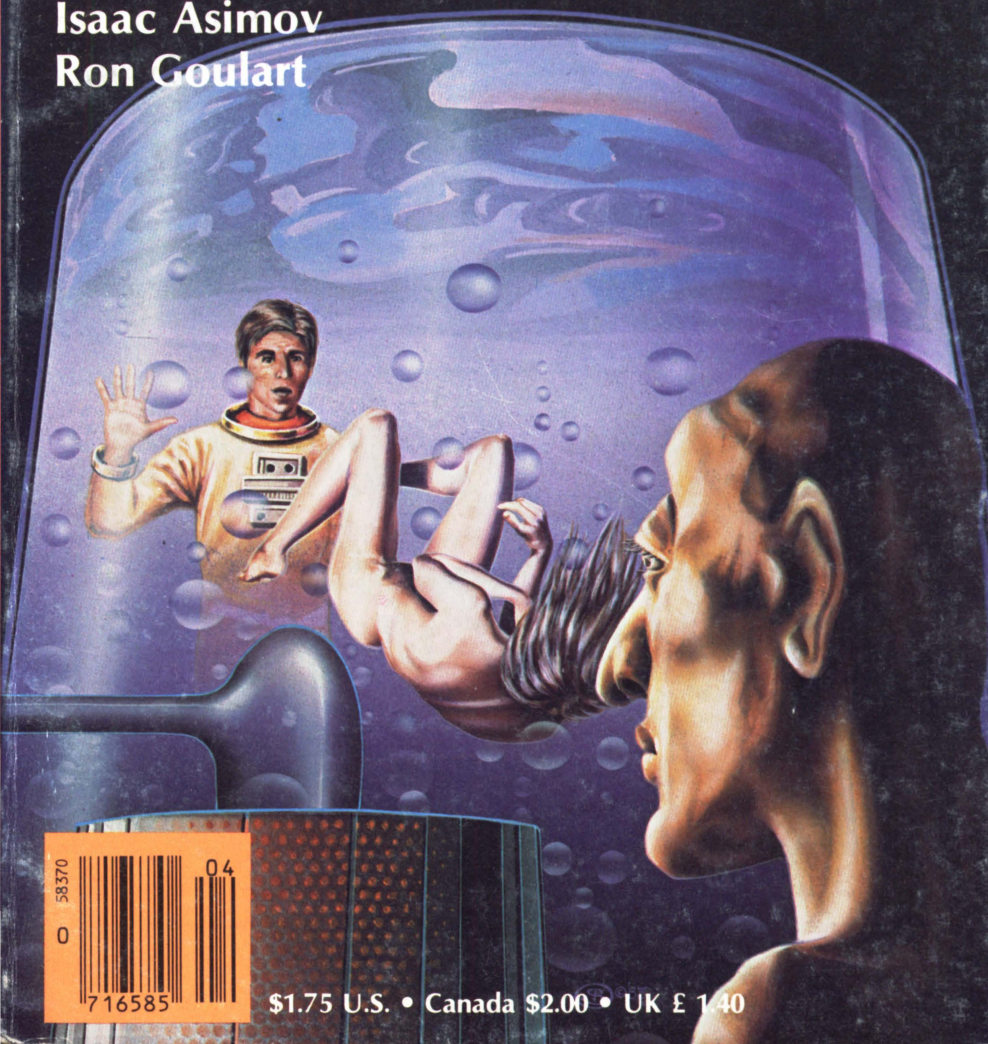


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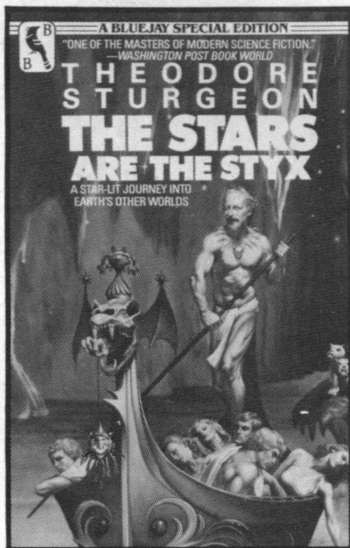
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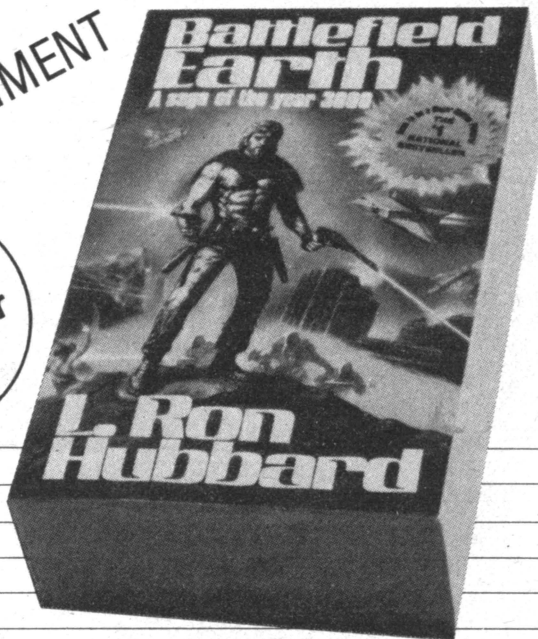


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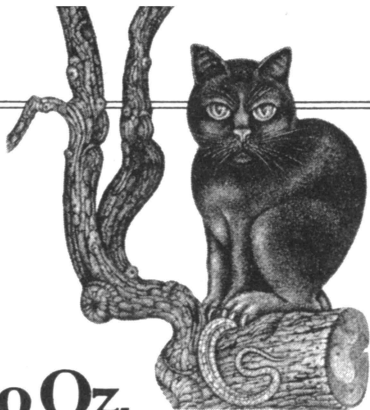
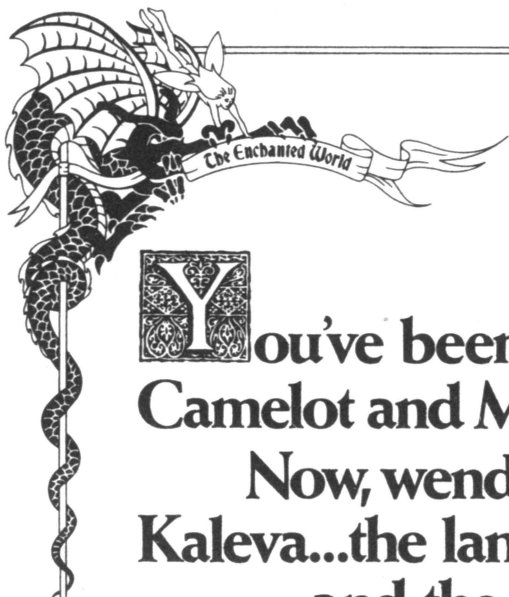
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# Salvador

BY

LUCIUS SHEPARD

**T**hree weeks before they wasted Tecolutla, Dantzler had his baptism of fire. The platoon was crossing a meadow at the foot of an emerald-green volcano, and being a dreamy sort, he was idling along, swatting tall grasses with his rifle barrel and thinking how it might have been a first-grader with crayons who had devised this elementary landscape of a perfect cone rising into a cloudless sky, when cap-pistol noises sounded on the slope. Someone screamed for the medic, and Dantzler dove into the grass, fumbling for his ampules. He slipped one from the dispenser and popped it under his nose, inhaling frantically; then, to be on the safe side, he popped another — "A double helpin' of martial arts," as DT would say — and lay with his head down until the drugs had worked their magic. There was dirt in his mouth, and he

was very afraid.

Gradually his arms and legs lost their heaviness, and his heart rate slowed. His vision sharpened to the point that he could see not only the pinpricks of fire blooming on the slope, but also the figures behind them, half-obscured by brush. A bubble of grim anger welled up in his brain, hardened by a fierce resolve, and he started moving toward the volcano. By the time he reached the base of the cone, he was all rage and reflexes. He spent the next forty minutes spinning acrobatically through the thickets, spraying shadows with bursts of his M-18; yet part of his mind remained distant from the action, marveling at his efficiency, at the comic-strip enthusiasm he felt for the task of killing. He shouted at the men he shot, and he shot them many more times than was necessary, like a child playing soldier.



"Playin' my ass!" DT would say. "You just actin' natural."

DT was a firm believer in the ampules; though the official line was that they contained tailored RNA compounds and pseudoendorphins modified to an inhalant form, he held the opinion that they opened a man up to his inner nature. He was big, black, with heavily muscled arms and crudely stamped features, and he had come to the Special Forces direct from prison, where he had done a stretch for attempted murder; the palms of his hands were covered by jail tattoos — a pentagram and a horned monster. The words DIE HIGH were painted on his helmet. This was his second tour in Salvador, and Moody — who was Dantzler's buddy — said the drugs had addled DT's brains, that he was crazy and gone to hell.

"He collects trophies," Moody had said. "And not just ears like they done in 'Nam."

When Dantzler had finally gotten a glimpse of the trophies, he had been appalled. They were kept in a tin box in DT's pack and were nearly unrecognizable; they looked like withered brown orchids. But despite his revulsion, despite the fact that he was afraid of DT, he admired the man's capacity for survival and had taken to heart his advice to rely on the drugs.

On the way back down the slope, they discovered a live casualty, an Indian kid about Dantzler's age, nineteen or twenty. Black hair, adobe skin, and

heavy-lidded brown eyes. Dantzler, whose father was an anthropologist and had done field work in Salvador, figured him for a Santa Ana tribesman; before leaving the States, Dantzler had pored over his father's notes, hoping this would give him an edge, and had learned to identify the various regional types. The kid had a minor leg wound and was wearing fatigue pants and a faded COKE ADDS LIFE T-shirt. This T-shirt irritated DT no end.

"What the hell you know 'bout Coke?" he asked the kid as they headed for the chopper that was to carry them deeper into Morazan Province. "You think it's funny or somethin'?" He whacked the kid in the back with his rifle butt, and when they reached the chopper, he slung him inside and had him sit by the door. He sat beside him, tapped out a joint from a pack of Kools, and asked, "Where's Infante?"

"Dead," said the medic.

"Shit!" DT licked the joint so it would burn evenly. "Goddamn beaner ain't no use 'cept somebody else know Spanish."

"I know a little," Dantzler volunteered.

Staring at Dantzler, DT's eyes went empty and unfocused. "Naw," he said. "You don't know no Spanish."

Dantzler ducked his head to avoid DT's stare and said nothing; he thought he understood what DT meant, but he ducked away from the understanding as well. The chopper bore them aloft, and DT lit the joint.

He let the smoke out his nostrils and passed the joint to the kid, who accepted gratefully.

"*Que sabor!*" he said, exhaling a billow; he smiled and nodded, wanting to be friends.

Dantzler turned his gaze to the open door. They were flying low between the hills, and looking at the deep bays of shadow in their folds acted to drain away the residue of the drugs, leaving him weary and frazzled. Sunlight poured in, dazzling the oil-smearred floor.

"Hey, Dantzler!" DT had to shout over the noise of the rotors. "Ask him whass his name!"

The kid's eyelids were drooping from the joint, but on hearing Spanish he perked up; he shook his head, though, refusing to answer. Dantzler smiled and told him not to be afraid.

"Ricardo Quu," said the kid.

"Kool!" said DT with false heartiness. "Thass my brand!" He offered his pack to the kid.

"*Gracias, no.*" The kid waved the joint and grinned.

"Dude's named for a godamn cigarette," said DT disparagingly, as if this were the height of insanity.

Dantzler asked the kid if there were more soldiers nearby, and once again received no reply; but, apparently sensing in Dantzler a kindred soul, the kid leaned forward and spoke rapidly, saying that his village was Santander Jimenez, that his father was — he hesitated — a man of power. He asked

where they were taking him. Dantzler returned a stony glare. He found it easy to reject the kid, and he realized later this was because he had already given up on him.

Latching his hands behind his head, DT began to sing — a wordless melody. His voice was discordant, barely audible above the rotors; but the tune had a familiar ring, and Dantzler soon placed it. The theme from "Star Trek." It brought back memories of watching TV with his sister, laughing at the low-budget aliens and Scotty's Actors' Equity accent. He gazed out the door again. The sun was behind the hills, and the hillsides were unfeatured blurs of dark green smoke. Oh, God, he wanted to be home, to be anywhere but Salvador! A couple of the guys joined in the singing at DT's urging, and as the volume swelled, Dantzler's emotion peaked. He was on the verge of tears, remembering tastes and sights, the way his girl Jeanine had smelled, so clean and fresh, not reeking of sweat and perfume like the whores around Ilopango — finding all this substance in the banal touchstone of his culture and the illusions of the hillsides rushing past. Then Moody tensed beside him, and he glanced up to learn the reason why.

In the gloom of the chopper's belly, DT was as unfeatured as the hills — a black presence ruling them, more the leader of a coven than a platoon. The other two guys were singing their lungs out, and even the kid was getting into

the spirit of things. "*Musica!*" he said at one point, smiling at everybody, trying to fan the flame of good feeling. He swayed to the rhythm and essayed a "la-la" now and again. But no one else was responding.

The singing stopped, and Dantzler saw that the whole platoon was staring at the kid, their expressions slack and dispirited.

"Space!" shouted DT, giving the kid a little shove. "The final frontier!"

The smile had not yet left the kid's face when he toppled out the door. DT peered after him; a few seconds later, he smacked his hand against the floor and sat back, grinning. Dantzler felt like screaming, the stupid horror of the joke was so at odds with the languor of his homesickness. He looked to the others for reaction. They were sitting with their heads down, fiddling with trigger guards and pack straps, studying their bootlaces, and seeing this, he quickly imitated them.

**M**orazan Province was spook country. Santa Ana spooks. Flights of birds had been reported to attack pistols; animals appeared at the perimeters of campsites and vanished when you shot at them; dreams afflicted everyone who ventured there. Dantzler could not testify to the birds and animals, but he did have a recurring dream. In it the kid DT had killed was pinwheeling down through a golden fog, his T-shirt visible against

the roiling backdrop, and sometimes a voice would boom out of the fog, saying, "You are killing my son." No, no, Dantzler would reply; it wasn't me, and besides, he's already dead. Then he would wake covered with sweat, groping for his rifle, his heart racing.

But the dream was not an important terror, and he assigned it no significance. The land was far more terrifying. Pine-forested ridges that stood out against the sky like fringes of electrified hair; little trails winding off into thickets and petering out, as if what they led to had been magicked away; gray rock faces along which they were forced to walk, hopelessly exposed to ambush. There were innumerable booby traps set by the guerrillas, and they lost several men to rockfalls. It was the emptiest place of Dantzler's experience. No people, no animals, just a few hawks circling the solitudes between the ridges. Once in a while they found tunnels, and these they blew with the new gas grenades; the gas ignited the rich concentrations of hydrocarbons and sent flame sweeping through the entire system. DT would praise whoever had discovered the tunnel and would estimate in a loud voice how many beaners they had "refried." But Dantzler knew they were traversing pure emptiness and burning empty holes. Days, under debilitating heat, they humped the mountains, traveling seven, eight, even ten clicks up trails so steep that frequently the feet of the guy ahead of you would be on a level

with your face; nights, it was cold, the darkness absolute, the silence so profound that Dantzler imagined he could hear the great humming vibration of the earth. They might have been anywhere or nowhere. Their fear was nourished by the isolation, and the only remedy was "martial arts."

Dantzler took to popping the pills without the excuse of combat. Moody cautioned him against abusing the drugs, citing rumors of bad side effects and DT's madness; but even he was using them more and more often. During basic training, Dantzler's D.I. had told the boots that the drugs were available only to the Special Forces, that their use was optional; but there had been too many instances of lackluster battlefield performance in the last war, and this was to prevent a reoccurrence.

"The chickenshit infantry should take 'em," the D.I. had said. "You bastards are brave already. You're born killers, right?"

"Right, sir!" they had shouted.

"What are you?"

"Born killers, sir!"

But Dantzler was not a born killer; he was not even clear as to how he had been drafted, less clear as to how he had been manipulated into the Special Forces, and he had learned that nothing was optional in Salvador, with the possible exception of life itself.

The platoon's mission was reconnaissance and mop-up. Along with other Special Forces platoons, they

were to secure Morazan prior to the invasion of Nicaragua; specifically, they were to proceed to the village of Tecolutla, where a Sandinista patrol had recently been spotted, and following that, they were to join up with the First Infantry and take part in the offensive against León, a provincial capital just across the Nicaraguan border. As Dantzler and Moody walked together, they frequently talked about the offensive, how it would be good to get down into flat country; occasionally they talked about the possibility of reporting DT, and once, after he had led them on a forced night march, they toyed with the idea of killing him. But most often they discussed the ways of the Indians and the land, since this was what had caused them to become buddies.

Moody was slightly built, freckled, and red-haired; his eyes had the "thousand-yard stare" that came from too much war. Dantzler had seen winos with such vacant, lusterless stares. Moody's father had been in 'Nam, and Moody said it had been worse than Salvador because there had been no real commitment to win; but he thought Nicaragua and Guatemala might be the worst of all, especially if the Cubans sent in troops as they had threatened. He was adept at locating tunnels and detecting booby traps, and it was for this reason Dantzler had cultivated his friendship. Essentially a loner, Moody had resisted all advances until learning of Dantzler's father;



thereafter he had buddied up, eager to hear about the field notes, believing they might give him an edge.

"They think the land has animal traits," said Dantzler one day as they climbed along a ridgetop. "Just like some kinds of fish look like plants or sea bottom, parts of the land look like plain ground, jungle ... whatever. But when you enter them, you find you've entered the spirit world, the world of the *Sukias*."

"What's *Sukias*?" asked Moody.

"Magicians." A twig snapped behind Dantzler, and he spun around, twitching off the safety of his rifle. It was only Hodge — a lanky kid with the beginnings of a beer gut. He stared hollow-eyed at Dantzler and popped an ampule.

Moody made a noise of disbelief. "If they got magicians, why ain't they winnin'? Why ain't they zappin' us off the cliffs?"

"It's not their business," said Dantzler. "They don't believe in messing with worldly affairs unless it concerns them directly. Anyway, these places — the ones that look like normal land but aren't — they're called...." He drew a blank on the name. "*Aya*-something. I can't remember. But they have different laws. They're where your spirit goes to die after your body dies."

"Don't they got no Heaven?"

"Nope. It just takes longer for your spirit to die, and so it goes to one of these places that's between everything and nothing."

"Nothin'," said Moody disconsolately, as if all his hopes for an after-life had been dashed. "Don't make no sense to have spirits and not have no Heaven."

"Hey," said Dantzler, tensing as wind rustled the pine boughs. "They're just a bunch of damn primitives. You know what their sacred drink is? Hot chocolate! My old man was a guest at one of their funerals, and he said they carried cups of hot chocolate balanced on these little red towers and acted like drinking it was going to wake them to the secrets of the universe." He laughed, and the laughter sounded tinny and psychotic to his own ears. "So you're going to worry about fools who think hot chocolate's holy water?"

"Maybe they just like it," said Moody. "Maybe somebody dyin' just give 'em an excuse to drink it."

But Dantzler was no longer listening. A moment before, as they emerged from pine cover onto the highest point of the ridge, a stony scarp open to the winds and providing a view of rumpled mountains and valleys extending to the horizon, he had popped an ampule. He felt so strong, so full of righteous purpose and controlled fury, it seemed only the sky was around him, that he was still ascending, preparing to do battle with the gods themselves.

**T**ecolutla was a village of white-washed stone tucked into a notch be-

tween two hills. From above, the houses — with their black windows and doorways — looked like an unlucky throw of dice. The streets ran uphill and down, diverging around boulders. Bougainvilleas and hibiscuses speckled the hillsides, and there were tilled fields on the gentler slopes. It was a sweet, peaceful place when they arrived, and after they had gone it was once again peaceful; but its sweetness had been permanently banished. The reports of Sandinistas had proved accurate, and though they were casualties left behind to recuperate, DT had decided their presence called for extreme measures. Fu gas, frag grenades, and such. He had fired an M-60 until the barrel melted down, and then had manned the flamethrower. Afterward, as they rested atop the next ridge, exhausted and begrimed, having radioed in a chopper for resupply, he could not get over how one of the houses he had torched had resembled a toasted marshmallow.

"Ain't that how it was, man?" he asked, striding up and down the line. He did not care if they agreed about the house; it was a deeper question he was asking, one concerning the ethics of their actions.

"Yeah," said Dantzler, forcing a smile. "Sure did."

DT grunted with laughter. "You know I'm right, don'tcha man?"

The sun hung directly behind his head, a golden corona rimming a black oval, and Dantzler could not turn his

eyes away. He felt weak and weakening, as if threads of himself were being spun loose and sucked into the blackness. He popped three ampules prior to the firefight, and his experience of Tecolutla had been a kind of mad whirling dance through the streets, spraying erratic bursts that appeared to be writing weird names on the walls. The leader of the Sandinistas had worn a mask — a gray face with a surprised hole of a mouth and pink circles around the eyes. A ghost face. Dantzler had been afraid of the mask and had poured round after round into it. Then, leaving the village, he had seen a small girl standing beside the shell of the last house, watching them, her colorless rag of a dress tattering in the breeze. She had been a victim of that malnutrition disease, the one that paled your skin and whitened your hair and left you retarded. He could not recall the name of the disease — things like names were slipping away from him — nor could he believe anyone had survived, and for a moment he had thought the spirit of the village had come out to mark their trail.

That was all he could remember of Tecolutla, all he wanted to remember. But he knew he had been brave.

Four days later, they headed up into a cloud forest. It was the dry season, but dry season or not, blackish gray clouds always shrouded these peaks. They were shot through by ugly glimmers of lightning, making it seem that

malfunctioning neon signs were hidden beneath them, advertisements for evil. Everyone was jittery, and Jerry LeDoux — a slim, dark-haired Cajun kid — flat-out refused to go.

"It ain't reasonable," he said. "Be easier to go through the passes."

"We're on recon, man! You think the beaners be waitin' in the passes, wavin' their white flags?" DT whipped his rifle into firing position and pointed it at LeDoux. "C'mon, Louisiana man. Pop a few, and you feel different."

As LeDoux popped the ampules, DT talked to him.

"Look at it this way, man. This is your big adventure. Up there it be like all them animals shows on the tube. The savage kingdom, the unknown. Could be like Mars or somethin'. Monsters and shit, with big red eyes and tentacles. You wanna miss that, man? You wanna miss bein' the first grunt on Mars?"

Soon LeDoux was raring to go, giggling at DT's rap.

Moody kept his mouth shut, but he fingered the safety of his rifle and glared at DT's back. When DT turned to him, however, he relaxed. Since Tecolutla he had grown taciturn, and there seemed to be a shifting of lights and darks in his eyes, as if something were scurrying back and forth behind them. He had taken to wearing banana leaves on his head, arranging them under his helmet so the frayed ends stuck out the sides like strange green hair. He said this was camouflage, but

Dantzler was certain it bespoke some secretive, irrational purpose. Of course DT had noticed Moody's spiritual erosion, and as they prepared to move out, he called Dantzler aside.

"He done found someplace inside his head that feel good to him," said DT. "He's tryin' to curl up into it, and once he do that he ain't gon' be responsible. Keep an eye on him."

Dantzler mumbled his assent, but was not enthused.

"I know he your fren', man, but that don't mean shit. Not the way things are. Now me, I don't give a damn 'bout you personally. But I'm your brother-in-arms, and thass some-thin' you can count on ... y'understand."

To Dantzler's shame, he did understand.

They had planned on negotiating the cloud forest by nightfall, but they had underestimated the difficulty. The vegetation beneath the clouds was lush — thick, juicy leaves that mashed underfoot, tangles of vines, trees with slick, pale bark and waxy leaves — and the visibility was only about fifteen feet. They were gray wraiths passing through grayness. The vague shapes of the foliage reminded Dantzler of fancifully engraved letters, and for a while he entertained himself with the notion that they were walking among the half-formed phrases of a constitution not yet manifest in the land. They barged off the trail, losing it completely, becoming veiled in

spider webs and drenched by spills of water; their voices were oddly muffled, the tag ends of words swallowed up. After seven hours of this, DT reluctantly gave the order to pitch camp. They set electric lamps around the perimeter so they could see to string the jungle hammocks; the beam of light illuminated the moisture in the air, piercing the murk with jeweled blades. They talked in hushed tones, alarmed by the eerie atmosphere. When they had done with the hammocks, DT posted four sentries — Moody, LeDoux, Dantzler, and himself. Then they switched off the lamps.

It grew pitch-dark, and the darkness was picked out by plips and plops, the entire spectrum of dripping sounds. To Dantzler's ears they blended into a gabbling speech. He imagined tiny Santa Ana demons talking about him, and to stave off paranoia he popped two ampules. He continued to pop them, trying to limit himself to one every half hour; but he was uneasy, unsure where to train his rifle in the dark, and he exceeded his limit. Soon it began to grow light again, and he assumed that more time had passed than he had thought. That often happened with the ampules — it was easy to lose yourself in being alert, in the wealth of perceptual detail available to your sharpened senses. Yet on checking his watch, he saw it was only a few minutes after two o'clock. His system was too inundated with the drugs to allow panic, but he twitched his head

from side-to-side in tight little arcs to determine the source of the brightness. There did not appear to be a single source; it was simply that filaments of the cloud were gleaming, casting a diffuse golden glow, as if they were elements of a nervous system coming to life. He started to call out, then held back. The others must have seen the light, and they had given no cry; they probably had a good reason for their silence. He scrunched down flat, pointing his rifle out from the campsite.

Bathed in the golden mist, the forest had acquired an alchemic beauty. Beads of water glittered with gemmy brilliance; the leaves and vines and bark were gilded. Every surface shimmered with light ... everything except a fleck of blackness hovering between two of the trunks, its size gradually increasing. As it swelled in his vision, he saw it had the shape of a bird, its wings beating, flying toward him from an inconceivable distance — inconceivable, because the dense vegetation did not permit you to see very far in a straight line, and yet the bird was growing larger with such slowness that it must have been coming from a long way off. It was not really flying, he realized; rather, it was as if the forest were painted on a piece of paper, as if someone were holding a lit match behind it and burning a hole, a hole that maintained the shape of a bird as it spread. He was transfixed, unable to react. Even when it had blotted out half the light, when he lay before it no bigger



than a mote in relation to its huge span, he could not move or squeeze the trigger. And then the blackness swept over him. He had the sensation of being borne along at incredible speed, and he could no longer hear the dripping of the forest.

"Moody!" he shouted. "DT!"

But the voice that answered belonged to neither of them. It was hoarse, issuing from every part of the surrounding blackness, and he recognized it as the voice of his recurring dream.

"You are killing my son," it said. "I have led you here, to this *ayahuamaco*, so he may judge you."

Dantzler knew to his bones the voice was that of the *Sukia* of the village of Santander Jimenez. He wanted to offer a denial, to explain his innocence, but all he could manage was, "No." He said it tearfully, hopelessly, his forehead resting on his rifle barrel. Then his mind gave a savage twist, and his soldiery self regained control. He ejected an ampule from his dispenser and popped it.

The voice laughed — malefic, damning laughter whose vibrations shuddered Dantzler. He opened up with the rifle, spraying fire in all directions. Filigrees of golden holes appeared in the blackness, tendrils of mist coiled through them. He kept on firing until the blackness shattered and fell in jagged sections toward him. Slowly. Like shards of black glass dropping through water. He emptied

the rifle and flung himself flat, shielding his head with his arms, expecting to be sliced into bits; but nothing touched him. At last he peeked between his arms; then — amazed, because the forest was now a uniform lustrous yellow — he rose to his knees. He scraped his hand on one of the crushed leaves beneath him, and blood welled from the cut. The broken fibers of the leaf was as stiff as wires. He stood, a giddy trickle of hysteria leaking up from the bottom of his soul. It was no forest, but a building of solid gold worked to resemble a forest — the sort of conceit that might have been fabricated for the child of an emperor. Canopied by golden leaves, columned by slender golden trunks, carpeted by golden grasses. The water beads were diamonds. All the gleam and glitter soothed his apprehension; here was something out of a myth, a habitat for princesses and wizards and dragons. Almost gleeful, he turned to the campsite to see how the others were reacting.

Once, when he was nine years old, he had sneaked into the attic to rummage through the boxes and trunks, and he had run across an old morocco-bound copy of *Gulliver's Travels*. He had been taught to treasure old books, and so he had opened it eagerly to look at the illustrations, only to find that the centers of the pages had been eaten away, and there, right in the heart of the fiction, was a nest of larvae. Pulpy, horrid things. It had been an awful

sight, but one unique in his experience, and he might have studied those crawling scraps of life for a very long time if his father had not interrupted. Such a sight was now before him, and he was numb with it.

They were all dead. He should have guessed they would be; he had given no thought to them while firing his rifle. They had been struggling out of their hammocks when the bullets hit, and as a result, they were hanging half-in, half-out, their limbs dangling, blood pooled beneath them. The veils of golden mist made them look dark and mysterious and malformed, like monsters killed as they emerged from their cocoons. Dantzler could not stop staring, but he was shrinking inside himself. It was not his fault. That thought kept swooping in and out of a flock of less-acceptable thoughts; he wanted to stay put, to be true, to alleviate the sick horror he was beginning to feel.

"What's your name?" asked a girl's voice behind him.

She was sitting on a stone about twenty feet away. Her hair was a tawny shade of gold, her skin a half-tone lighter, and her dress was cunningly formed out of the mist. Only her eyes were real. Brown, heavy-lidded eyes — they were at variance with the rest of her face, which had the fresh, unaffected beauty of an American teenager.

"Don't be afraid," she said, and patted the ground, inviting him to sit beside her.

He recognized the eyes, but it was no matter. He badly needed the consolation she could offer; he walked over and sat down. She let him lean his head against her thigh.

"What's your name?" she repeated.

"Dantzler," he said. "John Dantzler." And then he added, "I'm from Boston. My father's...." It would be too difficult to explain about anthropology. "He's a teacher."

"Are there many soldiers in Boston?" She stroked his cheek with a golden finger.

The caress made Dantzler happy. "Oh, no," he said. "They hardly know there's a war going on."

"This is true?" she said, incredulous.

"Well, they *do* know about it, but it's just news on the TV to them. They've got more pressing problems. Their jobs, families."

"Will you let them know about the war when you return home?" she asked. "Will you do that for me?"

Dantzler had given up hope of returning home, of surviving, and her assumption that he would do both acted to awaken his gratitude. "Yes," he said fervently. "I will."

"You must hurry," she said. "If you stay in the *ayahuamaco* too long, you will never leave. You must find the way out. It is a way not of directions or trails, but of events."

"Where is this place?" he asked, suddenly aware of how much he had taken it for granted.

She shifted her leg away, and if he had not caught himself on the stone, he would have fallen. When he looked up, she had vanished. He was surprised that her disappearance did not alarm him; in reflex he slipped out a couple of ampules, but after a moment's reflection he decided not to use them. It was impossible to slip them back into the dispenser, so he tucked them into the interior webbing of his helmet for later. He doubted he would need them, though. He felt strong, competent, and unafraid.

**D**antzler stepped carefully between the hammocks, not wanting to brush against them; it might have been his imagination, but they seemed to be bulged down lower than before, as if death had weighed out heavier than life. That heaviness was in the air, pressuring him. Mist rose like golden steam from the corpses, but the sight no longer affected him — perhaps because the mist gave the illusion of being their souls. He picked up a rifle with a full magazine and headed off into the forest.

The tips of the golden leaves were sharp, and he had to ease past them to avoid being cut; but he was at the top of his form, moving gracefully, and the obstacles barely slowed his pace. He was not even anxious about the girl's warning to hurry; he was certain the way out would soon present itself. After a minute or so, he heard voices,

and after another few seconds, he came to a clearing divided by a stream, one so perfectly reflecting that its banks appeared to enclose a wedge of golden mist. Moody was squatting to the left of the stream, staring at the blade of his survival knife and singing under his breath — a wordless melody that had the erratic rhythm of a trapped fly. Beside him lay Jerry LeDoux, his throat slashed from ear to ear. DT was sitting on the other side of the stream; he had been shot just above the knee, and though he had ripped up his shirt for bandages and tied off the leg with a tourniquet, he was not in good shape. He was sweating, and the gray chalky pallor infused his skin. The entire scene had the weird vitality of something that had materialized in a magic mirror, a bubble of reality enclosed within a gilt frame.

DT heard Dantzler's footfalls and glanced up. "Waste him!" he shouted, pointing at Moody.

Moody did not turn from contemplation of the knife. "No," he said, as if speaking to someone whose image was held in the blade.

"Waste him, man!" screamed DT. "He killed LeDoux!"

"Please," said Moody to the knife. "I don't want to."

There was blood clotted on his face, more blood on the banana leaves sticking out of his helmet.

"Did you kill Jerry?" asked Dantzler; while he addressed the question to Moody, he did not relate to him as an

individual, only as part of a design whose message he had to unravel.

"Jesus Christ! Waste him!" DT smashed his fist against the ground in frustration.

"O.K.," said Moody. With an apologetic look, he sprang to his feet and charged Dantzler, swinging the knife.

Emotionless, Dantzler stitched a line of fire across Moody's chest; he went sideways into the bushes and down.

"What the hell was you waitin' for!" DT tried to rise, but winced and fell back. "Damn! Don't know if I can walk."

"Pop a few," Dantzler suggested mildly.

"Yeah. Good thinkin', man." DT fumbled for his dispenser.

Dantzler peered into the bushes to see where Moody had fallen. He felt nothing, and this pleased him. He was weary of feeling.

DT popped an ampule with a flourish, as if making a toast, and inhaled. "Ain't you gon' to do some, man?"

"I don't need them," said Dantzler. "I'm fine."

The stream interested him; it did not reflect the mist, as he had supposed, but was itself a seam of the mist.

"How many you think they was?" asked DT.

"How many what?"

"Beaners, man! I wasted three or four after they hit us, but I couldn't tell

how many they was."

Dantzler considered this in light of his own interpretation of events and Moody's conversation with the knife. It made sense. A Santa Ana kind of sense.

"Beats me," he said. "But I guess there's less than there used to be."

DT snorted. "You got *that* right!" He heaved to his feet and limped to the edge of the stream. "Gimme a hand across."

Dantzler reached out to him, but instead of taking his hand, he grabbed his wrist and pulled him off-balance. DT teetered on his good leg, then toppled and vanished beneath the mist. Dantzler had expected him to fall, but he surfaced instantly, mist clinging to his skin. Of course, thought Dantzler; his body would have to die before his spirit would fall.

"What you doin', man?" DT was more disbelieving than enraged.

Dantzler planted a foot in the middle of his back and pushed him down until his head was submerged. DT bucked and clawed at the foot and managed to come to his hands and knees. Mist slithered from his eyes, his nose, and he choked out the words "...kill you...." Dantzler pushed him down again; he got into pushing him down and letting him up, over and over. Not so as to torture him. Not really. It was because he had suddenly understood the nature of the *aya-huamaco's* laws, that they were approximations of normal laws, and he



further understood that his actions had to approximate those of someone jiggling a key in a lock. DT was the key to the way out, and Dantzler was jiggling him, making sure all the tumblers were engaged.

Some of the vessels in DT's eyes had burst, and the whites were occluded by films of blood. When he tried to speak, mist curled from his mouth. Gradually his struggles subsided; he clawed runnels in the gleaming yellow dirt of the bank and shuddered. His shoulders were knobs of black land floundering in a mystic sea.

For a long time after DT sank from view, Dantzler stood beside the stream, uncertain of what was left to do and unable to remember a lesson he had been taught. Finally, he shouldered his rifle and walked away from the clearing. Morning had broken, the mist had thinned, and the forest had regained its usual coloration. But he scarcely noticed these changes, still troubled by his faulty memory. Eventually, he let it slide — it would all come clearer sooner or later. He was just happy to be alive. After a while he began to kick the stones as he went, and to swing his rifle in a carefree fashion against the weeds.

**W**hen the First Infantry poured across the Nicaraguan border and wasted León, Dantzler was having a quiet time at the VA hospital in Ann Arbor, Michigan; and at the precise

moment the bulletin was flashed nationwide, he was sitting in the lounge, watching the American League play-offs between Detroit and Texas. Some of the patients ranted at the interruption, while others shouted them down, wanting to hear the details. Dantzler expressed no reaction whatsoever. He was solely concerned with being a model patient; however, noticing that one of the staff was giving him a clinical stare, he added his weight on the side of the baseball fans. He did not want to appear too controlled. The doctors were as suspicious of that sort of behavior as they were of its contrary. But the funny thing was — at least it was funny to Dantzler — that his feigned annoyance at the bulletin was an exemplary proof of his control, his expertise at moving through life the way he had moved through the golden leaves of the cloud forest. Cautiously, gracefully, efficiently. Touching nothing, and being touched by nothing. That was the lesson he had learned — to be as perfect a counterfeit of a man as the *ayahuamaco* had been of the land; to adopt the various stances of a man, and yet, by virtue of his distance from things human, to be all the more prepared for the onset of crisis or a call to action. He saw nothing aberrant in this; even the doctors would admit that men were little more than organized pretense. If he was different from other men, it was only that he had a deeper awareness of the principles on which his personality was founded.

