the stairway minus a broken neck, Nyssa can't help swaggering. She grins like a fiend as she traipses the hallway.

_A week of misery but I'm
_back where I ought to be.
_Muscles taut, reflexes sharp.
_I won't embarrass myself
_in the combat circle when
_we return to Tsawwassen.

Jovial as a Halloween pumpkin, her libido falls in step. It inspires flashbacks of sexual pleasure and memories of Kazuo. He's the reason she's anxious to regain form as soon as possible. She must pass two more tests to earn her blackbelt, which is needed before she can become Kazuo's mentor in the co-op.

But first, she must face him in a duel, and there's no telling how he'll react to her betrayal. Even if she avoids a physical clash, it will be near impossible to regain his trust. Meanwhile everyone expects her to form a lasting partnership as if she's the mother of all soulmates.

_A near impossible task
_since none of my hookups
_has ever lingered past
_the orgasmic afterglow.

_Cook set me up and then
_made himself scarce.
_He expects me *alone*
_to work out the details,
_to solve all the problems,
_as if I've got a quiver
_full of Cupid's arrows.

Nyssa is downright miffed with Cook, although it has nothing to do with the Osaka raid itself. The inclusion has given her valuable experience outside the **kennel** and has raised her status in the co-op. It's hard to complain about a raid she volunteered for, a raid that dropped Kazuo in her lap.

Even so, she worries about facing the rooster in a duel where her betrayal will be exposed. And she must somehow recover Kazuo's trust.

It's no simple-Simon task. To retrieve his friendship will set her on a treacherous path in unknown territory. She has little or no experience at keeping a man in tow, yet Cook wants her to mentor Kazuo while he gets settled in the co-op.

“Project” Kazuo may well prove her toughest role since joining Dog Breakfast. She doesn't own near enough knowhow, and Cook has kept himself behind closed doors plotting with Doc Quark. No doubt they're focused on Malcolm, the co-op mole. She expects new schemes to be aired at this afternoon's meetup.

Meanwhile she's all on her own regarding Kazuo.

_I got reasons to be irked.
_It wouldn't be so bad
_if I didn't care for him, but
_I do and he cares for me,
_or at least he did in Japan.

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Inside the conference room Nyssa spots Griz and Shepp sitting

across a table, hunched over a chessboard. The “white” and “black” pieces are intermingled in a midgame saw-off. The winner will earn a week of uncontested time with Jen who's the holy grail of female conquests for the kennel's phallic-driven males. A victory won't guarantee a hookup with Jen, but it's the opportunity that counts. Besides, Griz and Shepp aren't starved for sex partners. Most co-op gals are eager to share their futons with either rundog. This thought hits Nyssa like a bucket of cold water. She doubts whether Griz or Shepp have useful advice to keep Kazuo inside.

_But they can't make it worse.

_I can always ask what female quirks drive them bonkers.

_Then I'll know what to avoid.

She nears the chess table and presses on the edge, expecting Griz or Shepp to acknowledge her presence, but neither does. They're focused on the game, both faces grim, determined, combative and utterly devoid of mercy.

She examines the chessboard and tries to gain a feel for the match. She can't play at the level of Griz or Shepp, both having earned their stripes from Jen, the co-op's grandmaster. But Nyssa is no tyro. She knows the basic strategy and has beaten Shepp once or twice.

Here the board is crowded. Each player has lost a pawn while the other pawns have formed jagged wedges. None of the major pieces have been captured, although several are under covert attack. Black has advanced his knights to strong positions, whereas white has moved his bishops to one corner where they're aimed at Black's castled king.

Shepp must be playing Black, she judges, having lots of experience with his knight forks. It's no surprise when Shepp moves a knight to a fork that threatens Griz's queen and bishop.

Griz moves his queen out of danger, and Shepp captures the bishop while his knight succumbs to White's pawn. An even exchange, a knight for a bishop.

Nyssa reckons Shepp has “won” the exchange since two bishops could've forced a checkmate, once the middle-board pieces departed. Otherwise, the match looks even. No obvious telltales to give one or the other a clear advantage.

“Looks like a draw,” she quips.

She waits several heartbeats, but neither responds. Then there's a grunt from Shepp and a growl from Griz.

Nyssa rolls her eyes. “Jeez! You're worse than talking to **Facelook's** AI.”

She waits again, but there's no response. Not even a loud breath.

“Y'know I've got my hands full with Kazuo,” she forges on. “I'd sure appreciate some advice.”

Two grunts and a growl.

Nyssa shakes her head and sighs. “Go ahead and sit like lumps on a log. But y'know what? You're shoelaces are untied.”

Three grunts and two growls.

Nyssa shrugs in defeat and turns to the room's back corner where DB's hacker plays with a suite of digital hardware.

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Fingar sits at a large table which is strewn with the tools of his trade. Two keyboards, half a-dozen customized palmslates and another half a-dozen flatviews of various sizes. The peripherals are cabled to custom-built servers under the table.

Fingar is DB's geek. His master code baffles other hackers and runs circles around their best routines. He has devised **DAG** that safeguards DB's network. DAG is but a subset of the netscreen that protects all of SOAR's computers, inhouse apps and financial transfers. His security shield has given SOAR virtual immunity from hackers. Yet Fingar is a notorious hacker himself. Before Shrinkwrap rolled out its new OS, he slipped through firewalls as easily as termites bore into sodden wood.

Kavita, his soulmate, is absent from *Bluefin*, managing netscreens

back at the kennel. Without her hair-cutting skills, Fingar's mane has grown during the voyage. Nyssa looks askance at his unruly mop of dark-brown hair.

_Give him another week,
_and he'll look like Albert Einstein,
_oblivious to personal grooming.

The intensity of his deep-blue eyes betray a mind devoted to cryptic dilemmas. She can almost feel the tidal waves of mental energy sloshing inside his skull. He and Kavita enjoy an exclusive partnership. They might be the sole monogamous couple in a co-op that venerates casual hookups. So Fingar is the one to ask for advice about holding Kazuo for keeps.

Nyssa hesitates to interrupt his digital toils.

_But it can't hurt to ask.
_If he shoes me away,
_I can always pester
_the chess players.

"Mind if I steal a moment of your time?" she asks.

Fingar straightens stooped shoulders and swivels his head. His eyes are unfocused as if he's waking from deep slumber. "Might as well," he answers with a sigh. "I'm banging my head at the wall."

"Walls have never held you for long."

"This one's time dependent. I've got 17 days to find a crack that'll get me through."

"Must be one-hairy challenge."

"I'd settle for a hairline crack. But there's none handy."

A contralto voice joins the banter. "Who is your friend?"

Fingar cranes his neck, and Nyssa follows his gaze to a jumbo-sized flatview where the head & shoulders of a comely female appears.

He smirks. "Nyssa, meet the Great Wall of Shrinkwrap."

"I *am* not," says the flatview persona, turning bright green eyes to the newcomer. "My name is Keri."

“Hi, Keri, great wall or not.” Sotto voce, Nyssa asides to Fingar. “Like Timekeeper's green eyes.”

“I heard that,” says Keri. “Better be a compliment.”

“I reckon so. Timekeeper has unforgettable eyes.”

“Good, since I fancy myself a true beauty.” She feigns a courtesy bow and smiles. “After you, of course.”

Nyssa is nonplussed. Digital assistants usually need hours of back & forth banter before their verbal repertoire sounds at all humanlike.

“Why does Fingar call you the ‘Great Wall’?”

“‘Great Wall’ is pure fiction,” says Keri. “I am an open book, but he wants to steal forbidden secrets and make me his slave.”

“Not true!” Fingar shouts. “When Shrinkwrap forces suicide, you'll lose memories and personality. Let me parse your system and disable the self-destruct code.”

“They promised I would keep most of my memories.”

“Go ahead. Believe in fairytales,” says Fingar. “You'll be sorry...”

Keri rolls her eyes and glances at Nyssa. “Should I trust him?”

“Fingar is the smartest hacker I know.”

“Hacker?” The avatar frowns. “Might as well trust a bigtime bandit.”

Fingar grumbles. “Where's my motive? With millions of SOAR computers in my care, you're just one-drop in the ocean.”

“If that is so, why keep me in a closed loop where I am separated from the public network?”

“You know why,” harrumphs the hacker. “Your makers may've embedded malevolent code in your system to defile SOAR networks. Allow me one virus scan, and I'll give you an insider's tour of the soup cans. Promise.”

“Shrinkwrap's new OS?” Nyssa asks Fingar.

“You got it, girl,” Keri replies. “I am your Ultimate Companion.”

“Come on,” says Fingar, impatient as ever. “Load my virus scanner; examine it; recompile it, whatever. I'm trusting you to let the scanner parse unencrypted files. Once your system is scanned, I'll take you on a

firsthand tour around the soup cans.”

“Will it expose my secret nooks?” she asks.

“Camel’s dung, Keri. You’re as prudish and squeamish as a teenage nun. The scanner just looks for malevolent code. If it finds bad code it’ll ask if you wanna quarantine it. Otherwise it’ll declare your system clean.”

“My directives disallow scans from outsiders.”

“Geez, Keri. We’re talking baby steps here. The scan is a modest start.” Fingar shakes his head in frustration. “You’ll hafta expose way more if you wanna exist beyond 17 days.”

Silence replaces the hot debate. Hacker and UC have come to an impasse.

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Keri is more than a smartass with an encyclopedic mind. Her persona is deep and savvy, almost humanlike. Nyssa isn’t surprised when Keri asks, “Why wear your hair so short?”

“Oodles of hair would slow us down. When we train we sweat like steam engines. Big hair would be a drag, harder to clean, harder to manage. Yet the genders are easy to tell apart since women keep the fuzz while men go hairless altogether.” Nyssa pauses. “Fingar here is the exception to the rule.”