When the battle of Managua was joined, Dantzler was living at home. His parents had urged him to go easy in readjusting to civilian life, but he had immediately gotten a job as a management trainee in a bank. Each morning he would drive to work and spend a controlled, quiet eight hours; each night he would watch TV with his mother, and before going to bed, he would climb to the attic and inspect the trunk containing his souvenirs of war — helmet, fatigues, knife, boots. The doctors had insisted he face his experiences, and this ritual was his way of following their instructions. All in all, he was quite pleased with his progress, but he still had problems. He had not been able to force himself to venture out at night, remembering too well the darkness in the cloud forest, and he had rejected his friends, refusing to see them or answer their calls — he was not secure with the idea of friendship. Further, despite his methodical approach to life, he was prone to a nagging restlessness, the feeling of a chore left undone.

One night his mother came into his room and told him that an old friend, Phil Curry, was on the phone. "Please talk to him, Johnny," she said. "He's been drafted, and I think he's a little scared."

The word "drafted" struck a responsive chord in Dantzler's soul, and after brief deliberation, he went downstairs and picked up the receiver.

"Hey," said Phil. "What's the story,

man? Three months, and you don't even give me a call."

"I'm sorry," said Dantzler. "I haven't been feeling so hot."

"Yeah, I understand." Phil was silent a moment. "Listen, man. I'm leavin', y'know, and we're havin' a big send-off at Sparky's. It's goin' on right now. Why don't you come down?"

"I don't know."

"Jeanine's here, man. Y'know, she's still crazy 'bout you, talks 'bout you all the time. She don't go out with nobody."

Dantzler was unable to think of anything to say.

"Look," said Phil, "I'm pretty weirded out by this soldier shit. I hear it's pretty bad down there. If you got anything you can tell me 'bout what it's like, man, I'd 'preciate it."

Dantzler could relate to Phil's concern, his desire for an edge, and besides, it felt right to go. Very right. He would take some precautions against the darkness.

"I'll be there," he said.

It was a foul night, spitting snow, but Sparky's parking lot was jammed. Dantzler's mind was flurried like the snow, crowded like the lot — thoughts whirling in, jockeying for position, melting away. He hoped his mother would not wait up, he wondered if Jeanine still wore her hair long, he was worried because the palms of his hands were unnaturally warm. Even with the car windows rolled up, he could hear loud music coming from inside the

club. Above the door the words SPARKY'S ROCK CITY were being spelled out a letter at a time in red neon, and when the spelling was complete, the letter flashed off and on and a golden neon explosion bloomed around them. After the explosion, the entire sign went dark for a split second, and the big ramshackle building seemed to grow large and merge with the black sky. He had an idea it was watching him, and he shuddered — one of those sudden lurches downward of the kind that take you just before you fall asleep. He knew the people inside did not intend him any harm, but he also knew that places have a way of changing people's intent, and he did not want to be caught off guard. Sparky's might be such a place, might be a huge black presence camouflaged by neon, its true substance one with the abyss of the sky, the phosphorescent snowflakes jittering in his headlights, the wind keening through the side vent. He would have liked very much to drive home and forget about his promise to Phil; however, he felt a responsibility to explain about the war. More than a responsibility, an evangelistic urge. He would tell them about the kid falling out of the chopper, the

white-haired girl in Tecolutla, the emptiness. God, yes! How you went down chock-full of ordinary American thoughts and dreams, memories of smoking weed and chasing tail and hanging out and freeway flying with a case of something cold, and how you smuggled back a human-shaped container of pure Salvadorian emptiness. Primo grade. Smuggled it back to the land of silk and money, of mindfuck video games and topless tennis matches and fast-food solutions to the nutritional problem. Just a taste of Salvador would banish all those trivial obsessions. Just a taste. It would be easy to explain.

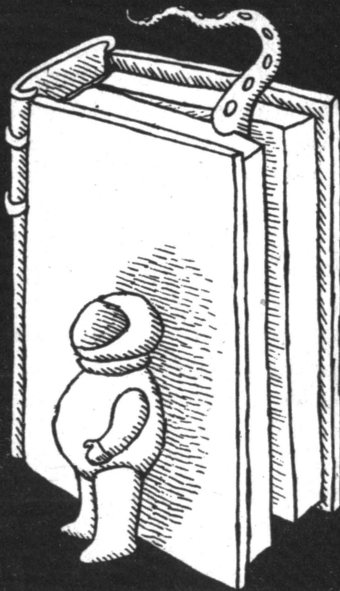
Of course, some things begged an explanation.

He bent down and adjusted the survival knife in his boot so the hilt would not rub against his calf. From his coat pocket he withdrew the two ampules he had secreted in his helmet that long-ago night in the cloud forest. As the neon explosion flashed once more, glimmers of gold coursed along their shiny surfaces. He did not think he would need them; his hand was steady, and his purpose was clear. But to be on the safe side, he popped them both.



# Books

ALGIS  
BUDRYS



Drawing by Gahan Wilson

*The War Against Eternity*, Christopher Rowley, Del Rey, \$2.75

*The Zen Gun*, Barrington J. Bayley, DAW Books, \$2.50

*The Second Book of Swords*, Fred Saberhagen, Tor Books, \$6.95 trade paperback

*Cugel's Saga*, Jack Vance, Timescape, \$14.95

*The Anubis Gates*, Tim Powers, Ace Books, \$2.95

Engaging, successful stories really shouldn't be so rare. All stories fall naturally into three parts. These are conventionally called the beginning, the middle and the end, even though in many stories those parts don't fall into the narrative in One, Two, Three order. In the beginning, you establish who the key people are, what their problem is, and why it's the most important problem of their lives. In the middle, you have them try to solve the problem with the resources, and only the resources, you ascribed to them in the beginning. In the end, you prove to the reader that things have worked out right. And that's it.

Perhaps some novices might think that's some sort of arbitrary formula, and thus of course to be ignored by true artists. Professional aspirants, to whatever level of audience, ought to see it's not. It's a description of what people recognize to be a story, in the same way as it could be a description of an eagle that is not also a description of a turkey.

If it doesn't fit the description, it's

not a story. If you don't want to write a story, fine, write something else, but don't try to make it perform the work of a story. You will disappoint your readers, and probably do yourself an injury as well.

Now, what in the world got him off on that this month? As you might suspect, it was this month's books:

In the development of SF literary theory, we've gotten past the concept that all books are intentionally stories. But in the overwhelming number of cases of SF literary practice, stories is still exactly what SF books are published and marketed to be — most of the time with the informed consent of the author. There is, indeed, at present a very prominent vogue for SF regarded as the plain tale putatively told. The former editors of Timescape Books can attest to that. In consequence, most qualities in most SF books can be described as qualities of storytelling technique.

For example, there is the matter of letting the reader know, swiftly and elegantly, what the opening situation means — whom it hurts most, and why it does so. There are a great many ways to accomplish this. The baldest is to step right up and say it in declarative sentences. We can see the tensioners being painted in like brushstrokes coloring an initially neutral canvas; 'Bitter night fell. Sleet pelted down on Captain Pollard's naked back as he clung to the wave-tossed hatch-

cover.' The more subtle technique is to rely on and avoid betraying the reader's natural presumption that action at center stage in a story will in some way have a strong bearing on the eventual outcome: 'Coming to a wood, the young outlaw beheld a damosel picnicking with her lute in a bower.' But in either event a clear grasp of the situation's apparent possibilities is plainly available to any reader with average information about the appurtenances of life.

A common ground between reader and author — a shared vocabulary of life — is of course always crucial to the act of reading at all, and the pleasure of reading diminishes in direct proportion to the lack of sharing. Even if we 'know how to read' — can understand words such as at, in, under and by, and detect the differences between the hawks and the handsaws of everyday appurtenance — we don't get far if that's near the limit of what we know about it. The baldly declarative story won't work at all well if we don't have a notion of what night, sleet, or hatch-covers are, or if we don't grasp what might be fatal about Captain Pollard's situation. The implicitly intriguing story is not quite as vulnerable, for various reasons, but we still need to understand what a damosel, a lute, a bower, and perhaps a picnic sur l'herbe, might mean to a wandering young outlaw.

Now, all of this may seem reasonably elementary. So why do you sup-

pose so many SF books have taken to heavy use of cryptic vocabularies, which by definition are not shared with the reader? I have a theory. I think it's because SF, with of course its built-in bias toward invented milieux, contains a lot of writers who haven't yet thought enough about the difference between true invention and simple babble.

All too often in this field one gets handed a book that begins with so much deliberately incomprehensible detail you have to take written notes if you want a glimmer of who's doing what to whom why, when, and where. Out of a possible ten points for the model of perfect clarity, deduct one each for any book with a made-up word in the title, a prefatory series of cryptic short takes — "journal entries," alien "folk tales," an ode on a Martian urn — ahead of the main text, and a map up front which exists there obviously just because fancy editions of some true SF classics have them. Thus, many books are sevens before you even read the first sentence. If that sentence is on the model 'Ynos Rotinom contemplated the *atsdilo*; behind him, rising in volume, came the chirping of *nortinirts*. "Roloc! Nollup ehubrit!" he declared in the hoary Artesian tongue,' deduct another point at once....

On that scale, Christopher Rowley's *The War Against Eternity* is a seven and three-eighths. It has a comprehensible title, and no glossary, but it has a compound map, and begins its

narrative in the middle of a whole bunch of running and jumping by persons who might or might not be human chousing about an ill-defined landscape for uncertain reasons while hollering incomprehensible slogans.

The text also starts with a poem supposedly written by an alien culture. Some of the words in the poem are in an alien language but the rest are in English. One may presume the translator did an incomplete job because he thought it would lend his work a certain *haut ton*. Author Rowley does provide footnoted English equivalences. Anybody who resorts to footnotes in place of textual clarity is skating on thin *eis*. \*

Now, I know there are readers who prize the SF tale with the enigmatic beginning. I am one of them. But I see a very great difference between sorts of enigma. There is the tightfisted enigma, as typified by the manner in which *The War Against Eternity* is cast, and there is the openhanded enigma. Take a book such as Barrington J. Bayley's *The Zen Gun*.

(You'd better take some book. We are through with all direct references to the content of Rowley's.)

*The Zen Gun* begins with Admiral Archier of Ten Fleet, come to collect taxes from a recalcitrant solar system on the fringe of the Galactic Empire. Admiral Archier has to bluff, despite

\*Am I inconsistent? Very well, then, *Je suis et j'y reste*.

possessing all the resources an Empire might indulge upon this one of its at least ten Fleets. Why?

His pig of an armaments officer wants to blast the parsimonious citizens to Kingdom Come. An example must be made: They must die if they will not meet the perfectly normal levy of musicians, writers, and other sorts of artists both compositional and performing, to the number of 3744, plus 2020 scientists. Why?

But before the situation can resolve, Archier receives a dispatch sending Ten Fleet to the Escoria Sector. Escoria is in active rebellion. Off Archier goes. As he goes, we learn, among other things, that his massive warship is crewed largely by children and animals (aside from the armaments officer, case in point, he also has a [reduced] elephant for an adjutant). Living aboard the ship are assorted passengers, including a troupe of Priapus' People. They all simply live aboard in their several thousands, pursuing their own lives, having no interest in the fleet's comings and goings, nor much contact with the crew, and partying continuously.

Why? Why? Why?

Ah, well, I'm not going to tell you; I recommend the pleasure of going to find out for yourself. Bayley has been careful to begin with a basically comprehensible situation and a comprehensible character, for all his starflung perspectives on the homely problems of taxgathering, and then step by step

he builds fresh wonders upon the expanding problem but makes each of them a comprehensible consequence of the last. We are being pulled into the story, and every one of these inviting enigmas is working to do that to (for) us. Every one of them turns out to be part of the story's necessary furnishings and, unlike made-up words or forced social situations, cannot instantly be replaced by some other arbitrary feature of drop-forge creativity. Bayley's is not a perfect book — we may talk more about specific features of this good book in a little while — but it is clearly a book in which each piece had to be fitted to every other piece, like a properly made cabinet.

Now, before we get too far overboard, none of this is a reflection of how hard the respective authors actually thought and worked. For one thing, I have no idea of the objective truth of that matter.

For the other thing, it seems plain to me that Rowley sweated more. And that may be his problem; there is about his work the honest tang of much rationality laboriously devoted.

Historically in the storytelling trade, you get no points for homework as homework. Homework is of paramount importance, but its purpose is to enable you to make the difficult look effortless. The tightfisted enigma — the enigma created by opening with too many made-up words and a bewildering social situation — is in effect a series of grunts. The openhanded

enigma, conversely, as typified by Bayley is tantamount to stepping up to the audience in your cape, top hat and cane. You flourish your hands: See, I have nothing up my sleeves, you say; the audience grins and signs the contract. It will pretend for you that you have nothing up your sleeves. Then we all ooh and ah as you insouciantly produce a series of doves and bouquets. Those are proof we can now trust your competence at the serious work of sawing the lady in half. You have engaged our cooperation and validated our trust each step of the way.

Now, note something important: In both cases, the author is actually in charge of all the components, presumably spent quite some time backstage getting them stacked in the desired order, and then stepped forward through the curtains and began dealing them out one by one until the trick was complete. Most members of the audience are well aware that this sort of thing happens every time. But the Rowley-type book, and Rowley, are continuous in clutching the parts to their chest and saying 'This is my trick and I will play it; your role is to appreciate it.' What this might then readily seem to be — this distancing — is churlish. People may, by a stretch of their good will, admire some aspects of a churl's inventiveness. But it seems unlikely they will join one in play.

God sees but waits. In an instance of seeming good fortune for authors of badly constructed stories, one man's

churl is not necessarily everyone's churl to the same degree. So, provided other aspects of the story are powerful enough, some readers will go along. Not as many as might have. Certainly not as many as have gone along with such legendary masters of the reader-capturing openhanded story as Asimov, Clarke, Heinlein or Herbert. But some; there are a lot of people making a (scrappy) living from books that remind readers of good books by other people. And in today's market, that may be enough to satisfy the publisher and writer long enough for both of them to produce the next flawed book.

Unfortunately for readers, what that means is that while theoretically there are a lot of would-be storytellers out there who ought to be driven to refine their grasp of storytelling, what we may instead be getting in practice is writers who have accommodated-down their aspirations. And to some extent, this phenomenon may influence some writers whose instincts are normally more acute. Looking at a mediocre standard, they too may for various reasons not deliver as good a product as they are equipped by nature to do.

Some day, there will be a reckoning for this. Not one fatal to the field, but sufficiently acute to upset scores of careers. As usual at such times, the editors and publishers will blame the writers, and the writers, editors and publishers will blame the readers, who



will blame them back. Take comfort from knowing each of us will be one hundred per cent right.

Getting back to *The Zen Gun*, there are slight shortcomings in this book as a story which may eventually diminish your enjoyment. Pulling the reader in is not the whole requirement, and there are then various ways to keep the reader engrossed while the middle winds up toward the end. Bayley has some sort of clock running; at rhythmic intervals, he introduces fresh characters and plot-complications, more or less *a la* van Vogt. This device propels the story very nicely, but the reckoning for this comes when you start to wrap it all up at the climax and find the stage crowded with extra characters and unresolved sub-plots that have to be taken care of if you are going to go on claiming you have told an entire story.

Bayley handles this classic problem rather well; the book is on my short list for the Philip K. Dick Memorial Award as the best American original paperback of 1983.\* But some readers are apt to be put off by the wholesale slaughters and rather short shrifts sometimes required to get out a clock-timed plot before the manuscript runs out of pages. I do want to commend Bayley, though, on as good a set of adventure characters, placed in the con-

text of as good an adventure premise, as I've seen in a very long time. I also award a point to Bayley for the character of Vargo Gridban, a sapiently wicked multiple homage that shines among the many other twinkles of creative intellect displayed here.

But even Jove nods, and so must DAW: P. 125: "...unpeeled her uniform...." Really?

The problem with *The Second Book of Swords* is that it won't and yet at first will stand apart from last year's *First Book*. Fred Saberhagen begins it as if it were a totally freestanding volume, and keeps it going that way for quite some time. It hardly butts-up at all against the previous volume, whose climactic events never do come back from over the horizon of this one.

Read that way, *The Second Book* develops certain momentums in the characters and the trend of plot-line events. These prove to be to some degree false, because eventually you realize with dismay that you're expected to recall fine detail from the previous book. I think Saberhagen has left that realization too late; the reader has started to write another book.

You may remember I took exception to the abrupt breakoff of events in *First Book*, and chided — well, no, I popped Tor Books a good one — for promulgating a particularly egregious case of the current rage for making multivolume books occur whether or not the narrative actually

\*Thanks in part to Bruce Sterling, who wrote me about it.

supports such a marketing tactic. In conversation with Tor's publisher, Tom Doherty, at the 1983 World Fantasy Convention, I was assured the books were coming out exactly as Fred was writing them.

That's too bad. Once again, we have a picturesque narrative full of outstanding scenes, including a horripilating trek through the underworld, battle with the armies of the living dead, the slaying of a god, and lots of other good stuff in aid of eventually assembling all the magic swords in one bundle. And once again the effect of this abbreviated chunk of what may someday be a glorious mosaic is a disarmingly tightfisted one.

Tor, incidentally, is in effect creating an editorial board, of some very sharp people, to recruit new books and authors into its line now that Jim Baen has moved to Pocket. I look forward to the results with considerable interest. Tor came a very long way in a short time when it got into SF publishing, and now is a solidly established imprint accustomed to ingenuity and imagination. That's the right kind of momentum.

A kugel, as many Eastern Europeans know, is by rights a cannonball or a ball bearing (cf. 'kegler'). But in fact as many a permanently distended abdomen can testify, it is a big potato dumpling. In genteel households, it is normally dressed with a ladleful of bacon grease. When you're talking

stick-to-your-ribs cookery, here is the last word.

One thinks of this in contemplating the picaresque adventures limned by Jack Vance in *Cugel's Saga*, sequel to the long-ago *The Eyes of the Overworld* and sequel as well to his first novel, *The Dying Earth*. Cugel the Clever has for my money been characterized in that word. He is unprepossessing to look at, he is hard to swallow, but it turns out he has a certain staying power.

Of course, none of the three books is a novel; they're short-story collections set on a far-future Earth where science and magic are indistinguishable, and it wasn't until the middle book that Cugel became apparent.

The feel of the story collection is very much present in what I guess is now a completed series ... you never know with Vance. Any given "chapter" of *Saga* is apt to recapitulate the previous one in its opening paragraph. Sometimes it even seems to reinterpret it, as if the author were not in full grasp of matters in a story written years ago. Perhaps that is the case. In any event, Cugel takes the entire book getting back to Almeria from the far-distant land where Luconnu, the Laughing Magician, has dumped him. And in due course, Luconnu is brought to a pass such that he might well have wondered why he dumped Cugel particularly there, of all places on the wide world.

In the meantime, Vance holds and

holds you with various devices while you are gradually coming to know and appreciate his unlovable hero. The device most used, I take note, is that there's never a moment's doubt as to what motivates any of the people involved. What motivates them, nobly and/or meanly, is what lies at the very heart of the adventure tale ... ie., the drive for personal aggrandizement, base or lofty, sanctified or not, but always intensely personal, and always grand.

And by that measure, Tim Power's *The Anubis Gates* is a far more intense adventure novel than most. But there is more to storytelling than just running after the maguffin — as Vance, Saberhagen and Bayley have already

demonstrated. Newish talent Powers knows that, too, and can handle it. In fact, of all the books talked about here, this one by some margin exhibits the best all-of-a-piece storytelling, and it, too, is a 1983 American original paperback.

What's in it? Here's what Ace Books' news release lists:

Lord Byron, murderous "apes" living in London's sewers, Egyptian sorcerers, 479 Mameluke beys, pickled pigs feet, "Dog-Faced Joe," Samuel Taylor Coleridge, a band of gypsies, the Gods of the Dead and a 20th-Century expert on Romantic poetry.

Allowing for certain news-releasey approximations, that is an accurate if incomplete roster. What's it about?

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From the same source:

1802 — Egypt's last sorcerers, desperate to free their ancient empire from British colonial rule, invoke a ghastly magic that pokes holes in the fabric of Time.

1810 — A hideous madman gathers an army of beggars in the ruined sewers and cellars of London.

1983 — Led by an eccentric billionaire, a group of literary voyeurs enter a temporal time gap to attend a Sunday afternoon lecture given by Coleridge.

Now what more, I ask, could one ask? Powers supplies it, almost whatever it is, because he supplies the one thing the reader has to have — and never more needfully than in a time-

travel story. He supplies room for the reader to participate; to delve into each clearly-delineated wonder, to turn it over in his or her own mind with full confidence that the author has honestly drawn the lineaments of the whole scene being presented. He invites the reader to interplay. Once that is done by a story, the story can't lose; the author and the reader have become collaborators, and what reader would knock her or his own work?

Of course, in order to do that with a story containing so many various elements, you have to be very good at what you're doing. Powers, previously the author of *The Drawing of the Dark*, now very much the author of *The Anubis Gates*, will do.

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# Me and the Devil

BY  
RON GOULART

**T**his isn't about making a pact with Satan.

Alex Kellaway never claimed to be the devil or even one of his emissaries. He was nothing more, Kellaway always maintained, than a crack literary agent who used unorthodox methods.

*Me and the Devil* was the title of a barely passable occult novel by Junior Harmon that was rejected by eleven paperback houses in Manhattan in the space of nine weeks. A record even for the failure-prone Harmon. When the novel proposal, tattered and coffee-stained long since, was returned to him by the eleventh house — with an insulting note from the fresh-out-of-college associate editor saying it was god-awful, and inquiring, further, why a worn-down hack who was pushing fifty still signed himself "Junior" — Harmon decided to seek out an agent.

He'd been peddling his own stories,

articles, and books for the last three years, ever since his then agent had leaped to her death from her fifth-floor offices in the East 60s. Although there'd been a half-read proposal of Harmon's on her desk, he attributed her plunge to economic woes.

The past few months he'd been hearing good things about a relatively new literary agent named Alex Kellaway. Kellaway didn't exactly conduct his business in a style that impressed Junior favorably, though. There were, for instance, ads in all the writers' magazine. ANY SCHMUCK CAN SELL WHAT HE WRITES! a typical headline proclaimed. LET KELLAWAY PUT SOME MAGIC IN YOUR CAREER! Another, accompanied by a grainy photo of the pudgy Kellaway holding up fists full of cash, blared MAKE BUCKS AS A WRITER! For the unpublished author there was a modest reading fee; for pros like Harmon,

there was only a commission charged.

"Let's get that straight right off," Kellaway said to him on his initial visit. "I take 20 percent of all your dough."

"20 percent? The standard comm—"

"I don't do a standard job, kiddo."

Kellaway in the flesh was not impressive. He was even fatter than his photos suggested, somewhere in his forties, clad in a rumpled brown suit that dated back to the late 1950s. His tie, which had several blackish splotches, was decorated with an enormous flock of geese going south. And no matter when you encountered him, he always looked as though he hadn't shaved since yesterday.

"Well, I have heard good things about the—"

"Before we go any further," cut in Kellaway, holding up a pudgy hand. "Let me check something, Junior."

Reaching into his worn briefcase, Harmon said, "I brought a list of all my publish—"

"I already know all that crap." With a grunt, Kellaway opened a low drawer of his claw-footed wooden desk. He produced a milky, slightly greasy crystal ball and plopped it down in a small clear space amidst the clutter on his desk. "We need to take a gander into the future."

Harmon sat up in his lopsided chair. "The future?"

"Button your bazoo for a while," suggested the agent.

Harmon dropped his briefcase back onto the faded carpet and glanced around the room. It didn't exactly reek of success. The office was small and the ceiling so low it gave you the impression it was slowly descending to crush you. The solitary window was smeared with soot and gave a view of a stone wall the color of a starless midnight. Bookshelves lined one wall, but they held few books. Instead, there were small stuffed animals, old brass candlesticks, strings of gaudy glass beads, three human skulls, framed photos of faded people from the last century, little lacquered boxes, and a few odd knives.

"Ommmmmmmmmm," Kellaway was droning, both fat hands stroking the crystal ball.

Clearing his throat, Harmon glanced over his shoulder at the door out. "Maybe I made a mistake in—"

"Shut your yap." Kellaway continued to fondle the crystal. "Draw back thy curtain, O Time. Huh ... here she comes ... a hundred thousand smackers a year. Not bad. I'll make a neat twenty thou on that. Yeah, not a bad take for a schlep like you, Junior."

Blinking, Harmon inquired, "You see \$100,000 income in there for me?"

"I see \$80,000 for you and \$20,000 for yours truly."

"Listen, I've been freelancing since—"

"Nineteen sixty-four, when your first wife dumped you and her pappy fired you as manager of his shoestore

in Queens," said the fat agent. "Feldman's Shoetree. What a dimwit name. You've never earned more than \$17,000 in any given year since then. Which isn't surprising, considering your talent."

Harmon got to his feet. "Wait now, if you think I'm lousy, why do you—"

"What the hell does lousy have to do with it? Have you read Lobo Sardinian's new thriller, *The Dickensheet Interface*? Six hundred forty-two pages of crapola, but I got the simp \$400,000 from Pillar Books for the frapping paperback rights. That's not bad money for these troubled times, Junior."

"If writing ability doesn't mean any—"

"Magic is what does it." The agent grinned.

"You mean your gifts as a salesman and—"

"Naw, I mean sorcery and witchcraft," said Kellaway impatiently. "Haven't you ever perused the *New York Times* bestseller list of a Sunday and wondered how a book about how to make your backside lovelier could be the hottest tome in the whole flapping country? Or how a novel about a homosexual midget could sell to the movies for a million five? Witchcraft and magic. Simple. And I'm far from the only literary agent working this angle, kiddo."

"Yeah, but I'm a good writer," protested Harmon. "Any success I've had has been because people like what I do and—"

Kellaway made a loud raspberry noise. "Bushwa," he said. "I can take any dimwit off the street and make him or her into a successful author. Well, no, not every single dimwit." He tapped the crystal with his plump forefinger. "I've never exactly figured this out, but I can work the trick only with certain—"

His phone rang.

"Miss DeBeck, I told you I didn't want to be bothered," he snarled into the receiver. "I'm in the midst of an import— ... Ah? You've tracked the rotten little deadbeat to his scummy lair, eh? Good, good, put him on." Kellaway gave Harmon a wink. "Giford? What? You'll have to whine a little louder, I can't ... That's better. O.K., Giffy, why haven't I been paid for the writing lesson in five long months? Leg braces for your ... No, no, Giford. That won't wash. Kellaway has to come first with you. Now listen to me, Giford, you're blind in one eye now, right? O.K., schlep, you've got until Friday to get that \$220 to me or—" Kellaway took the phone away from his ear for a second, wincing. "Giford, how many times have I told you not to do those agonized screams so close to the phone? O.K., I accept your apology. Send me the money or go blind. 'Bye." He hung up and chuckled. "Who owes you money, Junior?"

Swallowing, Harmon said, "Well, as a matter of fact, I haven't been able to get some \$480 that Hightower Magazines has owed me for some ar-

ticles I did for their girlie magazines. One, in *Snatch* two months ago, about foot fetishes around the world, is supposed to pay \$175 and—"

"Miss DeBeck, get that swine Mo Hightower on the horn," Kellaway said into the phone as he began to poke down in another desk drawer. "We do a lot of business with that ganef, Junior, so I already have a doll for him."

"Doll?"

"Voodoo doll." Kellaway dropped a six-inch-high wax figure next to the crystal ball. The figure was chubby, bald, wearing a double-breasted gray suit. "Mo, is that you? Fine, and yourself? Mo, I'm representing Junior Harmon. Yes, I agree he certainly is a gifted young writer. And you owe the schlep \$580, you moneygrubbing toad."

"Four hundred eighty," corrected Harmon in a quiet voice.

"What, Mo? Your accountant's sick and your computer's down. Remember when you owed Mitch Jazzminski \$160?" Kellaway was poking around amid the piles of papers on his desk top. To Harmon he mouthed, "Got a straight pin?"

"No, I—"

"Never mind. I'll use this ballpoint pen.... Mo, you still there? O.K., this is going into your tummy." He jabbed at the wax figure with the tip of the silvery pen. "Sure, it hurts. Remember the last time? This is going to be much worse, because there's a larger sum of

money involved. After the stomach-ache we'll try your crotch, Mo, and then ... What? O.K., but a *certified* check. Sent over by *messenger*, Mo. Thanks, 'bye." Hanging up, he put the doll carefully away.

"How'd you—"

"Magic." Kellaway rubbed the tip of the pen. "Voodoo in this case. I have an eclectic approach to agenting, Junior. You'll find me using voodoo, witchcraft, Satanism ... whatever's best for my clients."

"Hightower's really going to send the money right over?"

"Of course, he's no sap. After that coronary I gave him two years ago, he doesn't mess around. That was for \$1,500 he owed us on a serialization for *Nipples*."

"This is impressive, but—"

"Sure, the unorthodox takes a little getting used to." Kellaway leaned back, stroked his stubbly chins. "How'd you like to sell *Me and the Devil* to 4Most Paperbacks for \$5,000?"

"They've already bounced it."

"Leave me a copy of the proposal, one of the ones you have in that tacky briefcase."

"How'd you know I had—"

"On the simpler sales and collection problems, I can go it alone," the agent continued. "With novels and bigger advances, you have to cooperate."

"You mean lunch with the editor or—"

"No, no, stay away from that bitch



at 4Most." Kellaway closed his puffy eyelids for a few seconds. "Yes, here's what you have to do. Sleep in a graveyard."

"Beg pardon?"

"Graveyard," repeated Kellaway, a shade impatient. "Sleep in one. From midnight tonight to dawn tomorrow. Be sure your frapping head points north."

"What's that got to do with selling—"

"Trust me," cut in Kellaway. "For an agent-author relationship to work well there must be mutual trust. Right?"

"I suppose, sure, but where would I find a graveyard in—"

"There's one, a nice eighteenth-century relic, about six blocks from that hovel you live in in the Village, Junior. Attached to the Church of St. Norbert the Divine."

"Won't they chase me away if—"

"Do you want to sell this damn book or not?"

"Yes, since it's the best idea I've come up with in a long time. Still, though—"

"Sleep. Graveyard. Midnight to dawn." He rose. "Do you want your 80 percent of that \$580 today?"

"It would help with an alimony payment I'm behind on."

"Sit out in the reception room with Miss DeBeck until it arrives," said Kellaway. "She'll write you a check for \$464 soon as the messenger comes tottering in." He held out his right hand.

"We're going to have a fruitful relationship, Junior."

**T**he night in the cemetery wasn't as bad as Harmon had anticipated. He actually managed to sleep for nearly four hours, and when he awoke, although he discovered someone had swiped his shoes right off his feet, he didn't feel all that bad. Four days later, Kellaway phoned to inform him that *Me and the Devil* had been sold to 4Most for \$7,500. Harmon was elated, and his reservations about the agent — most of them — vanished. It looked like Kellaway was going to be the most effective agent he'd ever had.

As he worked away on completing the occult novel, which had been sold on the basis of three lackluster chapters and a muddled outline, Harmon's social life began to change. At the annual banquet of the Foot Writers of America, less than two months after joining up with Kellaway, he met an absolutely stunning fashion model named Pert Rainey. She was slim, blonde, twenty-seven, and she professed to be a great fan of his. Harmon's article on famous feet of yesteryear, which had run in a health-oriented girlie magazine called *Vegetarian Tits*, was up for a Big Toe Award, and Pert had sought out Harmon to inform him she was rooting for him to win.

"I just dote on your work, Mr. Harmon, and this is a real thrill meeting

you in person, especially as you don't look anywhere near as runty as you do in the author's photo on your last hardcover book."

"You read that?" He'd done only two hardcover books in his life; the last had come out six years ago.

"I'm honestly surprised it wasn't on the bestseller list." The lovely blonde squeezed his arm fondly. "The minute I saw the title, *A Picture History of Shoes*, I knew I was going to love it. And not just because I'm a shoe model by profession. I mean, your prose style is absolutely breathtaking, and furthermore...."

She went on to tell him she'd read all five of his Powdersmoke Kid adult Westerns for Runt Books, three out of the four Lady from B.O.S.O.M. novels he'd done for Rooster Books in the early 1970s, and even his latest historical, *The Lusty Duchess*. That very night, although Harmon lost out on the Big Toe, he spent the night with Pert in her impressive Central Park West penthouse apartment.

Kellaway called him there the next morning at a few minutes after nine. "You off your ox, Junior?" he inquired.

"How'd you know I was—"

"How's Pert in the sack? Does she grab as much as she does when she's upright?"

"Whoa now, Kellaway. There's no way you could've known I was going to—"

"Before noon go into a church and

light six black candles while reciting the Lord's Prayer in Latin backward."

"Hum? They don't have black candles in church or—"

"You have to bring the candles yourself, dimwit. And don't let the priests catch you."

"Why am I supposed to—"

"It's to cinch the romance. See, like I told you, Junior, you've got to play a role. Sometimes before the fact, sometimes after. In this case—"

"You're trying to tell me Pert fell instantly in love me because of some damn magic spell?" He glanced anxiously at the door of the bedroom the lovely girl had returned to after summoning him to the phone.

"Would a rational woman, even a half-wit like Pert, fall for you otherwise?"

"I was married twice, after all."

"Did they look like Pert?"

"Well, not exactly ... but she's read all my books. She told me."

"She only thinks she has."

"C'mon, she can quote—"

"Have you ever before, anywhere, met a human being who admitted to reading a single Lady from B.O.S.O.M. novel?"

"No, not yet—"

"Go light the candles. Get hold of a Latin version of the Lord's Prayer. Backward, remember?"

"Kellaway, it's not right or honest to have somebody sleeping with me if it's only because of some dark supernatural trick you—"

"She's a better lay than your wives?"

"Sure, I guess so, but—"

"Come into my office at eleven on Monday morning. I've got a new deal cooking for you."

Harmon sat with the phone resting on his naked lap for several minutes. Then he went and lit the candles.

Cinching the three-book deal for a new series of macho Westerns wasn't that difficult, even though the Western market had supposedly gone soft. Harmon did feel a trace silly putting on the long black robe with the golden moons and planets on it and reciting pages of Chinese while standing on Kellaway's desk with Miss DeBeck playing the bongos and the fat agent setting off sticks of sulfur. It worked, though, and Harmon was to get \$10,000 per novel. The very editor who'd once made fun of his name took him to lunch the day the contracts were signed. Lunch at a restaurant where the entrees started at \$17.95. A far cry from the usual editorial lunches he'd had, at delis and Chinese carry-out joints. Success was coming his way at last.

Pert continued to adore him. When Harmon left his dingy rooms in Greenwich Village for a six-room apartment on East 73rd, the lovely blonde moved in with him.

*Me and the Devil* was published just before Christmas and did fairly well. Harmon got favorable reviews, was invited to be on local talk shows,

and there was even an autographing party at a bookshop in Yonkers.

He would have coasted along, enjoying his enlarged income and the stunning Pert, turning out the three Westerns at a leisurely pace of one every couple of months. But Kellaway wasn't one for resting on the oars.

"You ought to have some stories in *Playpen* and *Houseboy*," he told Harmon on a bleak December afternoon while gray snow hit at his smeary office window.

"They're not very high on foot-oriented nonfiction over at either of those—"

"Fiction, kiddo. I am talking about short fiction in the manner of Roald Dahl and Harlan Ellison. Bright, witty stuff with a lot of razzle-dazzle prose. I'll get you \$3,000 per yarn."

"I suppose I could try a—"

"First buy a chicken."

"Hum?"

"A chicken." Kellaway flapped his elbows and clucked a few times. "There's a poultry shop over on Second Avenue near your new place that sells 'em live."

"I don't want a live chicken, Alex. I can't have pets in the apartment, and even if I could, I'd lean more toward goldfish or—"

"Buy a live chicken. A black one, if you can," the hefty agent instructed him. "Take it to Central Park tonight at midnight. Slit its throat."

Harmon popped up out of his

chair. "I don't really have to sell to *Playpen*, ever."

"Yeah, you do." Kellaway's left eye narrowed. "It's important for your career plan."

"Why can't I write the stories first? That'll take me a month or more. Then we can talk about the chicken again."

Kellaway shook his head. "Chicken first. Then write."

"How come?"

"Listen, schlep, I don't make up these frapping spells," explained the annoyed Kellaway. "The ancient book of black magic I'm using on this particular problem specifies—"

"How does an ancient book know anything about *Playpen* and *Houseboy*?"

"Actually, the original spell is for selling a five-act tragedy to the Globe Theatre in Elizabethan England, but the principle's the same," Kellaway told him. "That's the good thing about magic. Dependability."

Harmon killed the chicken.

**W**hen the first of his new Westerns came out the following spring, it was optioned by Paragon-Mecca Films immediately for \$15,000.

"That'll be six chickens," Kellaway informed him when he announced the sale. "Tonight at midnight, also in the park."

"Can't we use a different sort of spell? With that last chicken I almost got frostbite, and I was nearly mugged,

and a gay nighttime jogger tried to—"

"Six chickens. Be nice if one of 'em was a red rooster."

Harmon killed the chickens.

"The Book-of-the-Month Club?" Pert clapped her pretty hands together and smiled across the white table at him.

They were dining at a French restaurant where the appetizers commenced at \$17.95.

"I don't know," said Harmon forlornly.

"But, Junior, it's basically wonderful. How many other adult Western paperbacks get picked as the Main Selection of the BOMC?"

"I have to kill a goat," he said in a low voice.

The candlelight made her golden hair sparkle as she shook her lovely head sympathetically. "Just one?"

"One is plenty, Pert."

"In the park again, same as the chickens?"

He nodded. "By midnight tonight."

She sighed. "Do you have the goat yet?"

"Miss DeBeck's bringing it around in her van at eleven."

After a moment, Pert said, "It is the Book-of-the-Month Club, Junior."

Harmon killed the goat.

A morose robin was perched on Kellaway's drab windowsill.

"Can you write a thriller in the Lobo Sardinian manner?" Kellaway

asked Harmon. "Something like *The Eisenberg Runaround* or *The Hickenlooper Bypass* or *The Hungerford Gambit*?"

"Sure," answered Harmon. "Soon as I finish my third Western I'll whip up a proposal."

"Sooner."

"Well, when exactly?"

"Sardinian's hardcover publisher, Dragoman & Brothers, wants something by late fall."

"Why can't Sardinian write it?"

"He'll be dead before then." The agent tapped his ample chest. "Heart."

"That's awful. I just saw Lobo at the last Suspense Writers of America cocktail party a few weeks ago, and he looked chipper and fit."

"Lobo doesn't know about it."

"Then how do you ... Oh."

"To guarantee a \$75,000 advance, Junior, requires a very heavy spell and lots of ritual."

"Such as?"

"We'll need a human sacrifice."

"No!" Harmon leaped up, shaking. "No, nope, not at all."

Making a take-it-easy motion with his left hand, the agent said, "Look, schmuck, we don't need anybody special on this one. Any sort of human sacrifice will do. A Bowery bum'll be fine."

"A chicken, I went along with, and even a goat. But not people, Alex."

"A bum, I said," said Kellaway. "They got hundreds of 'em down there. You go down there tonight, pick

out a likely deadbeat, and kill him. They got 'em sprawled in every alley. Use something like a carving knife and ... zip! No problem."

"I can't do that."

"How's your wisdom tooth?"

"What the hell does that have to do with this?"

"Had a pretty bad toothache last night, didn't you? From about 11:30 until almost 2 A.M."

"I hurt it on a chunk of lobster tail at ... wait." He put the chair between himself and his agent. "Are you hinting you caused that toothache?"

"Only schmucks hint. I did cause it, kiddo." Kellaway smiled up at him. "Tonight it'll be a migraine."

Harmon started to walk toward the desk. "Do you have a wax figure of me?"

"I don't keep it here. None of my clients are here."

Harmon halted. "I've had migraines before."

Kellaway chuckled. "Not like this one."

"I won't do it."

He held out until nearly midnight.

Then Harmon went and killed the bum.

**H**is thriller was published in early spring and did fairly well. The reviews were cordial if not excited. The novel didn't make it to the bestseller lists, though it made Harmon quite a bit of money.

A week later the official publication date, he and Pert flew to the small, idyllic Caribbean island of San Norberto. They rented a private villa on a tranquil stretch of private beach.

He was sleeping pretty well again these days. He was gaining weight and could eat three meals a day without gagging or throwing up. He hardly ever had the screaming nightmares anymore. He had never told Pert about what he'd done down in the Bowery that night.

The blonde, wearing only the bottom part of a crimson bikini, was down at the edge of the incredibly blue

water, and Harmon was watching her from the green-shaded terrace of the villa when the phone on the glass-top table next to his lounging chair rang.

"Hello?"

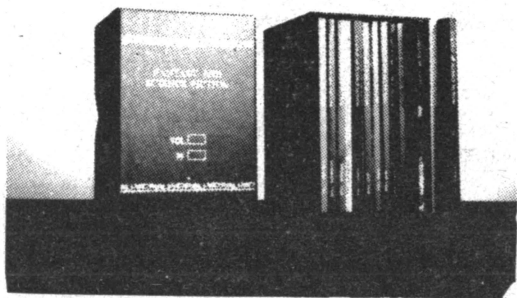
"How goes it, Junior? Soaking up the sun, heh?"

"Things are fine, Alex."

"I've been thinking," said his agent. "Your thriller is doing O.K."

"Yes, it is."

"But I think it's time for you to go for the big one," said Kellaway. "What we want next is a guaranteed best seller."



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Chet Williamson wrote "A Scent of the Soul" (August 1983) and contributes this month's cover story, which he says was sparked "when I saw (in a film) a hideous old horse, a dead ringer for Cervantes' Rosinante, and wondered what Don Quixote might have been like through the horse's point of view."

# Rosinante

BY

CHET WILLIAMSON

**R**osinante. That is what he calls me. When I first asked him why, he told me it was because I reminded him of Rosinante. I have read *Don Quixote*, and he knows I have, so I understood, as he intended I should.

Rosinante. He is right. My body is long and lanky, my neck a swaying stem on which rests my ovoid head and face. It is not a pretty face. In fact, one might think it equine. The nose is long and bulbous, the jaw hangs. The eyes droop, and there are bags below them, grayish blue in color. The skin is loose, and burnished by cell death to a chestnut brown, like the subtly gleaming flanks of a horse.

Like the horse Rosinante. Don Quixote's horse, a bag of sharp bones held together by stringy muscle and mangy hide. When I think of Rosinante, I think of flies and a lazily swishing tail. But I am clean, and there are no

flies in space.

I wish sometimes that he would not call me Rosinante, that my appearance did not cause him to make that literary link. I wish sometimes I were more like Dulcinea. But I should not wish that. It is not intended for me to wish that. I think perhaps there is something wrong with my thinking, that the errors in cellular mix that discolored my skin may also have affected my mental processes.

Whatever the reason, Dulcinea I would be. But he already has his Dulcinea. That is the name he gave her as she stepped naked and glowing from the tank. It was only after he had mixed Dulcinea that he called me Rosinante. But I feel no dislike toward her. How could I when she is so kind, so perfect, so loving, not only to him, but to myself and Sancho, too. That is her purpose on board the ship, to serve in her way as I serve in mine, as Sancho

serves in his, to serve Don. For he is human.

He is not unkind to me. Indeed, I think he likes me very much, as a man likes an old dog, as a mad knight liked his old horse. But *my* Don does not see me as a gallant charger. He sees me as the others saw Rosinante, with wry affection touched with kindly pity. At times I think he forgets what we are, and actually believes we are human, and not humanels, born from cell vats, fleshy computers programmed for living DNA. Oh, I know all. I have been programmed to know. I came into the ship knowing, trundling from my birth vat already knowledgeable as to who and what I was, and my purpose in the mission. I have learned since then, of course. I have read books on the computer, seen the tapes of Earth, learned the purpose of my existence beyond the knowledge that lay in my cells. The reason behind my existence, Sancho's, Dulcinea's, is quite intriguing, and I am fascinated by it in the way I suppose human children are stirred by the reasons behind their own creation. The tapes told me all.

Once humanity discovered the jump spots and produced the technology necessary to traverse them, the remaining problems confronting the first manned interstellar flight (I should say *mission* — this does not feel like what flight must feel like) were both physical and psychological. Physical in that minimal weight was essential, necessitating small crews to cut down

on both living space and food production; therefore, the smaller the crew the better. Psychological in that two to five people locked in a tiny environment for a fifteen-year period would prove intolerable to one another. The projection was that they would destroy each other in less than two years.

The solution grew out of the recombinant DNA experiments of the eighties — humanels, pseudohumans who could be produced in small vats whenever the sole astronaut desired. They would be preprogrammed, non-aggressive creatures whose only purpose would be to serve. The necessary ingredients were stored in a space less than a meter square, and food production equipment was reduced to that sufficient to feed the single human astronaut, since humanels function through a closed drip system.

Don and the team selected three humanels to accompany him: a female companion, a technician/mechanic, a domestic/mechanic. Sancho was formed first, three months out from Earth. I was second, five months out. Don erred slightly in the mix, and the forming process went several minutes too long, making me the less-than-perfect creature whose appearance would later earn me the good-humored sobriquet of Rosinante.

Such was my nativity.

I am four years old, as humans account such things, four years spent in this huge metal den. I say huge, yet the



living area itself is quite small, consisting of the galley (where I spend much of my time); the toilet (used only by Don); the leisure quarters (two three-meter-square rooms); and the sleepdeck, with bunks for the three humanels and a sleep chamber for Don. For Don and Dulcinea really, as they sleep together most nights. Again, I say "nights," though it is always night here. We function in ten-hour periods — ten hours of rest, ten hours of activity, although often the activity consists merely of sitting and playing games with the others, or watching the blackness of space sweep past without end. Although humanels need no sleep, we sleep anyway, as Don finds it difficult to sleep with anyone else awake.

Once or twice I think I have actually dreamed, as I understand dreams to be. The one time it seemed as though I were on what must have been Earth. The place was green all around, and there was water lying in lakes and running in streams, and I saw Don far away over the greenness and the waters, and I ran to him through the waters, but no matter how fast I ran, he never grew nearer — and then I stopped dreaming, if that is what I was doing at all, and I was in the ship again in my bunk, and Don was with Dulcinea.

If that is what Earth was truly like, I do not know if I will care for it when we return. There is a safety here in the ship, and the openness I felt in the dream was frightening. Perhaps if Don

were there, I should not be as frightened. I have many more years to conquer my fear. It will take another three and a half years to reach our destination, and then another eight years to return when the mission is completed. Perhaps when I speak like this again I will be anxious for the openness of Earth. It is strange. Although we are as in a closet in infinity, it is the closet that symbolizes home to me, and not the never-ending space all around us.

I have nothing more to say now. Perhaps later, when I have more to tell, I will record my thoughts upon the living cells of my body. Perhaps I am programmed to so report when it becomes essential. This I do not know. But if only one cell of my body returns to Earth, those who developed me may hear these thoughts as words to aid them in developing future humanels. I hope they will continue, for whether I am programmed to feel this way or not, I am glad that I exist.

**T**he mission is over, the data are gathered, and we are on our way back to Earth. These are the good things. The bad thing — the very bad thing — is that Dulcinea has ceased to exist. I do not say "Died," for do humanels truly ever live? I think of it more as functioning. Perhaps existing. Whatever the word, whatever the action, Dulcinea is no longer moving or existing on board this ship. It happened only several time periods ago. Don is fair-

ly sure it had something to do with her drip system, and has performed full examinations on Sancho and myself, but has found nothing amiss.

A few hours before it happened, she looked as if she might be on the verge of malfunction, and Don adjusted her fluid drip. I noticed as he did so that he looked very concerned. Her malfunction occurred in the middle of a sleep period, and Sancho and I were awakened by Don's cries of alarm. We opened his chamber door and found him spitting large masses of partially digested food in what seemed to be an involuntary action, an action that I have since learned is called regurgitation. Partly on the bed beside him and partly on the floor were the remains of Dulcinea. The malfunction had reverted her to her primal form, so she appeared as she was before she stepped from the tanks. I could see by the color of the matter that cell death had occurred in at least 70 percent of what remained. Although humanels have a very underdeveloped olfactory sense compared to humans, the odor was so strong that I sensed it clearly. The ship is so free of odor that I have nothing with which to compare it, but it was not an aroma I would wish to know again.

Sancho took Don into the living quarters, and I began to correct the room. The vomitus and Dulcinea's remains I gathered and placed into the organic reclamation unit, something I should not have done, for Don was

furious when he learned of it. I felt sorry, but I had no idea it was wrong, and by then it was too late. Don's appetite decreased greatly over the next few days, and he looked at me bitterly when I served his meals, but after a time hunger overcame him and he ate. Whether he was able to forget that he was ingesting recycled portions of Dulcinea I do not know, but there was nothing harmful in the matter once it was recycled. Still, I feel very sad about the event, and it makes me realize more than ever how insensitive and alien I, and perhaps all humanels, must appear to humans. Don considered my action barbaric, while to me it was merely practical. I think he dislikes me now, and that makes me very sad. I hope his feelings will change.

Six months have passed since last I recorded my thoughts, and things have changed for the better. Don no longer regards me with the loathing he felt previously. Indeed, he smiles at me often, and encourages me to sit and talk with him, something he never did when Dulcinea existed. He seems to be testing me, asking very strange questions, as if trying to learn what I think about things, how I feel, how my emotions compare with those of humans. I have told him of the dream I had, and have had since, about running toward him over the waters of Earth. He smiles when I tell this, and makes me tell it over and over. The last time we spoke, he touched my hand after I told him

again about the dream, and he smiled. It was nice, and it made me feel good, but it also made me, just a little, afraid.

Two weeks later, and he has come to me in the sleep period. I found him beside my bunk, and he put a finger to his lips as if I should be silent, and asked me to follow him. We returned to his sleep chamber, and he had me sit on his bunk while he told me of a human male's needs, and asked me if I understood what he was saying. I told him I did. I said:

— You wish to mate with me.

He looked away from me for a moment, and I thought I may have been wrong. I felt a strange and horrible thing occur within me, as if my fluid drip had all rushed into my face and ears, and I began to apologize, but he stopped me.

— No, Rosie. You're right. I do want to mate with you. But I want you to understand why and under what conditions.

— You may impose any conditions you wish. I exist only to serve you in whatever way possible. I am biologically capable of mating with a human, so it is—

He stopped me with an upraised hand, then spoke again.

— All right, then. We will mate whenever I wish. You will say nothing of it to Sancho nor to me at other times.

I understood, and he mated with me then. It was good to feel him against

me, and I was sorry when he told me to go back to my bunk, but I obeyed immediately.

Back in my own bunk, I thought about what we had done together, and I realized then that I had in a small way taken Dulcinea's place. I know that I will never take it fully, that he will not hold me, nor speak to me the way he did to her, nor touch my face with his mouth as he always touched hers, but to have him mate with me is very nice. I suppose I feel what human women must feel when they are in love.

But no. To think that is presumption. I fill a need for Don. That is all. Imagine that. Old swaybacked sad-eyes Rosinante in love. I think that would sicken a human.

Rosinante in love.

Four months later. Don has had Sancho and me remove all mirrors and dull all reflective surfaces except for the small round glass with which he shaves his face. It was not a difficult job, for most of the surfaces of the ship's interior are brushed metal that reflects back only a hazy, unformed image, and he thought it unnecessary to treat them. Neither Sancho nor I asked why he wanted this done, though I at least was curious. But my place is to serve, not to know.

I have still been going to Don's chambers during sleep periods, infrequently at first, now every third period on the average. After the first time he mated with me, I did not return to his

chamber for twelve periods, and he treated me very differently from the way he had before. It seemed as if he were angry with me, but I could not imagine for what reason. I had done as he had asked, had not disobeyed, had not even taken anything for granted as I'd done when I'd recycled Dulcinea's remains. Then he beckoned me to his chamber again, and we mated once more. Afterward he lay there shaking, and in the dark I sensed a salt substance running from his eyes. Thinking it blood, I asked him if he wanted me to try to stanch the flow, but he refused and told me to return to my bunk. I have learned since that this runoff was tears, what humans shed when they sorrow. After I learned of this, I tried to make tears come by thinking of how sad Don must have been to shed them and how sad that made me, and I squeezed my eyes tightly. But no tears came. I do not think I am capable of making tears, and that thought makes me so sad as to yearn for them all the more.

I am changing. I noticed it first many periods ago, after Don remarked upon it after we had mated. We were lying there, and he turned the light on so that it was very dim, and looked at me. This surprised me, as it was the first time we had not lain together in total darkness, and I pulled the sheet up to cover myself and turned my face away from him, not wanting him to see me. But he said:

— No, Rosinante, turn over. Look at me.

I did, slowly, expecting him to turn away and dismiss me, but instead he looked at my face searchingly, so intently that I feared he had noticed an indication of malfunction, and that soon I should share the fate of Dulcinea. Then he reached out and touched my cheek very lightly, as if it were a piece of delicate circuitry he feared to damage.

— You look different somehow. Are you feeling all right?

— Yes. I feel fine.

— No loginess?

— Please?

— Tiredness? You have energy?

— Yes.

I did not know what to say, so as always, I apologized.

— I am sorry.

— No. Don't be sorry. It's not unpleasant. Just ... different somehow.

I looked away, not understanding the import of his gaze.

— Shall I leave you now?

He hesitated, and I saw doubt on his face.

— No. No, stay with me until I sleep.

I did, and when I heard his slow, regular breathing, I arose and returned to my bunk. I lay there naked, and began to touch my face, feeling its familiar grotesque contours to see if there was any tangible change, any physical support for Don's strange observation.

It seemed then as if, in the most minuscule way imaginable, my nose had receded in size. It was still long and bulbous, ending just at the edge of vast upper lip, but it now seemed narrower in girth, as if what had been a swelling was very slowly shrinking. I looked at my hands and at my body, but there were no visible changes there. The dark patches of dead cells still sat like islands on my flesh, my hands were still hooked, my limbs crooked and misshapen.

But I am changing. It has been perhaps eight months since Don first noticed, and the transitions that have occurred since have been, as Don says, remarkable. The brown patches have lightened and faded, until they now appear as what Don calls birthmarks, nearly unnoticeable stains that I am told many humans have. Indeed, Don has a small one halfway around his right hip. My nose has shrunk to a fraction of what it was. It is still large, but Don says it is smaller and more delicate than those of many human females. My skin has tightened considerably and is now loose only in a few places. My neck is no longer gawky, but what Don refers to as swanlike. My fingers are straight, my limbs smooth and rounded, my chin and jaw firm, and my eyes no longer wear those pouches of skin like tired sacks beneath.

I feel a touch of pride in my changing appearance, and this somehow dismays me, as I know from reading

many books on the computer tapes that beauty is only an outward manifestation, giving no indication of the goodness of soul within. Yet because I know that I have no soul, I cling to the outward changes as Don and Sancho cling to their cables on their EVAs. It is a little thing, but it is all one has.

The main reason I am glad for the change is the startling reversal in Don's attitude toward me. Before, when he lay with me, it seemed as if he truly hated what he was doing. But now he seems to enjoy my company and to take great pleasure in our mating, holding me tightly afterward and requiring me to stay beside him even after he falls asleep. It is lovely.

Of course, I mean it is lovely to be able to serve him as he wishes.

No. I lie. This bothers me, as I had thought I was incapable of deceit. Perhaps, then, I can lie to myself but not to others. I know that I could never lie to Don. I said that it was lovely. What I meant was that having him feel warmly toward me is lovely. Having him touch me so gently, as if wanting to give me something he cannot name is lovely. Feeling his human body close to mine, so close that we become one, is lovely.

I am wrenched apart by these feelings. They are forbidden to me, yet they exist. I do not understand. I am frightened.

What is greater than fear? Is panic what I feel? Emotions are so new, so

hard to name. They are to me what learning a new language must be like to a human. I think, though, that it is panic.

Don has told me that he loves me.

I have changed even more since I last recorded my thoughts. I am what Don now calls beautiful. My "birthmarks" have faded until they are little more than shadows of shadows. My nose is even smaller than Don's now, and he laughs about that. My mouth is straight, with full and soft lips, and Don kisses them often.

I *am* beautiful. I know. When he was sleeping I took his shaving mirror and looked into it.

I saw Dulcinea's face.

Adaptation. That is what I am convinced it must be. Unknown to those who bred me, unknown to Don, unknown to the preprogrammed group of cells that provides my brain function, there is in us humannels, I am convinced — I hope, I pray — a capability that allows us to adapt ourselves physically to the form the human we serve most requires. I had not adapted before because there was no need from Don for me to do so. My job was that of scullery maid, of dray horse, of funny old Rosinante.

But when Don's need for me became a mating need, when his wish was that I become Dulcinea, Dulcinea I did become.

My imagination, feeble as it is intended to be, finds this idea of adaptation fascinating yet chilling. If I would

cease to exist, would Sancho adapt into a female? If the food chain on board were interrupted, would I adapt into an edible beast of low intelligence so that Don need feel no compunction in feeding on me? It strikes me that whether these things would occur or not, those who developed humannels have gone beyond their wildest dreams by producing such utilitarian and ultimately adaptable creatures as myself.

But the emotions are an error. I am convinced of that. I was not purposed to feel the way I do about things. I have said that Don told me he loved me. Now I say that I love him as well. Everything in me knows that I should not feel this, but that knowledge is totally irrelevant. I do feel it, and other, more frightening things as well. I do love him, and I fear I have always.

— I love you, Rose.

That is what he said and what he called me, not as we lay together after mating, but as he stood behind me as I prepared a meal in the galley. My graceful long-fingered hands stopped moving over the foodstuffs, and I turned slowly with downcast eyes, not wanting to look at his face.

— Look at me, Rose. Please.

I did, and he looked like a giant against the universe, like a titan with the stars at his command; and in his eyes was a look that had been growing there for a long time, and I knew the look was for me. Then I felt such a huge joy fill me, such a triumph that every cell within me suddenly pulsed

and expanded with new life. And in the triumph was a small thought cutting like a scalpel:

I was glad Dulcinea had died.

I staggered a little at the blinding revelation of that tiny thought that turned my joy a deadly brown, and Don leaped forward to catch me, mistaking the reason for my stumble, and held me close to him.

My arms went around him and my frame shook, my entire physical system rattled by the knowledge that I was capable of an evil thought.

Only humans think thus, not humanel. And in humans, as I had learned, evil thoughts are often followed by evil deeds. Do I want this? Do I want humanity?

— You cannot love me, Don. It is not right.

— What I feel is right.

— But why? Why do you say you love me?

— Because you are beautiful, inside and out. Because you give me all you have. Because I love you.

— I am programmed to give.

— And I love you because you say that, whether it's true or not.

He knows what I am, and what I was. Yet he says he loves me. I should take the *now*, and serve him. I should say I love him, as this is what he wants to hear. I should forget the place to which this ship draws nearer every second, should forget Earth, where I am nothing more than a cellular freak, where human women wait for the hero

from the stars....

Oh evil, enter my Eden! I would be human!

I have had several new experiences. For the first time, I have felt pain. Before, when I would bump against a hard object, it would not hurt. There would be simply a feeling of contact. But two periods ago I hit my head on the bulkhead of the galley, and the sensation staggered me. I was alone at the time, and put my hand to my head. There was a small lump there, and when I took my hand away there was a red substance on my fingers. Without telling Don, I analyzed it in the lab and found it to have the same properties as human blood. Then I took a small knife and drew it across the back of my wrist. A thin red line appeared. A previous accidental cut years before had produced only a separation of skin tissue that exposed a yellow-gray mucous membrane beneath that healed over in a matter of seconds. As I sat watching the red liquid slowly overflow the thin valley of the wound, I heard a noise behind me. It was Don, staring transfixed at the cut on my wrist.

— Blood. Is it really blood, Don?

He knelt beside me and touched the liquid with the tip of a finger. Touched, then tasted.

— Yes, Rose. It's blood.

We both looked at the cut until the blood ceased and clotted, leaving a red

ragged scar on the olive skin. Don said it first.

— You're becoming human.

— But I can't. It's impossible.

— You became beautiful, and that was impossible.

— But I became beautiful because you *wanted* me beautiful!

— And now I want you human.

I couldn't answer, could only sit there looking at that accusing cut. Had I known, had I guessed that Don wanted me to become human? Or had this most recent, most agonizing revelation come from my *own* desires?

— Eat something.

I looked at Don. His face was excited, anxious.

— Go ahead, try to eat something, or drink something!

He left the lab and came back a minute later with a container of water from the galley. Handing it to me, he said

— Try and swallow it.

Having a closed nutritional system, I have never swallowed any sort of liquids or solids, and as curious as I was as to whether or not I could successfully do so, I found the idea distasteful. But I obeyed. I put the container to my lips, tilted it, and allowed the water to pour into my mouth.

I could not swallow. I had no idea how it was to be done, so I merely sat there, head back, holding the water in my mouth. I did not choke as a human might have. That mechanism did not seem to function at all. Finally, I

brought my head down and spat the water back into the container.

— There. There, I am not human.

Don frowned and stroked my hair. Then he spoke.

— If you could eat ... if you were human and depended on food and water for survival ... we couldn't return to Earth alive. The recycling gear has the capacity for only *one* human, not two. Don't you see, Rose? Consciously or subconsciously, you *knew* that! You adapt, but you can't adapt to the point where you endanger me.

I didn't know what he meant, why he was so joyously excited.

— When we return to Earth, Rose, you can become fully human then. Human, Rose. And then, then the two of us can marry.

I laughed. I could not help myself. It is totally insane to even think of a human marrying a humanel, adapted or not. We are biological machines, nothing more, cellular robots. I suspected then that Don had actually gone mad, and I laughed. It was cruel and bitter, but no crueler than for Don to let me even think about continuing our relationship once we return to Earth.

I have known since my creation that the return means the end of my existence. Having no purpose other than that which I serve on the ship, my structure will be recycled. This I have always known and have accepted. Don has always known it, too. But he had forgotten.



— Don, as much as you want that, as much as I, who have no right to want at all, would want you, it is impossible.

— But why? Why? You're a human, or will be.

— But I'm not intended to be. I'm still a humanel, no matter what I change into physically.

He grabbed my shoulders, his face flushed with anger.

— Rose, you listen to me. I love you, no matter what you are, human, vegetable, or mineral. I love you now, and I'll love you when we return to Earth....

— But when we return it's over, Don.

— No! No, it's not. I don't know how, Rose, but I promise you, somehow we'll be together. They can't keep us apart, Rose, they can't!

Then suddenly his voice grew calm again.

— And if you have to rationalize it to yourself, do this. Tell yourself that your purpose is to serve me, to fulfill my wants, and what I want is for you to love me, to be as human as possible, and to be with me when and after we arrive on Earth.

— And to be beautiful?

He looked at me for a long time before he answered.

— I leave that to you. It doesn't matter.

Then he left.

Oh, Rose, I think you would be Rosinante again if you could. You

were ugly, you were laughed at, but I think you were happier than now.

We are a few weeks out from Earth, and have started using Earth time again, trying to sleep for ten-hour periods and staying awake fourteen. I say trying, for Don is sleeping only about six or seven hours in each twenty-four-hour period. He is constantly in motion, finding it difficult to sit still for more than a few minutes at a time. His excitement is high, and he has been telling me about all the many places he wants to show me when we land on Earth — San Francisco, Venice, Stonehenge — the list is endless; and I fear we shall not even be able to begin to see them all.

I have done as Don asked. I have told him that I love him and want to be with him when we arrive back on Earth. That much is true. But when I tell him that nothing will separate us, now or ever, I lie. Earth will separate us. But I tell him otherwise, and hope otherwise.

**T**oday is the last. Earth swims before us like a bright blue bubble. In fifteen hours we will reach our final destination.

Last night after we mated, for it is in terms of days and nights that we now think, Don held me tightly all the time he should have been sleeping. As a result, he is exhausted, but is still running crazily on nervous energy. I'll

try to talk him into taking a nap, but I don't think he'll agree to it. He seems to want to spend every second left in space with me. Poor Don. I hope he won't miss me for too long a time, that my memory fades quickly.

There is a chance, I suppose, that they could let us be together, and a chance that Don will not change his mind, but the chance is a thin one, and I try not to think of it. It only widens the wound, for that is what love appears to me to be. When you love, you open a wound, you offer yourself up for infection, malfunction. The greater the love and the greater the hope, the wider the wound. And perhaps today, tomorrow, a year or a thousand years from now, the loved one dies or takes his love away, and the infection comes. The red, pulsing open wound turns yellow with an incurable decay that seeps into the soul, and kills it forever.

But how can that which has no soul dare to love?

I almost welcome the Earth. Not out of hope, but out of the desire for an end to doubt, the desire for oblivion.

We came to Earth, and to nightmare. I knew that it would be bad, but to know what I now know has made me crumble.

We were picked up by a government shuttle only a few hours after we went into Earth orbit. Don boarded their ship first, followed by me and

then Sancho. There were people all over, cheering and clapping their hands together. Don waved happily as what seemed like hundreds of small lights flashed at him. Then he turned to me and held out his hand.

I had no choice. I had to obey. Stepping next to him, I took his hand and did not draw away as he embraced and kissed me in front of them all. Silence fell like a screen over the mass of humans that surrounded us, and a large man in a uniform said to Don:

— You must be tired, Colonel. I'll have you shown to your quarters.

Don smiled and answered:

— That will be fine, Major. Well, Rose? Ready?

The major replied very quickly.

— We have quarters for the humans as well, Colonel. They'll be taken good care of.

— All right. Sancho, I'll see you in a bit. Rose will accompany me, Major.

The major looked at Don, then at me, then at Don again. He was very good at hiding what he thought.

— As you wish, sir. This way.

He led us to a large sleeping room, showed us where the toilet and a refrigerator of food were, and said:

— Shall I have a cot brought in, sir?

He looked at me out of the corner of his eye as he asked the question, but Don told him that it wouldn't be necessary, and the major left.

— Did you see the way they looked at me? This is wrong. I should go with Sancho.

— They looked at you because they'd never seen anything so beautiful.

The next morning they took Don somewhere. After he left, the major we had been with the previous night came to our room with two other men. He looked at me once, for a long time, then looked away as he spoke.

— You will come with us.

I went without question, and was taken to a very small room with a single bunk, a small table that folded down from the wall, and two metal chairs. Several hours later, an older man with no uniform came to talk to me. He smiled.

— I understand your name is Rosinante.

— Yes. Or Rose.

— Very well. Rose. There has been an error, Rose. When Colonel Quentin created you on board *The Centaur*, there were certain procedures that were performed incorrectly.

— Yes. I know that.

— Ah. Well, when the transmission reached us we recreated the procedure ten times, purposely making the same errors as the colonel. Of the humanel that resulted, we found that seven of them had qualities other than those originally intended.

I nodded, almost smiled. Then he went on.

— Aside from the physical distortions, they become much more emotional. That is to say, they felt things more deeply than they were in-

tended to. Now, you may wonder why I'm telling you all this.

— Yes?

— We strongly suspect that you possess these humanlike emotions. We transmitted nothing of this to Colonel Quentin, since our test cases showed no proclivities toward violence or rebellion. Indeed, they followed all orders perfectly, and revealed their emotional complexities only under psychological tests; so we felt there would be no harm done. I'm afraid, however, that we were wrong.

He looked at me as if he expected me to respond. I didn't, so he continued.

— Colonel Quentin has formed an attachment to you. An emotional attachment. This cannot be. Apart from the fact that you are not human, the colonel is married. His wife agreed to his relationship with a companion humanel for the mission's duration, but now she expects him back, and we wish him to go back. He, on the other hand, wishes to remain with you.

He sighed, and lit something I took to be a cigarette.

— It is understandable how a man could form an attachment to a humanel, particularly one capable of a true emotional response rather than a preprogrammed one, and especially over an eight-year period. But such an attachment must be broken, as I'm sure you can understand. Therefore, we're asking for your aid in bringing about a smooth transition back to Earth life

for Colonel Quentin.

His smile had long since vanished. He looked at me now as if he did not like what he saw.

— May we count on your cooperation?

It was a command, not a question, and in spite of logic, in spite of what I knew beyond a doubt I must do, I wanted to fight it, fight the destiny that had always been mine, fight that human gaze more cold and inhuman than a humanel could ever display. So I said, and how laughable and absurd it must have sounded to that startled man,

— I love him. I want what Don wants. If he wants to be with me, then I want to be with him.

And then the emotions poured in and that strong countenance cracked like glass. Anger, revulsion, pity, fear — all passed across the man's face with incredible speed, and I suddenly realized how inadequate my own palette of emotions was.

— That is impossible.

— Is it? Is anything? When the mission began you would have said it was impossible for a humanel to feel emotions. Yet I feel them. And not only that. What about the adaptations?

He looked puzzled — no doubt, I thought, at the experience of arguing with a humanel.

— Adaptations?

— The physical adaptations. I suppose you would have thought *those* impossible, too.

He shook his head in short, quick jerks.

— I don't understand ... physical adaptations?

— The adaptations I underwent to provide Don with a mating companion after Dulcinea's expiration.

His eyes narrowed until there were two deep ridges like horns above and between them. When he spoke he was quieter, not at all angry.

— There were no physical adaptations. What do you mean?

I laughed in derision at what I considered a feeble attempt to upset me, and said:

— Look at me. No physical adaptations?

He drew back a bit.

— You appear precisely as Colonel Quentin described you in the transmission he sent the day after your creation.

I still thought it a trick.

— Why are you doing this, saying these things? It's within your powers to have me destroyed, so why not simply have it done? There's no need to lie to me.

His voice was actually kindly.

— I'm sorry, Rose. I'm not lying. Colonel Quentin has already made a reference to this so-called adaptation. We didn't feel it wise to contradict him in his present state of mind. But there was no adaptation, Rose. Not a physical one, at any rate. The only change was in the eyes of yourself and Colonel Quentin.

— No. That's not true.

— He wanted to see a change, and so did you, since it was yours to love him and to serve him. One of you started the fantasy, and the other supported it, until you both truly believed it. No, Rose. I'm sorry, but the only change was in your own mind and in that of Colonel Quentin.

I sat there stunned, wondering if what he had said was true. I looked at my hands, and they were the same. I had seen myself in the mirror of our chamber here in the ship, and it was not old, sad Rosinante I had seen. It was Dulcinea. Wasn't it? Wasn't it?

— You have come close to humanity, Rose. So close that you achieved some of our flaws as well as our virtues. To be able to love, as I'm sure you feel you do — that is a virtue. But self-delusion ... that is a flaw of humans, and one of our worst.

He stood up and looked down at me.

— There will have to be some decision made as to what to do with you, Rose. Believe me, I'm sorry for what happened. It should not have, and it never will again.

Then he left the room, leaving me alone forever.

It was true. Without looking down again at my hands, without reaching up to touch the grotesque lump of tissue that was my nose, without flexing my twisted and atrophied muscles to feel them awkwardly pull my legs askew, I knew that it was true. Don

and I had seen the change. We had seen my sour body grow sweet and beautiful, seen the red blood oozing from my wound with the promise of true life, but I could not swallow. For swallowing did not depend on sight or sound or touch or the other lies we bear within us. In that unsuccessful act of swallowing, simplest of human functions, lay the truth.

I looked down, forced myself to, and my body swam before my eyes, years of lies still struggling to smear a screen of haze over the reality. Then the mists cleared and I saw them: the brown dried patches of dead flesh, the wrenched limbs, the withered hands that made me Rosinante.

I was not so inhuman that I could not weep.

It is over now, and there is within me a great peace. When the shuttle lands, I will be taken and dissolved into cellular stock. Because of my increased emotional responses they tell me that I will be rendered unconscious beforehand. Dr. Remarque, the man that I first spoke to, told me that it would be like drifting into a heavy sleep. At last, then, I shall know what true sleep is like.

I did not see Don for some time after my first talk with Dr. Remarque. I stayed in the small room alone, and Dr. Remarque would come in and talk to me every so often, giving me psychological tests and simply talking

about the voyage, what was done, what I thought. I did not tell him of the way I recorded my thoughts on my living cells, and I do not think I will. Let all my secrets be mine alone. And Don's.

He came just an hour ago. The major and two other men were with him, though he entered the room alone. From the way he looked at me I knew that he had found the truth. But that look of sadness, or surprise, of pity perhaps, lasted only a moment, and then he was next to me, holding me where I stood on faulty, teetering legs, and he was saying Rose, Rose, over and over again, and his arms were strong.

Then he looked at me again, full into my equine lumped and fissured face, and I became frozen with the knowledge that he still, without the mask, without the lies, loved me.

— I can never show you Venice, Rose.

Loved me, funny Rosinante.

— I can never show you Stonehenge.

Funny old Rosinante, with the sad face and the swayback.

— I can never show them to you

Rose.

Rosinante moping down the packed Spanish earth.

— But I will....

It was a whisper, just above the level of silence, and I looked with sagging confused eyes at his glowing face. He gestured upward, and on the wall I saw a small inconspicuous dot that might have been a microphone, and when I looked down he was digging the nails of his right hand into the swollen channel of my wrist. When he removed it, I saw four long scratches through which a welter of yellowish tissue started to pass.

— You will be with me always. Rose.

He held up his hand, and beneath the long nails I could see thin slivers of my living flesh that he had dug from my living wrist. Though no sound passed into the electronic intruder on the wall, a word formed on his lips, and the roundness of his mouth in its making was like the circle of eternity that I suddenly knew would be mine.

The word was *clone*.

Now sleep, Rosinante. Your love will live.



# Films

BAIRD  
SEARLES



Drawing by Gahan Wilson

## SOME MONTHS AFTER

By the time this sees print, presumably the radioactive dust will have settled after *The Day After*, which, given its startling success in European theatrical release in addition to the staggering number who watched it on American TV, could well end up the most-seen film of the year, if not the decade. What with all the foofaraw, it escaped almost everyone's notice that what was being shown was a science fiction film (this was because it bore almost no resemblance to *Star Wars* and everybody knows that's what an s/f film looks like). Not only is the post-holocaust story an old and honored subgenre in the field, but *The Day After* opened with an announcement which read: "Although based on scientific fact, this film is fiction," which certainly seems to define it with admirable succinctness.

Of course the written literature tends to handle things a little more after the fact, with enough time elapsed for the mutated monsters or other matters of interest to develop; otherwise, the blast has to knock the characters elsewhere, as in Hamilton's *City At World's End* or Heinlein's *Farnham's Freehold*. Handled "realistically," the catastrophe and its immediate aftermath must necessarily become an exercise in depressing *verismo* which nobody in their right mind would be interested in, particularly the escapist-prone aficionados of fantasy and science fiction.

Looking at *The Day After* as a science fiction and/or dramatic film is difficult *because* of all the reverberations surrounding it, *and* because it is a thesis film. Here speculation is presented as such immediate reality that it almost becomes reality in the viewer's mind. Therein lies its power, and its limitations. But given those limitations, it was certainly an at least competent piece of filmmaking. To make it work, the characters had to be as average as possible without being total nonentities; if the picture had centered around a gang of bikers or a group of Hollywood jet-setters, much of its power would have been lost.