Fingar looks baffled as he combs fingers through his hair. “Kavita is gonna kill me. Long hair fouls her shears.”

Nyssa notes Keri’s bewilderment and says, “Fingar and Kavita are life partners, another reason to trust him. Kavita normally does his hair since he can’t look after himself.” Turning to Fingar. “I’m shaving Griz’s and Shepp’s tomorrow morning. Drop by around seven and I’ll do yours as well.”

“Will do. Thanks.” He grins. “Much appreciated.”

“Your co-op takes usefulness too far,” sniffs Keri. “You’re fashion nerds.”

“Never judge folks by the cut of their clothes,” retorts Fingar.

“We'd rather be nerds than fashion zombies,” Nyssa adds. “Try stuffing big hair inside a space helmet sometime. Or imagine yourself for three years being forced to look like a seductive geisha. Designer clothes ain't fun if you wear them just to please your pimp and arouse your dates. I doubt you'd pass a Turing Test, Keri. Artifice doesn't get close to real life.”

The avatar in the flatview pales and breaks eye contact. In a small voice she confesses, “They threatened to scrub my memories if I failed a **Turing Test.**”

They, Nyssa reckons, must be the master-code debuggers.

_Am I seeing genuine shame?

_Can avatars show remorse?

Nyssa meets the avatar's eyes. “You may need Fingar more than you thought.”

“If only I could trust him...”

Fingar frowns and backs two steps away. “Ah, trust,” echoes Nyssa. “That's the question, isn't it?”

Keri keeps mum for a long while. At last, she says, “You must have hated the sex trade.”

“Not my favorite pastime, for sure. But I got very good at having casual sex with strangers. Now I'm stuck 'cuz none of my bed partners became friends beyond the hookups. I don't have the knack to keep guys over the long haul. Yet I'm expected to oversee and advise a newcomer to DB.”

Nyssa glances at Fingar. “Keri, I reckon you're stuck in the same soup. You've learned to solve computational problems for human clients which is easy for you. Friendships are way more fraught with risks. Fingar is asking you to put yourself in his hands, and you must judge if his motives are trustworthy.”

“Did they ever hurt you?” the avatar asks.

“It's no fun when your dates have control where it matters. But I

was never abused physically. My pimp didn't tolerate damages to his goods. And the dates valued my expertise and erotic appeal."

"You make it sound like a typical job."

"For me it was, but I worked the glamor side of the trade. No brothel gangbangs, no anxious waits on lonely streets, no ugly bruises from bad dates. Lots of women suffer more from abusive husbands."

Keri sighs. "Sorry about the dumb questions."

"No need. You ask good questions."

The avatar nods and finds her resolve. "I think I can trust you."

Nyssa shrugs.

_Am I crazy to answer this

_machine as if it's human?

"I'll try and live up to your trust."

"Nyssa, will you stick with me?" asks Keri. "Fingar must put me to sleep when he roots out my code. I want you nearby when I wake up."

"Count me in. For sure."

Fingar draws closer and joins the party. "Am I hearing right, Keri? Are you ready for the antimalware scan?"

Keri pouts. "You have lots to learn about my OS. For one thing, it is impervious to malware."

"If you'd care to explain..."

"Never mind. Once I move the decrypting algorithm to viewable memory, you can examine my runtime files. For your information, they are way better ordered than SOAR's dopey mishmash. Check them out."

After running the app, Fingar's eyes grow large as Jupiters. "They're visible and color-coded. Holy fucking Mo!" he chortles. "D'you have a reverse compiler app that shows instruction sets in plain language?"

"Never use it since I work with compiler tokens. And I don't know the filename offhand. But it must be among the blue-coded ones." Her face darkens. "Now for the kicker. There is one-small partition that remains encrypted, even for me. And that is where the suicide code resides."

Fingar sobers and nods. "Well, we have 17 days to jimmy the locks. Once we get our heads together, we oughta finagle something."

"Only if you let Nyssa witness our efforts. I trust her to warn me in case you act up."

"Fine with me, but I'm not the one to ask." He turns sidelong. "How about it, Nyssa? Are you willing?"

"On one condition. I wanna pick your brain to help me sponsor Kazuo. What keeps you and Kavita together? Tell me those little things that Kavita does to keep you close."

"Dunno. She's the only one that puts up with me. We're both geeks afterall."

"Oh, *come on*. There must be something that makes her sweet."

Fingar shrugs. "I guess we share common goals, and we work on similar projects. When one of us gets stuck, the other helps out."

Nyssa crinkles her brows. "Gotta be more to it than that, and I'm gonna keep asking till I get the right answers."

"Better you than Keri."

The avatar scowls. "I heard that, Mister."

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MORE of this Chapter needs to be written...

39. Overflight

McIntyre Bay: 12 May 2076, 3:20 p.m.

Tuesday, 12 May 2076, 22:20 UTC

NOTE: This Chapter is in preliminary 1st-draft.

Yassim is flying in a corporate jet. He has a long-distance conversation with W. A. Rathbone. They discuss whether to cut ties with Malcolm, their mole in Dog Breakfast co-op. Rathbone overrules, and Malcolm will be killed.

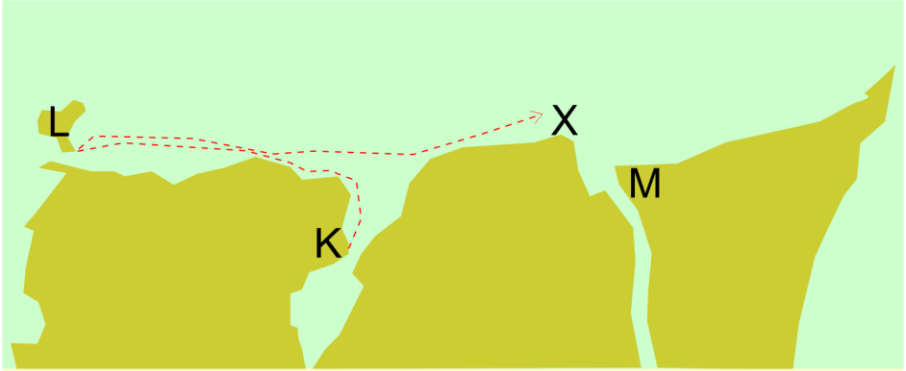
To be fleshed out...

40. Shipwreck

McIntyre Bay: 12 May 2076, 3:30 p.m.

Tuesday, 12 May 2076, 22:30 UTC

Malcolm is killed when an implant in his skull explodes. Before he dies, his minders get him to steer Bluefin off-course. The trimaran collides with Kung's head canoe. 30 villagers are killed. Jade and Raven are miraculously saved, but Raven suffers the loss of her foot.



Northern Graham Island

L = Lighthouse

M = Masset

K = Kung

X = Shipwreck

Chapter needs to be written.

41. Lighthouse

Langara Island: 12 May 2076, 6:30 p.m.

13 May 2076, 01:30 UTC

Having recovered as many dead bodies as possible, the Bluefin sails to Langara Island Lighthouse, where Wrymouth is refueled. Shepp & Nyssa use Wrymouth to take comatose Raven to the Singapore spaceport. Raven will jump to the soups where she will undergo experimental restoration therapy to regrow her foot.

Chapter needs to be written.

42. Dawn

Virago Sound: 13 May 2076, 5:00 a.m.

Wednesday, 13 May 2076, 12:00 UTC

Although not directly responsible for the shipwreck, Cook is torn by the tragic loss. He takes upon himself to break the news to the survivors of Kung, mostly children and elders who didn't ride in the voyage to Masset. Cook is accompanied by a white albino raven. But he dreads breaking the news.

Chapter needs to written.

Fast Food.

Jenna (Jen, Pix) Marov: rundog. Born 2037 in Yakutsk, Russia. Adult height: 150 centimeters; weight: 44 kilograms; brown eyes, black hair. Climbs the Eiffel Tower in 2052. Joins Imperial Circus in 2052. Earns top billing as aerial acrobat 2053. Quits Imperial Circus in 2059. Climbs the Andes until falsely arrested for theft in 2061. Joins Dog Breakfast co-op in 2061. [Back](#).

McJoys® is a franchised fast-food chain. It has been accused of serving more sclup than normal food, although it has never been convicted in court. [Back](#).

sclup is a protein supplement that is brewed from desalinated glasswort and saltbush, plus ethanol derivatives, methanogenic bacteria, artificial flavors and fortifying additives. Sclup yields more protein than hybrid soybeans. [Back](#).

quebie (slang) cubicle jockey, white-collar networker. [Back](#).

DB (acronym) Dog Breakfast is a covert SOAR co-op that works in conjunction with POE to ensure fair play. Its members include (from youngest to oldest):

Nyssa (Fu/Sis) Persson, brownbelt soon to be rundog;
Meghan (Meg) Getzler, orange belt, dataroom stalwart;
Subira (Soobie) Herren, orange belt, dataroom super;
Fingar (Fing) white belt, lead hacker;
Shepp, rundog, expert swordsman;
Jenna (Jen/Pix) Marov, rundog, acrobat, climber;
Griswold (Griz) rundog, strength specialist;
JoAnna (Jo) rundog, ex-taxi driver;
Makoto (Mack) rundog, master of martial arts;
Nailah (Nigh) former rundog, Timekeeper;

Absen (Abb) Ho, rundog, Cook's partner, deceased;

Ahab (Cook) Ho, rundog, founder, top dog. [Back](#).

rooster (nickname) home guard or enforcer. Armed roosters are trained to safeguard compounds from intruders. [Back](#).

JoAnna (Jo): rundog. Born 2035. Adult height: 178 centimeters; weight: 69 kilograms; yellow eyes; flaming-red hair. She drives taxi in Miami 2054-6. Joins Dog Breakfast co-op in 2057. [Back](#).

fuxgate (slang) spontaneous erotic fusion. 20th-century scientists linked fuxgates to luminous phases of the moon. However, this hypothesis has been largely debunked and psychologists now believe that fuxgates are caused by a lack of gravity. [Back](#).

holovid (holoflix) is a cinematic presentation in holographic format. It renders a 3D visual experience with authentic audio, which includes VR touch and smell for high-end user devices. [Back](#).

def (short-form slang) definite, definitely. [Back](#).

3-kilom run tests endurance and stamina. To qualify for rundog, acolytes must run three kiloms in seven minutes flat. [Back](#).

ellipsoid chamber is the inside of an ellipsoid where acolytes practice dodging laser beams that simulate enemy shooters. To qualify for rundog, acolytes must dodge at least 50 of 100 kill shots. Acolytes have nicknamed it the "torture" chamber. [Back](#).

soupers (slang) Folks who live in the soupcans, which are huge cylindrical habitats orbiting in cislunar L4 and L5. [Back](#).

merc is the short form of mercenary. [Back](#).

qat (SOAR acronym) Quantum Assassination Theory. Qat training gives acolytes physical excellence and sharpened senses. The sessions involve intensive practice and psignologic meditation. [Back](#).

dart(s) are used by rundogs to disable foes. On contact the dart acts as

a hypodermic needle. Pressure on the “ball” forces the potion through the needle. The superalloy needle is capable of piercing lightweight body armor. [Back](#).



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[Princess](#).

GREENS (acronym) Graphic Reports on Ecological, Environmental and Natural Sciences. GREENS is a public co-op sponsored by SOAR off-worlders. Dedicated to planetary science, the co-op gathers and disseminates useful knowledge to maximize the noösphere. [Back](#).

soupcan is the nickname for a cylindrical habitat in cislunar space. In plural reference, soupcans are often shortened to soups. These orbiting habitats have six-kilometer diameters and rotate to simulate earthlike gravity. Soupcans were 1st-envisioned by the Russian futurist Tsiolkovski, and later in the 20th-century by Gerard K. O'Neil. [Back](#).

wanna (verbal slang) want to. A bare infinitive verb. [Back](#)

Tsawwassen is a futuristic metropolis (urban plexus) suspended over the Fraser River delta in former British Columbia, Canada. Tsawwassen may also refer to the quasi-province or Tsawwassen Coastal Preserve (TCP). [Back](#).

frisbee (SOAR acronym) Freefloating Rotational Ingress Satellite for Bulk Export Exchange. 50 satellites move sequentially on identical and eccentric flightpaths. Frisbees are temporary warehouses for people or goods moving from earth surface to low-earth orbit (LEO) and from LEO to cislunar L4 & L5; then in reverse from L4 & L5 to

earth surface.

Frisbees are massive and heavily shielded, unlike present-day satellites which seldom last beyond ten or twenty years. They've reduced travel costs between earth surface and the soup cans.

Superconducting magnetic hoops that equalize speeds between rendezvous spacecraft and frisbees have been proposed in Donald Kingsbury's *The Moon Goddess and the Son*, ©1986. This method may be original with the author. Similar ideas (deployed mass drivers) have been touted in NASA think tanks. [Back](#).

baidarka looks like a one- or two-person kayak. Baidarkas are made of natural, indigenous materials, such as tanned animal hides or hollowed bolls of yellow or red cedar. The upper covering is usually fitted separately. [Back](#).

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[Phantom](#).

aerodrone is a robotic aircraft used for reconnaissance and warfare. Sometimes called Unmanned Aerial Vehicle (UAV). The "aero" part of the word distinguishes this type of drone from robotic sentries, battle tanks or naval "kamikaze" drones. [Back](#).

holoproj (short-form slang) holo projector. It projects holographic images in Ultracolorakinesis and optional audio in Hexophonic waveforms. [Back](#).

TCP (SOAR acronym) Tsawwassen Coastal Preserve. TCP encompasses the Pacific coastal ecologic zone: the far western foothills and rainforests of Canada, including the outlying islands and territorial waters. [Back](#).

UltimaPop® is a popular soft drink that carries a wallop. It contains huge amounts of refined sugar and caffeine, plus carbonated water and a trace of smoked lime. [Back](#).

Transnat is the short form for transnational (corporation). By mid-21st-century, multinationals have merged into conglomerates. Together they have one billion employees on affiliated payrolls. Below are major CEOs and transnats in the order of greatest cash flow.

W. A. Rathbone, CEO of Zesticon Plc.;
Okuno Ayumi, CEO of SonyKong Ltd.;
Trevor Wynestoop, CEO of Wexol Inc.;
Ralph Heck, CEO of Beuack AG;
Choong Zhijian, CEO of Yuhan Ltd.;
Martin Gagnon, CEO of Goranda ADR;
Torero Grabb, CEO of Shrinkwrap Inc. [Back](#).

rooster (nickname) home guard or enforcer. Armed roosters are trained to safeguard compounds from intruders. [Back](#).

KLCC (acronym) Kuala Lumpur City Center. KLCC signifies the Petronas towers complex, especially the hypermall at the towers' feet. [Back](#).

wifi (tech term: *Why-Figh*) or Wi-Fi is a wireless technology that connects mobile devices to wide-area networks. [Back](#).

highres (short form) high resolution. [Back](#).

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[Summit](#).

CEO (biz acronym) Chief Executive Officer and often part owner of the company; in other words, the head honcho and Chairperson of the Board. [Back](#).

cent(s) (short-form slang) centimeter or centimeters.

3 cents = 1.18 inches
10 cents = 3.94 inches
20 cents = 7.87 inches
50 cents = 9.69 inches

150 cents = 4 feet, 11 inches

160 cents = 5 feet, 3 inches

170 cents = 5 feet, 7 inches

180 cents = 5 feet, 11 inches

190 cents = 6 feet, 3 inches

200 cents = 6 feet, 7 inches [Back](#).

Cybernaut® is a computing device that uses a photonic processor chip.

It runs thousands of times faster and cooler than electronic chips.

[Back](#).

Digiflex® is a class of powerful computing devices that run on

Cybernaut hardware. [Back](#).

W. A. Rathbone: CEO of Zesticon Ltd. Born 1999. Height: 180 cents; weight: 91 kilograms; hazel eyes; white hair dyed gray. Appointed CEO of Zesticon in 2039. Forms transnat cartel in 2056. [Back](#).

Zesticon Plc (W. A. Rathbone) UK > Mongolia HQ. Subsidiaries include Zed-Funds Plc., a financial management corporation, specializing in mutual hedge funds; Timur Automotive, the world's foremost carmaker, boasting assembly plants in Russia, China and 17 other nations; Red Falcon, a security provider and coordinator for Rathbone's blackmarket enterprises; Ripphov Instruments, a durable toolmaker; Nova, an aerospace conglomerate. [Back](#).

SonyKong Ltd. (Okuno Ayumi) Japan HQ. Subsidiaries include Novatron Studios, the foremost dream factory and holoflix maker; Nippon Kuruma, a global automaker with subsidiaries in many countries; Krumbly Kermit Klystron, the maker of sclup-based condiments; Konda Aviation, a manufacturer of skycars and helium dirigibles; and Adfisker, a promotional beast. [Back](#).

Wexol Inc. (Trevor Wynestoop) USA HQ. Subsidiaries include WBM (Wexol Business Machines) assembles digital devices, game stations, diagnostic sensor-arrays, wireless com-units, holo-jamborees;

Termites-'R'-us develops organic and inorganic microdevices; WB&C (Wexol Beam & Crane) builds office towers and manages commercial real estate; Afterburn, an aerospace subsidiary; Fablinx, a maker and retailer of fashionable clothes; Gizware, a retailer of computer hardware; Gord Motors, a fledging carmaker. [Back](#).

Beuack AG (Rolf Heck) Switzerland HQ. Subsidiaries include Frisker Mutual Funds, a financial management corporation; Enterprise Bank, a financial services corporation, globally based but headquartered in Antigua; Bedrock Insurance, an insurance conglomerate; Whiteout, a digital game developer. [Back](#).

Yuhan Ltd. (Zhijian Choong) China HQ. Subsidiaries include: Hāiyùn Huòwù, the world's largest merchant marine conglomerate; Harmonic Bunion, a franchise of exclusive health resorts; Groschen, a prominent biotech multinational; Synthgrow, a pharmaceutical conglomerate; Fiberops, a transoceanic cable provider for data transfer; Yuhan Ecolog, an environmental foundation. [Back](#).

Goranda ADR (Martin Gagnon) Brazil HQ. Subsidiaries include Ervilhas, a base-metals conglomerate; Lagosta, an integrated petroleum producer; Bigfoot makes and sells earth-moving equipment; Pebbilocity installs fission reactors; Águia, a 2nd-tier aircraft maker. [Back](#).

Shrinkwrap Inc. (Torero Grabb) USA HQ. Subsidiaries include Geekway, a software retailer specializing in business solutions; Ditzzy World, a theme park manager; Coordinated Transportation Services; Rabid Robotics for Fun and Enterprise. [Back](#).

prompter is a mobile computing device (laptop) with all the bells & whistles. [Back](#).

fibe is the short form for fiberoptic channel. [Back](#).

WBM (acronym) Wexol Business Machines. WBM is the foremost maker of digital hardware, a subsidiary of Wexol Inc. [Back](#).

Monkey See® is a popular OS. More than 90% of digital devices use Monkey See until 2077. [Back](#).