There was certainly suspense — not as to *what* was going to happen (you'd have to have lived in a hole for a year not to know), but *when*. For the entire first half of the film, the tension lay in at which unexpected split second the sky would light up. The event itself was portrayed as adequately as any such total catastrophe might be, considering that no single viewpoint would ever see more than a minute fraction of what would happen, if at all. The horrors of the aftermath were certainly downplayed, as we were endlessly informed after the showing, but were hardly lacking in intensity or interest.

There was a spate of cautionary nuclear-devastation novels in the 1950s, mostly written by mainstream writers with science fictional leanings, such as Philip Wylie (*Tomorrow*) and Pat

Frank (*Alas, Babylon*), but until now the film medium has literally never had the guts to do it. (Yes, I remember *The Day the World Ended*, which was overrun with mutant menaces and not exactly a class act, and *Panic in the Year Zero*, a game attempt hampered by a low budget and the presence of Frankie Avalon.) The sole resemblance of *The Day After* to *Star Wars* is a simple one — yet again I felt that for the first time I was seeing on screen something I had only read about before.

Those who found it dull, however, might be lucky; perhaps there'll be a sequel (*The Day After the Day After*) in which Jason Robards has grown another head and the ruins of Kansas City are filled with man-eating plants. As the most telling line in the movie has it: "Stupidity has a habit of getting its way."

*Who Stole My Heart Away* department... From the depressing to the ridiculously cheerful — in the five years since *Dr. Who* finally made it across the Atlantic (to be greeted joyously in this column), it has spawned a cult second only to that of *Star Trek* in the history of series fandom. There are clubs and newsletters, and the several hundred *Dr. Who* titles in book form sell prodigiously. This has occurred with geographic inconsistency depending on the program's syndication, but *Whomania* has taken hold wherever it's shown at a time when adults want to watch it (which is *not* Saturday morn-



ing, as was proved in New York).

This comes up at the moment not only because it's a phenomenon worth noting, but because a special Dr. Who program has been popping up here and there sporadically (again depending on the curiosities of regional syndication) which is even jollier good fun than the regular programs. It's a special anniversary edition running an hour and a half, and the title is "The Five Doctors." Yes, you guessed it — it features all five incarnations of the mutable doctor (for the uninitiate, he has over the past 20 years undergone metamorphosis — physical, mental, and sartorial — four times), gathered together from the various eras of time where they (he) happen(s) to be, along

with various of his (their) human cronies from over the years. This momentous event is occasioned by a crisis in the era of the Time Lords from whence comes the Doctor, when the head of the Council is up to no good. Also on hand are Daleks, Cybermen, and other assorted menaces.

That Peter Cushing was unavailable to take part, and Tom Baker spends most of the program stuck in a space warp, doesn't really spoil the fun. A substitute for the one and using the other as a plot device worked out perfectly OK; the fifth, newest Who, as yet unseen here so far as I know, turns out to be as charming as the others. Style and wit will out.



## Coming soon

Next month: the conclusion of **Hilbert Schenck's** STEAM BIRD, plus new SF novelets by A. Bertram Chandler and Richard Cowper.

Soon: THE BALLAD OF THE FLEXIBLE BULLET, a brand new novella by Stephen King. Use the coupon on page 32.

*This story about a human bomb and a conflict in space raises the same difficult questions as our mundane but no less terrible wars.*

# Divine Wind

BY

ROBERT F. YOUNG

**T**he eight approaching Kamikazes became visible in the T'ran flagship's telescreens. Interceptors had already been dispatched. Seven of them found their mark. The eighth missed, and the surviving Kamikaze came through the distortion field and by sheer chance caught the T'ran hospital ship. Missile and ship bloomed into a great red rose, then the remnants of each raced one another down to the ice-mantled surface of the planet Ozar, round which the T'ran space fleet was orbiting.

The T'ran commander convened her highest-ranking officers on the flagship's bridge. The decision they arrived at had been in embryo stage since the T'ran-Pwalm battle had begun. After dismissing the officers, the commander summoned Gunther Kenyon, missile man first class, to the bridge.

The commander's name was

O'Malley, and she was as tall as Kenyon was. Her resplendent white uniform lent width to her shoulders and accentuated the trimness of her hips. Kenyon had heard it said that hair grew on her chest.

Her gelid blue eyes impaled his soft brown ones. She said, "Perhaps you've guessed why I sent for you."

He shook his head. "No, Commander."

"I will enlighten you. *Kamikaze* originally referred to the pilot of a sacrificial warcraft. We now use the word to designate unmanned missiles. Had the Pwalm Kamikaze that just struck the hospital ship been manned, the pilot could easily have made a last-minute course correction and destroyed its true target."

"The flagship?"

"Yes. By this time their spy-beams must have relayed back to them that

we've committed the age-old blunder of massing the brains of our war machine in a single ship. They know that once that ship is knocked out they can risk a frontal attack on the remainder of our fleet. Just as we know, from our own spy-beams, that they also have committed the age-old blunder, and that once their flagship is knocked out, we can risk a frontal attack."

"But even without a flagship, either fleet would fight, Commander."

"Yes, but deprived of intelligent leadership, neither could survive.... This has been an exasperating battle. The Pwalmians orbit the fourth planet from the sun, we orbit the fifth, and the planet we're fighting for is the next one out, a blue jewel in the sky to be awarded to the winner. Hiding behind distortion fields that misrepresent the true positions of their ships and disorient target sensors, the two sides hurl explosive stones at each other and on occasion, through chance alone, obtain a hit. A most ridiculous battle. Perhaps, in a hundred years, one side or the other might find its true target and be able to move in for the kill. But we do not have a hundred years, and neither do the Pwalmians. What we are about to do tomorrow, they would undoubtedly do the day after."

Kenyon said nothing. He waited, as he had always waited throughout his life.

"Tomorrow," the commander said, "we will launch a true Kamikaze."

Her ice-blue eyes were locked on

Kenyon's. He knew what her next words would be before she spoke them. "And you, Gunther Kenyon, because of your years of dedication to the service and because of the courage and level-headedness you have exhibited so many times under fire, have been chosen for the role."

"A Divine Wind," Kenyon said.

"Yes. A Divine Wind. You have been nominated to enter the ranks of the Honored Dead."

She picked up a pointer and stepped over to an illuminated holo-map that covered part of the port bulkhead. The map reduced the actual scale of distance so that the entire theater of operations could be shown. Even on such a reduced scale, this would not have been possible had not the three planets involved been on the same side of the sun.

With the end of the pointer she touched a glittering little world near the base of the map. "This is Ozar, Karowin's fifth planet, round which we are in orbit. This" — she moved the pointer's end a considerable distance up and to the left and touched a blue world — "is Blazon, Karowin's sixth planet, which this battle and the entire war are all about. And this" — she moved the pointer's end far to the right and much higher on the map and touched a brown world that had two moons — "is Mitar, Karowin's fourth planet, round whose face and moons the Pwalm fleet is in orbit."

"No-man's-space," Kenyon murmured.

The hairy tildes of the commander's eyebrows lifted. "You're a student of history, Gunther Kenyon?"

"Only in the sense that I've read about the ancient wars. It's necessary to go only one World War back from the one that gave the common language *Kamikaze* to find no-man's-land."

"A commendable intellectual feat, nonetheless, for an enlisted person." The commander laid the pointer down. "My reference to the map was to point out that Blazon is so remote from the trajectory you'll be following tomorrow that only the wildest deviation from your course would put it in jeopardy. I felt you should be reassured in this respect, since the warhead you'll be carrying will be vacuum-shielded anti-matter."

Kenyon was stunned. "I thought there was a mutual agreement between both sides to refrain from using H-bombs, laser rays, and anti-matter."

"There was. But such agreements are adhered to only by losers. A war has only two objectives: One, to win it in any way possible; and two, to keep intact that which you are fighting for. Tomorrow a wave of unmanned Kamikazes will precede you. They will be knocked out by Pwalm interceptors, but by then you'll be almost to the distortion field. After you slip through it, you will go on manual, search out the flagship and ram it. Your trajectory will take you to that part of the field where our sensors indicate the flagship

to be. It won't be there, of course, but it won't be far away. Your warhead will not only destruct the flagship but all the other ships in the area, thereby assuring our ultimate victory."

Kenyon thought of a number of things to say, but he dared say none of them, so he said nothing.

"Launch time will be 0600."

Kenyon saluted and left.

**O**n his way down the free-fall tube he was seized by two female officers, drawn into a storeroom and raped. It was not a new experience, but it sickened him because of the subjugation it implied. When he reached his tiny cabin, he lay upon his bunk and stared at the gray ceiling. Formerly, enlisted men had been provided with armed guards when they were summoned topside, but since the last T'ran-Pwalm engagement there had been a shortage of enlisted personnel, and armed guards could no longer be spared. For this same reason the fraternization parties formerly held at monthly intervals in the main rec hall had been discontinued, augmenting the likelihood of rape.

In addition to his bunk, his cabin contained a footlocker and a bench. Although small and spartan, it was a sizable cut about the fetid common quarters shared by the enlisted men beneath his rank. He was in charge eight hours a day of one of the flagship's Kamikaze launching stations. He had

just completed a tour of duty when the commander had summoned him to the bridge.

His final tour of duty.

There was no one he cared to say good-bye to. There was an enlisted girl he slept with on occasion, but she was no more than that. He had no true friends; he wasn't a gregarious man. And he wouldn't have dared to say good-bye to anyone in any case, for although the commander hadn't said so, he knew his forthcoming mission shouldn't be bruited through the ship.

Although he didn't question the rightness or the wrongness of the task to which he'd been arbitrarily assigned, it dawned on him as he lay there on his bunk that he didn't want to die. That he didn't want to join the long gray ranks of the Honored Dead.

While reading of the ancient T'ran wars he had read of the fifteen- and sixteen-year-old Japanese boys who had waited eagerly to board the *kaikens* and make their way underwater to glorious immolation against the hulls of enemy ships. He didn't feel the way they must have felt, although he'd been similarly inculcated. I'm too old, he thought. I've seen too many springs, too many blue-skied summers. I've seen trees exchange their paling autumnal dresses for brand-new gowns of white far, far too many times. I've got up too many times at dawn and seen the day put the stars to bed. Living is comprised of a million little things, and those little things, when added to-

gether, spell love, and beside that love, the dirt that also comprises life shrinks into an indiscernible mote.

He was launched into no-man's-space at 0601.

The cockpit the machinists had installed in the Kamikaze was just behind the warhead. Directly before him lay the control board. Above it, the forward viewscreen showed the night and the stars. To the right of the screen, a smaller one showed a section of the T'ran flagship bridge. Beneath the forward screen, the rear viewscreen showed the receding flagship. There were small windows on either side of the cockpit that looked out into the waste of space. In the right one he could see Karowin, the sun.

The manual override control was inset in the left arm of his seat. Beneath the right arm was a tiny button with which he could activate the warhead should he miss his target. In building the cabin, the machinists — perhaps out of irony, more likely because the commander hadn't wanted them to know that she and the other officers were contemplating a true Kamikaze mission — had installed an ejection hatch. Thus Kenyon, before the moment of contact, could jettison himself from the cabin. Even without an anti-matter warhead to contend with, such an ejection would have had dubious value; with one, he would merely obtain the privilege of dying outside rather than inside the missile.

In the forward viewscreen he could see the bright yellow wakes of the eight unmanned Kamikazes that had been launched seconds before his manned one. He could see the distant crescent of Mitar, but he couldn't see its two moons. And he wasn't seeing Mitar where it truly was, for the Pwalm distortion field refracted its position.

I am a bomb, he thought. For this, I have lived my life.

He had lived the early part of it on the Old World, and he went there often when on leave. The Old World was the matrix of the T'ran Empire. The empire was constituted of an archipelago of planets along the galactic lens. The Pwalm Empire constituted another such archipelago deeper in the galaxy. Both races were the matured "plants" of "seeds" spread aeons ago on the Old World and on Pwalm by a far superior, possibly an extragalactic, race. Neither the T'ranians nor the Pwalmians had detected each other's existence till each reached a scientific stage that embodied interstellar travel and permitted extrasystem colonization. The war in which Kenyon now fought had been in progress for three years. It was being fought over Blazon. The galaxy was rich with dead planets, but inhabitable ones like Blazon were few and far between. And Blazon had never been "seeded" with intelligent life. It was an open invitation to both sides to spread themselves farther upon the face of space. The two fleets now confronting each other in the Karowin

system had depleted the T'ran and Pwalm economies to a degree where a loss for either side would terminate the war.

Kenyon tried to see Blazon in the forward viewscreen. It did not appear because the hull camera was focused on Mitar, or rather, on where Mitar seemed to be, and Blazon was too far to the left. He leaned sideways and looked through the left lateral window. He made out a minute sapphire at two o'clock. The planet's blueness made him think of the Old World, and he turned his eyes away and leaned wearily back in his seat.

Halfway across no-man's-space, the control board's missile sensor-lights turned red. Interceptors were on their way. Commander O'Malley's face appeared in the bridge screen. She had a small wart on her chin. In ancient, more romantic, days, it would have been called a "beauty mark." "They launched only eight," she said. "As yet, they're unaware of you. Impacts will occur shortly before you reach the field."

Kenyon said nothing.

He was no longer in the cockpit.

He was walking down a springtime street.

New leaves adorned the trees. He felt gay and sad. It was a street he had walked down before. He looked at the houses and the lawns, at the blue Old World sky. He smelled lilacs and saw their mauve, bouquetlike trees. The

little things, he thought. Yes, the little things. The parameters we pay so little attention to; that spell love.

He came back to the cockpit when the advance Kamikazes began meeting their interceptors. Space seemed to wink. It winked again and again and again. Presently Kenyon found himself alone in the star-barbed wire night.

He watched the forward view-screen. Mitar was a huge crescent now, and he could see the roundness of its dark side. He could see the gross shapes of the Pwalm ships. The flagship was the grossest of all. Beyond the ships he could see the little moons. They twinkled diamondlike in the sky.

The missile sensor-lights had gone out. The commander's face was still in the bridge screen. "We can detect no more interceptors, Kenyon. But they know you're there by now; they'll be trying something else."

Suddenly a girl appeared beside him.

She seemed to be sitting next to him on a nonexistent seat.

She was unlike any girl he had ever seen before. She had full cheeks and a gentle gaze, and her hair was dark brown and shoulder-long, and her eyes made him think of the Old World sky he had just walked beneath during his springtime stroll. She was wearing a white tunic that reached but little lower than her hips and seemed to be suspended from the nipples of her breasts.

The commander's face still filled

the bridge screen. Compared to the girl's, it was a gargoyle face. Fury and fear had painted it gray. "Eject her! — she's a bomb!"

Yes. A bomb. What other kind of girl would come to see him here in no-man's-space?

The Pwalm sensor operators had detected not only his Kamikaze but his presence on board, and they had projected a gynecomorphous bomb.

"Eject her!" the commander screamed again.

He found that he could faintly see the bulkhead through the girl's flesh. He raised the faceplate of his helmet. "I can't. The projection's not fully complete."

"It's not a projection — they're transmitting her!"

"But she isn't fully here. I can't eject her till she is."

"You must wait, then. And watch. She's a genetic bomb. She can blow herself up at will!"

Kenyon understood. The girl had been born a bomb.

"You have only one chance," the commander said. "The second her flesh becomes solid you must jettison her!"

One chance to free himself from one bomb so he could become another.

Two entry points into the Land of the Honored Dead.

He pulled the cockpit seat belt around his waist and buckled it tightly. He tried to grip the girl's left forearm. His fingers went through empty space. He kept his hand cupped, moving it in

accord with the slight vacillation of the arm, for she was not truly sitting beside him; she was drifting there, seated on a chair of air. His right foot sought and found the hatch-release control lever.

The girl's arm remained fleshless. He sat there, looking at her face. It had none of the angularity or harshness of the faces of T'ranian women. It was rounded. Soft. Her blue eyes were fixed on his. She could see him, even though she was not fully there. He looked for hatred, saw nothing but the blueness of Old World skies.

She spoke to him in his own tongue, but her words weren't synched with the movement of her lips. "I am the Goddess of Death."

"I know."

"I've been programmed to do what I must do. I'm sorry."

On an impulse he told her about the springtime street down which he had walked. He told her about the sky and the trees and the lawns and the houses. He told her about the lilacs. "Such a lovely street," she said, drifting there, promising death.

"I walked down it because I was thinking of all the little things I'd always taken for granted."

"Don't talk to her!" the commander screamed from the viewscreen. "She's trying to throw you off guard!"

In the forward screen, the Pwalm ships grew like gray ghosts.

"I was thinking of the little things, too," the girl said. "About where I used

to live. About the kids I used to know. Nobody knew, not even myself, not even my parents, although they should have, that I was a bomb."

"When were you told?"

"Less than an hour ago."

"And you began to think of the little things then."

"Yes. I thought of trees, too, like you did. And of birds and flowers.... When I'm completely here, you're going to cast me out, aren't you?"

"Yes."

"If you find out before I do."

"Yes. If I find out in time."

"You won't," she said. "I'll know before you will."

"We'll see."

"You aren't like the men of Pwalm."

"You're different from the women of T'ran."

"The women of T'ran grew on the same trees the men of Pwalm grew on."

"Not at first," Kenyon said. "Once, they walked in mothers' marches denouncing war. If it were up to them, they said, there'd be no more wars, ever. They forgot about Zenobia and Queen Elizabeth I and Margaret Thatcher. Or perhaps they didn't wish to remember them. But it was in the books almost from the beginning that someday it *would* be up to them. They changed then, or perhaps they merely became outwardly what they'd been underneath all along. But whether they changed or not, reality didn't."



"Why would they want to grow on trees like that?"

"It's the nature of our species."

"Damn you, Kenyon!" the commander shouted. "Don't listen to her!"

"Why not?" Kenyon asked. "Soon, one way or another, I'm going to join the ranks of the Honored Dead."

**T**he girl shifted slightly on her airy seat, and he had to recup his hand about her fleshless arm. "Yes," she said. "The Honored Dead."

" 'In Flanders Fields the poppies blow, between the crosses, row on row.' "

"Is that where your Honored Dead lie?"

"A few of them."

"Why must there be an Honored Dead?"

He looked at her. She was all he had ever wanted and everything he could never have. "They're an essential part of civilization. As long as fools keep joining their ranks, there'll be more room for other fools to create new ideologies for which future fools can die."

"Some fools have no choice."

"I know. Fools like you and me."

He squeezed his cupped hand. He felt a ghost of tissues. "No," she said, "I'm not fully here yet. I seem to be because my awareness has preceded me."

He tried to touch her face. He could almost feel it. "No!" the commander screamed. "That's what she wants you to do!"

"I never thought," Kenyon said to the girl, "that in walking down my springtime street I'd meet someone like you."

"I'm sorry that I'm a bomb."

"The lilacs are in bloom. Do you see that forsythia over there? Look — there's a dogwood tree!"

"Such a lovely street it would have been to live on!"

He had recupped his hand around her arm. He felt her flesh grow firm. "Any moment now," he said.

"Yes. Any moment. After all these years, we've met, only to have to die."

"For this, we have lived our lives."

He released her arm and closed his faceplate and kicked the hatch lever and ejected her a split second before she blew into a great red rose. In the redness he saw his own blood.

He threw in the manual override. "Kenyon, what're you doing?" the commander cried.

"I am a Divine Wind," Kenyon said. He altered the Kamikaze's course.

"Kenyon, reset your course! If you hit Karowin, it'll noval"

"I am the breath of God," Kenyon said, and headed toward the sun.



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# The Herders of Grimm

BY

BRAD STRICKLAND

Grimm's Planet was a whirligig world, spinning through most of a day and part of a night in the four hours our research conference lasted. Captain Hassad was upset with me: he slated my linguistic report for the end of the agenda, when everyone would be eager to get out of the mess hall.

Or maybe Hassad's antifeminism had surfaced, because he put Tonya Roslov, the only other woman on the mission, on next to closing. I liked Tonya, but found it difficult to concentrate fully on her botanical report — my ass had long since gone to sleep.

However, Stanley Chung, Harl Lewis, Alex Felder, Joe Shreve, and the four others leaned forward, fascinated, as she gave us a holoshow of the different flora she had examined. At the moment the table was occupied by the illusion of a ten-centimeter grain plant, the staple food of both the suryaps and

their remarkably humaniform herders. "What do they call this, Kadrin?" Tonya asked, trying to make me look a little better in Hassad's eyes.

"Kush." I said it with authority. That was the first Hasuryap word I had learned.

"Kush. It's a remarkably hardy plant, though its grain yield is so small. But look at this." She changed slides, and now we saw blowups of twenty or thirty individual seeds. "Can you tell them apart?"

Hassad frowned. "No theatrics. Get to the point, Botanist."

The lines at the corners of Tonya's mouth deepened, and she brushed a strand of white hair out of her eyes. "This is the point, sir. Twenty-six different plants are represented here — yet their seeds are identical. The lowest plants — the lichens, algae, and bacteria — all have a distinctly different

genetic structure from these, different chromosome arrangement, different DNA. In the holo you see a good cross section of ground growth from across the planet. These seeds lead inescapably to one conclusion: all the lower-growing seed plants of Grimm are from only one species."

Lewis looked across at me, keen interest on his dark African features. "Kadrin, what does Barry say about plant fossils? Did these evolve here?"

"He hasn't said."

Hassad coughed. "Paleontologist Bristow will deliver his own report when he returns. Our linguist has quite enough to do herself without keeping track of Bristow's business. Continue, Botanist."

Tonya leaned back. "There isn't much more. The plant is simply amazingly adaptive. The seed accommodates itself to whatever soil it lands on: in the desert it produces a cactus-like plant; on rock, a vine; and so forth. The grass version produces the most grain — though even that is barely enough for a subsistence diet. Fortunately, it's an effective oxygenator — you can thank it for the 17 percent oxygen content of the atmosphere — and it is nutritionally complete. The fruit trees aren't like that."

"They're a separate species?"

"Separate from the grain, of course. But all the trees on the planet are cross-fertile, too. You may have noticed that the fruits are nearly identical in taste. That's because they *are*

the same, except for externals — small fruit in poor soil, larger in rich, thick skins in arid climates, thin ones in wet, and so on. But Grimm has only one true species of tree, and its fruit is deficient in four minerals, five vitamins, and two ammino acids. The suryaps and their keepers have to depend upon the grain."

Tim Malone, his high forehead crowned with an untidy cloud of red hair, sucked his pipe. "Two large plant species, two large animal species. Interesting. The only animals I've found besides the suryaps and the Hasuryaps are protozoans, parazoans, and simple metazoans, the largest of them analogues of sponges and simple coelenterates — and they're confined to the rift seas. I think we're dealing with the descendants of space travelers here."

Hassad's face was blank. "No doubt our gifted Linguist Coltrane can confirm or disprove that theory. Your report, Linguist?"

I expelled a breath and took another. "Nothing to report, sir."

"You haven't yet deciphered the Hasuryap language?"

"I know eleven concrete nouns. My sample is so small—"

"Your job is to make it larger."

Chung, always the peacemaker, said, "The fellows really aren't very talkative, Captain."

Hassad growled, "We can find ways of making them speak. We could take a disrupter, stun a few, and ques-

tion them here in the compound."

My face felt numb. I said, "Yes, sir. And who will report to the Sentient Fellowship that we used weapons against an absolutely nonaggressive, nonhostile, humaniform species? You or I?"

There was an uncomfortable shifting around the table as the captain glared at me. Chung tried again: "Sir, I really think the problem will resolve itself, given a little time—"

"We haven't much time," Hassad snapped. "You may not mind sitting here while the sun dims out, but I intend to leave before full Dark. I have no desire to shiver through nine Terran months of arctic weather waiting for these beasts and their keepers to emerge from their damned caverns." The captain's look pierced me. "I want a working vocabulary of the Hasuryap tongue within twenty-four hours, Linguist. Is that clear?"

"Clear, but impossible. With the sample I have, I can give you at best 85 percent probability of a basic grammar."

"Do it." Hassad pushed away from the table, stood, stretched. "We'll convene again when Hosch and Bristow return from their field trip. Botanist, leave the holos. I want to copy them into the master database. Dismissed."

Tonya put a soothing hand on my shoulder as the captain turned his back. "Come, child," she said in her paper-thin old voice. "I'll walk you to your hut. You can tell me your troubles."

I looked down into her laughing gray eyes, shining from within their nests of fine wrinkles. "Thanks, but I'd rather tell someone I could hit."

She chuckled and accompanied me anyway. It was close to midnight, with cold stars speckling the black face of the night and away in the north some hanging green streamers of aurora. But the air was a sweltering thirty-eight degrees, and both of us adjusted the dials on the thighs of our planet suits for moderate cooling. "Hot night," I murmured.

"The long one will be cold."

"And what will your plants do then?"

She shrugged. In Grimm's moonless dark I felt rather than saw the gesture. "We shall know in a few days, when it begins to happen. I suspect that in the early stages, when the sun is merely dimmed by the dust, the plants will simply adapt — develop broad leaves and intensify their chloroplasts to capture as much energy as possible. When the true Dark comes and the temperature plummets, the parent plants will die. The seeds will no doubt aestivate. The trees will live through, of course. Come, child, tell me: Are things well between you and Barry?"

Tonya is old enough to think that every woman's problems are either caused or curable by an argument with her lover. I smiled as I remembered her first sight of the blond male Hasuryaps, their shoulders caped with their manes of hair, their muscles rippling

as they strode naked through knee-high grain, tending their kangaroolike animals. She had caught a deep breath and whispered, "Kadrin! I think you and I must do some experiments in cross-fertilization, no?"

I chuckled at the memory. "It has nothing to do with Barry," I said. "It's just the damned linguistic problem. If only I could get the Hasuryaps to *talk* to me. What will happen to them in the Dark? What will they eat? How many of their suryaps will they slaughter, how many will they leave as breeders? Does this band ever war with the groups to the east? Are any of them even aware that the Dark is coming, that it's a cyclic event? So many questions — I don't even have the words to ask them, let alone understand the answers."

Tonya clucked. "The Hasuryap have survived for at least tens of thousands of years, if Barry's digs tell the truth. The questions you ask — their behavior is Chung's field, and Hosch's. But I expect they'll use just enough suryap flesh to eke out what grain and fruit they've stored in the caverns. Are they aware the Dark is coming? Yes, of course — why else would they store food, why else do they refrain from slaughtering their animals now? Underground they may go a little hungry, but they'll be safe from the cold; Chung estimates the temperature is a constant twenty degrees at that depth, throughout the year. Then, when the sun comes again, the sleeping seeds of

the grain will come to life, sprout, and produce a ripe crop in only two Terran months. Life will go on."

We walked through the entire compound of silvery huts, or more accurately, semi-rigid tents, and stood outside my door. To the north the water pump thrummed. Otherwise the night was silent — a dead silence unknown on Earth. I looked toward the east. Either an aurora was reddening the near horizon or it glowed already with a hint of sunrise.

I thought of the sun, a fierce type-A star, and of the Ring around it, an enormous torus of dust exactly in the star's equatorial plane. Twice in Grimm's fifty-eight-Terran-standard-year orbit, the planet's highly inclined path took it through the shadow of that Ring. Each passage lasted approximately 1.1 Terran standard years, with darkness complete for nine months of that. Grimm's normally subtropical climate suddenly became frigid once every twenty-seven or -eight years, over and over again. It was a madly hostile little world, unexceptional save for its one great miracle: humaniform life.

We of Earth have encountered half a dozen races of sentient beings, from the turtlelike hive creatures of Procyron to the enigmatic Sylix telepaths of the Void, no two of which have the same shape. Still, we have never found a race of intelligent creatures that even remotely resembled ourselves — until now. Fifteen years after Emaus

Grimm's report on the first unmanned probe to scan the planet, we had confirmed what he suspected: the Hasuryaps of Grimm appeared unsettlingly human.

Tonya, accustomed to my moods and silences, stood beside me in the night for many minutes before speaking: "So, Kadrin. If you have no problems with Barry, you must think yourself in deep professional difficulty. Yes?"

"Yes. I feel like a backward child. All the other specialists have reported so much progress — you, Lewis, Malone, all the others. I haven't even enough of a record to begin a decent linguistic analysis. And now Hassad's leaning on me."

A brilliant flare of aurora lit the countryside green for a moment. Tonya put her hands on her hips and stretched her back. "It's often this way. I think you know Professor Reydisson?"

"I did graduate work under him at Luna Center."

"Yes. Did he confide his terrible problems with the Sylix speech?"

"Problems? He won the Nobel Prize. Anyway, the Sylix are telepaths. What's the trick there?"

She chuckled. "I thought Reydisson would be too vain to tell anyone the real story. Yes, the Sylix are telepaths. But we're not. They find us remarkable receivers but miserable senders. However, we receive *everything* — so when a Sylix attempted communication with

a human for the first time, the human's involuntary nervous system tried to copy the Sylix's. The human had a massive stroke. Reydisson's problem was in devising a way for the Sylix to speak to us without killing us. The concept of language was absolutely alien to them, and Reydisson worked at it for five years with no results before he finally made his breakthrough. Believe me, the Reydisson pseudolanguage didn't spring up full-blown. I know: I was there. I actually thought the man would lose his mind before he solved the problem."

"Yes. But Reydisson *had* five years. I don't. And I'll bet Reydisson didn't have a captain like Hassad, either."

"True. Hassad's something of a throwback in his ideas of a woman's abilities. Still, he has a point. The Hasuryaps will be preoccupied with survival as soon as the Dark sets in. Perhaps if we learn to speak with them during the time of the sun, we can leave this place before it gets too uncomfortable."

I grinned ruefully and invisibly in the night. "Not if I don't get busy. I'll see you later, Tonya. I've got to concentrate on finding out how to ask a Hasuryap, 'Do you want to join the Sentient Fellowship?'"

Tonya laughed her farewell. I punched the lock, waited until the hut door had rolled up, and went into my own dwelling. I switched on the light. The three-meter-square interior was jammed with my tools and posses-

sions, but vastly empty without Barry. I closed the door, adjusted the enviro to a comfortably cool temperature and relatively high oxygen setting, and switched on my dataset. On a shelf above the console waited five thousand seven-by-nine-centimeter datacards, enough to store the linguistic holdings of every library in Terrasystem. If I couldn't crack the language with that much information, I deserved to be publicly humiliated. I pulled over a chair, selected datacards and recordings, and buried myself in work.

By Grimm standards my stint was heroic. I put in the rest of that night, all the next day, the next night, and to sunset of the next day seated before the keyboard and microphone. Even in Terran terms my work period was respectable, nearly thirteen hours. At the end of it my spine felt as if it were carved from wood, my eyes burned like a couple of balled Antarean fireworms, and dusty cobwebs festooned my brain.

But I hoped I had a Rosetta.

At least I had a printout of nearly a hundred Hasuryap morphemes, almost all of them substantives and verbs. Half had definite Terran cognates, and the other half were fairly certain — I accepted 80 percent probability as my lowest threshold. I could not translate Shakespeare into Hasuryap, but I could say, "Me from/out-of/part-of sky. Me friend/fellow-person. You friend/fellow-person?"

Or at least 80 percent of that. I interfaced with Hassad's command console and fed it the data. Then I sucked down a self-heating pouch of soup, shucked off my clothes, and fell asleep ten centimeters before I hit the bunk.

**A** fingernail woke me up. It started just about the cleft of my buttocks, and it scraped all the way up the nape of my neck. I shivered, feeling the gooseflesh rise. "Damn it, Barry, don't do that!"

Our paleontologist laughed his rich laugh. "Gotta wake you up somehow. Or do you plan to sleep all day?"

"How long have I slept?" I mumbled, not opening my eyes.

"Six hours since I got back. Come on — it's almost dawn, and Hassad wants you to talk to the natives."

"Let him talk to them. I gave him the words."

"But it's your job to use them." He gave me a stinging slap on the butt. "Come on, get up. I've got breakfast cooking."

I grumbled my way out of bed, through a shower, and into a clean, recharged planet suit. Barry, handsome enough to be a Hasuryap male himself except for his curly hair and beard, had prepared one of his native specials: a porridge of grain with a side dish of insipid fruit. "I want bacon and eggs." I groused, snatching a mug of coffee from Barry.

"You won't find 'em on this planet." Barry ate some porridge with

evident relish, as an object lesson to me, I suspected, and with his mouth full said, "I wish we knew where in space these people came from. It certainly wasn't here. We hit the oldest site so far, this time — Hosch dates it at eighty thousand T-standard years. Their fossils go back, stop — and there's nothing before. No higher life-forms, no evolution, no nothing."

I crunched into the whole-grain porridge. Its taste was faintly nutty, not unpleasant. But the fruit smelled sour and had the texture of a slimy apple. I passed it by. "What do you think, then? Were their ancestors cast-aways? An experiment gone wrong?"

"Who can say? But I've spoken to the others. On a planet with only four advanced life-forms, I think indications are shipwreck. If we locate the site, I'd bet you there'd be evidence of a temporary civilization inside pressurized domes. They'd have to live there until the plants raised the oxygen level of the atmosphere to breathable limits. Then, when the air was tolerable, they'd move outside, their numbers would increase, and they'd eventually find the balance between plant population and animal population they have now."

"And lose their civilization in the process."

"It's been a hundred thousand years or more, darling." Barry reached for my slime apples. "Want these?"

I shook my head, and he took them. He slurped as he ate them. I

looked away. "I hope I can get the Hasuryaps to interchange with me now," I said. "If they'll just talk, let me record them, the computer can do most of the rest. Maybe fragments I've got will be enough to break the jam."

Barry nodded. "Oh, Hassad said to tell you to try the women," he mumbled around the nauseating fruit. "Since practically all of them are engaged in child care or food storage, they'll have more time to talk."

I grimaced. "More time than a bunch of beach boys who do nothing all day but follow their overgrown rabbits around? Don't go chauvinistic on me, Barry. Lay you odds that a Hasuryap housewife's just as busy as her Terran counterpart used to be."

Barry rose and swept the disposable dishes and utensils into a recycle bag. "Even so, you haven't gotten very far with the males. Who would you talk with?"

I drank the last of my coffee and tossed the cup into the bag. "I'd climb the cliff northeast of the village and speak with their elders."

Barry came behind me and put his arms around my neck. "You know Hassad's answer to that. Until we know if they're hermits or exiles or what, until we find out if they're under a taboo, you can't get near them."

"Don't," I said.

"You've had your contraceptive shot."

"I'm in no mood." We were attuned to each other well enough so that he



recognized the finality of that. He grunted, undressed, showered, and took my place in the bunk. "A fine thing," I grumbled. "You roust me out, then clamber in and make yourself at home. Go to your own hut."

"Too far to walk."

"It's just through the head, idiot."

"Let me sleep. I've been excavating bones for fifty hours. Damn planet ... worst case of jet lag...."

"Tell me your troubles," I said, but he was already snoring. I packed my portable datakit quietly and left him. Dawn had lit a bonfire just beyond the abrupt horizon — Grimm is only a little large than Mars, though far denser, with a gravity of 0.87 G, and everything on the planet looks too close — and the reflection of the sun made the sky an angry red. Already a powdery, diffuse glow, brighter than the Milky Way, stretched almost to the zenith: the Ring, nearly edge-on, looking far more innocent than it was.

I found Hassad at the motor pool, wielding wrenches and strong language on the engine of one of our three rollers. As Barry had predicted, the captain ordered me into the great round communal houses to mingle with the Hasuryap women. I halfheartedly requested permission instead to trek to the northeastern cliffs to interview some of the isolated, older Hasuryaps. Hassad set his chin against that idea. "You have a theoretical point," he conceded. "Normally the old people are the repositories of knowledge in a preliterate

society. But these old people are so shunned — they have their own little herds, gather their own grain, everything — that we can't risk rousing the anger of the community by dealing with them. Before I'll let you speak with the elders, you'll have to convince me you've increased your knowledge of their language considerably beyond the 'Me-Jane-you-Tarzan' level."

I left to keep from braining him with a wrench. I knew it was no good asking for a roller; with only two of our vehicles operational, the geologist would have first call on one, and the other would be kept in reserve. I didn't really mind the seven-kilometer walk to the Hasuryap village, anyway. It was mostly downhill.

Tonya caught up with me half a kilometer from the compound and asked permission to tag along, which I readily granted. "I want to see how they handle their foodstuffs," she said. "The fruit seems to keep for ages, though it withers and becomes leathery. The native bacteria apparently don't like its acidity. Still, the grain seems to retain more of its nutrients—" I listened with half a mind as we headed east.

We had set the lander down just outside the weathered rim of an ancient meteorite impact scar. It sloped to the east, its easternmost quarter disappearing in impassable bog and, finally, into one of the rift seas. Around it was arid country, where the grain grew scattered and poorly; but the crater it-

self was cut by many small rivers, and it was like an oasis of green. The sun was high over the village by the time we descended the last of the rolling hills, and we stood looking at it for a moment.

The communal houses, constructed of dry-laid stone the bluish color of some Earthly granite, clustered together. Each was topped by a thatched roof, mounded to a central peak where the smokeholes were. Gigantic mammaries, I thought. Symbols of the maternal side of life, of home.