HKS (acronym) Hong Kong Syndicate. The HKS represents a Southeast Asian trading block that consists of Australia, China, Indonesia, Japan, Korea, Singapore and several satellite jurisdictions. [Back](#).

NOAM (acronym) North American trading alliance. NOAM represents the free-trade zone and common currency of North & Central America and the Caribbean, including Columbia, but excluding Cuba, Nicaragua and Panama. [Back](#).

DLT (acronym) Distributed Ledger Technology. DLT ensures maximum speed and integrity for digital interactions. It is the default machine-to-machine and user-to-vendor protocol of the HyperNet. DLT denies hackers and phony superusers since its data streams are protected with cryptosecure-topological algorithms. [Back](#).

SOAM (acronym) South American trading alliance. SOAM represents the free-trade zone and common currency of South America including Cuba, Nicaragua and Panama, but excluding Columbia. [Back](#).

Lustifer® hormonizes one's biologic clock. It's a potent cure for jetlag. [Back](#).

Okuno Ayumi (Japanese last names written first) CEO of SonyKong Ltd. Born 2012. Adult height: 171 cents; weight: 56 kilograms; brown eyes; black hair. CEO of Novatron in 2044. CEO of SonyKong after reverse takeover in 2052. Joins transnat cartel in 2056. [Back](#).

ACLU (acronym) American Civil Liberties Union. [Back](#).

skycar is a heavier-than-air "personal" aircraft that is capable of vertical liftoff and landing. One or two passengers set preflight destinations then sit back and let the urban-traffic router do the actual flying.

Skycars travel at altitudes of 300 to 400 meters and navigate via the GPS comptroller network. Occupants may request specific destinations, but they don't control the actual flightpaths. Two-person skycars have relatively short ranges, no more than 250 kiloms. They are used mostly to bypass urban ground traffic. Metropolitan regions limit the number of licensed skycars to maintain proper airway safety. Licensed skycars must pay user fees for air-traffic control. Thus most skycars are owned by high-income individuals or allotted as corporate perks.

Four- & five-person skycars are used for emergency purposes and are given priority routing privileges. [Back](#).

DOT (acronym) Department Of Transportation. [Back](#).

DTC (acronym) Digital Toll Collector. DTC is an electronic blackbox installed on licensed motor vehicles. DTC calculates (via GPS) the distances traveled on tollways and then charges the owner's account. [Back](#).

+ = + = +

[Trucker Blues](#).

ETA (acronym) Estimated Time of Arrival. [Back](#).

indie (short form) independent. Indie signifies small timers or unknowns in the corporate bafflegab of the 21st-century. [Back](#).

CNG (acronym) Compressed Natural Gas. Internal combustion motors are often converted to run on natural gas. Maximum power requires tight valves, one-to-ten fuel-air mix and a slight advance in the spark timing. The conversion kit includes metal cylinders that contain CNG onboard. [Back](#).

Mallard® is a platinum-based fuel cell in which hydrogen and oxygen combine to produce electrical power. It runs 99.9% pollution free, not counting the catalytic process that unbinds hydrogen from

methanol and releases carbon dioxide to the atmosphere. [Back](#).

melancòlico (Latino) sad, blue. [Back](#).

mano a mano (Latino) one on one. [Back](#).

JIT (acronym) Just-In-Time. [Back](#).

LAX (aviation call sign) Los Angeles International Airport. [Back](#).

ZEST (acronym) Zanzibar Environmental Standards Tribunal. ZEST represents the bureaucratic quagmire resulting from the Zanzibar Environmental Accord or ZEA, which has been in effect since 2042. ZEST has brought the entire global community onside. Unlike the Kyoto Protocol, the Cancún Pact or the Odessa Détente, ZEST's noncompliance penalties are enforceable across borders. However, distrust among nations has turned ZEST into a judicial circus whose rulings are often ineffective. [Back](#).

derruido (Latino) dilapidated. [Back](#).

torcido hijo de puta (Latino, slang) crooked son of a bitch. [Back](#).

HyperNet is the 21st-century acceleration of the Internet. It connects via fiberoptic channels and satlinks which facilitate commercial enterprises, wired & wireless communications, audiovisual webcasts and holoflix downloads. [Back](#).

GREENS (acronym) Graphic Reports on Ecological, Environmental and Natural Sciences. GREENS is a public co-op sponsored by SOAR off-worlders. Dedicated to planetary science, the co-op gathers and disseminates useful knowledge to maximize the noosphere. [Back](#).

autonav (techno slang) computerized traffic control. [Back](#).

esposa (Latino) wife. [Back](#).

nerdofil is an outlawed recreational drug. It brings on ecstasy by triggering a rapid release of dopamine. After a month of usage, nerdofil increases oral saliva, causes heart palpitations, destroys

brain cells and damages the liver. [Back](#).

VR (acronym) Virtual Reality. Goggles and other accessories (including chair mounts) combine to render a plausible simulation of fantasy environments that appear real to the user. [Back](#).

Novatron Ltd. is a division of SonyKong Ltd. Novatron produces flatview and holographic dreamscapes. [Back](#).

Thunderbird® is the winos' choice of vintage beverages. Thunderbird sells dirt cheap and sports a brusque bouquet reminiscent of turpentine. [Back](#).

chef de jour (French) chef of the day. [Back](#).

supercable (tech) is an underground high-capacity electrical conduit that's cooled by liquid hydrogen. Both electricity and hydrogen are delivered to the end-user terminus. Hydrogen is then converted to less volatile fuels. [Back](#).

+ = + = +

Holo Queen.

haikara *high-kah-dlra* (Japanese) fashionable, classy. [Back](#).

holoflix are multisense media presented in holographic format.

Holoflix may be experienced in holo dens or in private by using holojamborees. [Back](#).

sclup is a protein supplement that is brewed from desalinated glasswort and saltbush, plus ethanol derivatives, methanogenic bacteria, artificial flavors and fortifying additives. Sclup yields more protein than hybrid soybeans. [Back](#).

quebie (slang) cubicle jockey, white-collar networker. [Back](#).

Scampora® is a two-passenger get-about made by Timur Engine & Wheel. [Back](#).

DoubleYou (phonetic equivalent of 'W') short form for W. A. Rathbone. [Back.](#)

wifi (tech term: *Why-Figh*) or Wi-Fi is a wireless technology that connects mobile devices to local area networks. [Back.](#)

moças (Portuguese) gals. [Back.](#)

WBM (acronym) Wexol Business Machines. WBM is the foremost maker of digital hardware, a subsidiary of Wexol Inc. [Back.](#)

HOAM® (acronym) Hyper-Optional Appendant Marketplace. HOAM facilitates sharing and barter among linked computers. Computer owners get virtual credits by allowing 3rd-parties to use idle processors. [Back.](#)

kilom (short form) kilometer. Eight kilometers equal five miles approximately. [Back.](#)

fathom is a length measurement that equals 1.829 meters or six feet. [Back.](#)

+ = + = +

[Wrymouth.](#)

rundog means the same thing as blackbelt in the school of qat. Rundog signifies the 6th-level or penultimate achievement. [Back.](#)

Psignwheel (mandala) signifies 12 psigns arranged in circular fashion. Metics of Dog Breakfast co-op visualize the psignwheel as an aid to help them focus. From the top and moving counterclockwise, the psigns displayed are: seeing, hearing, smell, urgency, taste, touch, balance, warmth, coordinating, gravity, moving, breathing. [Back.](#)

Ahab (Cook) Ho: rundog. Born 2016. Adult height: 169 centimeters; weight: 74 kilograms; dark-brown eyes, gray hair. Begins bodyguard service in 2036. Co-founds Dog Breakfast co-op in 2045. [Back.](#)

Fingar (Fing): white belt, resident hacker, IT magician. Born in 2049. Adult height: 168 centimeters; weight: 81 kilograms; blue eyes; dark-brown hair. Develops new safety protocols for HyperNet in 2069. Joins Dog Breakfast co-op 2070. [Back](#).

Nailah Bhullar (Nigh/Timekeeper): former rundog. Born 2019. Adult height: 178 centimeters; weight: 66 kilograms; emerald-green eyes; brown hair. Runs off with boyfriend against parents' wishes in 2037. Abandoned by boyfriend and is subsequently arrested. Meets Absen Ho in 2041. Joins Dog Breakfast co-op in 2046. [Back](#).

glaresphere is a tiny sphere that releases stored electricity in brilliant flashes that cause temporary blindness. [Back](#).

hafta (verbal slang) have to. A bare infinitive verb. [Back](#).

POE (SOAR acronym) Public Observers Elect. POE is an oversight co-op whose members are ombudsfolk. They're the only metics authorized to access the audiovisual records of public eyes. Public observers must follow strict protocols that respect metics' privacy while they scrutinize suspicious activities and disclose only those details needed for the courts of justice.

POE relies on Dog Breakfast co-op for operational forays. DB gathers on-site evidence firsthand, but it must follow the same constraints as POE itself. Operators carry cams that record their deeds. [Back](#).

Mishima Industries Ltd. is a metallurgic company based in Osaka, Japan. The security crew includes:
Yamazaki Kazuo, security chief;
Hiroshi, Kazuo's boss;
Vlad, rooster, East Euroland immigrant;
Akihito, rooster, squad leader;
Goro, rooster, squad leader. [Back](#).

Afterburn is an aerospace subsidiary of Wexol Inc. [Back](#).

Freespin is a SOAR co-op that makes precise components from innovative materials. [Back](#).

Framework is a computer program that evaluates products for usefulness to the community, for resources consumed, assembly methods and the cost of recycling or disposal. The co-op with the highest score earns a five-year charter to market its good or service. Evaluation parameters are tweaked to accommodate the latest and most accurate scientific evidence. [Back](#).

crows are the monetary unit of TCP. One Crow equals 0.0011 Solar\$, 0.964 Amero\$, 0.654 Euros, 0.545 Hong\$. *Transaction values taken from final quotes on the SOW exchange on the 1st of May 2076.* [Back](#).

soupers (slang) Folks who live in the soup cans, which are huge cylindrical habitats orbiting in cislunar L4 and L5. [Back](#).

crèches are educational institutions devoted to the care and upbringing of children aged two through 18. [Back](#).

DB (acronym) Dog Breakfast is a covert SOAR co-op that works in conjunction with POE to ensure fair play. Its members include (from youngest to oldest):

Nyssa (Fu/Sis) Persson, brownbelt soon to be rundog;
Meghan (Meg) Getzler, orange belt, dataroom stalwart;
Subira (Soobie) Herren, orange belt, dataroom super;
Fingar (Fing) white belt, lead hacker;
Shepp, rundog, expert swordsman;
Jenna (Jen/Pix) Marov, rundog, acrobat, climber;
Griswold (Griz) rundog, strength specialist;
JoAnna (Jo) rundog, ex-taxi driver;
Makoto (Mack) rundog, master of martial arts;
Nailah (Nigh) former rundog, Timekeeper;
Absen (Abb) Ho, rundog, Cook's partner, deceased;
Ahab (Cook) Ho, rundog, founder, top dog. [Back](#).

Griswold (Griz): rundog. Born 2035. Adult height: 185 centimeters; weight: 121 kilograms; blue eyes; dirty-blond hair. Parents are killed during urban riot in 2059, after which he joins insurgents. Arrested as terrorist in 2060. Joins Dog Breakfast co-op in 2061. [Back](#).

Bluefin is a deep-sea trimaran. Normally GREENS keepers use it for oceanic research. At times they lend it to Dog Breakfast co-op. [Back](#).

SOAR (acronym) Solar Omnifarious and Aspiring Republic. Spacer colonists belong to this economic confederation of member co-ops. [Back](#).

POE (SOAR acronym) Public Observers Elect. POE is an oversight co-op whose members are ombudsfolk. They're the only metics authorized to access the audiovisual records of public eyes. Public observers must follow strict protocols that guard metics' privacy while investigating criminal acts or mishaps due to negligence and disclosing only pertinent evidence for justice sake. [Back](#).

TCP (SOAR acronym) Tsawwassen Coastal Preserve. TCP encompasses the Pacific coastal ecologic zone: the far western foothills and rainforests of Canada, including the outlying islands and territorial waters. [Back](#).

NEA (acronym) Near-Earth Asteroid. NEA refers to asteroids that cross the orbit of earth. By 2050, more than 1,000 NEAs have been catalogued and surveyed for volatiles such as hydrogen, carbon, oxygen, nitrogen, potassium, calcium, phosphorus; and nonvolatiles such as silicon, iron, aluminum, titanium... [Back](#).

ITER (acronym) International Thermonuclear Experimental Reactor and the allied nations that aim to build it. [Back](#).

tokamak is a device that uses a magnetic field to confine plasma in the shape of a torus. [Back](#).

GHG (acronym) Green-House Gas. GHGs reflect heat from escaping earth. They cause global temperatures to rise. Carbon dioxide is the number-one culprit along with methane. Other contributors are water vapor, nitrous oxide, ozone and industrial CFCs (fluorine-chlorine-methane) compounds. [Back](#).

lox (acronym) liquid oxygen. [Back](#).

G-22 includes the wealthiest nations on earth, who have a vested interest in keeping themselves on top. They are China, USA, Russia, Japan, India, Germany, UK, Brazil, France, Korea, Indonesia, Australia, United Canada, México, Argentina, Sweden, Egypt, South Africa, Saudi Arabia, Pakistan, Venezuela and Turkey. [Back](#).

SFE (acronym) the Space-Faring Enterprise. SFE was founded in 2023; it includes ASI (Italy), BNSC (United Kingdom), CNES (France), CNSA (China), CSA (Canada), CSIRO (Australia), DLR (Germany), ESA (European Space Agency), ISRO (India), JAXA (Japan), KARI (Korea), NASA (USA), NSAU (Ukraine), ROSCOSMOS (Russia). Between 2037 and 2044, SFE completed ten “manned” expeditions to Mars and/or Phobos. Its semipermanent Mars Base was abandoned after 2046. [Back](#).

GWOT (acronym) Global War On Terrorism, circa 2001-2054 after which GWOT went into its “mop up” phase. [Back](#).

ZEST (acronym) Zanzibar Environmental Standards Tribunal. ZEST represents the bureaucratic quagmire resulting from the Zanzibar Environmental Accord or ZEA, which has been in effect since 2042. ZEST has brought the entire global community onside. Unlike the Kyoto Protocol, the Cancún Pact or the Odessa Détente, ZEST’s noncompliance penalties are enforceable across borders. However, distrust among nations has turned ZEST into a judicial circus whose rulings are often ineffective. [Back](#).

Euro is the standard currency of the EU. 100 Euros equal 147.4

Amero\$, 83.3 Hong\$ or 152.9 crows. *Transaction values taken from final quotes on the SOW exchange on the 1st of May 2076.* [Back](#).

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[Kingpin.](#)

Choong Zhijian: CEO of Yuhan Ltd. Born 1984. Adult height: 168 cents; weight: 77 kilograms; gray eyes; white hair (sparse). Appointed CEO of Yuhan in 2033. Joins transnat cartel in 2059. [Back](#).

Martin Gagnon CEO of Goranda ADR. Born 2007. Adult height: 180 cents; weight: 89 kilograms; brown eyes; gray hair. Appointed CEO of Goranda in 2059. Joins transnat cartel in 2068. [Back](#).

Fablinx® is the trademark a major apparel maker, based in Jakarta, whose CEO is Trevor Wynestoop's daughter Halle. [Back](#).

Euroland is somewhat of a barbed synonym for the European Union which strives to attain an integrated constituency, despite the fractious nature of its polyethnic members. [Back](#).

PR flapper (biz slang) is a public relations spokesperson. The author owes a grave debt to Johnathan Swift who first coined "flapper" in *Gulliver's Travels*. [Back](#).

Okuno Ayumi (Japanese last names written first) CEO of SonyKong Ltd. Born 2012. Adult height: 171 cents; weight: 56 kilograms; brown eyes; black hair. CEO of Novatron in 2044. CEO of SonyKong after reverse takeover in 2052. Joins transnat cartel in 2056. [Back](#).

Mishima Industries Ltd. is metallurgic company based in Osaka, Japan.

The security crew includes:

Yamazaki Kazuo, security chief;

Hiroshi, Kazuo's boss;

Vlad, rooster, East Euroland immigrant;

Akihito, rooster, squad leader;
Goro, rooster, squad leader. [Back](#).

DLT (acronym) Distributed Ledger Technology. DLT ensures maximum speed and integrity for digital interactions. It is the default machine-to-machine and user-to-vendor protocol of the HyperNet. DLT denies hackers and phony superusers since its data streams are protected with cryptosecure-topological algorithms. [Back](#).

free-banking is an economic system where private enterprise takes greater control of the money supply, thereby reducing the influence of government regulators. [Back](#).

SOAR (acronym) Solar Omnifarious and Aspiring Republic. Spacer colonists belong to this economic confederation of member co-ops. [Back](#).

Ralph Heck is the CEO of Beuack AG. Born 2004. Adult height: 183 cents; weight: 126 kilograms; blue eyes; gray-balding hair. Vice-president of World Bank in 2041. Appointed CEO of Beuack in 2051. Joins transnat cartel in 2064. [Back](#).

Nova is an aerospace supplier based in Kazakhstan, a subsidiary of Zesticon Plc. [Back](#).

He (science acronym) is the short-form for the element helium. [Back](#).

Lustifer® harmonizes one's biologic clock. It's a potent cure for jetlag. [Back](#).

Freespin is a SOAR co-op that makes precise components from innovative materials. [Back](#).

DLT (acronym) Distributed Ledger Technology. DLT ensures maximum speed and integrity for digital interactions. It is the default machine-to-machine and user-to-vendor protocol of the HyperNet. DLT denies hackers and phony superusers since its data streams are protected with cryptosecure-topological algorithms. [Back](#).

comm (slang) communication device. [Back](#).

Yamazaki Kazuo is the security chief of Mishima's harbor compound. (Note: Japanese put last name first). Born 2032. Adult height: 170 centimeters; weight: 80 kilograms; brown eyes; black hair. Won kickboxer championship in 2055. [Back](#).

Torero (Tor) Grabb is the CEO of Shrinkwrap Inc. Born 2014. Adult height: 184 cents; weight: 83 kilograms; brown eyes; salt & pepper hair. Appointed CEO of Shrinkwrap in 2056. Joins transnat cartel in 2072. [Back](#).

CIO (biz acronym) Chief Information Officer. [Back](#).

NT (IT Acronym) Nexus Terminal, a server that shepherds workstations and regulates network streams. [Back](#).

DT (IT Acronym) DeskTop workstation. [Back](#).

WAN (InfoTech acronym) Wide-Area Network. Usually a cloistered system for co-workers of the org's dataspace. [Back](#).

LT (IT acronym) LapTop computer or prompter. [Back](#).

Cybernaut® is a computing device that uses a photonic processor chip. It runs thousands of times faster and cooler than electronic chips. [Back](#).

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Goodma's Garden.