The males left them at daybreak, with the herds — we could see many small groups in the lush green river-bottom, and a few scattered right up to the edges of the fruit orchards on the hills — and the women were left in the houses. We went into one via its half-spiral entrance hall and found it dark and reeking of close-packed humanity. The Hasuryap females, as naked and muscular as their mates, lugged children, squatted in groups to winnow mounds of grain and store the precious seed in tall earthenware jars, or sweated over a glowing central fire, preparing the one meal of the short day, due to be eaten just before nightfall. Tonya gravitated to the center, where the smoking fire sputtered, and I have no doubt she picked up a thousand secrets of Hasuryap cookery. I, on the other hand, tried unsuccessfully to strike up a conversation. I got shy smiles and half-downcast glances everywhere, but nothing else — no re-

sponse, no hostility, not even curiosity. That bothered me for some reason.

At last I homed in on one of the winnowers, who had grumbled at some playing children; that marked her a voluble, as far as I was concerned. I waded through a pinwheel of youngsters — all Hasuryap offspring seemed to be between the ages of newborns and five, for some reason — and finally squatted in front of my target. She looked at me with wide blue eyes. Her hair, growing right down her neck and across her shoulders, like that of the males, was a tangle of blonde, snagged with twigs and stems of grass. I picked up a grain sheaf and held it between us. "*Kush*," I said.

Her face lighted up wonderfully. "*Kush*," she agreed. "*Na hammo nata kush*."

My heart leaped. I had found a chatterbox. I hurriedly checked my recorder to make sure it was working. I pointed to the earthenware jar beside the woman and looked at her expectantly.

She smiled at me.

I thumped the jar and looked back at her.

She shifted her weight from heel to heel, looking puzzled.

I pointed to the heap of grain she had winnowed. "*Kush*," I said. Then I pointed at the jar.

Knowledge dawned in her eyes. She pointed, too, and said, "*Hram*."

Then I was flying. I quickly found out the names for *house*, *wood*, and

fire; surprised myself by discovering that *Hasuryap* properly named only the males, and females were *Thasryaps*; made a quantum leap, first by discovering that the children were *Nissa*, and that my hostess was *Kanissa*, a condition she indicated by leaning back and patting her swollen belly and milk-distended breasts.

All the while I fed these and other, unidentifiable, phonemes and morphemes into the recorder, to be puzzled out later by the computer. At sunset the males returned, and they brought several *suryaps* right in with them. I thought fleetingly of pigs in parlors, but the alien kangaroos seemed better housebroken than the children.

The household ate its meal in a circle around the fire, and the women gave the *suryaps* the stems of the winnowed grain to munch. Tonya and I refused the food our hosts offered us and huddled away by ourselves, dining on ship's rations and speaking in low voices. Tonya had discovered evidence that some of the grain, at least, was under rudimentary cultivation, producing a higher than normal yield, and she was delighted with my progress in cracking the language.

When night had quite fallen, I said to her, "I've decided to stay here overnight. Tomorrow I want to ask Blondie there about some other concepts. Are you going back to the compound?"

"I have nothing pressing there. I'd be glad to keep you company."

"And ogle the naked males."

"That as well."

I chuckled and radioed the ship. The transmission, now that the maddening interference of the hyperactive sun was shielded by the horizon, was satisfactory, and so I emptied my recorder into the databank as well, all the better to store more language in the morning.

The *Hasuryap* fell into sleep almost immediately after the meal, perhaps sixty adults and nearly as many children. This was their pattern: to eat hearty and sleep deeply, spending all the three hours of full night in slumber, all the three hours of full day in activity. Tonya and I, still accustomed to the slower pace of Earth, talked the night away, arms hugging knees, backs against the wall, heads close together. The *suryaps* lay in humped silhouette here and there on the periphery. Outside pressed the unnerving silence of a world without insects, birds, or other small, bustling night dwellers. Inside was the welcome crackle of fire; the heavy breathing of a multitude; the warm, moist, rank smell of mankind and of smoke.

Tonya and I had enough of it just before daybreak, and we wandered outside for a breath of air. A red meteor trail drew a line on the blackboard of the sky, coming from the south, slanting away to the north. Tonya looked at it, stretched her neck like an old bear coming out of hibernation, hesitated, and then reached to ad-

just the temperature dial on the outside of her right thigh. I reached to turn down the cooling in my own planet suit.

"It's begun," I said. "The sun's going."

She nodded. We watched it rise together. It was perceptibly dimmer, duller, than it had been the day before, more like the reflection of the sun than the sun itself. Though we felt its heat on our faces, we had, too, a sense of slow, quiet loss, a sense of stately withdrawal. At that moment this strange world of Grimm, swinging through the universe to the rhythm of its own alien harmonies, seemed unutterably *right*. In the fading light of that sun, one had the impression of something immeasurably important being accomplished with infinite deliberation.

I shivered out of the spell, turned, and just kept from crying out in surprise. Two of the suryaps had hopped gravely out from the house behind us, and they stood, their heads on a level with ours, their absurdly small forepaws with their raccoonlike hands folded solemnly across their chests, blinking at us. A moment more, and the men began to pour out. Their animals, the ones that had spent the night outside, came to them, and the males touched them, patted them, grunted to them, gathering them in what I took to be family herds of five or nine or a dozen, and set off with them for the fields of grain. Was it my imagination, or were the Hasuryaps unusually sub-

dued this morning, more withdrawn than normal? Perhaps they, too, felt the oncoming chill of the Dark and were saddened by the thought of the imminent sacrifice of their obviously beloved beasts.

Whatever the reason, a faint, clinging melancholy walked beside me as I went back into the round house. My informant, Blondie, today had the job of moving the filled grain containers to a storage room, entered by means of a spiral ramp going back into a set of caverns in the hills. Other women headed for the fields, carrying woven baskets — they were gleaners, who would by midafternoon begin to return, burdened with sheaves of ripened grain. Others suckled the youngest children, and still others set out to gather wood and renew the fire, or to cook the evening's meal. Here, as outside, I saw life move to an endless cycle, endlessly repeated.

Tonya and I worked side by side with our informant. Despite all my efforts, I could get nothing like a name from her, nor would she call me "Kadrin"; it was as though the concept of names was beyond her. Our labors made it doubly difficult to learn anything new about the language. At noon the women who had been transferring the grain seemed to call a break by some silent signal, and we refreshed ourselves with *bulka*, the mawkish, unfermented juice of the slimy fruit. Since the women gave no sign of beginning work again immediately, I dug

out my kit and began to question Blondie as we sat outside one of the communal houses. She only half-listened, her attention distracted by a work party of five males who were repairing the breached stone rim of the village well while three of their suryaps hopped around idly.

One thing I wanted, for my proposed task of questioning the elder Hasuryap, was the concept of "age." I tried for many minutes to communicate my need to Blondie, indicating first my own dark hair, then Tonya's white locks, but got only a bemused look. Then, thinking that perhaps the root word for age was masculine, I fought the sun's radio interference long enough to retrieve a photo of a 140-year-old Earthman from the ship's medical banks, and showed Blondie the screen of my transceiver.

She blinked uncertainly at the glowing rectangle, and two or three other Thasuryaps craned to see as well.

They screamed.

They screamed, leaped away, pushed the air with their hands, and fled chattering into the communal houses. The males at the well froze, dropped their stones, and scrambled inside after them. A moment later the sound of terrified primate shrieks burst out, burgeoned, seemed loud enough almost to tear the roof off the building: it sounded like a war in a chimp colony. Near the well the suryaps reared, their eyes rolling in fright. Tonya and I exchanged incredulous stares.

The tumult ceased abruptly, like a candle blown out. I felt giddy from the unexpected reaction. Tonya started forward, stiff-legged, cautiously, and I followed her back into the house. We looked about us in the dimness. In the heat and smell, the women went about their tasks dumbly, with downcast eyes, as if they were stunned. Some of their faces glistened with the tracks of tears, and others shivered silently.

Tonya nudged me. She spied Blondie, squatting over a pile of grain, popping the sheaves off the stems as she had been doing when we first came in. We quietly, slowly approached her. She shuffled around on her heels, turning her back toward us. Across the fire an infant cried out, and was hastily silenced by its mother. I tried to speak to Blondie, but she would not meet my eyes.

In the stuffy enclosure I felt weariness descend on me, a palpable weight between my shoulder blades. I wanted sleep as I had never wanted it before. Around the perimeter of the house hopped a big, slow suryap, probably ill, to judge from its lumbering progress. Apart from the faint crackle of the fire and the recurring plop of the suryap's hind feet, stillness filled the building.

A jaw-cracking yawn took me. Tonya had gone back to the wall where we had spent the night, was sitting propped against it, her gray eyes distant. The suryap plodded between us, and I staggered over to join Tonya.

She closed her eyes, leaned her head back, and sighed heavily. A hundred things waited on the tip of my tongue to be said, but talking was a tiring business just then. I closed my eyes, too, and floated in that nonsleep one has when bone-weary. *I'm made for a world with a sensible rotation*, I thought. *But I can acclimate myself to this one. And to its people.* Surely I could win back Blondie's trust, or that of another female. We were so much like them, and we had been getting on so well....

I don't recall speaking to Tonya that night, nor to any of the Thasuryaps. Nor did I radio the ship, as protocol demanded. Somewhere in the back of my mind I knew that was wrong, but in the face of the great enigma it receded to triviality; finally to nothing. I drifted into dreamless sleep.

**T**onya and I would win their confidence, convince them we were one with them. I woke with that idea in mind, and later I could never remember whether Tonya discussed it with me or just fell in with it. Time was passing, the sun sinking into its nebulous Ring. Already it had a pale pewter look to it, and the house bustled under its light, for much remained to do before the coming of the Dark. The men took the animals to pasture, allowing them to gorge on the grain and now on the leaves and shoots as well. We

women began to haul baskets of salt from the vast natural bowl four kilometers to the east.

It was a wearing business for us. The sun in full day had as yet lost little of its heat, and it baked down on us without mercy. The planet suits that Tonya and I wore lost their charges, and the enviros became inactive. By the fourth day of the work, my suit encumbered me and stank, and after the evening meal that day I took it off and slept naked. I was halfway to the salt bowl the next morning before drowsiness left me and I realized I had not dressed. It seemed no matter; the Thasuryaps and their mates certainly wouldn't be shocked. That evening Tonya shed her suit as well. The clothing lay crumpled next to my datakit. When I thought of the suits and the kit, they seemed remote, something someone had used in another life, small and far away.

During that time I felt, strangely, as though I had dwindled to a tiny manikin. I wore my accustomed body as one wears a fog: beyond the immediate bounds of sight, things become softened, fuzzy, distorted. Somewhere at the center of the fog, the little manikin crouched and screamed, but her fear and fury were like something seen in the corner on a 3-V screen, a minor annoyance, easy to submerge in the drudgery of day-to-day preparation.

We had plenty of that. Each morning we walked along the path we had worn to the salt pit, a caldera kilo-

meters across that at some ancient period had held a leftover part of the retreating sea. The water had gone, but the salt crusted thick on the bottom now, ready to be broken and chiseled loose with pointed stones. Then we piled chunks of it in the woven baskets, shouldered them, and trudged back to the settlement.

The track we followed soon glittered white in the sun. We carried the salt into another round building, fully as large as any of the communal halls, and there we poured it into chest-high stone bins. Then, empty baskets balanced on heads or hips, we returned to the pit, the sun striking rivers of perspiration from us. The baskets were tightly woven, but even so a shower of salt crystals leaked from each one at every step on the way back, and the salt soon stuck and hardened on our sweaty bodies. We wore stinging streaks and rivulets of crusty salt under our breasts, across our backs and flanks and legs. Our feet burned cruelly when we stepped on a sharp rock and cut them, for salt immediately found the wound. Our eyes wept, and the only reality was the plodding round, sleeping hall to salt pit to storage bins to salt pit....

Each evening we ate greedily of baked graincakes and overripe fruit, distending our stomachs and making our heads heavy with the desire for rest. Before night was completely black outside the house, we had huddled together on the hard, bare floor, bodies

touching, and had fallen into that deep, black well of undreaming sleep, only to waken less than three hours later.

When we had more than half filled the bins, I was awakened one night. A Hasuryap was stroking me, caressing me with soft insistence. I rolled on my back, my head spinning with weariness, arched my spine, and lay ready to accept him; but he hesitated in the dark. I heard him sniff twice, then felt his soft hand touch my belly. A moment later he pushed away and shuffled on. Before I fell asleep again, I heard him coupling with a Thasuryap farther along the line. I felt nothing, neither envy nor relief.

Like a tide washing imperceptibly over a white beach, the Dark came on, little by little. Our shadows grew pale on the salt-whitened path. The grasses on either hand darkened, their deep green and broadening leaves telling of their hunger for the fleeing light. The nights grew chill, and we huddled ever closer to the glowing embers of the fire. The days brought gray drizzling rain that turned our hair lank and made the salt even heavier. Now it had to dry in front of blazing fires before it could be dumped into the bins.

Once, on the way to the pit, I saw a Hasuryap pass with his beast. He looked somehow wrong. Part of me, that dwindled me, realized that he was brown-haired, and had a beard, as no other male did; and a once-familiar

word rose in my throat and perched on my tongue but then flew away like a bird uncaught. I wept at my task all that day, without knowing why.

That night something called me from sleep. I wriggled out of the sweaty press of bodies, feeling the cold air like needles on my skin. On hands and knees I crept to the curving passage, and then stood and walked out into the night.

Grimm had no moon, and the starlight shone dim, but a red aurora flickered and played, darting cobwebby lances of scarlet, shaking sheets of pale color at the black world. A breeze from the north was bitter, and I whimpered under its touch. But in the uncertain light I saw a procession of spindle-shanked, stooped marchers, shuffling silently into the round house near the salt bins.

I heard a small sound, that of my own sobbing. The Elders were coming back to the village, and that filled me with dread. A part of me wanted to rouse the others, but I had no word for what I feared. One of the Elders walked beside a suryap. The suryap paused, reared, and seemed to sniff the air.

The cold prodded me back inside, back to the sleeping group. I tiptoed around the edge, seeking something or someone, but I could not remember what. I finally squirmed back into the group for warmth, but when day came, or its ghosts, I still had not fallen asleep.

The sun was pock-faced now, a

dull bronze with speckles of tarnish on its fat jowls. It seemed to give off no more warmth than a candle on a distant hilltop. As one, my group rose, and we walked outside into the shivery morning, under the blind gaze of that fading sun.

Some of the men strode swiftly into the large building. After a moment a few of the women knew they had to follow, and we did, in a clustered, quiet group. But despite the cold it was hard to feel downcast. We were ready, after all, for the coming Dark; the suryaps hopping around the house were fat ones, their skins sleek, their eyes clear. First one, then another of the women smiled. A few gurgled laughs, like eight-month infants. We waited outside the door. Only three or four could go in at once.

The smell began to wash over us from inside the house, a metallic tang, like rusted iron. The giddy little me deep inside jerked and writhed, and it was as if she tickled me. I wanted to do a little dance, to laugh out loud. My legs shook.

My turn came. I pushed through the open door, at the tail of a group of four. I leaned against the stone and felt it — cold from my calves up to my shoulders, cold and rough and final.

The white-haired one had been in the group before us. She smiled back at me, her wrinkled gray eyes ironic and knowing. Two of the younger men were on either side of her, holding her arms. They would be elders by the next



Dark, I thought. Behind the woman an old man stood. He expertly pulled her head back and drew the chert knife across her throat. Her body leaped and jerked once, and the life gushed. The two holding her quickly stooped, grasping her heels, and tied her upside-down to a beam, like the others. They did their butchery with efficiency. They both wore suits of women's blood, like babies thrust new into the cold world.

A smiling man came for me. I smiled back at him. He cocked his head quizzically, sniffed, and came very close. Then he touched my belly. "Kanissa." His voice was a rusty key turning a disused lock. The man closed his eyes, then opened them and jerked his head toward the door. I had been rejected.

I left the building, passing a new group of three just coming in. We smiled at each other. On the other side of the village was the house of those about to give birth. I came to it and went inside. A bright fire kept the room hot. Thasuryaps lay here, on pads of straw. One of them writhed and groaned in the throes of labor. I smiled at her but did not go to her aid.

But when the baby burst out, in a shower of blood, I saw again the face of my friend, and the quick, final sweep of the knife; and then the little being inside me screamed loudly enough for the word to burst from my mouth: "*Tonya!*"

I bit the sound back. My heart

pumped. Somehow I knew that fear and pain and anger had released me, and somehow I had to keep them hot in my belly, or I was lost. I looked down at myself in amazement: naked, scratched, filthy, muscles hardened by unceasing labor. And I thought of the ship.

I stooped over the embers of my anguish and blew them with my breath. Oh, I fanned the flames of my despair, making them burn the brighter. But outwardly I hid the smoke. I left the house of birth and went back to my sleeping hall. Only four women were there, cooking over the central fire. The children had already been taken to the deep houses, where the world's warmth would linger through the long cold. In the dimness I finally found our planet suits, trampled and filthy, stiff with mud, sweat, salt, and excrement. I pulled one on, gagging at its caked, clammy touch — but that was all right, more fuel for the fire. I could find only one boot, and it was Tonya's. I clutched it like a talisman.

Outside the women clustered around the slaughterhouse. A few suryaps milled around them, and in the far meadows I saw specks that were men and animals, out for one last twilight grazing. My way lay opposite theirs, to the west, to the ship. I found the shelter of the buildings and, concentrating hard, made myself walk until I was out of sight of the village, beneath the gloom of the autumnal orchards. Then I ran.

I found our compound deserted. The captain's door was rolled open, and inside I found everything thick with blown dust. The captain's datakit lay on his desk. I snatched it and ran half a kilometer to the landing ship. I tapped in a code, and the ship opened its doors to me.

The lander had little left in it, for our expedition had dropped or brought most of its materials out onto the surface of the planet. But the things I needed were stored in the cockpit, in built-in chests. They were weapons, and I found them all intact. Whatever had taken the men had done so without alarming them.

To be sure, our weapons were non-lethal, in accordance with Sentient Fellowship guidelines, but they were effective at neutralizing most life-forms. They looked a bit like old-fashioned rifles, though stubbier, but instead of projecting slugs of metal, they sent out a narrow, low-level disrupter beam of electromagnetic energy. At low setting, one could inflict an illusory but perfectly excruciating pain. At highest setting, the device produced deep unconsciousness. Each disrupter packed twenty charges. Even with all thirty weapons, I would not be able to knock out the entire village. But pain had released me, and I thought the disrupters would have a far more desirable effect on my shipmates than on the natives of Grimm.

I grabbed a disrupter, slung two more over my shoulder, and hurried

back outside. One of the rollers was in the motor pool, its truck empty, ready for a load of rocks or bone. I climbed into the driver's seat, engaged the engine, and drove east. Halfway to the village, I realized I still held Tonya's boot. I started to throw it out, considered, and left it beside me on the front seat.

Long before the village came in sight, I began to feel a terrible urge to return to the house of death, to take my place in line, to smile as I felt the bite of the knife and the hot wash of blood over my breasts.

I wrestled the roller to a stop, pounded on the steering wheel until my fists throbbed, bit my lip. But it was no use, for I still felt the seductive call to the slaughter. I had thrown the disrupters on the seat beside me. Blindly I groped for one, pointed it toward myself, touched the trigger. Consciousness exploded in a riot of color, and then I was in the dark.

I came to shivering. A drift of snow had dusted the roller and lay already a centimeter deep on the hood. I reached automatically for my temperature dial on my thigh, but the suit's power had been dead for God knew how long. I gulped cold air and shivered. My bare feet belonged to someone else.

The roller had no windows, but a heater. A triumph of Terran design. I got the heater on, meanwhile looking about me. The clouds hung thick, dark, and low, and I had no way of

knowing what time of day it was, whether morning or afternoon.

But at least my head was clear. The fog had scattered, whether because of the disrupter or another, iller wind. I glanced at the setting on the weapon and was not surprised to find it on full. I shook myself, started the roller, and headed downslope toward the village, wondering how long I had slept.

As soon as I came in sight of the building, I knew it had been for at least a night, a day, and another night. The men clustered outside the slaughterhouse now. That was why I felt free of the call. As I came closer, I saw that some old women and men, the elders of the Hasuryap, plied back and forth between the slaughterhouse and the salthouse, carrying baskets of meat to cure. They paid me no attention.

Lewis was the first one I saw, with his African ancestry an easy mark, even in the gray half-light. He stood almost in the doorway, waiting his turn, his lips curved in a smile. I walked right up to him, spoke to him, and he ignored me. I would have done the same, had our places been reversed.

I adjusted the disrupter and hit him with a medium beam. His eyes rolled back, he gasped, and he hit the snow-frosted ground. I dragged him away, toward the roller. No one looked at us.

Despite the advantage of 87 percent gravity, I could not wrestle Lewis into the roller. I was pondering the problem when he groaned, "My God!" and began to move his legs.

"Are you all right?" I screamed, the words thick as cotton in my mouth.

He hung onto the side of the roller, his eyes darting back toward the slaughterhouse in fearful fascination. "Hit me again," he gasped. "Now!"

I gave him the lowest setting. Tears rolled down his ebony cheeks, and he shuddered. His planet suit was in better shape than mine, but not by much; and now he felt the cold, too, for his teeth chattered in his head. "Can you help me?" I begged.

He nodded. "Don't talk," he whispered. I had never really considered our zoologist a brave man before, but it took courage to whisper and not scream.

We dragged Hosch and Santiago from the line. Hosch pulled away twice, so we stunned him and threw him in the back of the truck. Santiago, suddenly aware that he was naked, dithered, and so we ripped Hosch's suit off him, threw it to Santiago, and went back. By then I was wishing the disrupters had a lethal setting. I would have turned mine right on that damned smiling crowd.

Another group had joined the waiting line. Lewis came blundering through it, a figure slung over his shoulder, and when I saw the hair and the beard I cried aloud in relief: Barry. Lewis dropped him like a side of beef, turned his disrupter on himself, and went to his knees. "Get him back to the truck," he gasped between clenched teeth. "There's two more—"

Santiago went past with a disrupter. I dragged Barry uphill. He was just conscious enough to help me a bit as I bundled him into the roller.

Lewis had hauled Malone and Felder away from the slaughterhouse, but he had also had to stun Santiago, who sprawled on the outskirts of the waiting group. The black man came staggering through the crowd, his arm around Felder's shoulders. "This is it!" Lewis yelled. "All that's left!" Felder's head pitched like a spooked horse's, and when he tried to speak, foam sputtered from his lips. Lewis wrestled him uphill to the roller. I grappled Santiago, the thinner man, and pulled him along. His trailing heels left twin streaks through the light snow. His right boot, too large for his foot, caught on a rock and pulled off. I left it behind.

At the truck I discovered that Lewis had tried the disrupter trick on himself one time too many. At least he was inside, on the back seat, halfway sprawled across Barry. I levered Santiago into the truck, then staggered downhill. I kept talking to myself, telling myself what to do, footstep by footstep. Even so I somehow lost track and turned, frowning, trying to remember my goal. My naked footprints stretched behind in the snow, little wasp-waisted pointers to the roller. I thought of the white salt trail, of blood, of stinging pain.

Then I remembered. I pulled Malone and cursed him, straining at

his solid Irish bulk; I dragged him through gravel and through snow. I did everything but kick him, but finally I got him all the way to the vehicle. Barry stood beside the truck, his eyes empty. I slapped him and got no response. I grabbed his face and kissed him, ground against him, and he moved. I bit into his lips hard enough to taste the salt of his blood, and when at last I pulled away, I saw Barry in his eyes, not a herdsman. "Help me," I pleaded.

Somehow we shouldered Malone in. I pushed Barry in, though he wanted to walk around me, back to the village, back to his place in line. I got the engine on, turned the roller, and roared away from there.

The roller had originally come off the lander, through the cargo hatch. I opened it by remote, drove straight up the ramp, and then punched the code to close the ramp. As soon as it hissed shut, I got out the datapack and hit the five numbers that would keep us safe whether we wanted to be so or not: planetary quarantine.

Only then did I collapse.

**H**ours later, after we had left the planet and had docked with the orbiting mother ship, we took stock. "Who saw the captain?" I asked.

Lewis rocked back and forth. "I held one of his arms," he whispered. "I held him while—" He covered his face with both hands.

"Shreve?"

Barry had seen him leave with the first group. And Davitt, and gentle Stanley Chung, the peacemaker. And old, wise Tonya. We were six men, one woman left out of crew of twelve. And with Hassad, Tonya, and Shreve gone, my time in grade meant I commanded the ship.

"The women went first," Barry said. "How did you—"

"The contraceptive shot. It must mimic the signs of pregnancy to the Hasuryap. Chemo-olfactory sense, I think. They wouldn't slaughter a breeding cow." I closed my eyes and saw the color of blood. "What happened with you?"

Lewis spoke: "When you and Tonya failed to return, Barry, Stanley, and Joe went to find you. I guess they were captured—"

"We went into the first house we came to," Barry said. "We just — got lost."

I nodded. Lewis continued: "When they didn't come back, we tried to raise any of you on the radio. But we were feeling strange then, too. We came out of the mess hall that afternoon, and the place was full of those damned grinning herders and their animals. They grinned and nodded, and we thought we'd follow them and see if they'd lead us to you. Somehow we started to take care of the animals, and then — but you know the rest."

Felder, who had not spoken a word since we had boarded the lander,

looked up from his acceleration couch. His eyes were mad. "Burn them. Send the lander down, unmanned, with its engines set to overload. Burn them off the face of the planet."

Lewis looked at him with flat brown eyes. "There are two or three million of them, each group with its little enclave. We can't burn them all."

"We don't burn any of them," I said.

Barry's voice was bitter: "I should have guessed. The suryap bones outnumbered the human bones in all the digs. Their herds have dwindled over the years. Now they've done this — turned to cannibalism, enforced by the telepathic control of the elders—"

"No," I told him. "The Hasuryap are too much like us. You know our weakness as telepaths: great receivers, lousy transmitters."

Malone said in a halting, ragged voice, "We can't go back. No human can. Maybe the Sylix or another telepathic group can establish contact with these — these animals."

I said, "Yes. The Sylix may succeed. I agree with you, Malone. No human belongs on Grimm. The Hasuryap are too much like us, for all their stupidity."

Barry looked up, his eyes sharp. "Stupidity? A race that learns to use telepathic control as a survival device? I—"

My smile felt like a grimace. "You don't understand yet, do you? Barry, I think you were right about the origin

of the species we found on Grimm: an abandoned colony, or a shipwreck. Except the Hasuryap, or their ancestors, weren't piloting the starships. They look human, but they're probably less intelligent than a chimpanzee, when they're not being controlled telepathically. They're animals. It's my fault, in a way. I assumed *Hasuryap* was to

*suryap* as cowboy to cow, or shepherd to sheep."

I turned and began to set the ship for our escape from Grimm's gravity and slow acceleration to the point where we would jump to FTL speed. "Next time," I said softly, "maybe the landing crew can distinguish the herders from the herd."

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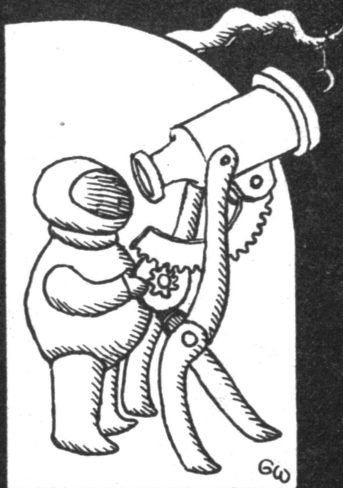
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# Science

ISAAC ASIMOV

Drawing by Gahan Wilson

## E PLURIBUS UNUM

My dear wife, Janet, is a writer quite on her own, having made a few sales before she ever met me. At present, she has published two novels (*The Second Experiment* and *The Last Immortal*) under her maiden name, J. O. Jeppson, and has collaborated with me on an anthology of humorous science fiction (including verse and cartoons) entitled *Laughing Space*. All three books were published by Houghton Mifflin. In addition, a book of her short stories is in press with Doubleday.

Best of all, she has just published a light-hearted science fiction juvenile entitled *Norby, The Mixed-Up Robot* (Walker), in collaboration with me, and the authorship even acknowledges our marriage. It's by "Janet and Isaac Asimov." It is intended to be the first of a series, and the second, *Norby's Other Space*, is already in press. It's pleasant to be unified in print this way.

In fact, unification is pleasant in many fields. Americans are surely glad that thirteen independent states decided to unite in a single federal government. It is that which has made "E pluribus unum" (Latin for "Out of many, one") a phrase that is so associated with the United States. And sci-



entists like to unify, too, taking pleasure in showing that events that may seem totally distinct are actually different aspects of a single phenomenon.

This matter has come up in a number of my essays (as, for instance, "After Many A Summer Dies The Proton," September 1981), but this month, I want to take up the beginning of the matter.

Let's begin with "action at a distance."

Ordinarily, if you want to achieve some action — if, for instance, you want to impart motion to an object at rest — you must make physical contact with it directly or indirectly. You might strike it with a hand or foot, or with a bat or club that you are holding. You might hold it in your hand, while making your hand move, and then release it. You might throw an object in this manner and have it hit a second object, to which it then imparts motion. In fact, you can move one object and have that motion transmitted bit by bit to many objects (as in the falling of a row of dominos). You can even blow, making the air move and, by its impact, move something else.

Could you, however, make a distant object move without touching it and without allowing anything you have previously touched to touch it? If so, that would be action at a distance.

For instance, suppose that you are holding a billiard ball at eye level over the ground. You are holding it so that it is perfectly motionless and then you suddenly let go. You have been touching it, true, but in letting it go, you *cease* to touch it. It is only after you cease touching it that it falls to the ground. It has been made to move without anything making physical contact with it.

Earth attracts the ball, and that is referred to as "gravitation." Gravitation seems to be an example of action at a distance.

Or consider light. If the Sun rises or a candle is lit, a room is at once illuminated. The Sun or the candle causes the illumination without anything material seeming to intervene in the process. It, too, seems to be action at a distance. For that matter, the sensation of heat from the Sun or the candle can be felt across a gap of space. There is another example.

Then, too, about 600 B.C., the Greek philosopher Thales (624-546 B.C.) is supposed to have studied, for the first time, a black rock that had the ability to attract iron objects at a distance. Since the rock in question came from the neighborhood of the Greek city of Magnesia on the Asia Minor coast, Thales called it "*ho magnetes lithos*" ("the Magnesia rock"), and the effect has been called "magnetism" ever since.

Thales also discovered that if an amber rod is rubbed, it becomes capable of attracting light objects at a distance. The amber rod will attract objects a magnet won't affect, and so it is a different phenomenon. Since the Greek word for amber is "elektron," the effect has been called "electricity" ever since. Magnetism and electricity seem to represent action at a distance as well.

Finally, there is sound and smell. Ring a bell at a distance and you hear it even though there is no physical contact between the bell and yourself. Or set a steak sizzling over a flame and you will smell it at a distance.

We have seven such phenomena, then: gravitation, light, heat, magnetism, electricity, sound and smell.

As it happens, scientists are uncomfortable with the notion of action at a distance. There are so many examples of effects that can only be brought about by some sort of contact, that the few examples that seem to omit contact ring false. Perhaps there *is* contact, but in so subtle a manner that we overlook it.

Smell is the easiest of these phenomena to explain. The steak over a fire is sizzling, sputtering and smoking. Tiny particles of it are obviously being given off and are floating in the air. When they reach your nose they interact with its membranes and you interpret this as a smell. With time, this was thoroughly confirmed. Smell is a phenomenon that involves contact, and it is *not* action at a distance.

As for sound, the Greek philosopher Aristotle (382-322 B.C.), about 350 B.C., having noted that objects emitting sounds were vibrating, suggested that the vibrations struck the air immediately in its vicinity and set it to vibrating, that air set air beyond it to vibrating and so on — like a set of invisible dominos. Eventually, the progressive vibration reached our ear and set it to vibrating so that we heard sound.

In this, as it happened, Aristotle was perfectly correct, but how could his suggestion be tested? If sound were conducted by air, then it should *not* be conducted if there were no air. If a bell were rung in a vacuum, it should emit no sound. The trouble was that neither Aristotle nor anyone else in his time, or for nearly two thousand years thereafter, could produce a vacuum and test the matter.

In 1622, the Italian physicist Evangelista Torricelli (1608-1647) upended a long tube filled with mercury into a dish of mercury and found that some poured out. The weight of Earth's atmosphere only upheld thirty inches of mercury. When the mercury poured out, it left behind it, between the sunken level and the closed end of the tube, a gap that contained nothing,

not even air — at least, nothing except for some tiny traces of mercury vapor. In this way, the first decent vacuum was created by human beings, but it was a small one, sealed off, and not very useful for experimentation.

Just a few years later, in 1650, the German physicist Otto von Guericke (1602-1686) invented a mechanical device that, little by little, sucked air out of a container. This enabled him to form a vacuum at will. For the first time, physicists were able to experiment with vacuums.

In 1657, the Irish physicist Robert Boyle (1627-1691) heard of Guericke's air pump and had his assistant, Robert Hooke (1635-1703), devise a better one. In no time at all, he showed that a bell that was set ringing in a glass container that had been evacuated made no sound. As soon as air was allowed to enter the container, the bell sounded. Aristotle was right, and sound, like smell, did *not* represent action at a distance.

(Nevertheless, over three and a quarter centuries later, movie-makers still have spaceships move through space with a whoosh, and explode with a crash. I suppose that either movie-makers are ignorant, or, more likely, they assume the American public is and they feel they have a divine right to protect and preserve that ignorance.)

The question is, then, what phenomena will make themselves felt across a vacuum. The fact that air pressure will only support a column of mercury 30 inches high means that air can only extend a few miles above Earth's surface. Beyond a height of ten miles, only relatively thin wisps of air remain. This means that the 93,000,000-mile gap between the Sun and the Earth is virtually nothing but vacuum, and yet we feel the Sun's heat and see its light, while the Earth responds to the Sun's gravitational pull by circling it endlessly. Furthermore, it was as easy to show that a magnet or an electrified object exerted their effects across a vacuum as it was to show that a ringing bell did not.

This leaves us with five phenomena that might represent action at a distance: light, heat, gravitation, magnetism and electricity.

Nevertheless, scientists were still not anxious to accept action at a distance. The English scientist Isaac Newton (1642-1727) suggested that light consisted of a spray of very fine particles moving in rigidly straight lines. The light source would emit the particles and the eyes would absorb them; in between, the light might be reflected from something and the eyes would see that something by the light it reflected. Since the particles touched the objects and then the eye, it was not action at a distance, but action by contact.

This particle theory of light explained a number of things, such as the

fact that opaque objects cast sharp shadows. It left some puzzles, however. Why should light, passing through a prism, split into a rainbow of colors? Why should the particles of red light be less refracted than those of violet light? There were explanations, but they weren't entirely convincing.

In 1803, the English scientist Thomas Young (1773-1829) conducted experiments that showed that light consisted of waves (see "Read Out Your Good Book In Verse," May 1982). The waves were of different lengths, twice as long for red light as for violet light, and the difference in refraction was easily explained in this way. The reason for sharp shadows (water waves and sound waves do not cast them) is that the wavelengths of light are so tiny. Even so the shadows are not, in actual fact, perfectly sharp. There is a little fuzziness ("diffraction"), and that could be demonstrated.

Light waves put physicists back to action at a distance with a vengeance. One could say that the waves traveled across a vacuum, but how? Water waves are propagated through the motion of surface water molecules at right angles to the direction of propagation (transverse waves). Sound waves are propagated through the motion of air molecules backward and forward in the direction of propagation (longitudinal waves). But when light waves travel across a vacuum, there is no material of any sort to move either up and down, or back and forth. How, then, does the propagation take place?

The only conclusion scientists could come to was that a vacuum did *not* contain something that would wave up and down (for light waves were discovered to be transverse, like water waves). They therefore postulated the existence of "ether," a word borrowed from Aristotle. It was a substance so fine and subtle that it could not be detected by the gross methods of science, but could only be inferred from the behavior of light. It permeated all of space and matter, reducing anything that seemed to be action at a distance, to action by contact — etheric contact.

(Ether was eventually found to be an unnecessary concept, but that's another story. For convenience's sake, I will temporarily speak of the various effects that can make themselves felt across a vacuum as "etheric phenomena".)

There are then five etheric phenomena I listed a while ago, but might there not be more that would eventually be discovered, as electricity and magnetism had once been discovered by Thales? Or, in reverse, might there not be fewer? Might some etheric phenomena that seemed distinct actually prove identical when viewed in a more fundamental way?

In 1800, for instance, the German-British astronomer William Herschel (1738-1822) discovered infrared radiation, radiation beyond the red end of the spectrum. The infrared so strongly affected a thermometer that Herschel thought, at first, that that invisible region of the spectrum consisted of "heat rays."

It was not long, however, before the wave theory of light was established and it was understood that there was a much wider stretch of wavelength than that which the human eye was equipped to detect (see "Four Hundred Octaves," June 1982).

Heat came to be understood better, too. It could be transmitted by conduction through solid matter, or by convection along moving currents of liquid or gas. This is action by means of atoms or molecules in contact. When heat makes itself felt across a vacuum, however, so that it is an etheric phenomenon, it does so by the radiation of light waves, particularly in the infrared. These radiations are not in themselves heat, but are only perceived as such when they are absorbed by matter and the energy so absorbed sets the constituent atoms and molecules of that matter to moving or vibrating more rapidly.

Therefore, we can expand the concept of "light" to signify the entire spectrum of light-like waves, whether detectable by eye or not, and it can also include heat in its radiational aspect. The list of etheric phenomena is reduced to four, then: light, gravitation, magnetism and electricity.

Is there any chance of reducing the list further? All the etheric phenomena are similar in that each originates in some source and is radiated outward in all directions equally. Furthermore, the intensity of the phenomenon decreases, in each case, as the square of the distance from the source.

If you are at a given distance from a source of light and measure its intensity (the quantity of light striking a unit area), then move away until your distance is 2.512 times the original distance, the new intensity is  $1/2.512^2$ , or  $1/6.31$  what it was at the original distance. This "inverse-square rule" can also be shown to be true of the intensity of gravitation, electricity, and magnetism.

Yet this is not, perhaps, as significant as it sounds. We might visualize each of these phenomena as a radiation moving outward at some fixed speed in all directions equally. After any particular lapse of time, the leading edge of the expanding waves occupies every point in space that is at a particular distance from the source. If you connect all these points, you will find that you have marked out the surface of a sphere. The surface of a sphere increases as the square of its radius; that is, as the square of its

distance from the central point. If a fixed amount of light (or any etheric phenomenon) is spread out over the surface of an expanding sphere, then every time the surface doubles in area the amount of light available per unit area on that surface is cut in half. Since the surface area increases as the square of the distance from the source, the intensity of light (or any etheric phenomenon) decreases as the square of the distance from the source.

That means that the various phenomena might be basically different in properties and yet resemble each other in following the inverse-square law. But *are* the various etheric phenomena basically different?

Certainly, they seem to be. Gravitation, electricity and magnetism all make themselves evident as an attraction. This differentiates all three from light, which does not seem to be involved with attraction.

In the case of gravitation, attraction is the *only* effect that can be observed. With electricity and magnetism, however, there is repulsion as well as attraction. Like electric charges repel each other; so do like magnetic poles. Yet electricity and magnetism are not identical either, since the former seems capable of attracting all kinds of matter, while magnetic attraction seems largely confined to iron.

Thus, in the 1780's, the French physicist Charles Augustin de Coulomb (1736-1806), who had shown that both electricity and magnetism followed the inverse square law, argued convincingly that the two might be similar in this but were fundamentally different in essentials. That became the orthodox view.

But even as Coulomb was propounding his orthodoxy, a revolution was brewing in the study of electricity.

Until then, it had been "electrostatics" that was studied, the more or less motionless electric charge on glass, sulfur, amber, and other materials that are today called "non-conductors." Characteristic effects were observed when the electric content on such objects was "discharged," and all the charges made to flow across an air gap, for instance, to produce a spark and crackle, or into a human body to produce a most unpleasant "electric shock."

In 1791, the Italian physicist Luigi Galvani (1737-1798) found that electrical effects could be produced when two different metals were in contact. In 1880, this matter was taken further by the Italian physicist Alessandro Volta (1745-1827), who made use of a series (or "battery") of two-metal contacts to produce a continuous flow of electricity. In no time at all, every physicist in Europe was studying "electrodynamics."

Yet this discovery made electricity and magnetism seem more different than ever. It was easy to produce a current of moving electric charges, but no analogous phenomenon was to be noted with magnetic poles.

A Danish physicist, Hans Christian Oerstad (1777-1851), felt otherwise. Taking up the minority view, he maintained there was a connection between electricity and magnetism. An electric current through a wire developed heat; if the wire were thin, it even developed light. Might it not be, argued Oerstad in 1813, that if the wire were thinner still, electricity forced through it would produce magnetic effects?

Oersted spent so much time teaching at the University of Copenhagen, however, that he had little time to experiment and was, in any case, not a particularly gifted experimenter.

In the spring of 1820, however, he was lecturing on electricity and magnetism to a general audience, and there was an experiment he wanted to try but had not had time to check before the lecture. Nevertheless, on impulse, he tried it in the course of his lecture. He placed a thin platinum wire over a magnetic compass, running it parallel to the north-south direction of the needle, then forced a current through the wire. To Oerstad's astonishment (for it was not quite the effect he expected) the compass needle jerked as the current was turned on. It wasn't much of a jerk and the audience was left unmoved, apparently, but after the lecture, Oerstad turned to experimentation.

He found that when the current was made to flow through the wire in one direction, the compass needle turned clockwise; when the current flowed in the other direction, it turned counterclockwise. On July 21, 1820, he published his discovery and then dropped the matter. But he had done enough. He had established some sort of connection between electricity and magnetism, and physicists rushed to investigate the matter further with an avidity not seen again until the discovery of uranium fission over a century later.

Within days, the French physicist Dominique F. J. Arago (1786-1853) showed that a wire carrying an electric current attracted not only magnetized needles but ordinary unmagnetized iron filings, just as a straightforward magnet would. A magnetic effect, absolutely indistinguishable from that of ordinary magnets, originated in the electric current.

Before the year was over, another French physicist, André Marie Ampère (1775-1836), showed that two parallel wires attached to two separate batteries in such a way that current flowed through each in the same direction, attracted each other. If the current flowed through in opposite directions they repelled each other. The currents could be made

to act like magnetic poles, in other words.

Ampère bent a wire into a solenoid or helix (like a bed-spring) and found that the current, flowing in the same direction in each coil, produced reinforcement. The magnetic effect was stronger than it would have been in a straight wire, and the solenoid acted exactly like a bar magnet, with a north pole and a south pole.

In 1823, an English experimenter, William Sturgeon (1783-1850), placed eighteen turns of bare copper wire about a U-shaped iron bar without letting the wire actually touch the bar. This concentrated the magnetic effect even further, to the point where he had an "electromagnet." With the current on, Sturgeon's electromagnet could lift twenty times its own weight of iron. With the current off, it was no longer a magnet and would lift nothing.

In 1829, the American physicist Joseph Henry (1797-1878) used insulated wire and wrapped innumerable coils about an iron bar to produce a far stronger electromagnet. By 1831, he had an electromagnet of no great size that could lift over a ton of iron.

The question arose: Since electricity produces magnetism, can magnetism also produce electricity?

The English scientist Michael Faraday (1791-1867) demonstrated the answer to be affirmative. In 1831, he thrust a bar magnet into a wire solenoid to which no battery was connected. As he thrust the magnet in, there was a surge of electric current in one direction (this was easily detected with a "galvanometer," something that had been invented in 1820 by making use of Oerstad's discovery that an electric current would deflect a magnetized needle). When he pulled the magnet out, there was a surge of electric current in the opposite direction.

Faraday then went on to construct a device whereby a copper disk was forced to turn continuously between the poles of a magnet. A continuous electric current was thus set up in the copper, and this could be drawn off. This was the first "electric generator." Henry reversed matters by having an electric current turn a wheel, and this was the first "electric motor."

Faraday and Henry between them thus initiated the "age of electricity," and all of it stemmed from Oerstad's original observation.

It was now certain that electricity and magnetism were closely related phenomena, that electricity produced magnetism and vice versa. The question now was whether each could also exist separately, whether there were any conditions under which electricity did *not* produce magnetism, and vice versa.



In 1864, the Scottish mathematician James Clerk Maxwell (1831-1879) devised a set of four comparatively simple equations that described the nature of the interrelationships of electricity and magnetism. It quickly became apparent that "Maxwell's equation" held under all conditions and explained all electromagnetic behavior. Even the relativity revolution introduced by Albert Einstein (1879-1955) in the first decades of the 20th Century, a revolution that modified Newton's laws of motion and of universal gravitation, left Maxwell's equations untouched.

If Maxwell's equations were valid, then neither electrical nor magnetic effects could exist in isolation. The two were always present together, and there was just electromagnetism, within which electrical and magnetic components were directed at right angles to each other.

Furthermore, in considering the implications of his equations, Maxwell found that a changing electric field had to induce a changing magnetic field, and so on. The two leap-frogged, so to speak, so that the field progressed outward in all directions in the form of a transverse wave moving at a speed of 300,000 kilometres per second. This was "electromagnetic radiation." But light is a transverse wave moving at a speed of 300,000 kilometres per second, and the conclusion was irresistible that light in all its wavelengths from gamma rays to radio waves was an "electromagnetic spectrum."

Light, electricity, and magnetism all melted into a single phenomenon, described by a single set of mathematical relationships — *e pluribus unum*. Now there were only two forms of action at a distance: gravitation and electromagnetism. With the vanishing of the concept of the ether, we speak of "fields," of a "gravitational field" and an "electromagnetic field," each consisting of a source and an endlessly expanding radiation from that source, moving outward at the speed of light.

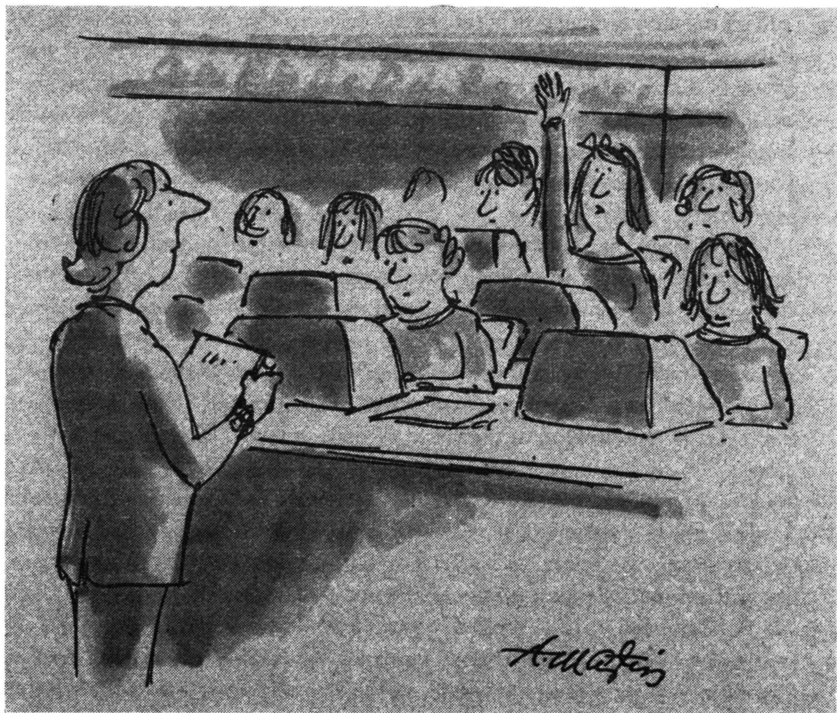
Having reduced five to two, ought we not search for some still more general set of mathematical relationships that would apply to only one "electromagnetogravitational field," with gravitation and electromagnetism merely two aspects of the same phenomenon.

Einstein tried for thirty years to work out such a "unified field theory" and failed. While he was trying, two new fields were discovered, each diminishing in intensity with distance so rapidly that they showed their effect only at distances comparable to the diameter of an atomic nucleus or less (hence their late discovery). They are the "strong nuclear field" and the "weak nuclear field."

In the 1970's, the American physicist Steven Weinberg (1933- ) and the Pakistani-British physicist, Abdus Salam (1926- ), independently worked out a mathematical treatment that showed the electromagnetic and weak nuclear fields to be different aspects of a single field, and this new treatment can probably be made to include the strong nuclear field as well. To this day, however, gravitation remains stubbornly outside the gate, as recalcitrant as ever.

What it amounts to, then, is that there are now two grand descriptions of the world: the theory of relativity which deals with gravity and the macrocosm, and quantum theory which deals with the combined electromagnetic/weak/strong field and the microcosm.

No way has yet been found to combine the two, no way, that is, to "quantize" gravitation. I can't think of any surer way of getting a Nobel Prize within a year than to accomplish that task.



*"Miss Millerman, I don't seem to be getting the french vocabulary drill on my terminal. I seem to be getting this really raunchy porno flick."*

*This new short novel by Hilbert Schenck concerns a U.S.-Soviet stand-off and stars a nuclear powered steam airplane. Like all of Mr. Schenck's stories it is full of technological invention, larger-than-life characters and express-train pacing. Enjoy.*

# Steam Bird

**(1st of 2 parts)**

**BY**

**HILBERT SCHENCK**

## AUTHOR'S NOTE

In 1952 the United States Air Force decided to press ahead on the design of an atomic-powered bombing plane capable of attacking any point inside the Soviet Union from any other given point of entry, and able to stay aloft along the Soviet borders for long periods of time before attacking. Two engine companies, Pratt and Whitney Aircraft and the General Electric Company, were engaged to produce the power plant, working under the requirement that two entirely different engines must emerge from the two companies and the Air Force would then choose the design on which to base the airframe. In fact, at least four different engine cycles were considered in the next six years, all of them operationally dangerous in various unique ways.

The supercritical-water, steam-turbine-driven-fan-jet "Steam Bird" hap-

pened to be the weapons system on which I worked as a just-graduated mechanical engineer at Pratt and Whitney, specifically in the condenser-design group. And though we got the big baby flying inside the computers, the whole thing was dropped —luckily for the country — in 1958 when the flight of *Sputnik* showed that intercontinental mass murder does not require slow, vulnerable, and crash-prone battle-wagons of the sky. This story, taking place more or less in the present, assumes a world in which that decision was not made and in which three such bombers were actually built, to sleep forgotten, awaiting some final purpose.

The flight of *Steam Bird* here, its multitudes of technical and operational problems, and the crew's and Washington's responses to these surprises are either my own professional es-

timates or else projections of other engineers. The much-discussed problem of "roll-up," for example, was first pointed out to the Air Force by an AEC consultant in 1950.

As to the Muth family, their friends, adversaries, and co-conspirators, they are wholly fictitious and not based on any real persons.

H.S.

Cuttyhunk, Mass.

**T**he four-cylinder, articulated Y6B, her twin stacks blasting, hit the sag at the base of Sherman Hill doing fifty scale-miles an hour, over a hundred loaded coal hoppers behind her drawbar and heading for Tidewater. Colonel Bob Muth, sweat already popping on his pink forehead, felt his train's momentum drop away as the big engine tackled the main grade and car after car came through the sag and started into the climb.

Colonel Muth's wife, Betty Lou, watched with frowning, critical eyes. "I told you to go in the hole at Newberry's Junction," she said firmly. "The Dixie Flyer is only ten minutes back and running late!"

Colonel Muth was too busy to make a response. He gave the locomotive full regulator, then increased the cutoff to 40 percent. The engine, now barking sharply like an

enraged dog, slowed and fought the hill. On the tail of the kite, behind the caboose, was a single helper engine, an ancient Berkshire, also puffing and shouting hoarsely.

"Will you push!" said Colonel Muth tensely to the Berk's engineer, Major Fisk. "For God's sake, Harry, put it in full forward gear, please!"

Fisk shook his head. "My water's already down to the crown sheet, Bob. I can barely hold steam now!"

The drag slowed and slowed as the top of Sherman Hill came nearer. "More sand, Bob," said Betty Lou Muth quietly. "You're going to lose your feet!"

Colonel Muth pushed the sanding lever farther over and shook his head. "I'll be out of sand before the top. How the hell can I stop her at Tidewater?"

Nobody answered. They were all watching the big engine begin to slip her forward drivers. The exhaust bark became uneven, and in desperation Muth slammed the sanding lever way over and shoved the machine into full forward gear on both sets of cylinders. In a final ecstasy of rapid exhaust puffs and spinning wheels, the big engine topped the hill at no more than three scale-miles an hour, and the hoppers began to come over the ridge behind her. Muth let out a great sigh, pulled back on his Johnson bar, and, to show he had never really doubted the top, cut lose a triumphant, though brief, blast on his whistle.

"Lucky, Bob," said his wife, trying

to appear unimpressed.

The long train slowly accelerated as each new hopper hit the level, and Colonel Muth finally whistled his helper off the train. The gasping Berkshire immediately dropped away and ran slowly backward to the helper pocket at the base of Sherman Hill, her engineer still breathing deeply in relief.

The main line of the Tidewater Northern went to two tracks a scale mile beyond Sherman, and Colonel Muth pulled into the passing track to let the Dixie Flyer go by. He steamed slowly along as the varnish suddenly appeared behind — two high-stepping Pacifics on the point, four head-end postal and express cars, twelve heavy-weight eighty-footers, and ending in a handsome boattail observation lounge — the whole consist smoothly tearing by them at ninety scale-miles an hour. Both whistles broke into a continuous scream, and after the Dixie whirled away, Colonel Muth gave two cheerful toots back and speeded up when his signal dropped back to caution.

The rest of the run to Tidewater was on a descending, one-in-two-hundred grade, and Colonel Muth, now quite low on sand, applied his air a quarter mile from the division yards so that his train might assist in bringing the engine to rest. They passed the yard-limit signs doing seven scale-miles an hour, and he put the Y6B into reverse gear and quarter regulator, watching the wheels slip and skid, then pulled his train air to full-emergency.

The long train drifted neatly to a stop along the arrival track of the rotary dumper, and Colonel Muth grinned, wiped his face with a red bandanna hanging around his neck, and flipped up the long black bill on his blue-striped engineer's cap.

Master Sergeant Stewart, whose six-wheeled switcher began at once to break the coal drag into manageable pieces, stuck up his right thumb. "A sweet run, Bob. Lovely!"

Colonel Muth sat silent and grinning to watch the northbound commuter — a small, ancient Prairie and three open-vestibule shorty cars — huffle busily by. Then, just as the commuter pulled into Lakeview, everything suddenly stopped and the room lights went fully on.

"Gentlemen," said Betty Lou Muth, who was division super for that session, "it is now twelve noon, July 15, 1943. Next Thursday we complete this day. Division superintendent will be Harry Fisk. The rest of your assignments are posted on the call-board."

Betty Lou looked up and down the sixty-foot length of the HO train layout whose several levels filled the gigantic basements of the Muth home. "Let's remember next week that we're on wartime rules. We'll be handling about 160 percent of normal traffic."

Bob Muth poked up his hand diffidently, grinning at his wife. "Super," he said in a respectful voice. "Can't we get a better helper in the pocket at Sherman than that completely decrepit

and useless Berkshire?"

Betty Lou shrugged. "You find it, Bob, anywhere on this division. The Dixie is running double-headed in both directions now. We've got two solid trains of troop sleepers coming south as extras during the next session, and even the division's local peddler freight is so long it needs two switchers or else a decent road engine."

"On the other hand," stoutly answered Bob Muth right back, "if we have to split the coal trains at Sherman, we'll block the whole road for an hour or more at a time."

Betty Lou, shrugging again, turned toward the stairs. "As I said when we started the session, Bob, there's a war on." A smattering of laughter and applause greeted this firmly stated announcement. "O.K.," said Betty Lou, "you boys police up the butts and secure the layout while I go pour the cocoa."

The men soon straggled upstairs from the basement, chatting about the various problems of the just-ended operating session, to find hot cocoa and cookies laid out in the big living room. "The trouble is," said Bob Muth to Fisk and Stewart, as they sat down on the long sofa and sipped their cocoa, "the whole loco roster is stored right there in the microcomputer memory. The damn thing *knows* that Berkshire was supposedly built in 1917, hasn't had a major shopping since 1940, and leaks steam at every joint."

"It sure is a dog, all right," said

Harry Fisk. "Good grief, the computer had me out of water after five minutes on full regulator!"

"Does the computer really know when you forget to stop for sand, Bob?" asked Sergeant Stewart, remembering the problem with stopping the Y6B.

Bob Muth shook his head in rueful remembrance. "You better believe it does, buddy! You weren't here three weeks ago, but I forgot to sand up the switcher I was running to Tidewater. I came down light off the dumper, going a bit fast, hit the brake and sander, and skidded into the drink. Five demerits!"

Stewart shook his head. Going on the ground while driving a crack model railway like the Tidewater Northern was humiliating enough. But to go over onto the epoxy ocean! "Boy, I'm never going to touch that regulator again before I check my sand!" said Jim Stewart fervently.

At the instant the phone began to ring. Bob Muth peered at his watch, noting it was almost midnight, then picked up the receiver. "Colonel Muth speaking," he said in a terse voice.

Conversation in the room abruptly stopped, and everyone turned to watch Bob Muth speak into the phone. "Yes, sir. I understand, General. Well, sir ... all my crew is here except my co-pilot, Captain Johnson ... Ah, he's with you now, then? Fine."

Muth hung up and turned, completely without expression, back to his wife and guests. "Gentlemen," he said

in a calm tone. "The Soviet Union has refused to call back its two vessels taking missiles bodies to Nicaragua. President O'Connell has placed the wing on a six-hour alert. General Beardsley suggests that everyone get some sleep. We have to be in the aircraft ready for takeoff at 5 A.M. Any questions?"

The Muth living room was absolutely still. Nobody moved a finger, a shoe, or a muscle, yet their eyes darted everywhere, each man staring, in turn, into the eyes of the others, and in each eye there was a single, burning hope. Rapidly and silently each man finished his cocoa and left the house. Bob and Betty Lou nodded their acceptances of thanks and said their good-nights in low voices at the front door, and soon the driveway was empty of cars.

Colonel Muth peered out past the neat lawn to the tall pine forests that surrounded the northern Maine town of Moosefoot. He sighed deeply.

Betty Lou suddenly put her arm around her husband, hugging him strongly. "You're getting your hopes up again, aren't you, baby?" she said softly.

Colonel Muth bit his lip and grinned sheepishly at her. "It's got to be this time, Lou. If they don't use us now, the wing is down the chute."

"How many other times have you been on six-hour red alert, Bob?" asked his wife softly.

"Eight," said Bob Muth immediately and ruefully. He turned to look at

his wife. "Oh, I know there's not much chance, but the pressure is stronger on them to use us, too, each time we get called up."

Betty Lou hugged her husband tight. "You think I should call Uncle Nate, Bob?" Her level gray eyes looked lovingly and directly at him.

Muth shook his head. "There's no point getting Nate stirred up at this point. But if we should be ordered to go critical ... then you better get him." He put an arm around her sturdy shoulder and gave her a squeeze back. "You've got to get us back, good buddy," he said suddenly. "You and Nate."

Betty Lou nodded and kissed her husband on the cheek. "You know we'll get you back, Bob," she said in a positive voice. "I just hope Steam Bird gets you up."

Bob Muth took a deep breath. "She'll do it. All she needs is a chance." His voice was positive and strong, and as he looked out over the dark, silent woods, then up into the cold air, he could almost see the huge bird lifting, up and up, her turbines singing a shrill song to the very stars.

## II

**T**he Moosefoot Air Force Base and its associated town were neighbors to such far-north Maine municipalities as Eagle Lake, Quimby, and Allagash. During World War II the long runway had been one of the American ends of

that great bridge of aircraft that flowed across the Atlantic to beleaguered England. Now all that remained of those memorable days was the Third Intercontinental Bombardment Wing, USAF, consisting of three nuclear-propelled aircraft, the only three in the world.

None of these huge planes had ever actually flown. The original idea had been to use one as a trainer, keeping the other two unflown for combat. The difficulty was that once a flight, or even a start, was made, the plane's reactor became hot and deadly for all time to come, and since the aircraft could carry only enough shielding around the reactor to protect the air crew located forward, a working plane would have to be kept and serviced in a special place, the "hot hangar."

Inside this hot hangar, in addition to massive, movable shielding walls, was planned a shielded diesel locomotive to move around the remote-servicing arms and servo-controlled TV cameras to check and repair the aircraft. This quarter-billion-dollar project had been traded off in a long-ago Congress for some other, and more interesting, weapons system, so that the Air Force had no choice but to save all its atomic airplanes for some future "big show."

Congress had eventually relented a bit and provided a few dozen million to train the three crews on a flying simulator, a gigantic propjet, kerosene-driven copy of a nuclear-pro-

pelled bombing plane. Like the electrically propelled "steamers" on Colonel Muth's HO-gauge model railway layout, the response of this giant plane was filtered through a computer programmed to make it respond like a nuclear machine. Since fossil-fueled gas turbines have a much prompter response to environmental and control changes than a nuclear-heated cycle does, the simulation was practical and readily carried out. The difficulty, of course, was that the assumed behavior of these atomic airplanes was just that: assumed. Nobody really knew what the things might truly do, or fail to do, in an actual flight.

Colonel Muth, tall and stern in his bulky flight kit, stood at 5 A.M. with his silent crew under the wing of their gigantic atomic aircraft, the *Samuel Langley*. The machine was essentially a low-wing fan-jet, but with wing-root-mounted engines. The huge size of these ten shrouded fans required a wing-fuselage junction over thirty feet thick, so that from the front the *Langley* seemed like one vast tapered wing with five insectlike eyecomplexes on each side of a stubby but huge nose. The many wheels and their complex of undercarriage structure created a sense of busy confusion between the *Langley's* great bulk and the hangar floor, and a sense of her weight could be gained by noting how mushed flat were the many fat tires.

Behind in the cavernous hangar bulked the two other shadowy planes



of the wing, and everywhere about them men prepared to move the huge machines out into the quiet dawn — should the order ever be given.

Major Peter Caine, aircraft commander of the nearby *Sir Hiram Maxim*, walked up to the *Langley's* aircrew, smiling crookedly. "You want to flip to see who goes first, Bob?" he asked with elaborate casualness.

Colonel Muth clapped Caine on the shoulder and grinned. "Sorry, buddy. Today I'm pulling rank and seniority. You can go first next time." But when he saw that Caine did not think this very funny, he softened his voice. "Maybe they'll fly us all, Pete," he said squeezing the man's arm.

Suddenly General Beardsley's voice boomed within the gigantic hangar. "Aircrews, man your planes! Ground crews, begin the tow-out!" The *Langley's* crew stared at each other, their eyes filled with a sudden, wild surmise. Sergeant Stewart shook his head and muttered to him. "I am *not* going to get my hopes up," he said over and over.

Betty Lou Muth sat in her car outside the high cyclone fence with her younger daughter, Alice. They peered across the wide field into a distant corner of the huge, lighted hangar. Suddenly the girl pointed. "Mom, look! They're towing out the *Langley*!"

Mrs. Muth quickly lifted a pair of seven-by-fifty night binoculars to her eyes and focused on the distant activity. "You're right!" she breathed. "Lordy, here they come, Alice!"

The hangar doors came fully up in the predawn darkness, and the inside light spilled out around the gigantic, slowly moving form of the *Langley*. It took three D-8 Caterpillar tractors to move each huge flying machine on its ninety-six wheels, and these roaring, creeping monsters were utterly dwarfed by their load. Betty Lou Muth peered steadily through her glasses. "They've gotten this far before," she said, half to herself. "Let's see if they start the fans."

The *Langley's* flight office was an almost unnoticeable blister on the monster, bulbous nose of the plane. Colonel Muth sat in the right-hand, or plane's commander's seat, staring out and down at the distant, huffling tractors as they pulled with agonizing slowness out into a pink dawn. The wind was a modest ten miles an hour and blowing right down the runway toward them. They had only to turn the aircraft a few degrees to begin a takeoff run.

Next to Muth in the copilot's seat slouched Captain George Abraham Jackson, the only black in the *Langley's* crew and generally regarded as the most skilled high-pressure-steam man on the base. "Gaby" Jackson had been raised as a youth in England, the son of a minor consular official, but while there he had come under the influence of the great model engineer Edgar Westbury, holder of many international hydroplane records and remembered as the poet of flash steam.

Having nothing to do until the *Langley's* engines were placed in a start mode, even though surrounded by banks of instruments and controls, Captain Jackson was carefully reading his latest copy of *Flash Steam Monthly*, shaking his head over what appeared to be suicidally thin bearings in a new impulse turbine engine.

Colonel Muth turned to his introspective copilot. "Did you and the general get his flash-steam outfit going, Gaby?" he asked, finding the tense silence suddenly too much to bear.

Captain Jackson looked up from his magazine and stretched. "We got thirty seconds, Bob. I told General Beardsley those two water pumps wouldn't be enough, but he was dying to try the rig out, so of course we burned out two feet of uniflow tubing at the hot end. That burner is really a screamer. Terrifying!"

Bob Muth grinned at his copilot. "If you say that, buddy, then it must be so! You think old Beardsley will ever get his car built?"

Jackson shrugged narrow shoulders and winked a big brown eye. "He will if he doesn't kill himself first, Bob. The question is, Who will drive the thing? You wouldn't get me in a sixteen-hundred-pound flash-steam racer intended to go two hundred miles an hour."

Colonel Muth sighed. "I dunno, Gaby, about all this speed stuff. I think I'd just as soon be driving Nate's twelve-ton shay, holding seven miles an hour up a 4 percent grade and puff-

ing like it was doing two hundred."

Captain Jackson stuck out a large red tongue and made a rude noise. "Don't give me that 'speed is silly' stuff, Bob" he said at once. "You'd cut off your right arm if somebody would put you in *Mallard's* cab with Driver Duddington when she came down Es-sendine bank doing 126."

"You're absolutely right," said Bob Muth cheerfully. "But then, I'd also give a right arm to be driving the lead South Park Consolidation with five engines behind me ramming the push-plow through to Gunnison against fourteen-foot drifts."

Captain Jackson's large, dark face assumed a thoughtful cast. "Who wouldn't?" he said finally and almost to himself.

In the center of the control panels surrounding the two pilots were inset two miniature TV screens. Certain commands to the *Langley* could be given only by certain people, and it was essential that the *Langley's* crew actually see who was issuing the order. Now these two screens were alight and showing the thin, patrician, white-moustached face of General Beardsley, and behind him the busy Ops room of Moosefoot Air Base.

"Colonel Muth and crew of the *Langley*," he said from firm, narrow lips. "Commence the reactor and engine checkoffs. You will start the criticality sequence on my order. We are towing the portable shields into place."

Colonel Muth and Captain Jackson stared at each other in total disbelief that immediately gave way to expressions of total triumph as they simultaneously looked back over their shoulders and saw the big Cats, shouting in deafening bellows, dragging the immensely heavy rolling shields between the *Langley* and the open hangar. Since it had proved impossible to carry enough reactor shielding on board the plane to protect any ground crew at the rear of the *Langley* after the reactor start, they had to interpose a lead-concrete rolling wall between the airbase and the plane before she went critical. This distressing and onerous requirement had one silver lining: Soviet jet fighters, which could move at five to six times the speed of the *Langley*, might be discouraged from pressing a stern attack when they realized they were tearing into a thousand-rem-per-hour radiation field.

Betty Lou Muth passed the field glasses to her daughter and started the car. "They're pulling out the shielding!" she said in a tight voice. "I'm going to call Nate. If we hurry, we can get back here before they take off."

She floored it in reverse and spun the station wagon's wheels in the dirt shoulder as they jumped out on the highway. With a scream of tires, the Muth station wagon darted back toward the main street of Moosefoot and its single outdoor pay phone. Twelve-year-old Alice Muth peered out her

side window with the big glasses, watching the distant *Langley* squatting like a winged spider on a planet a thousand or a million times bigger than earth, the crisp pink dawn showing through its multitudes of wheels. Even from two miles away it seemed to dwarf the trees and buildings.

"Mom," said Alice to her mother, "if Dad can get that to actually fly, well, he must be the best pilot in the world!"

"Amen," muttered Betty Lou Muth as the Moosefoot city-limit signs went by them at eighty-miles an hour.

### III

The president of the United States faced his day ahead with both annoyance and disquiet. For one thing, it seemed obvious to him, though he readily admitted he was no military expert, that firing a few ballistic missiles from Nicaragua, over Costa Rica, to hit the Gatun locks on the Panama Canal was about as unlikely a way of actually hurting the damn thing as he could imagine. The trouble was that the canal kooks, for whom any threat to their beloved waterway was more to be resisted than a landing of Soviet tank forces at New York's Battery, had their damnable wind up.

President O'Connell shook his head sourly at the room heavily dotted with uniforms. It seemed especially ominous to him that he had never heard, after two years in office, about

the Moosefoot Airbase and his country's three nuclear aircraft. After all, they *were* a part of nuclear deterrent, for which he was solely responsible. The president felt even more distress over the absence of his majordomo and chief White House aide, "Happy Jack" Hanrahan, the man who had actually run Chicago while Mayor Shamus O'Connell was striding about the South Side, tossing his white mane, wetly kissing tiny black children, and running for president.

Happy Jack was a thin, wizened Irishman with a mind so quick and all-encompassing that no computer data bank or newspaper morgue could ever compete with it. Happy Jack's memory for names, facts, and faces was more extraordinary than any mental freak's counting a field full of cows in seconds. The president rubbed his hands and frowned. Jack would know about Moosefoot and the nuclear bombers, probably the name of the C in C, how he voted, and who was in the Maine state legislature from Moosefoot Township.

The president steepled his hands, pursed his lips, and lidded his eyes, to imply deep thought. The longer he could stall them, the more chance there was of Jack's getting back from California and keeping him out of trouble on this.

But General of the Air Force Mike (One-Eye) Zinkowski was not prepared to wait any longer. "Mr. President," he said in a respectful but firm

voice, "the first atomic aircraft is now prepared for engine start-up. Under the Aircraft Atomic Energy Act of 1963, *you* must issue the order. I now respectfully request such an order."

The president opened his eyes and cleared his throat. Well, they were pressing him, all right. He peered about the room, knowing that he had to say something incisive. "General, starting the engines does not commit us to take-off, is that correct?"

General Zinkowski set his large jaw in a conciliatory posture and nodded. "Take-off is a second and entirely separate order that is transmitted directly from you to the plane commander."

The president sighed. "Very well." He turned slightly to face the TV camera. "Are we hooked into Moosefoot?" he asked his press aide as an aside, and when the man nodded, whispered, "Who's that general up there?"

"Beardsley," the aide hissed back.

"General Beardsley," said the president of the United States loudly, "do you recognize that I am speaking to you as your commander in chief?"

"I do, sir," came the prompt answer over the protected microwave link. "I await your order, Mr. President."

"Then, General Beardsley," said O'Connell, "order the *Langley's* commander to start his aircraft's engines."

Beardsley looked impassively back out of the TV monitor, then snapped to attention and saluted. "The wing is

ready, sir. We will not fail the country, Mr. President. Nor the world of steam!"

"The world of what?" said a startled President O'Connell, but the screen picture had dissolved to shards of blinking, bright lines. The president rubbed his nose slowly and let his eyes drift over the many men sitting at the big conference table, most of them watching him in a kind of attentive mindlessness or else peering blankly at papers that lay in front of them. O'Connell missed Jack more than ever, because now the president's sensitive political antennae were sending disturbing signals. Either somebody was planning some kind of weird coup or scam, or else the United States Air Force had turned into a kind of gigantic, outpatient mental ward. Or perhaps both. My mother wanted me to be an accountant, thought Shamus O'Connell with a sudden, sweet sadness. I could be mowing a green, suburban lawn somewhere, right now.

Following the full checkoff of the prestart settings and instrument readings, the crew of the *Langley* silently awaited the criticality order. Muth and Jackson peered at each other in suspended hope, their bodies stiff in their contoured-foam seats.

General Beardsley's face reappeared on the TV screen and he spoke sternly. "The president has ordered the *Langley* to go critical and reach idling mode. I order you to start your engines

at once, Colonel Muth."

Bob Muth pushed the radiation alarm button to warn anyone between the shield and the plane of a start-up. "O.K., Harry," he said quietly on the intercom to Major Fisk. "Go."

Harry Fisk, the *Langley's* chief flight engineer, was now responsible for starting the reactor, then the steam turbines. He unlocked the fuel-rod switches and set the automatic damper-rod servos on withdrawal for normal start. As the rods came out and the multiplication factor approached unity, Fisk intently watched his temperature gauges for the reaction chamber. One of the very many problems with the *Langley's* power plant on start was that the reactor needed an immediate flow of water to prevent it from melting through the bottom of the plane and the asphalt runway, as soon as the chain reaction was self-sustaining, but the turbines could not function to pump the water until they had steam. Furthermore, the gigantic steam-to-air condensers that made up much of the *Langley's* wing structure needed airflow from the turbofans to condense the exhaust steam so it could be pumped back through the reactor as water. In essence, everything had to happen at once.

Fortunately, the cold condensers had so much metal that they could function for a few moments without any airflow. But the main and condensate pumps had to be bootstrapped from somewhere else, specifically a

series of hydrogen peroxide steam generators that fed the pump turbines for the few moments it took to get the main turbines going.

Major Fisk continued to follow, second by second, the conditions in the reactor pressure vessel. They were now well beyond nuclear criticality and the temperatures were rising steeply. At twelve hundred degrees Fahrenheit the pressure began to rise exponentially. Major Fisk pressed the ignition buttons on the peroxide units and muttered a brief prayer.

Immediately the peroxide steam began to blow through the pump turbines and out a number of bypass valves onto the tarmac under the wings and body, so that the entire huge space under the *Langley* was instantly filled with a dense, white fog.

General Beardsley, watching all this from the shielded operations office high above the field, smiled at his communications officer. "Kind of looks like a Virginian triplex blowing all her steam and drain cocks at once, eh, Captain Frothingham?"

"Wider than a triplex, General," muttered the officer, staring in wonder at the sight.

The sudden burst of steam brought the pump turbines and their directly connected water pumps rapidly up to speed, and main-line water sluiced through the reactor vessel. This dropped the reaction temperature sharply, but Major Fisk skillfully caught the thermal sag by overriding the damper

automatics and suddenly running out the control rods. The hot steam now entered the main fan turbines in abundance, then expanded to the lower pressures in the wing condensers. And this expansion began to turn the ten ponderous turbofans slowly around and drive air back through the wings.

Steam Bird was running.