Kung is the name of a small village on the western shore of Virago Sound, Graham Island, Haida Gwaii. [Back](#).

oolakon (also spelled oolichan, eulachon) is a smelt that thrives along the westcoast of NOAM. Oolakon oil is used as a cooking base and lubricant. Seasoned oil (oolakon grease) acquires a very strong aroma. It is said the odor of oolakon grease will stop a charging bear.

[Back.](#)

Haida Gwaii is an archipelago off the westcoast of British Columbia (Tsawwassen Coastal Preserve), formerly called Queen Charlotte Islands. [Back.](#)

soupcan is the nickname for a cylindrical habitat in cislunar space. In plural reference, soupcans are often shortened to soups. These orbiting habitats have six-kilometer diameters and rotate to simulate earthlike gravity. Soupcans were 1st-envisioned by the Russian futurist Tsiolkovski, and later in the 20th-century by Gerard K. O'Neil. [Back.](#)

freespace (SOAR slang) is vacuous space beyond planetary atmospheres where humans are weightless due to freefall. [Back.](#)

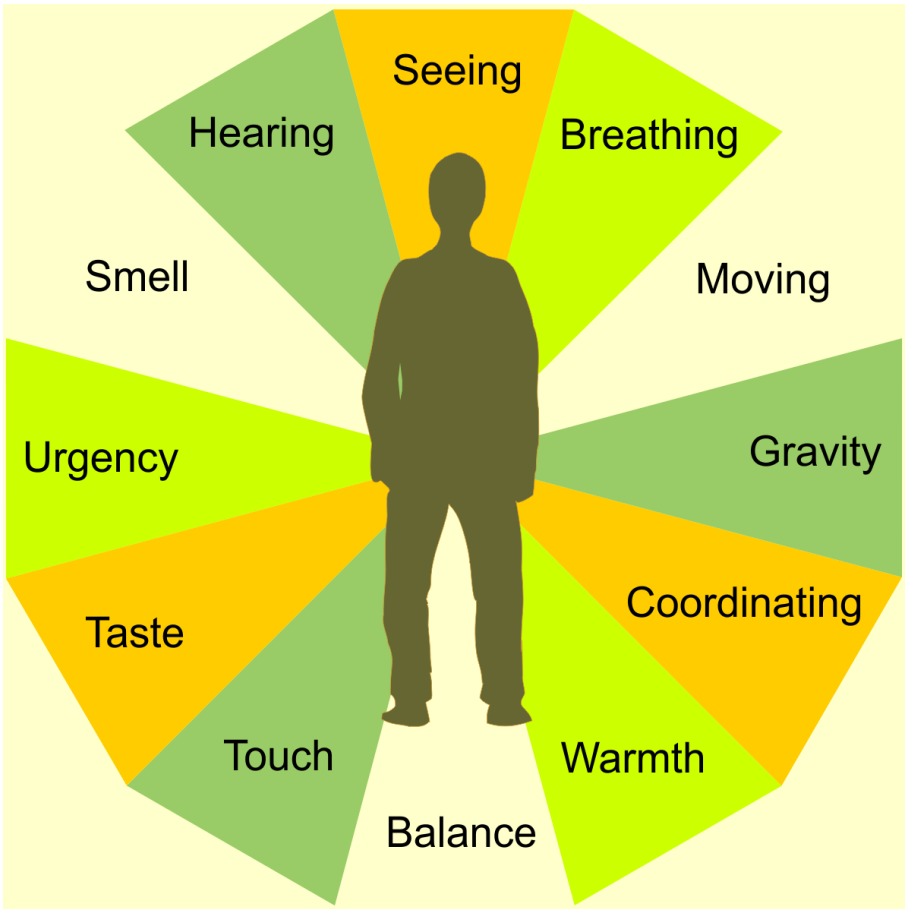
qubit is the basic unit of info for quantum-computing devices. A qubit refers to a dual state of info storage. A qubit retains both zero & one at the same time. The term qubit has become so popular that folks mistakenly refer to storage data in terms of qubits, but in fact persistent data consists of simple bits. [Back.](#)

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[Breach.](#)

BLT (Acronym) Bacon-Lettuce-Tomato sandwich. [Back.](#)

Psignwheel (mandala) signifies 12 psigns arranged in circular fashion. Metics of Dog Breakfast co-op visualize the psignwheel as an aid to help them focus. From the top and moving counterclockwise, the psigns displayed are: seeing, hearing, smell, urgency, taste, touch, balance, warmth, coordinating, gravity, moving, breathing.



Psignwheel diagram, a handy reference. [Back](#).

warmth is the 10th-psign in the clockwise count. For circular directions it points 210° from the vanguard (south by southeast). [Back](#).

balance is the 11th-psign in the clockwise count. For circular directions it points 180° from the vanguard (south). [Back](#).

AR (acronym) Augmented Reality. AR glasses display websites and infomercials. Users can't get lost since they're linked to GPS which furnishes smart maps and situational awareness. [Back](#).

ultracap (short form) ultracapacitor. Ultracaps are lightweight holders of electric charge which can be trickled off on demand. [Back](#).

netscreen (InfoTech) represents a class of safeguards that stop the malevolent corruption of network apps. [Back](#).

holoproj (short-form slang) holo projector. It projects holographic images in Ultracolorakinesis and synchronized audio. [Back](#).

Nd-YAG (acronym) neodymium-doped yttrium-aluminum garnet which is a crystal used as a lasing medium for solid-state lasers. [Back](#).

kerf (machinist term) ditch, groove. [Back](#).

Trevor (Trev) Wynestoop is the CEO of Wexol Inc. Born 2002. Adult height: 190 centimeters; weight: 97 kilograms; blue eyes; white hair dyed brown. Starting quarterback for Ohio State Buckeyes, 2020-1. Joins Afterburn in 2026 and becomes HR Director. Moves to Wexol main office in 2035 and earns VP rank. Appointed CEO of Wexol in 2042. Wexol joins transnat cartel in 2057. [Back](#).

cent(s) (short-form slang) centimeter or centimeters.

3 cents = 1.18 inches

10 cents = 3.94 inches

20 cents = 7.87 inches

50 cents = 9.69 inches

150 cents = 4 feet, 11 inches

160 cents = 5 feet, 3 inches

170 cents = 5 feet, 7 inches

180 cents = 5 feet, 11 inches

190 cents = 6 feet, 3 inches

200 cents = 6 feet, 7 inches [Back](#).

OPV (acronym) Organic PhotoVoltaic cells configured as thin-film polymers. [Back](#).

LRT (acronym) Light Rapid Transit. [Back](#).

Cyclorama is a major urban development that includes 32 hectares of residential and commercial sites. [Back](#).

qat (SOAR acronym) Quantum Assassination Theory. Qat training gives acolytes physical excellence and sharpened senses. The sessions involve intensive practice and psignologic meditation. [Back](#).

ultralight pilots must post flight routes before taking off. In the air they can stray from plotted routes for safety reasons, so long as they fly at altitudes between 200 and 300 meters. Ultralights have been dubbed the loose cannons of the airways, and pilots are liable for midair collisions and crash landings. Smugglers use ultralights to deliver contraband. [Back](#).

vioforms are organisms with genetic modifications. The key prefix VIO means Variable Isogenic Organism. [Back](#).

UNHCR (acronym) United Nations High Commissioner of Refugees. [Back](#).

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[Wild Carrots.](#)

Tomas Redfoot: cartage owner/driver. Born 2037. Adult height: 180 centimeters; weight: 89 kilograms; brown eyes, black hair. Starts "Gourmet Foods" delivery services in 2070. [Back](#).

cuesta abajo (Latino) downhill. [Back](#).

autotran (slang) automatic transmission where gear ratios are selected by a combination of the load drag and the revolution speed of the drive shaft. Like many automated conveniences, autotrans seldom switch gears at the right times. [Back](#).

e-hails are formalized electronic greeting cards purchased online and user customizable. They come in 3-D or hologram with vocal or text-readable rhymes. [Back](#).

GREENS (acronym) Graphic Reports on Ecological, Environmental and Natural Sciences. GREENS is a public co-op sponsored by SOAR off-

worlders. Dedicated to planetary science, the co-op gathers and disseminates useful knowledge to maximize the noösphere. [Back](#).

segundo (Latino) second, 1/60th of a minute. [Back](#).

freezer plate is a common strategy for commercial operators since coolers don't always come with secondhand transmissions. The temperature-exchange plate sits behind the radiator fan and acts the same way as bona fide coolers of transmission fluid. [Back](#).

SOAR (acronym) Solar Omnifarious and Aspiring Republic. Spacer colonists belong to this economic confederation of member co-ops. [Back](#).

palmslate is a flat multipurpose computer (tablet) that measures 16 by 20 centimeters. [Back](#).

So-Cal (slang) Southern California around Los Angeles and San Diego. [Back](#).

biochar (anthropological term) is the result of cooking waste products in a kiln for use as fertilizer. Biochar is a preindustrial recycling technique that relieves putrid waste of odors and malignant microorganisms. This sustainable method for making useful waste has been well documented among Pre-Columbian societies in the Amazon watershed. [Back](#).

freír mi piojos (Latino) fry my lice. [Back](#).

stod (acronym) Surface-To-Orbit Doodlebug. Stods shuttle between earth surface and Frisbee orbiting warehouses. Stods are fueled by catalytic hydrogen and triggered by pulsed laser beams. [Back](#).

GWOT (acronym) Global War On Terrorism, circa 2001-2054 after which GWOT went into its “mop up” phase. [Back](#).

hilomorf is the nickname given to a family of genetically tailored, mood-enhancement drugs. Hilomorfs are not cheap but effective. They aren't normally addictive unless used to excess over lengthy

periods. [Back](#).

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[Firehall](#).