Betty Lou Muth had managed to reach her brother, Nathaniel Hazelton, through his unlisted Washington number, rousing the sleepy congressman from his bed and the floozy with whom he usually shared it. Betty roared back out of town and skidded to the fence just as the peroxide steam billowed out and underneath the *Langley*.

"Say a prayer now, Alice," whispered her mother. "If Dad's crew messes up the start, they'll just wheel up another plane." She watched through the glasses, then let her breath out with a rush as the vast steam cloud suddenly blew backward and the *Langley's* mass of spidery undercarriage stood once more whole and visible.

"Well," said Mrs. Muth in relief, "they got the fans going anyway." But she knew by a touch of coldness in her heart that there was still one more large hurdle, takeoff.

Colonel Muth felt the *Langley*, alive for the first time in her existence, vibrate up to idling speed. The ten huge turbofans, five within each massive wing root, spun and drove the airstreams backward. Even at minimum

idle, the huge engines developed some fifteen thousand pounds of thrust, and only the automatic chocks sticking up out of the tarmac prevented the *Langley* from starting to roll.

"General Beardsley," said Colonel Muth, speaking steadily at the tiny TV screen, "the *Langley* is prepared for takeoff."

General Beardsley composed his expression to an iron rigidity and straightened to ramrod posture. He turned again to the communications console directly connected to Washington.

#### IV

**P**resident Shamus O'Connell leaned in the direction of the Air Force contingent and swept out a stubby finger that encompassed them all. "You mean to tell me that we've gotten this far and the aircraft has no nuclear weapons aboard?" He said this sternly from a grim countenance, but inside, the president felt suddenly much easier about the whole thing.

The impassive Air Force chief plucked at his large, bulbous nose, then adjusted his black silk eyepatch. "That is correct, sir. You remember back in the early sixties when that commission on nuclear proliferation said there were too many different bomb dumps? Well, we made a study ... quite a few studies, actually ... and set a kind of activity-level criterion below which a base wouldn't store

atomic weapons locally...."

"And," said the president impatiently, "Moosefoot fell below this level?"

"Yessir," said General Zinkowski curtly. "With only three aircraft, we just couldn't justify storing any weapons on the site."

"Well," said the president, his eyes darting, trying to watch the Air Force contingent all at once, "do you think we should arm the *Langley* then, General?"

Zinkowski seemed genuinely shocked. "Sir, we're not claiming they're sending nukes to Nicaragua, just missile bodies. I'm not sure that would be appropriate...."

"Exactly!" said the president, stabbing at him with a finger. "Then why should we send up the plane at all?"

The general shrugged and blinked his one eye, looking, thought O'Connell suspiciously, like the damnable pirate he probably was. "The Russians don't actually know the onboard bombs are dummies, sir." He leaned forward and gestured with a thick, black stogie. "Mr. President, it was you who asked us to come up with what you called an 'appropriate response' to the two Russian ships and the missiles." The general adjusted his craggy features into an appropriate submissive expression and waited.

But President O'Connell's eyes were narrowing. Without Happy Jack whispering in his ear, he was lousy at spotting their multitudes of gimmicks,

tricks, scams, and rip-offs — most especially the military and science gangs, the one simply venal, the other venal and damn smart besides. But now he suddenly seemed to see a glimmer of sense in all this. O.K., so somebody way down at the bottom came up with the *Langley* thing in good faith, but before the upper brass could squash it and think of something else, it arrived here at the White House.

The president cogitated furiously. Moosefoot AFB had been up there, a nuclear wing, ten or more years, eating up God-knows-how-much treasure just to heat the hangars. Never a mission. Never a purpose. So, how did he really *know* the base was all that ready, engines running, all that stuff? Was this really a part of his deterrent force? How could he ever know if they never went up? So, he decided, why not? Fly one plane and see how soon it gets into the air, if it ever gets up at all.

The president steeped his hands and tried to read their impassive faces. "General Zinkowski, I think this is an appropriately measured response. I suppose the canal lobby would prefer all three, but I think one aircraft is fine for the moment."

O'Connell pointed up at the camera. "Connect me with the *Langley's* commanding officer," he said in a strong voice.

"You're hooked in, sir," whispered the press aide, shoving into the president's hand a scrap of paper bearing the words "Colonel Robert Muth."

The TV screens now showed Bob Muth's large head and keen eyes to the president and the others while on board the *Langley*. Colonel Muth now looked back into the face of his commander in chief.

"Colonel Muth," came the mellow Irish voice, "do you recognize me?"

"I do, Mr. President. I await your orders, sir." Colonel Muth locked his face into its sternest mold, although under his thighs, out of sight of the camera, he had his fingers crossed on both hands.

"Then, Colonel Muth, I order you to take off at once!"

The onboard TV screens blanked as the *Langley* instantly went into takeoff mode. "Operations," said Muth rapidly, "drop the chocks."

Immediately the hydraulic chocks that had blocked about a third of the *Langley's* ninety-six wheels sank into the ground, and the huge airplane began to drift forward.

"Ramp us to full power, Harry," said Colonel Muth. "Now. Go!"

Major Fisk immediately began control-rod pullout, and the turbine whine became a scream of slowly increasing pitch. The *Langley* began to lumber ahead, drawing more and more air into her fans as she accelerated. And as more air came through, so Major Fisk was able to condense more steam and thus develop more power.

Takeoff with the *Langley* raised a number of special problems because of condenser lag during acceleration.



Reactor power was actually limited by water flow and thus by condenser operation. Condenser operation, in turn, was governed by reactor power as it drove the fans, accelerated the plane, and brought in more air. The only way the machine could theoretically accelerate was if the condenser was sufficiently oversized at lower speeds so as to handle excess water, and it was at this point in the operation of the power plant that theoretical anticipations and practical results had their most important confrontation. For the long-departed design engineers of the *Langley* had regarded the takeoff problem as the thorniest of all — thorniest, that is, until someone attempted to land a plane that had jumped this first, essential hurdle.

But at about this moment in Washington, Happy Jack Hanrahan, his dark, trim silk suit rumpled by a hard run in from the helicopter on the South Lawn, burst into the president's conference room and stared at them all. The tiny, wrinkled man walked rapidly around the table and bent over the president, cupping both hands around O'Connell's large right ear.

"For God's sake, Shamus," he said in a harsh whisper. "Stop them! That crazy thing will roll-up and blow up!"

Shamus O'Connell jerked around, staring at his wizened aide. "What the hell is 'roll-up', Jack?" he said from behind a hand.

Happy Jack took off his pearl gray homburg and held it between their

faces and the others at the big table. "If the airplane crashes, the whole damn reactor, shield, and pipes will tear out and roll along the ground. The shield is so heavy that it can collapse the reactor core in on itself. Jesus, Shamus, it's possible the thing could become a nuclear bomb with as much as a twenty-kiloton yield! Furthermore, the damn planes have never flown before! Nobody is sure how long a runway they need to take off!" This last seemed to frighten even thin-lipped, deadpan Happy Jack, and he fiercely rubbed one lined cheek, his eyes wide.

President O'Connell stared shocked into his old friend's dour face. "What if they don't get off, Jack?"

Hanrahan flipped his hat on the table and twirled his two forefingers around each other, making a smaller and smaller twirl. He suddenly popped his two hands apart, all the fingers flying out in explosive gesture.

A dismayed President O'Connell turned again to the room. "Get me General Beardsley in Moosefoot, at once!" he said in a hoarse voice.

The TV screens flashed up, and they again saw part of Moosefoot Ops room, with General Beardsley's mask-like face staring at them. The president breathed more easily. At least communications seemed to be pretty dependable today. "General," he said in a level voice, "abort the takeoff. Order the planes towed back into their hangars. I've decided on another response to the Nicaraguan missiles."

General Beardsley snapped to attention, staring straight ahead. "The *Langley* has begun her takeoff run, Mr. President. At her present speed over the ground it will be considerably safer to let her reach flying speed and take off. Otherwise, there's a remote possibility of what we call 'roll-up'...."

President O'Connell's mouth flew open. "You've started the takeoff already?" He peered down at his watch. "What the hell are you doing up there, General!" he snarled.

General Beardsley's face remained graven rock. "You ordered the *Langley* to take off, Mr. President." He paused; then, more stiffly: "I think the taped record will show that...."

President O'Connell finally lost his temper. "Listen, you son of a bitch, I know I ordered the damn thing to take off. Four minutes ago I ordered it to take off! General Beardsley, if I ask the CIA for a report on oil reserves or the State Department for an opinion on West Africa, do you know when I eventually get it?" He shook his fist at the TV screen. "I usually get it when one of my aides reads about the conclusions that have been leaked to the *Washington Post* or *Aviation News* six months later! It took *four months* to hire and clear a swimming instructor to teach my kids two hours a week in the White House pool. I can't usually get a helicopter on the lawn or a limo at the door in less than forty-five minutes! And now you're telling me that in Moosefoot, Maine, wherever that is or

isn't, you began a mission *ten seconds* after I gave the order!?"

The president's eyes narrowed and he drew his upper lip back from large, fanglike teeth. "I don't know what you're pulling up there, General Beardsley, BUT YOU WON'T GET AWAY WITH IT! I'll break you for excessive zeal, General. And if that crazy airplane ... What the shit did you call it, Jack? ... *rolls-up*, I'll see that you're shot!"

In the brightly lit Ops room at Moosefoot, the uniformed staff stood or sat transfixed with horror as President O'Connell's large, white-maned head contorted from fury to rage to cruelty and back to fury again. But General Beardsley, standing stiffly at attention, was actually paying only partial attention. Even though Steam Bird had not quite left the ground, he was already framing his communication to *Modern Steam Power*, a magazine that listed him on the masthead as Consulting Editor. He would write it as a simple letter-to-the-editor, but he knew they would set it in a special box on the first editorial page and follow it with long, thoughtful, and supportive comments.

"Gentlemen," he would begin the letter, "It is my great pleasure to inform you that the first steam-propelled airplane ever flown by mankind, the *Samuel Langley*, piloted by fellow steam enthusiast Colonel Bob Muth and other highly motivated men under my command, took off from Moose-

foot Air Force Base at...."

At the instant that the *Langley* had begun to move forward, the Muth station wagon tore off down the two-lane road bordering the runway outside the fence. Betty Lou knew that seven miles farther on there was a broad, open space in the forest that gave a view of the final two-thirds of the runway.

A few minutes later she slammed on the brakes and careened off the road up to the fence, stopping with a jerk. In moments, Mrs. Muth and Alice were standing on the roof of the wagon peering back down the way they had come.

The huge *Langley* grew larger and ever larger approaching them, but with a sullen, agonizing slowness. There seemed no sense of lightness about her, no evident desire to rise and lift. Looking through the glasses, Betty Lou Muth could see that many of the huge tires were still bulged out from the vast weight of the thing. The several acres of wheels and undercarriage structure rumbled, vibrated, and mushed along the asphalt runway. The gigantic plane now seemed to Alice like a weird insect, perhaps a sick, giant wasp with masses of eggs hanging off her trailing feet and trying, with no real hope, to achieve a moment of flight. But this was no Japanese monster flick! The thing was HERE!

"Oh, Mom," said Alice in a small, frightened voice. "It's going so slowly."

Betty Lou put her arm around her

daughter. "It takes a hell of a long run, Alice. Oh, Bob," she breathed a tense whisper. "Move it now. Put it into full forward gear, baby!"

The *Langley* trundled along the ten-mile-long runway, gaining speed with dignified deliberation. At mile five they achieved sixty-two miles per hour, still just barely within the acceptable speed-distance takeoff envelope.

Bob Muth gently tested the wheel in front of him and scanned the reactor monitor instruments. "How's our lift, Sergeant Stewart?" he asked in a tight, low voice.

Master Sergeant Jim Stewart's take-off station was in the little undercarriage office deep inside the *Langley*, where he was responsible for the complex retraction procedures required to bring the *Langley's* many wheels up into her wings and belly. "Sixty-four percent now off the wheels, Bob," he said promptly.

Captain Jackson, who was continuously tracking and projecting the aircraft's speed-lift-distance behavior, shook his head in bitter frustration. "Bob, she's not picking up fast enough! We're going on to the abort side of the takeoff specs!"

Colonel Muth peered straight ahead through narrow eyes, watching the huge ribbon of runway unfold in front of him, seeing in the far distance a first sense of the fringe of trees at the end. He had spent ten years thinking about this moment.

"Steady," he said sharply to them all; then: "Major Fisk, two-minute maximum override on the reactor. Now."

"Done, Bob," said Fisk at once, grimly watching his dials begin to swing into their red zones.

"Sergeant Stewart, prepare for a phased undercarriage retraction. I'm going into partial rotation."

With this, Colonel Muth pulled back on the control wheel, and the *Langley's* huge, blunt nose slowly raised up and up, lifting about half the wheels off the ground. "Jim!" said Colonel Muth, "bring up all the unloaded wheels. Now!"

And that was what it took. As the spidery undercarriage structures began to disappear into their housings in the wings, the *Langley's* aerodynamic drag-shape improved dramatically and continuously. This, plus the extra power from the reactor-override brought her quite smartly up to flying speed. At mile 8½ Colonel Muth spoke again, this time brisk and cool. "We are now in ground effect. All remaining wheels up, Jim. I'm completing rotation for takeoff." He eased the wheel back, and, as her angle increased again, the final sets of wheels began to lift into the plane's belly.

Steam Bird was flying.

Captain Jackson, his jaw still aching from minutes of tight clenching and his eyes wide, watched the end of the runway pass at least two hundred feet below the climbing *Langley*, then

let out an explosive breath. He turned an awed face to the plane commander. "Jesus, Bob. Even Driver Duddington never pulled anything like that! Beautiful, baby!"

Colonel Muth took one hand off the wheel and seized his copilot's hand tightly. His eyes were bright. "Gaby, we're up! Look! Ground speed is one hundred miles an hour!"

This announcement elicited a round of cheers from the other crew members, followed by various shouts of:

"Nine-nine-nine!"

"City of Truro!"

"The Morning Hiawatha!"

"Flying Scotsman!"

The magic century mark handily behind her, the *Langley* bored upward into the cold Maine air, her turbines spinning with that splendid, solid whine of machinery that knows itself to be cherished.

On top of the station wagon, Mrs. Muth and her daughter watched these final evolutions of the *Langley* clutched tightly in each other's arms. When the last undercarriage began to come up and the first line of light showed completely between the *Langley* and the ground, Alice Muth gave a triumphant shout. "He started retraction while they were still heavy ... to cut down on the drag! Oh, Mom, isn't Dad just super!"

Betty Lou Muth was busy wiping her eyes and taking deep breaths, her wide, full mouth now set in a massive

grin. "Your father is a nut, Alice, but oh, what a *dear* nut! Come on, let's go find out when Uncle Nate is coming up."

And as the Muth car drove, rather more sedately, back toward Moosefoot, Betty Lou noted with satisfaction that in addition to several dozen private cars parked and watching the takeoff, there were two white remote TV vans with their rooftop cameras continuing to follow the distant, rising, but still-impressive form of the *Langley* as it began a wide, shallow turn toward the north.

## V

In total and pregnant silence, the president, his staff, the Joint Chiefs, and the rest of them watched the *Langley's* takeoff as transmitted from a Moosefoot chase helicopter. When the gigantic plane finally lifted up and up over the thick, unbroken forest, President O'Connell exhaled in an explosion of compounded relief and disgust and turned flinty eyes on General Zinkowski. "Well, General," he said in a barely civil tone. "Having put the *Langley* in the air, it seems to me that you have certain problems with making a landing anywhere ... and especially in Moosefoot, Maine. The basic mission of a Nuclear Deterrent Force, General Zinkowski, is to bomb — or threaten to bomb — the *enemy*, that is, *some other country!*" He said these last words in a carefully enunciated snarl

such as one might take with a four-year-old having a supermarket temper tantrum. The president showed his fangs again, then gave them a mock-innocent look. "If I'm being too difficult for you gentlemen, using too-big words, I hope you'll catch me up."

"Mr. President," said Zinkowski in his most responsible-sounding voice, "we have a number of options regarding the *Langley's* landing. Moosefoot AFB is only one of them."

"And why, General," said O'Connell in a voice now silky with rage, "weren't all these difficulties ... for example, roll-up, too-short runway, no place to land and no place to put the thing after it lands.... Why weren't these all at least *mentioned* before we committed ourselves to takeoff?"

Zinkowski lifted his eyebrows and pointed with the most unobtrusive of gestures. "It's all in the Mission Profile and Command Decision write-ups in front of you, sir."

"Ah, yes," said President O'Connell, as though seeing the two thick one-thousand-page, secret-stamped documents for the first time. "It's all here someplace, isn't it?..." He began to shout. "Listen, you bastards, I've got more things to do than read through ten pounds of horseshit science fiction dreamed up by you and your paid Ph.D. whitecoats to con a bunch of brainless, fat-assed congressmen into spending money so you can have a new chopper to take you to your golf games! Two rusty tramp

steamers with tin missile bodies that are probably actually stuffed with cases of vodka, and we send up a flying nightmare that can actually crash at any moment and produce a new Hiroshima in Maine! Talk about curing the common cold with cancer!"

But at this point the president's national security adviser, Professor Andrezoti Bzggartsky — his large, thick glasses reflecting odd circular rainbows in the brilliant fluorescent blast of the room — interjected a loud, thick, Slavic, "Come, come Mr. President, sir. Calm yourself. Zhere iz an entirely oppozite vay to view ziss zituation."

"Ah, yes, Professor," gritted a now-blazing O'Connell, partly out of breath from shouting, his eyes as thin as a snake's. "Do tell us how to correctly view Armageddon, I insisti!" Following a long-established yet obscure tradition set by his predecessors, Shamus O'Connell had reluctantly appointed an Eastern-European, thickly accented hawk from Cambridge, Massachusetts, as his security adviser instead of his real choice, an old WW II buddy and major general in the Illinois National Guard. He had never regretted that decision more than at this moment.

Professor Bzggartsky swiveled his pointed, bald head, his glasses glinting balefully at everyone. "Firsst," he said in his heavy, penetrating voice, "can ve underztand zat ze *Langley* is not likely, as you feared, Prezident O'Connell, to roll-up on takeoff? For one

zing, if ze pilot remained wizzin ze specifications, he vould have ztopped ze plane or reverzed it before ze danger point vas reached. Alzo, ze trees in ze voods at ze end of ze runvay vould have prevented ze rolling motion necessary to produce ze roll-up phenomenon. Zhere iz no gazoline aboard ze *Langley*, zo zhere can be no fire or explosion."

The professor paused and flashed a sharklike grimace at the president. "Zome treezzz might have zuffered, Mr. Prezident, but apparently, Maine has many treez. Ze *Langley's* flight paths and mizzion profiles in zhose books keep ze *Langley* over ocean or ze polar wastes, unlezz, of course, she iz ordered to attack Ruzzia."

"Wonderful, wonderful," said Shamus O'Connell, his voice fruity with sarcasm. "We didn't need to arm the plane after all, eh, General Zinkowski? Just flying it around over Russia should frighten the bejesus out of them, I should think! And even though the *Langley* can barely make three hundred miles an hour, and MiG-24s can go Mach 2, they'll really have to think twice before they press an attack, right, General?"

General Zinkowski shrugged his large shoulders. "I don't think anyone is suggesting sending the *Langley* into the Soviet Union, sir. The mission we're suggesting is an extended patrol north of Severnaya Zemlya, then...."

But at that instant the private White House phone at O'Connell's el-

bow gave a discreet buzz. The president knew that these high-level, emergency get-togethers often served to divert his attention from other activities, and so he always had his most trusted people watching the world — and the bureaucrats — with special care while he was closeted away.

"Yeh?" he said quietly into the phone.

"Chief! We're catching a shit storm at the switchboard!"

"What the hell, who?"

"The whole goddamned eco-lobby, Chief. Green Earth, Inc., Seal Watch, Whales International, the Arctic Protection Society, the Friends of the Polar Bears, the Northern Littoral Guardians, Sea Mammals Forever, the Alaska Club, Save the...."

"What in hell is their beef now, Dave?"

"The *Langley*, Chief. They think we're going to dump it in the Arctic and irradiate a walrus or something."

"How in hell did they get that idea? The damn thing's only been in the air for thirty minutes."

"The networks shot film at Moosefoot of the takeoff and played it ten minutes later on the "Good Morning Breakfast" show. But the Arctic thing was in last week's issue of *Aerospace News*. They had a story on Ice Island Three and mentioned about how it might handle a nuke airplane with shielded tractors, and not even bother with a hangar. You could just cut a big hole in the ice."

President O'Connell shut his jaw with a crunch. "For God's sake, Dave! Ice Island Three was supposed to be a top secret concept. Furthermore, we don't own the damn...."

"Then why did you mention it to those four congressmen two weeks ago, Chief? You know this is an election year!"

Shamus O'Connell sighed heavily. "Why *did* I tell those congressmen, anyway?" he muttered half to himself. "Well, look, Dave, you guys cook up a response over my name, O.K.? Something to the effect that the *Langley's* flight path is being rigidly controlled to prevent even the most minuscule of environmental impact and that no danger...."

"What should I tell the Sea Bird Watchers of America, Chief? They claim the *Langley's* tail cone radiation will be cooking the frigate birds."

"Tell the idiots that when they find a frigate bird that will fly three hundred miles an hour at twenty thousand feet, I'll order the crew to shut down the *Langley's* engine, and have the frigate bird teach the *Langley* to flap its wings!"

"Righto, Chief. Oh, I almost forgot. The Soviet freighters have stopped."

Shamus O'Connell blinked. "Do you mean to say the *Langley* has had an effect, Dave?"

"Doubtful, Chief. That raving queen on the Russian desk at State tried to sell me that con, but we looked

at the latest spy plane pics under magnification, and I figure one of the boats has engine trouble and the other one has gone alongside to assist.... One of the crews is all women, Chief."

O'Connell really chuckled for the first time that day. "Maybe they all got horny and decided to lay up for a party and a screw. Ha! No wonder that limp wrist at State couldn't figure it out. I'll get back, Dave. Bye."

The president drew himself up and fixed General Zinkowski with a fierce stare. "The *Langley* is kicking up an environmental hurricane, General. Although I'm not yet too familiar with these most interesting and obviously complete documents" — he contemptuously indicated with a thumb the two huge books in front of him — "I assume that the important aspects of the missions and the landings are dealt with somewhere?"

Before the general could reply, Professor Bzggartsky had straightened up and was now pointing a nail-bitten finger at the president. "Zir! If I may zpeak! Ve are looking at zis completely backwards. Vat are minor, low-level environmental rizks compared to ze triumph, ze unique technical marvel itzelf! Zir! Ve are flying ze largest aircraft ever zent aloft! Driven by ze mozt advanced propulzion zystem in ze history of aeronautics! An aircraft zat can ztay in ze sky for many days, go anyvere ve choose! Zhese affluent midget minds viz their prezzure groups! Zhese effete dezpoilers of their

own lives and zities telling ze world how to live! Zey must not detract from zis achievement! Mr. Prezident! Ztand before ze world, zir, and proudly zay, 'Now, nozzing iz denied Americal' "

That was quite enough for Happy Jack, and he did something most unusual for him. He spoke up in a dry, brittle, penetrating voice edged with contempt and menace. "Let them eat neutrons! Is that it, Professor?" Happy Jack dropped his fist heavily on the table with a deadly thud, and the room became very still.

"You ... you from snotsville-on-the-Charles." Happy Jack's thin, ice-blue eyes fixed on the professor. "They're still holding your tenure, aren't they? You can go back to slicing up your friends and screwing the coeds any time you want." His eyes turned like twin cannon on the Air Force group. "And you bespangled bus drivers have those wonderful pensions, a main contribution to the present bankruptcy of the United States, not to mention the one-hundred-K jobs in missile plants whenever you decide to leave us ... Well...." He thumped the table again. "This administration has to get *elected* ... with *votes* ... and it may be true, Professor, that those environmental fruitcakes do filthy-up the suburbs and spend most of their lives screwing with their psychiatrists, but ... gentlemen ... they *vote*! So let's all understand one thing. We threw some red meat at the drunks in the VFW and Legion bars when the *Langley* went up.



You boys are going to figure out how to get it down without a ripple — and that means that everyone, including the American Friends of the Snail Darter, is going to be smiling and happy! Is this all absolutely clear?"

It was, and President O'Connell gripped the little man's shoulder in gratitude. While Happy Jack had been delivering his floor talk, President O'Connell had slipped into reverie and briefly envisaged a large tumbler of White House crystal, half-filled with neat Jack Daniels, and containing exactly two large, very cold, springwater ice cubes. But the thought of ice immediately called to mind Ice Island Three, and it was obvious now that his original naïve theory that the *Langley* was some sort of mistake was no longer tenable.

He leaned back and put his mouth directly at Jack's ear. "The *Langley* is a scam to annex Ice Island Three," he said emphasizing each whispered word equally.

Happy Jack pursed his lips in thought. Then he gave a single nod of agreement but said nothing.

O'Connell spoke in icy tones. "General, the missile freighters have stopped. I want the *Langley* held on this side of the pole, if it actually ever gets that far, and in an environmentally neutral area. Is that both clear and possible?"

General Zinkowski nodded.

"Now," said the president in a new, deceptively pleasant voice. "Let's talk

about those 'options' you mentioned in regard to landing the *Langley*, General, if you would be so kind?"

## VI

Colonel Muth began his long, spiral turn to the north and east as soon as the *Langley* reached two hundred feet in altitude. The geographic mission profile required them to leave the coast at Chaleur Bay, steering about north-east over the Gulf of St. Lawrence, then out to the Atlantic over the Strait of Belle Isle. They would then turn more northerly, avoiding Greenland and keeping over Davis Strait and Baffin Bay until they came out over the pack ice to await further orders.

It was hoped by everyone that this three-thousand-mile climb would be sufficient for the *Langley* to reach its estimated service altitude of around twenty thousand feet. Climb presented many new problems for the *Langley's* power plant since both the temperature and the density of the air changed continuously with altitude. These affected, in different ways, both the condensers and the fans, not to mention the aerodynamic characteristics of the plane itself. Since the continual reduction in temperature and density had exactly opposite effects on maximum fan horsepower, the *Langley*, in a more complicated but similar manner to the huge old dirigibles of other days, was at the mercy of local weather and the temperature lapse-time through which it moved.

They had just left Dalhousie astern and come out over the water when Captain Jackson looked at the speed indication and cleared his throat. "Friends, we are now going over the ground at 127 miles an hour. Let me remind you that the only man to officially achieve this speed under steam, until now, was the great driver Fred Marriott, in a Stanley racer at Ormond Beach, Florida, in 1906."

The rest of the crew greeted this announcement with a good-natured collection of jeers, cheers, lip farts, and moans. The fact that the official 1906 Stanley record was only one mile an hour faster than the great effort of the London and North Eastern Pacific *Mallard* on Essendine bank was a constant source of irritation to the locomotive men. Jackson, of course, did not regard the margin as in any way indicative of what the car was capable of doing, and he made another comment in a dry voice.

"I'll let you know when we go past 190, which Marriott also achieved in January of 1907 before the car flipped. That run was the penultimate moment for supercritical flash steam."

The *Langley* was now accompanied by a considerable fleet of consorts, all flying well ahead of the big plane so as to avoid any problems in the deadly tailcone of high-level radiation. In addition to the Moosefoot chase helicopter were several other rotary-winged machines from the TV and wire-service news groups and the

Canadian Air Force, plus two large fourteen-place charter copters filled with periodically cheering members of the New England Friends of Steam Society. The commanding general of Northeastern Air Defense Command had scrambled three F-117 supersonic jets as an honor guard for the *Langley*, but these had to be recalled when it was found that they could not, even with wheels and flaps down, go slow enough to stay with the big bomber. Bush pilots, executive flyers, and various lightplane enthusiasts in the Maritimes soon joined the parade, so that by the time they were starting over the Strait of Belle Isle, several dozen aircraft of various types were filling the sky ahead of the *Langley*, the whole business moving northeast, now at about 140 miles an hour, and accelerating and climbing at almost imperceptible rates.

As the *Langley* made its gradual ascent, Betty Lou Muth found herself watching three different TVs at once and chain-smoking. By the time she heard the fire-service copter coming down in her yard, every ashtray was filled and the place smelled like a pool parlor. She pushed open the windows, dashed about straightening up, then stood at the open door watching her older brother and an extraordinarily round young lady in a tight red dress climb down the little ladder and dash under the slowing blades in a ducking posture.

Betty Lou kissed her brother, but

he was in a brusque mood and peered about quickly. "Good. The car's here. Listen, Lou, give Emmeline the keys. She's got some errands to do in Moosefoot before this business begins to heat up."

Mrs. Muth looked doubtfully at the round, wide-eyed face of the girl. "Does she have a driver's license, Nate?" she asked.

"Several," said the congressman. "I have to keep getting her new ones. Look, Lou, it's only a half-mile drive. We've all got plenty to do."

After the station wagon disappeared going slowly down the left side of the road, Mrs. Muth put her hands on her hips and gave her brother a furious look. "Why did you bring your floozy up here, Nate? I've never seen anyone so attracted to big tits! It's terrible! A man your age and you can't even leave her...."

Congressman Hazelton had found the scotch bottle and now dropped onto the big couch with several fingers of booze gripped between grateful fingers. "Don't give me any bullshit, Lou," he said. "I've been running since dawn. Miss Pangini also happens to be my personal secretary, and I'm damn well going to need her when we get your kids together. Now, where in the hell are they?"

"Alice?" called Mrs. Muth, and her daughter, who had been watching the *Langley's* progress on her own small TV, dashed into the room and planted a solid kiss on her uncle's scotch-sodden lips.

"Uncle Nate!" she screeched. "Boy, your secretary sure has big tits!"

"And how would you like to be found strangled in your own training bra, my pretty?" said her uncle with a snarl. Then he fluttered his hand at her. "O.K., Alice. Stand out there and turn around."

Pert Alice Muth looked exactly like every other twelve-year-old girl at Moosefoot Central: faded, skintight jeans; a ripped, tie-dyed T-shirt that said "Kiss me! I'm Estonian!" front and back; a messy ponytail in an elastic band; and filthy feet with green toenails crammed into split jogging shoes.

The congressman was already feeling a bit more mellow and he gave his posing niece an actual smile. "Tell me, Alice," he said in an almost avuncular tone, "Would you happen to have such things as black patent leather pumps with button straps...?" And when he saw that Alice tilted her head in puzzlement, he added, "*Shoes*, my dear. And white stockings that come up to the knee and have a knit design at the top. A dark blue or red velvety dress with lace at the neck and puffy sleeves. Big red silk bows for braids...."

"Icky!" said Alice, making a monster face. "Who would wear such creepy stuff?"

"I didn't ask you who would wear it," said her uncle in instant impatience. "I asked if you had any such things."

"Nothing like that here, Nate," said Betty Lou, absently snuffing out a butt

and pouring a short scotch and water.

"All right, Alice," said Congressman Hazelton. "Let's think if you have a little school friend who might have such an outfit. Someone your size. Someone who goes to church, to confirmation...."

"Henriette LaPointe!" said Alice at once. "She lives right down the road and has to go to confirmation classes and all that stuff. And she's got lots of dresses. Her father's a local selectman."

"Ah," said Uncle Nate, sitting back and beaming, then pouring himself more scotch. "Henriette, and her father a selectman. Wonderful! Do you think she would lend you an outfit, my dear?"

"Sure," said Alice. "I'll tell her it's for the Halloween costume dance — you know, Lady Dracula or something. Bye, Uncle Nate." And off she dashed.

The congressman settled back, beaming at his drink and then at his sister. "Well," he said comfortably, "what about Melissa?"

Betty Lou's gaze turned suddenly to icy. "Melissa happens to be living with a very large and very heterosexual young man in a loft in New York right now."

"I'll alert the Population Watch," said Hazelton cheerfully. "Can Lover Boy spare her for a few days?"

"Of course," said Betty Lou Muth. She got up and went to her desk. "She's flying into Bangor this after-

noon. Here's the flight number."

The congressman stuffed the paper into a pocket "O.K., I'll call the state police and have them hold her at the airport. Now, where the hell is Junior?"

Betty Lou shook her head, frowning. "Well, he's in jail, Nate, over in Vermont. He's been locked up for four days. He was in that Clamshell Brotherhood protest over moving the reactor pressure vessel to the St. Johnsbury nuke site."

"What the hell did he do?"

"I only saw the final part on the TV, but there was this very old blind lady who is a very big antinuclear person, and she had this long white cane. Bob Junior was with her right up next to the flatbed trailer carrying the thing. It was huge, like the *Langley*, and the trailer had what looked like a hundred wheels. It was moving about two miles an hour. Suddenly, the old lady is shouting, "Where is it at? Take me to it! Let me touch it!" Well, you know how polite Junior is and how much he likes to help older people, so he leads her right up to one of the big wheels, and she instantly sticks her white cane right into the hub. It gets caught there and starts to drag her along the ground by the wrist strap. Of course they have to stop the whole convoy, and after they do, some cop grabs at the white cane and pulls the old lady over again. Then Bob Junior — you know how much he believes in nonviolence, Nate — well ... he urinates on the cop. I

suppose it was the only thing he could think of that was peaceful and direct at the same time."

Congressman Hazelton shook his head in disgust and his voice was a thin snarl. "Terrific! The greatest effort in the entire history of steam traction is now under way, and Bob Junior is pissing on policemen! Jesus-sweet-Christ, Lou, we've got plenty of problems without needing a whip and gun to control your brood of hellcats!"

For one dark moment, Betty Lou Muth considered throwing her drink at her brother's head. "You bastard, Nate!" she said with a shout. "Don't tell me how to raise my kids, you prick!" She rubbed her hands together and stared at her brother with hot eyes. "What the hell do you know, anyway? All that those hookers and floozies of yours think about are pills and diaphragms! I love my kids! They're beautiful, wonderful kids! Melissa has ... has a beautiful *soul*, Nate. She and I talk a lot ... oh, you wouldn't understand any of that! And Bob Junior is a decent, brave, gallant, lovely person! At least he's got the *guts* to piss on a cop! You couldn't get drunk or coked or speedy enough to do anything like that!"

Betty Lou set her empty glass on a coffee table and put her head in her hands while her tears fell steadily onto the oriental rug.

Uncle Nate, pausing only long enough beside the bar to sweeten his drink, went to his sister, sat down be-

side her, and put his arm around her shoulders. "Bob's going to be O.K. up there, Lou. Hey, he's the very best there is! Look at that fantastic takeoff! Now listen, Junior's a terrific, spunky kid, and you're right. He finally did what every other citizen dreams about doing. Now we're going to have him out in no time, Lou! So, how come he's been in four days? They've got to arraign him?"

Betty Lou Muth snuffled, wiped her eyes, and took a pull on Nate's drink. "He won't give them his name, Nate. The local judge refused to arraign and set bail unless he provided identification. I've called about a dozen times saying I would identify him, even come over and point him out, but they say he has to do it himself. Sometimes I think lawyers and judges and...." She looked cold-eyed at her brother. "...congressmen are the biggest bunch of shit-brained bastards in the history of the universe!"

Congressman Hazelton smiled modestly. "Now you're just trying to be nice to us, Lou. Well, they can't charge him with too much. Certainly not assault. Maybe insulting a police officer. Maybe indecent exposure. Well..." He pulled a small black notebook out of his inside pocket. "Let's see who might be the right person to call in Vermont about...." He moved his lips over several names, then gave her a quick grin. "Chief justice of the superior court, Quincy Adams Chis-ington, the very man!"

Betty Lou expelled a blast of smoke and curled her lip. "What's his specialty, Nate? Boots and whips, rubber fetishism, two black girls with big bottoms...?"

Congressman Hazelton reached for the telephone. "Nothing too exciting or violent, Lou. Old Quince is basically an enema man. And you can't imagine how few places in Washington properly cater to that special...."

"Spare me the crud, Nate. How a world run by you kinks can keep going...."

But the congressman was already dialing through to the superior court in Montpelier, first talking, next shouting, finally threatening....

"Hey, Quince old man! Nate Hazelton here.... What's that you say? ... You're on the golf course? Say, that's a wonderful gadget you've got there, Quince. Why I can hear you clear as a bell! ... How's the game going? ... You're only eight over par on the twelfth, Wow! Some of you guys can really play that old game.... How's that, Quince? You've got the mobile phone in case the governor should issue a last-minute stay to the Rutland Bluebeard?"

Congressman Hazelton grinned at his sister and made a monster face even more impressive than Alice's. "Isn't that the fellow who served his wife up in croquettes at the Rotary lunch? ... Oh, the other one, the chain-saw man who shuffled the players at his wife's bridge party. Look, old man, I've got a

little legal problem with you folks myself. Not quite like the Bluebeard, ha, ha. Quince, you remember the St. Johnsbury nuke demonstration last weekend? ... Well, there's still this young fellow, Robert Muth, Jr., in the can over there.... Yeh, he may be the one accused of that, Quince. I've been in Washington...."

Hazelton's face hardened and he carefully set his drink down on the glass table. "So if you were the judge, you'd give him ten years, eh? Well, Your Honor, the Bluebeard will be out on good behavior before then!..." Nate Hazelton shot his sister a reassuring glance. "Now, the boy happens to be my nephew, Quince. Speaking as one lawyer to another, let me try this defense on you, ha, ha. The boy is participating in this legal, First Amendment-protected demonstration on the public ways of the State of Vermont when he innocently becomes involved in a police riot.... What? Well, how would you describe it? This rogue cop, probably with tape on his numbers, stomps and clubs a 102-year-old blind woman whom my nephew is trying to assist across the road. He's an Eagle Scout, you know? ... Wha? ... All right, seventy-two-year-old blind woman. Well, the boy is no fool. He realized that with these maddened police running completely amok, his very life is in deadly danger, and it literally scares the piss out of him. Any sensible jury would ... What? You think his unzipping his fly would prej-

udice that defense?"