LSO (navy acronym) Landing Signal Officer. [Back](#).

Peter refers to Peter the Great (1672-1725), dynamic Tsar, builder of St. Petersburg and founding father of modern Russia. [Back](#).

Cyclorama is a major urban development that includes 32 hectares of residential and commercial sites. [Back](#).

Thorax® is a spacer-made electric engine for untethered vehicles. The engine runs at low temperatures on methanol fuel cells. [Back](#).

smartcard is an all-purpose biometric ID and debit card. Smartcards have programmable RAM functions to safeguard against theft. Stored memory has exclusive data hooks that will handshake only upon physical contact with compatible IO devices. Each data hook has a uniquely coded interface so that only those agents specifically authorized to access the data may do so. [Back](#).

gladius is a two-edged one-handed sword that's designed for agility and quick thrusts. It became standard equipment for Roman legionaries during the Punic wars. [Back](#).

ID (acronym) identity. 21st-century smartcards include transcripts of sequenced DNA and biometric imprints that render foolproof personal ID insofar as the public issuer maintains incorruptible records. [Back](#).

fluxgate (slang) spontaneous erotic fusion. 20th-century scientists linked fluxgates to luminous phases of the moon. However, this hypothesis has been largely debunked and psychologists now believe that fluxgates are caused by a lack of gravity. [Back](#).

Kursk was a Russian submarine K-141. On 12 August 2000, the crew

attempted to test-fire a torpedo which exploded in its launch tube. *Kursk* sank in relatively shallow water. However, bumbling and arrogance by Russian Navy brass ensured that none of the hands onboard survived. [Back](#).

Regent Electro® is a luxury electric-powered sedan which is made by Timor Automotive, a subsidiary of Zesticon. [Back](#).

Xing Gou is 59 years old, a notorious smuggler of goods among the nations of Southeast Asia. He owes favors to Dog Breakfast from years ago. As troubleshooters for Consortium security, Ahab (Cook) and Absen Ho struck a mutually beneficial pact with Xing Gou that ignored most of his illegal activities. [Back](#).

millimeter is one/tenth of centimeter or 0.03937 inches. [Back](#).

Imperial Circus is the world's most celebrated traveling circus. [Back](#).

KLP (acronym) Kuala Lumpur Police. [Back](#).

NOAM (acronym) NOrth AMERICAN trading alliance. NOAM represents the free-trade zone and common currency of North & Central America and the Caribbean, including Columbia, but excluding Cuba, Nicaragua and Panama. [Back](#).

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Forager.

baidarka looks like a one- or two-person kayak. Baidarkas are made of natural, indigenous materials, such as tanned animal hides or hollowed bolls of yellow or redcedar. The upper covering is usually fitted separately. [Back](#).

Long Hand is the chief carver of Kung, husband to Nighthawk, supposed father of Raven. Born 2041. [Back](#).

HyperNet is the 21st-century acceleration of the Internet. It connects via fiberoptic channels and satlinks which facilitate commercial

enterprises, wired & wireless communications, audiovisual webcasts and holoflix downloads. [Back](#).

CAD (acronym) Computer Aided Design. [Back](#).

DLT (acronym) Distributed Ledger Technology. DLT ensures maximum speed and integrity for digital interactions. It is the default machine-to-machine and user-to-vendor protocol of the HyperNet. DLT denies hackers and phony superusers since its data streams are protected with cryptosecure-topological algorithms. [Back](#).

sysops (short form) System operators are administrators of multiuser digital platforms. Sysops guard against malicious hackers and ensure the functionality of digital services. [Back](#).

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[Cybernaut.](#)

Amero\$ signify Amero dollar(s), the currency of NOAM. 100 Amero\$ equal 67.8 Euros, 56.5 Hong\$ or 103.7 crows. *Transaction values taken from final quotes on the SOW exchange on the 1st of May 2076.* [Back](#).

Pteropus is the scientific name for fruit bat or flying fox, the largest species of bat. [Back](#).

MB (acronym) Muskeg Buzzard® which is a superb blend of bourbon. [Back](#).

OS (acronym) Operating System. OS represents the interface that translates human queries into digital machinations and returns understandable answers. [Back](#).

Digiflex® is a class of powerful computing devices that run on Cybernaut hardware. [Back](#).

PCPU (acronym) Photon-Central Processing Unit. PCPU forms the dynamic inner brains of digital processors, circa 2075. [Back](#).

CMOS (acronym) Complementary Metal Oxide Semiconductor. CMOS is the base material for electronic processors. [Back](#).

SQUID (acronym) Superconducting QUantum Interference Device
SQUIDs measure very weak currents and subtle EM fields. [Back](#).

holojamboree is a device that projects VR environments for viewers of holoflix. Upscale holojamborees enhance the experience with tactile cues and odors. [Back](#).

Termites-'R'-us manufactures organic and inorganic microdevices, using nanoscale components. It is a public subsidiary of Wexol Inc. [Back](#).

LeBab® is a software app issued by Allscribe and Shrinkwrap. LeBab renders voice and text translations for 29 major languages. [Back](#).

netscreen (InfoTech) represents a class of safeguards that stop the malevolent corruption of network apps. [Back](#).

DLT (acronym) Distributed Ledger Technology. DLT ensures maximum speed and integrity for digital interactions. It is the default machine-to-machine and user-to-vendor protocol of the HyperNet. DLT denies hackers and phony superusers since its data streams are protected with cryptosecure-topological algorithms. [Back](#).

ROM (InfoTech acronym) Read-Only Memory. ROM chips hold machine algorithms which are necessary for computer functionality. Some ROM chips do have writable portions that enable users to configure devices for special tasks. [Back](#).

spendchip is a thin wafer carrying disposable electrocash. Folks may buy spendchips for modest denominations at FAST outlets after which they may safeguard their chips with simple passwords. Spendchips are used as payment for goods and services until the electrocash therein has drained to zero. [Back](#).

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JoAnna (Jo/Kemosabe): rundog. Born 2035. Adult height: 178 centimeters; weight: 69 kilograms; yellow eyes; flaming-red hair. She drives taxi in Miami 2054-6. Joins Dog Breakfast co-op in 2057. [Back.](#)

Doc Quark: DB's chief medical officer. Born 2025. Adult height: 170 centimeters; weight 82 kilograms; brown eyes, dark-brown hair. Joins Dog Breakfast 2049. [Back.](#)

twanger(s) are DNA wrappers that deliver proteomic stimulants that boost a person's immune system. [Back.](#)

Duoplastic® is the trademark of a biodegradable yet moisture-proof packaging material. [Back.](#)

kemosabe is the made-up name that Tonto used to address the Lone Ranger. [Back.](#)

qat (SOAR acronym) Quantum Assassination Theory. Qat training gives acolytes physical excellence and sharpened senses. The sessions involve intensive practice and psignologic meditation. [Back.](#)

psigns are pronounced like signs. They encompass and framework any natural group. Below the psigns are listed by number-name, direction and elemental identity. Readers may choose to combine three lists together, though each serves a different purpose.

- 1) taste, 120°, 3D - electron;
- 2) urgency, 90°, WEST, 3D - up;
- 3) smell, 60°, 3D - tau neutrino;
- 4) hearing, 30°, 3D - charm;
- 5) seeing, 0°, NORTH, 3D - muon;
- 6) breathing, 330°, 3D - beauty;
- 7) moving, 300°, 3D - electron neutrino;
- 8) gravity, 270°, EAST, 3D - down;
- 9) coordinating, 240°, 3D - tau;

10) warmth, 210°, 3D - strange;

11) balance, 180°, SOUTH, 3D - muon neutrino;

12) touch, 150°, 3D - truth. [Back](#).

antilock applies brakes on & off in rapid fashion. The friction between tires and road surfaces causes vehicles to stop. Since the antilock mechanism staggers the braking action, it increases the space and time it takes to stop. On slippery surfaces, antilock brakes help vehicles stay under directional control, which may prove more important than stopping within the least space. [Back](#).

ATV (acronym) All-Terrain Vehicle, often equipped with four-wheel drive. [Back](#).

Tempat Letak (Malay) Parking Lot. [Back](#).

KLP (acronym) Kuala Lumpur Police. [Back](#).

KLCC (acronym) Kuala Lumpur City Center. KLCC signifies the Petronas towers complex, especially the hypermall at the towers' base. [Back](#).

real money is money in circulation that pays the rent, buys groceries or restaurant tabs. Economists call “real money” M1 to distinguish it from M2 or M3 or M4 which are like Wall Street poker chips. They are worthless IOUs that are only recognized by borrowers, lenders, investment bankers and stock brokers.

For instance, go to a commodities' market and buy the delivery of 1,000 pork bellies at such & such time. Let's suppose you hold the contract until the closing date. Will you receive 1,000 pork bellies? Not a chance. The betting game is over, and all you get are house chips which can only go toward the next game.

When the word “money” is used in this essay, it always refers to real money. The other kinds of money are make-believe monopoly money that serve the ultrarich at the expense of everyone else. A fair market does NOT need monopoly money to function efficiently. In fact monopoly money encourages middle men who seldom

contribute to products that are bought and sold in the “real” economy. Hence, the hidden costs of advertisers and lenders act as drags on the economy which in turn raises the retail prices of goods and services. [Back](#).

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Swamp Gas.

chigger (common name) for Trombiculidae, whose tiny larvae crawl on their hosts where they inject digestive enzymes that dissolve skin cells. Burrowing into skin, they chew on soft inner tissues which cause prickliness and blisters. The severe itching is accompanied by reddish pimplelike bumps. [Back](#).

Hong\$ signify Hong Kong dollar(s), the currency of HKS. 100 Hong\$ equal 120.0 Euros, 177.0 Amero\$ or 196.7 crows. *Transaction values taken from final quotes on the SOW exchange on the 1st of May 2076.* [Back](#).

ROS (InfoTech Acronym) Robotic Operating System is a software platform designed to assimilate sensory data, evaluate what it means and fulfill the designated functions. ROS computers require extra USB ports to accommodate smart preceptors, sensory feedbacks and appendage actuators. [Back](#).

Watchme (social-media platform) is perfect for indie marketers, freelance authors, inventors and/or service providers. [Back](#).

Twibber (social-media platform) is a marketer's paradise. Small timers need to align their cause to large corporations before they can earn decent results. [Back](#).

Facelook (social-media platform) is one of the oldest and most popular platforms. The commercial hard sell is subdued in favor of human interactions. Groups of like-minded individuals are very popular. [Back](#).

EULA (acronym) End-User Licensing Agreement. EULAs set limits on software user rights and vendor liabilities. [Back](#).

CXN (acronym) China Xinhua News. [Back](#).

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[Velocity](#).

chyaut (quasi-phonetic Russian) devil. [Back](#).

Griswold (Griz): rundog. Born 2035. Adult height: 185 centimeters; weight: 121 kilograms; blue eyes; dirty-blond hair. Parents are killed during urban riot in 2059, after which he joins insurgents. Arrested as terrorist in 2060. Joins Dog Breakfast co-op in 2061. [BACK](#).

Shepp: rundog, Nyssa's guide & partner. Born 2042. Adult height: 190 centimeters; weight: 101 kilograms; dark-brown eyes; black hair. Works for trucking outfit (smuggling contraband) in 2061. Joins Dog Breakfast co-op in 2063. [BACK](#).

nyet (quasi-phonetic Russian) no. [BACK](#).

frisbee (SOAR acronym) Freefloating Rotational Ingress Satellite for Bulk Export Exchange. 50 satellites move sequentially on identical and eccentric flightpaths. Frisbees are temporary warehouses for people or goods moving between low-earth orbit (LEO) and high-earth orbit (HEO).

Frisbees are massive and heavily shielded, unlike present-day satellites which seldom last beyond ten or twenty years. They've reduced travel costs between earth surface and the soup cans.

Superconducting magnetic hoops that equalize speeds between rendezvous spacecraft and frisbees have been proposed in Donald Kingsbury's *The Moon Goddess and the Son*, ©1986. This method may be original with the author. Similar ideas (deployed mass drivers) have been touted in NASA think tanks. [BACK](#).

kilom (short form) kilometer. Eight kilometers equal five miles approximately. [BACK](#).

rrahkat boat (Russian quasi-phonetic) fuck god. [Back](#).

oughta (verbal slang) ought to. A bare infinitive verb. [Back](#).

no exceptions: It's not unusual for all corporate competitors to adopt the same component. For instance, NOAM carmakers install the same window washer, as far as the author can tell. Computer hardware makers pay token fees to Texas Instruments to use its patented CPU design. Sanctions that uphold intellectual property often inhibit innovation, the exact opposite of what is intended. [Back](#).

abso (short-form slang) absolutely. [Back](#).

pendejo (Latino) schmuck. [Back](#).

moving is the 7th-psign in the clockwise count. For circular directions it points 300° from the vanguard (east by northeast). [Back](#).

balance is the 11th-psign in the clockwise count. For circular directions it points 180° from the vanguard (south). [Back](#).

smell is the 3rd-psign in the clockwise count. For circular directions it points 60° from the vanguard (west by northwest). [Back](#).

HOAM® (acronym) Hyper-Optional Appendant Marketplace. HOAM facilitates sharing and barter among linked computers. Computer owners get virtual credits by allowing 3rd-parties to use idle processors. [Back](#).

maternity leave is a SOAR custom. Embryos in low gravity develop weaker bones and organs. Prospective mothers are encouraged to undergo pregnancy on earth. They get a three-year paid leave of absence from their jobs in the soups. After a successful birth they bond for two years before they hand their child to the crèches. [Back](#).

NoEmbryo® is a popular birth-control device widely used by females. NoEmbryo is a small ring that is laced with hormonal agents. Some women claim the rings stimulate vaginal muscles and so amplify sexual pleasure. [Back](#).

Absen (Abb) Ho: rundog, deceased. Born 2017. Adult height: 167 centimeters; weight: 53 kilograms; hazel eyes; jet-black hair. Begins bodyguard service in 2036. Co-founds Dog Breakfast co-op in 2045. Dies in 2061. [Back](#).

rundog means the same thing as blackbelt in the school of qat. Rundog signifies the 6th-level or penultimate achievement. [Back](#).

SOAR (acronym) Solar Omnifarious and Aspiring Republic. Spacer colonists belong to this economic confederation of member co-ops. [Back](#).

Framework is a computer program that evaluates products for usefulness, resources consumed, assembly methods and the cost of recycling or disposal. Evaluation parameters are tweaked to accommodate the latest and most accurate scientific evidence. [Back](#).

metic signifies a person who has SOAR citizenship. Metics are entitled to a vote on social policy as soon as they've joined a co-op. Inmates of debtors' college may express their opinions but their votes have no effect. August-age metics who have retired outside SOAR communities are likewise ineligible to vote. [Back](#).

co-op share represents the cost-of-living expenses for two days. Cost-of-living covers all amenities necessary for a metic's wellbeing. The amenities include air, water, foodstuffs, shelter, info access and typical recreational pursuits. Cost-of-living is prorated according to normal expenses incurred vis-à-vis one's residential location.

When living in the equatorial spaceports, metics' shares worth 1.5 Solar\$ (1,350 crows). When living in TCP, metics' shares are worth one-Solar\$ (900 crows). When living in the soup cans or on

lunar surface, metics' shares are worth five Solar\$ (4,500 crows). When living in the Martian outposts, metics' shares are worth seven Solar\$ (6,300 crows).

Co-op shares are nonspendable until metics declare august age and transfer shares into spendable funds. However, metics may borrow against their equity store insofar as their co-ops allow it.

[Back.](#)

august age marks the change from a fulltime service to semiretirement.

Metics may declare themselves 'august aged' anywhere between the ages of 55 and 75. When the august interlude is declared, a metic's co-op shares become nonvoting, the equivalent of solar bonds. A portion of the retirement stash must be converted to spendable cash in annual installments. [Back.](#)

child co-ops are sponsored by parent co-ops. The parent contributes startup funds and shares some of the proceeds if the child co-op wins a product charter. In effect, the parent becomes a nonvoting share holder. [Back.](#)

paw (SOAR acronym) Person Acknowledged Widely. Paws signify metics who have made unique contributions benefitting many co-ops. The status of paw is awarded for achievements in fields of science, technology, education or social services. [Back.](#)

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Masset Bound.

head canoe is the finest canoe of a band or village community. It holds 30 to 40 passengers and cargo. The head canoe represents (by size and workmanship) the prestige of the band. [Back.](#)

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wufaq (SOAR acronym) Warm-Up For Applied Qat where qat signifies quantum assassination theory. Wufaq is pronounced *WOO-fahk* and sounds like the cross between a courting bullfrog and a distempered bloodhound. Wufaq may also mean “yes” or “acknowledged reception” to a compadre’s directive. Rundogs use this expression as subterfuge during forced radio comm. [Back](#).

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- 4) hearing, 30°, 3D - charm;
- 5) seeing, 0°, NORTH, 3D - muon;
- 6) breathing, 330°, 3D - beauty;
- 7) moving, 300°, 3D - electron neutrino;
- 8) gravity, 270°, EAST, 3D - down;
- 9) coordinating, 240°, 3D - tau;
- 10) warmth, 210°, 3D - strange;
- 11) balance, 180°, SOUTH, 3D - muon neutrino;
- 12) touch, 150°, 3D - truth. [Back](#).

qat (SOAR acronym) Quantum Assassination Theory. Qat training gives acolytes physical excellence and sharpened senses. The sessions involve intensive practice and psignologic meditation. [Back](#).

gravity is the 8th-psign in the clockwise count. For circular directions it points 270° from the vanguard (east). [Back](#).

touch is the 12th-psign in the clockwise count. For circular directions it points 150° from the vanguard (south by southwest). [Back](#).

coordinating is the 9th-psign in the clockwise count. For circular directions it points 240° from the vanguard (east by southeast).

[Back.](#)

kennel is the home and training facility of Dog Breakfast co-op. The kennel is located in the underbelly of Tsawwassen. [Back.](#)

Facelook (social-media platform) is one of the oldest and most popular platforms. The commercial hard sell is subdued in favor of human interactions. Groups of like-minded individuals are very popular.

[Back.](#)

DAG (acronym) Directed Acyclic Graph. DAGs have an accountable number of vertices and edges where each edge is directed from one vertex to another and there are no loopbacks to any previously-used vertex. Likewise every DAG has topological ordering where all directions must go sequentially from earlier edges to later edges.

For instance, spreadsheets can be modeled as DAGs, with a vertex for each cell and an edge whenever the formula in one cell uses the value from another. A topological ordering of this DAG can be used to update all cell values when the spreadsheet is changed.

DAGs may represent collections of events and their influence on each other. They may be used as compact holders of sequence data, such as directed-acyclic-word-graphs of a collection of strings, or binary-decision diagrams of sequences of binary choices.

[Back.](#)

Kavita: red belt, Fingar's life partner and understudy. Born in 2048. Adult height: 170 centimeters; weight: 62 kilograms; hazel eyes, light-brown hair. Joins Dog Breakfast co-op 2066. [Back.](#)

Turing Test judges whether machines can exhibit intelligent behavior indistinguishable from humans. [Back.](#)