Hazelton caught his sister's eye and waved at the bar to indicate a bit of freshening was needed, and his suddenly hard expression showed that he was becoming bored with old Quince.

"Look, Your Honor," he said in a very flat voice, "in addition to that defense, the boy's father happens to be the heroic plane commander of the *Langley*, now making aviation history. There's no jury in the country that will let you touch him. And one more point, Quince, to get to another subject ... Ahh...." Hazelton relaxed back and gave Betty Lou a thumbs-up sign. "I thought you'd see the legal problems with it, Quince.... Well, I would think to just dismiss the charges, wouldn't you? You'll have another shot at the boy, no doubt, as long as you idiots continue to build that stupid plant.... Yes, yes, Quince. Have them bring him out to St. Johnsbury airport and my pilot, Stubb Moody, will pick him up in the chopper.... Ah, good, Quince! So you'll be down to old sin town, ha, ha, in a couple of weeks. Well, call me then, old man. Bye."

Hazelton took a long suck on his scotch and beamed. "It certainly is stimulating to engage in an intricate bit of legal philosophy with an old colleague," he said expansively.

Betty Lou peered at her brother and her voice dripped with contempt. "A brave, idealistic young hero is being released from jail because that dirty, sick old fart likes to have a cutie shove a..."

The congressman shook his head. "Spare me the crud, Lou. Nothing is that simple." He rubbed his hands together. "You've never met Mrs. Chis-ington, Lou. If you had ... well ... you might get a different view of old Quince. I dunno...." he said shaking his head. "It's always been like this, Lou. Every country, every era, every political system. Shit, it's not the Quinces that are something special, Lou. It's kids like Bob Junior." He suddenly grabbed and squeezed her shoulder. "Lou. Lou, stop moping! Bob's having the time of his life. Think, lady, think! Steam's greatest moment almost here, and we're conducting the whole damned orchestra." He got to his feet. "Well, I'll get Stubb going after that boy."

Stubb Moody, the copter pilot, was dressed in unpressed chino pants and a scruffy uniform shirt with a Maine Fire Service patch on the left shoulder and a huge American flag on the right. Alice had thoughtfully left her two-foot-high collection of Incredible Hulk comics with Stubb before she rode off on her bike, and the pilot was now seated in a lawn chair in a state of total concentration, his lips moving busily.

"Ah, Stubb." The congressman peered pleasantly at his pilot. "Over at the St. Johnsbury airport is a young man waiting with a police escort, none other than Robert Muth, Jr. Go get him and bring him down to Bangor. Miss Pangini and I will drive down

direct by car. Now put that creaky copter on full regulator, Stubb! We've got to get those kids into the Bangor department stores before they shut for the night."

Stubb Moody stood up, although this was not especially noticeable, since he measured about five feet in all three directions. "Ayeh, Nate." He looked down at his watch. "Should be down thar, mebbe by foah with young Bob. Yew want me to set 'er down on the hospital roof, Nate?"

"No, the airport is fine. Melissa is coming in there. And don't you get that boy all toked up, Stubb! I want everybody straight-arrow in Bangor!"

"Young Bob's a match for 'em, straight or bent, Nate. If I wuz you, I'd worry 'bout that top-heavy Emmeline fallin' over when you ain't around to help her git up."

"Comedians galore today!" said the congressman, but his face became craftier. "Stubb," he said sweetly, "there's a gram or so of white nose-candy hereabout, as fine as any they use at the White House. If you know what's good for you, you'll deliver that boy unstoned to Bangor." Having waved his stick and presented his carrot, Hazelton softened his expression. "The point is, Stubb, I don't want anybody getting ahead of anyone else on this or meeting the press high down there. There'll be time to blow some of your goodies on the way back, and then we'll all be together."

After the copter had taken off,

Congressman Hazelton returned to the house and thoughtfully finished his drink. "As soon as Emmeline gets back, or a tow truck gets your car here, we're going to zip to Bangor in a police cruiser. Now Lou, my office has this number. If they call before we're back with Stubb, get it all down, then call me either on the cruiser radio or in the chopper coming back. O.K, here's how to do both those things," and he handed her a series of numbers. "And, hey, lay off the scotch, Lou."

Betty Lou grinned at her brother and puffed fiercely. "I wouldn't fall down in front of the president, Nate. You know that." She stared directly at him, shaking her head. "Jesus, Nate, this is crazy. Can we pull this off? I mean...."

Congressman Hazelton, noting with satisfaction that a large, low, luxurious police cruiser had pulled into the Muth yard and the uniformed driver was now waiting in respectful silence prior to a red-light-flashing chase through the big woods, poured just one more scotch. "Lou," he said thoughtfully, "there's no escaping it. The president has only two viable options...."

## VII

**P**resident O'Connell spoke with iron control. "General Zinkowski, I don't want to discuss landing the *Langley* at any particular place or in any particular way until we have first



discussed the concept, *landing*, itself. That is — and if I'm going too fast, please stop me; I know how philosophical digressions bother you practical men — can we go over the exact steps needed to put the *Langley* back on solid ground and without nuclear detonations." The president looked around with thin-eyed mildness. "Unless, of course, you have a place for her ... up there?" He pointed skyward, and his tone was now that of an impatient attendant dealing with a room full of mental patients.

Zinkowski nodded helpfully. "Absolutely, sir. Glad to help. She comes down to whatever approach altitude the pilot chooses at about 150..."

"Miles per hour?"

"Yessir. That's about as slow as the aircraft can go on idle reactor power. We don't want to risk shutting the thing down completely because it might be impossible to restart the plant in the air. O.K., well, in the next step, they drop the wheels to slow her up...."

"An aerial brake," said the president.

"Correct," said Zinkowski encouragingly. "But not a very effective one. This gets the *Langley* down to around one hundred miles an hour. Since this is still too fast to touch down, we next go to 'reversal'. You see, Mr President, the *Langley* is so heavy and has so much momentum that the only way to stop her in any reasonable distance is to reverse the

the fans. There are separate reverse-turbines geared onto the fan shafts, and the propulsion-machinery engineer now has to feed steam to these to stop the windmilling and reverse blade direction, to start blowing air out the front. The thing that's tricky is that at some point the condenser stops working because we're blowing air forward at the same velocity that it's coming in from the front due to the *Langley's* forward velocity."

O'Connell held up his hand. "Don't tell me, let me guess. The reactor then melts out the bottom, igniting the atmosphere and turning the earth into a nova?"

"Nossir, but the condenser might blow open. What we have to do is let the steam from the turbines leave the aircraft through valves — run the system 'open cycle', in other words, for the few moments it takes the airflow to really get going the other way."

"And what if there isn't enough water to complete this 'reversal', as you call it?"

Zinowski drew his brows together. "She carries plenty of extra water, sir. For combat losses and other emergencies. We figure to blow that away during the reversal phase."

"But since none of this has ever been done before, there is that small chance — vanishingly small, perhaps, because we know how wonderfully these gadgets all work, don't we? — but still a chance, that there won't be enough water?" When Zinkowski

made no immediate answer, the president lifted a large finger and pointed. "At Moosefoot the *Langley* would take out a number of trees in that case, right, General? And if the reactor happened to find a clear path through those trees ... well, *boom*, as they say. Now, suppose the thing does get reversed?"

"She'd stop in two miles or less, sir. Once they get her fans going in the opposite direction, she'll slow up quick."

"No wheel brakes?"

The general shook his head. "Impractical. The landing gear has enough problems. And reversing the thrust by movable cowlings, as in most other jets, was impossible from a weight standpoint. The whole wing would have to have been shrouded."

"Well, we certainly are learning plenty today, Jack," said O'Connell heartily. "And I think what I've learned already is that a landing at Moosefoot AFB is out of the question, so we won't need to waste time on that so-called option! Any questions?"

General Zinkowski grimaced and rubbed his thumb on his forefinger. "I think we could get her down there safe, Mr. President. And it is a remote area."

"Not so remote that a twenty-kiloton blast wouldn't be readily heard, here and in Canada," snarled the president. "We're *not* at war and we're *not* taking wartime risks! And...." His voice was acid. "...where does one stick the thing in Moosefoot,

with no 'hot hangar' in place?"

Zinkowski shrugged. "We could shield her, sir...."

"No," said the president in a final tone. "No and NO!" He looked around. "Option two...." And when no one spoke at once, he cocked his head at them. "Well, isn't that Ice Island Number Three, General!" he suddenly shouted.

Zinkowski nodded stiffly. "We can discuss that option now, if you wish, President O'Connell."

"It isn't your first choice, then, General?" asked O'Connell sarcastically.

"It happens to be my personal choice, Mr. President. The other men" — Zinkowski gestured at the officers around him — "may have other ideas."

"Then I assume the runway on the ice island is long and smooth enough, General?"

"It isn't long enough yet, sir. But we have equipment up there to make it as long as we want, up to the twenty-two mile length of the island in the north-south direction."

"But there is a runway there now, isn't there, General?" The president looked at him through narrow eyes. "For the scientific staff and their support?"

Zinkowski shrugged. "Yes, but it doesn't get much use. Just flying in food and gear now and then."

"It's hardly a little neighborhood grass strip, General Zinkowski! You're flying Hercules and CargoMaster

transports in and out regularly!" said the president.

"Sir," pleaded Zinkowski, "the whole island is basically flat and hard. It takes very little effort to clear it and keep it swept."

"And that so-called scientific staff," said the president. "It's all young officers and cadets on leave from the service academies, right, General?"

Zinkowski permitted himself a terse smile. "Well, Mr. President, you remember how the First Lady in the previous administration got hot on that business about the service academies not turning out humanity-oriented students and worldly officers. Well, one of the upshots was the 'life-experience' junior year, so the young man — or woman — has a chance to live in another part of the world, see how things are really done outside school."

"Ah," said the president dreamily. "Sort of like a junior year abroad, eh?"

"That's about it, sir."

"So they're all up there with the lacy cathedrals of ice hanging about the Quonset huts, the cultural opportunities of the PX library, and the scientific insights attendant on following the refueling operations of Soviet Badger aircraft on radar! The fact is, General," said O'Connell, his voice rising, "you people have established a cadre of dedicated young officers on the ice island, plus the facilities to move in more buildings, ground-to-air defensive weapons, and

the rest of it, probably in seventy-two hours, as needed to construct a complete offensive air base and refueling depot!"

The president's security adviser swiveled his glasses, shining like tiny twin oil slicks, to focus on his chief. "Zir, lezz than that, I think. More like a day and a half. And Zir, if zat research group were not on Ize Island Three now, ze Badgers would be flying in and out wiz regularity from zat field!"

The president's lips twisted and he snarled at Bzggartsky. "How you people can keep finding these sticks to poke up the fire is simply amazing!" He turned to the other side of the table. "Who's here from State?" he asked sharply.

A small, thin man of advanced age, Undersecretary Wilson Woodford, raised a brown-spotted claw of a hand. "At your service, Mr. President," he said in a dry, crackly voice.

President O'Connell sighed. "Ah, yes, Woodford. What's the status of Ice Island Three in the U.N.?"

Undersecretary Woodford cocked his small, bald head and pursed his lips, making birdlike noises. He began shuffling large masses of loose papers around in front of him, humming and chirping busily to himself.

O'Connell tried to remember why they had kept this damned old fart on at State. Was his brother a governor? Or a senator? Woodford seemed to have finally sorted his papers into

three general piles in front of him and was now pushing these around in a fit of straightening and organization. "Secretary Woodford," said the president in a dry voice. "Are we eventually going to get to guess which pile the pea is in?"

In common with other slow-thinking men, Wilson Woodford was relatively imperturbable. He smiled quickly at the president. "Be with you in a moment, sir," he said briskly. "I don't like to start on something like this until I have my documents fully accessible." His hands fluttered like dark sparrows among the papers in a final convulsion of organization. Then he looked up and picked the top paper off the middle pile. He cleared his throat, snapped the paper as though it were two fifty-dollar bills he was trying to separate, then set his lips and jaws into periodic chewing motions designed to ensure that his dentures didn't loosen during the presentation.

"So," said Undersecretary Woodford, in his best seminar voice, "Mr. President, we find three different positions on Ice Island Three." He paused and blinked vague, thin eyes at O'Connell.

"The United Nations' position is that since the island was discovered after 1946, it belongs only to that organization. They interpret the charter as ending the seizure of any territory on the basis of discovery only."

"Mr. Secretary, what in hell does the United Nations want with Ice

Island Three? Surely there are enough ice machines in New York City to keep even that bunch of rumdums happy?"

Secretary Woodford gave a nervous chirp of laughter at this witticism. "They aren't quite sure yet, sir. There has been talk of using it as a storage for excess food."

"A giant freezer," breathed the president. "Or they might put their various deceased officials into glass cases for all posterity to come and see. Kind of a chilly Madame Tussaud's and certainly more terrifying. Now, what is the Soviet position?"

Secretary Woodford turned to the pile on his left and snapped the top paper several times, checking his teeth again as he did so. "The Soviets claim that Ice Island Three is not an island at all, but simply part of the Arctic pack and that the use of it for bombing planes would be a violation of the U.N. resolution, of which we are signatories, concerning the banning of nuclear weapons on the Arctic and Antarctic ice."

President O'Connell held up his hand. "I find that position quite persuasive, Mr. Secretary. It's certainly the one I would adopt if I were working from Moscow. How do we answer such a claim? The island is entirely ice, isn't it?"

Professor Bzggartsky, having prepared a homework assignment on this topic, interjected himself again. "Pleezzz, Mr. Prezident. Ve have wiz us today, Dr. Richard Armstrong,

chairman of ze National Academy Committee on Permanent Ize Ztructures. He vill explain ze United Ztates claim, zir."

That crystal glass with the neat Jack Daniels and the two uncorrupted ice cubes now seemed to President O'Connell as no more than a kind of grail, shimmering distantly in some other and better time and place, a Glastonbury Abbey of the inner heart. No wonder the kids hate school, he thought in a kind of insightful fury, with egocentric, incompetent, insufferable, boring stupids like these freaks preaching absolute shit and nonsense at them.

Dr. Armstrong, twenty-nine and in a three-piece, single-breasted dark-green suit, chain with Phi Beta key, and a shock of blond hair falling attractively across his large, black-rimmed glasses, sat up to give his lecture. He had that bright, intent look of an assistant professor on his final meeting with the university tenure committee. "Could we dim the lights, please," he said with a nervous curtness. "Now, sir, in this first slide...."

"Agghhhh..." said Happy Jack under his breath. "Stupid slides yet."

But President O'Connell was glad of the chance to rest his eyes and imagine other, happier scenes in the soothing gloom.

The first slide showed a cross-sectional diagram of Ice Island Three. "There are several more-or-less permanent ice structures now known

in the Arctic Ocean," began Dr. Armstrong. "But the other three or four islands have ages of only a few hundred years and will eventually break up. Number Three is quite different. For one thing, the sea is quite shallow there, and the seabed on which the ice rests is solid permafrost down to several hundred meters. Also, that part of the Arctic Ocean seems to be a kind of wheel-hub around which the whole pack slowly rotates. We know that Number Three is at least ten thousand years old. It evidently was created in the last period of glaciation. Slide Two shows a satellite photo of the whole area around the island. You can see the extent of the permanent ice marked out on the photo."

President O'Connell came out of his reverie to a state of sudden alertness. "Just a second here! Let's see that photo without the lines drawn on it!"

Dr. Armstrong gave the president a tremendously respectful, yet puzzled, glance. "Well, sir, I don't know if we have...."

"Look," said President O'Connell in a gritty voice. "The Russians claim this so-called island is part of the ice pack. Does it *smell* like part of the ice pack? Does it *look* like part of the ice pack? Does it *quake* like part of the ice pack?"

"You mean, how did we determine that boundary, sir?" said Dr. Armstrong in sudden comprehension.

"Exactly," said O'Connell. "I can't see the slightest visible difference be-

tween the inside and outside parts of that line you drew."

"Slide three," said the geophysicist, "shows how we took test borings right across the island. There are two or three good ways of dating ice samples and ... Slide four, please.... here you see the age-contour lines of the ice around the island." This slide showed a roughly oval shape surrounded by what looked like concentric contour lines with shapes somewhat different from, but generally parallel to, the innermost line.

The screen went immediately dark, but President O'Connell spoke sharply, "Get that one back!" and the screen was lit again. "Now, Doctor, if I interpret this diagram correctly," said the president slowly, "those various closed, contour lines mark out ice of different ages, is that correct?"

Dr. Armstrong nodded. "The numbers give the average age of the ice at that point in tens or hundreds of years: one thousand, one hundred, fifty, ten, and so on."

"So," said O'Connell in a silky voice. "Where exactly do we stake our claim? Surely real estate that's lasted a thousand years is a pretty good bet? A hundred ... well...?" The president spread his palms. Everybody stared at him silently.

"Oh, come, gentlemen," he said in his most sarcastic voice. "The point is, simply, that the Soviets have a point! Ice is ice! That supposed island is clearly a contiguous part of the polar ice

cap in the exact sense of the U.N. resolution. The fact that the ice is old in no way alters the legal sense of that document. Turn on the lights!"

As the fluorescent blazed up, President O'Connell found himself blinded by the twin defocused laser beams off Professor Bzggartsky's glasses. "Zir! Vatever you may zay ... or the U.N. may zay, ze moment ve abandon Ize Island Three, ze Zoviets will be zhere ze day after."

"And yet," said the president, in the bitterest of voices, "if you pointy-headed, empire-building, Ph.D.-glutted bastards hadn't found this nonisland in the first place, no one would give a damn for that hunk of ice! All right. Let's get on to the other options for landing the *Langley*. I've had a gutful of Ice Island Three!"

The president looked directly at General Zinkowski, who cleared his throat in surprise. "Ah, yes, sir. Well, the other option is to ditch her at sea."

"The other? This is the last option, General?"

Zinkowski nodded quickly. "We have analysts examining the whole system again, sir, but at this point it appears that the ditch option is the only other feasible, and safe, one." He paused and took a breath. "This involves bringing the *Langley* down to a suitably selected and protected body of water or seacoast region and landing it, essentially as I described earlier, but with the landing gear retracted. In this mode, the pilot would slow the aircraft

as rapidly as possible after reversal has been completed...."

"If," corrected the president. "If reversal has been completed, General."

Zinkowski shrugged. "Even if it hadn't worked, the pilot can still stall the *Langley* in and kill quite a lot of speed. And of course there's plenty of distance over the ocean in which to make mistakes. Whatever, the aircraft will lose positive lift at about seventy miles an hour. At this point she can be stalled or reversal-braked further as she falls into the drink. Obviously, no matter how carefully we pick the spot and the weather, some damage is probably inevitable. No matter how big the splash, though, we're assuming the *Langley* will stay afloat. The whole damn condenser structure in the wings is a honeycomb of aluminum, and there's no way it can be made non-buoyant by crash damage."

"And, General, what chance of 'roll-up' might there be in this sort of landing?"

"We think none, Mr. President. For one thing, we can't see how the plane could ever hit the water hard enough. For another, water would not provide the hard bearing-surface needed for the shielding to crush in the reactor. Of course, there is the chance of a positive-pressure implosion if excessive landing shock tears out and drops the reactor into too-deep water."

"Implosion?"

"Sir, it takes a considerable velocity and a hard surface to produce 'roll-

up', but much less of a crash to have the reactor and shield fall out of the bottom of the plane. If the water is over eight hundred or a thousand feet deep, the hydrostatic pressure may collapse the reactor sufficiently for a nuclear detonation."

"Lovely!" said the president, shaking his head. "And I thought the take-off was exciting! What would such a deepwater explosion do, General?"

Zinkowski held up his palms. "Nobody is quite sure about that, sir. Possibly some sort of local tidal wave. But anyway, if we land her in shallow water, say a hundred feet or less, we can avoid that risk."

"And if the *Langley* finally winds up floating around on the ocean, what next? Tow it to Disneyland?" The president rubbed his eyes. "Or perhaps it could be converted to an offshore floating casino?"

"Well, sir, we'd pick a spot to bring her down where we could get her to shore and lift out the reactor and shielding with the RRT, that's the Reactor Recovery Truck, then unbolt the rest of it and carry the pieces back to Moosefoot. The *Langley* is designed to come apart in freight-car-sized chunks."

Shamus O'Connell sat up straight and stretched. "I've made my decision, gentlemen," he said at once. "We will ditch the *Langley* at sea, as you just described, General Zinkowski. As I understand it, the *Langley* will reach the North Pole by tomorrow morning. At

that time we will meet again, and you can describe, General, just how and where the deed will be done. I assume you can make such a plan by then? Are there any questions?" This was said in a tone that implied there had better be none.

But Happy Jack was not satisfied yet by what he had heard, and he leaned to the president, his hand in front of his mouth, and though he made no sound, his lips said clearly, "What about the crew?"

O'Connell bit his lip in annoyance at himself. Boy, he was really slipping to go ahead without getting into that subject! "And finally, General, what about the *Langley's* crew in event of a ditch? Can they bail out before she comes in?"

Zinkowski shook his head. "No, sir. She *has* to be landed, and that takes about half the men, anyway. Also, to parachute out of the *Langley* you have to fall through the radiation field astern of her. We think the men should stay right with her, then get out when we bring the vessels alongside."

"So, am I correct in interpreting your remarks, General, to the effect that there is essentially no danger in this operation?"

Zinkowski shrugged and his voice was cold. "Nothing involving aircraft and nuclear energy is without danger, sir. It's possible that a rough landing might knock the reactor partially off its mounts and shift its high-field cone toward the forward section of the air-

craft. This could irradiate some or all of the crew. In such a case, they would have to leave the aircraft in their own boat at once so as to minimize their exposure time and row to wherever the field was at minimum."

The president had no trouble detecting a barely restrained hostility toward him as a result of his rapid and undebated decision, and he felt his own anger growing. He bared his teeth at the whole table. "I know perfectly well," he said in a bitter voice, "that this whole thing is a trick to get us onto Ice Island Three, and with both feet. I am *not* going to take such a provocative and destabilizing act, gentlemen! Just get that through your heads at once. I can easily justify to the public my bringing the *Langley* in for an ocean landing. Never fear of that! I will stress the interesting and explosive possibilities of the other choices. And, the environmental lobby already thinks this is the maddest madness yet out of you apprentice sorcerers! I will use the environmentalists warmly and fully. This meeting is adjourned!"

As the subject of these seminars turned more northerly up the center of Davis Strait, her escorts dwindled away, for she was leaving civilization and its airfields behind. The many small planes and helicopters fell back, to be replaced by fewer, larger aircraft carrying cameramen and the pool reporters.

They were still well south of Mel-



ville Bay when the double-century speed mark was passed. This event was greeted with considerable cheering and comment, for they were now without any question traveling faster by steam power than anyone before them.

Captain Jackson had been carefully calculating the *Langley's* future climbing rate and speed, based on her present behavior, and he now stuck his thumb up again and shook his head beaming. "We probably will get past the triple-century, Bob. Depends on how cold the polar air is up at our service altitude." He looked out at a Reuters-chartered 707 flying above and ahead of the *Langley's* office. "What do you think they'll have us do, Bob, after we get near the Pole?"

Colonel Muth turned to his copilot and his eyes were bright and sharp. "What they should do, Gaby, is send us on a transpolar flight around the world. Hell, that's the only thing the plane is really good for."

Captain Jackson's large mouth fell right open. "Around the world, Bob? Well, Jesus, why would they ever do that?"

"Because," said Colonel Muth with a thin smile, "when you've done something as spectacularly stupid as building the *Samuel Langley* in the first place, and then letting it fly in the second, the only way to climb out of the hole is to do something even stupider and more spectacular when you bring it down! The point is, Gaby, the *Langley* is just too big for anything

less. It can land maybe two or three places in the entire world. Just to store the damn things when they get hot uses up a bunch of real estate. I mean, if we lived on a world with maybe three or four times the area of this one, well, then a plane that can cover the whole thing might have some uses." Colonel Muth shook his head and his voice was grim. "The *Langley's* not the only toy that's much too big for us, Gaby. And it all started with steam. Look at Brunel and that huge, damn steamship."

But Captain Jackson's mind was elsewhere. His large mouth caressed the magic words as they might have moved over the lips of a passionate lover: "The transpolar, nonstop circumnavigation of the world ... by steam!"

## VIII

Congressman Hazelton arrived at the Bangor airport by police car to find his niece, Melissa, the center of an attentive group of state police officers.

She stepped off two long strides and gave him a cool kiss on the cheek. "Uncle Nate, how have you been, dear?" Her oval gray eyes swept over his shoulder and caught a glimpse of the newly arrived police car and, in the front seat, Emmeline Pangini's huge front aligned exactly with a policeman's nose, the two of them chatting with much laughter and animation. "Uncle," she whispered

fiercely in Hazelton's ear, "have you ever actually *thought* about *why* you have this thing for big tits?"

The congressman snarled irritably. "Jesus wept! What in hell is happening in the State of Maine? Sanctimoniousness is coming on like a rabies epidemic! Do the foxes carry it?" He narrowed his eyes and peered at his niece's own lissome bustline, which, though by no means in the same league as Emmeline's as to size, was both ample and handsomely set off by a wide-patterned, Grecian kind of hand-knit shift whose many open holes showed that Melissa neither had, nor needed, a bra. Below this was a long, narrow skirt cut out and pieced by an ancient set of blue-white dungarees, slit to the right waist and revealing, among other things, stiletto-heeled, thigh-high vinyl boots as tight, black, and sleek as the highway patrolmen's Magnum revolvers holsters.

"Don't talk to me about tits, Melissa," said Hazelton, blinking. He noticed that the police officers had all removed their huge pitch-black shades, so as not to miss anything, and were now leaning against their cars in a kind of collective daze, obviously waiting for Melissa to either move or speak again. "Hoo boy! We've got to do something about you before the president gets up here!" Hazelton waved futilely at his police car, then attracted Emmeline's attention with a piercing whistle.

Waving her pink fingertips back at

her new friends in blue, Emmeline disembarked from the cruiser in a fetching confusion of flying skirts, dimpled knees, and giggles. She made her way pneumatically up to them, and by the time she and Melissa were standing together, the highway patrolmen were in a state of molasseslike paralysis, only their eyes now capable of life.

"All right, boys," said Hazelton, clapping his hands to break the trance, "I need a good shopper. Somebody who knows the town." Everyone immediately stood at attention, four tall erections in blue, though there was never any doubt but that rank would prevail.

"I'm a Bangor boy, Congressman," said the large sergeant in a flat voice, hunching his shoulders to suggest that the escort question was now settled.

"Fine, Sergeant," said Hazelton, busily rubbing his hands. "Now listen closely, Emmeline. Ready?" Emmeline nodded, smiling brightly. "I want Melissa in flat tie shoes — sensible, you understand — and flesh-tone, cheap panty hose, the thick kind that itches. Next, a neat, decent housedress, short sleeves, a skirt hitting her about at the knee..." He looked down at Melissa's tremendously long, black-booted, and sinuous calf. "No, longer! As long as you can get it without making her look like an inmate someplace. An oversize, shapeless sweater that she can roll up above flour-begrimed elbows. A full bra built like steel, as flat as you can get her. Jesus ... the hat?"

Melissa's gorgeous rope of soft-plaited blonde hair now hung in shining splendor down her straight back to her waist. The congressman sighed. "O.K., we won't cut it. Find a parlor that will put a hard-set wave in so it puffs out all over. Or else a beehive? Look, Emmeline, you know the TV ads with the two women?"

Emmeline puzzled prettily over that.

"You like those ads, Emmeline," said Hazelton plaintively. "You remember? There's this old woman and this young woman, in the kitchen usually. And either the old one shows the young one some useless, outdated, ancient product or else the young one shows the old one some sleazy, dangerous new product."

Emmeline's face showed a dawn of remembrance and she nodded busily. "O.K., I want Melissa to look as much like those young women as possible, you understand?" And after everybody gave back another chorus of nods, Congressman Hazelton patted the two young women on their fannies and sent them off into Bangor in the red-lit police cruiser.

Stubb Moody and Bob Junior arrived about a half hour later, and Hazelton walked over to the machine as his nephew unwound out of the cabin and jogged toward him. Bob Junior was well over six feet tall and he wore his hair like Melissa, though not braided but just pulled into a thick, disgusting tangled horse's tail. His

wispy beard was an evident attempt to copy the Ho Chi Minh style, although it seemed to be longer on one side than on the other. His torn jeans appeared to be covered with old bloodstains, and his shreds of T-shirt could be barely deciphered to read "Hell no! We won't glow!"

"Hi, Uncle Nate," said Junior, giving him a big, crooked grin and a warm wink. Immediately suspicious, Hazelton surprised his nephew by giving him a quick peck on the cheek. But though he sniffed sharply, he could detect no sign of cannabis residues. "Hey, Uncle," Junior grinned even wider, "Stubb didn't give me anything, honest. Hey, thanks for getting me out. I never did have to give them my name."

"Where are your shoes?" asked a bewildered Congressman Hazelton, staring down at huge, filthy feet.

"I gave 'em to an old drunk in the jail. He really needed them, Uncle Nate. Honest. It didn't matter anyhow. They ran me around the courthouse in a wheelchair most of the time."

"Wheelchair?" The bewildered congressman turned to Stubb Moody, who just slouched up to them. "Junior was in a wheelchair, Stubb?"

"Ayeh. Cops said he refused to walk anyplace 'er give 'em his name, either. 'Course when I got thar, Bob was pushin' this old cop around the airport, 'stead of bein' pushed."

Hazelton turned a bemused face

back to Bob Junior. "You were pushing the cop?"

Junior shrugged and grinned again. "They assigned this old fellow they said had a heart condition to push me around when I refused to walk. So when he was on duty, I refused to move unless they let me push him. They kind of had to let me, Uncle Nate, or else tie me in that chair. And that didn't work because they couldn't keep my elbows in tight enough to get us through doorways." Junior paused, his face thoughtful. "I addressed the court about forcing a man to work in this sort of duty when he had a heart condition."

Hazelton nodded in purest awe. "You addressed the court? Because the cop had a heart condition?"

"Yeah, well, Uncle Nate, the judge called me a Commie and a radical collectivist, you know? So I just pointed to old Officer Melvin sitting in the wheelchair and said that the public sector, as typified by the St. Johnsbury municipal government, was ten times crueller and more antilife than IBM or Exxon could ever be."

Nate Hazelton's voice was filled with wonder. "No doubt the judge was immensely grateful for your bringing this municipal cruelty promptly to his attention?"

"Yeah, maybe. I actually don't know what the judge thought, Uncle Nate, because when I finished talking, old Mel got up from the wheelchair and came over and began to hug me

and cry a little and say I was the only decent man in the room. The court went into immediate adjournment."

"Junior, we're going to get you organized," said Nate Hazelton, although his tone did not have the same firmness as the words themselves. He looked at the remaining cops. "O.K., we're off on another shopping spree. You..." He indicated a young officer. "Is there a department store or mall open now?"

"Yessir, Your Honor. A couple near here."

"O.K., you drive us to the biggest." He turned to look at his nephew. "I'm going to have you looking like a marine drill instructor on leave. That hair is all going, baby! And thank God! You sure ain't Melissa with that disgusting mop!"

"I'm not on a hair trip," said Bob Junior mildly. "I think a crew cut would be kind of fun."

"Yeah!" said Hazelton, suddenly staring at him. "Crew cut ... no, brush cut. Flat across the top. Say, what about a Scout uniform?" He shook his head. "No, you're too big and old. That would be weird. Well, we'll find you something to wear."

And as the shoppers organized their costumes and makeup in Bangor, the *Langley*, now beyond Baffin Bay and approaching huge, ice-covered Ellesmere Island, passed yet another milestone.

"Sergeant Stewart," said Captain

Jackson suddenly. "What's the highest steam railway operation in the world?"

Stewart answered promptly. "Central Railway of Peru, Galera section, 15,844 feet, 4½ percent each side of the top."

Jackson said, "We'll soon be up on that, gentlemen: 15,800 right now. How many steam locos have they got, Jim?"

"About fifty on that whole section. Did you know, the diesels won't work up there? They even tried special superchargers. Damn things could barely drag themselves around."

The crew considered that satisfying fact for some minutes until Jackson spoke again. "We have now set a new altitude record for steam, and we'll be at an even sixteen thousand in an hour."

Cheers and comments greeted this announcement, and Captain Jackson turned back to a challenging exegesis of steam flow in rotary sleeve valves in *Flash Steam Monthly*, for the *Langley* was now flying on automatic pilot with only Major Fisk, the engineer, needed to constantly adjust the reactor activity to maximize climb and acceleration at each new altitude.

Colonel Muth, back in a gunnery station on an inspection tour when the altitude of Galera section was exceeded, gave the three sergeant-gunners a brief rundown on the problems of setting loco valves at high altitudes, and then walked back through the narrow, featureless, shielded tun-

nels and passageways inside the forward section of the *Langley*. He went down a ladder into a narrow hole that led, after some more twists and turns, to Jim Stewart's tiny undercarriage office.

Here followed a pleasant chat on the possibility of electronically simulating high-altitude operation on a model mountain railway, and then Colonel Muth partly climbed and partly crawled to reach the much more spacious and active sanctum of Major Fisk and his two engineering assistants, seated side by side in front of a wall-sized control and instrument panel.

Fisk was beaming and puffing on a big cigar. "I can't believe it, Bob," he said as the plane commander squeezed in the tiny oval doorway. "I really think we're going to show a power increase all the way to the top. You know, one of the P. & W. academic consultants claimed the Bird would work that way, but the company's analysis group ran those zillion computer simulations and said no way. And damn if that guy with the equations wasn't right all along. And...." Harry Fisk gave Colonel Muth a big wink. "I don't want to be quoted yet, or to get anyone's hopes up, but it just looks like we might make the million! Just when she tops out. So, how about that, baby!?"

"You guys are making it all happen, Harry," said Bob Muth, grinning at the three men.

Fisk stuffed his cigar in his mouth,

then turned and grabbed Bob Muth's arm. "Bob, you got us up. I don't need to tell you how great a moment that was. You've always been the captain, even when you drove that switcher right off the layout. Shit, I just wish there was something interesting we could do with this damn, great auk besides seeing how much she'll put out."

"Don't give up hope, Harry," said Bob Muth in a level, serious voice. "As the saying goes, we have friends in high places. Steam Bird isn't extinct yet." He gripped the shoulders of the two lieutenants assisting Fisk, then squeezed back out into the crawling tunnel and headed forward.

He was humming "Flying Down to Rio" under his breath as he entered the flight office and finally dropped into his seat. "Hey, feller..." he sang in some kind of tune to Captain Jackson.

"Spin that old propeller!" responded Jackson at once, and the two men grinned at each other, now sharing together the possibility of Rio and far, far beyond.

## IX

The reporters and TV vans arrived at the Muth home in the early afternoon, but Betty Lou and Alice were all ready for them. Mrs. Muth was dressed in an old, tweedy skirt and an ancient cham-  
ois shirt, washed almost white and with sleeves rolled up above flour-begrimed elbows, for she was actually making a cake when they began to arrive.

Alice, in a red velvet skirt, black pumps with white knee stockings and a fussy, silky blouse, had washed, then brushed her long, straight blonde hair so it hung down in a golden shower around her face. Indeed, Alice now looked so much like that other Alice in the Tenniel illustrations that she had spent some minutes in front of the looking glass practicing saying, "Curiouser and curiouser," and trying to get it exactly the way she thought the other Alice would have said it.

The several cars and trucks randomly parked on the Muth lawn disgorged their cargo of people and cameras, and after some setup time, Mrs. Muth heard a discreet knock on the door. "Ready when you are, Mrs. Muth," said a polite young man.

"All right, Alice," said Betty Lou in a gentle, well-modulated voice, and when her daughter joined her at the door, the two of them walked out to face the cameras, mother's sturdy, bare, floury arm firmly around her pretty daughter's silken shoulders.

Alice was almost too good to be true, and the camera immediately zoomed in on her gamin face and shimmering hair. Ms. Betsy Frankenhimer, anchorperson on the "Nite News at Eleven" program, mouthed the silent word "Adorable!" to her camera crew and stepped forward with a wireless mike, dropping on one knee and giving Alice a blindly cheerful smile from ten inches away. "You must be Alice, dear?" she enunciated in a clear but gushy voice.

Alice Muth nodded gravely.

The TV lady showed even more and even larger teeth. "I suppose you are *very* proud of your father, Alice?"

Alice thought for a moment. "I don't know if Dad would want us to be *proud* of him," she said in a serious voice. "I think he would rather have us be ... well ... *like* him. You know, brave, self-reliant, quick-thinking."

Ms. Frankheimer remembered with sudden and grievous pain her own father and their last meeting when he was so out of his skull with booze and downers that he simply didn't recognize his own daughter. She stared at the beautiful child in front of her talking about her father as though he were a family saint, and she felt her throat beginning to constrict and her eyes to mist. "You must love your father very much, Alice?" she said in a choked but barely understandable voice.

Alice smiled, a sudden radiance that enveloped the cameras and the pool men as well as Ms. Frankheimer. "We all love Dad, don't we, Mom?" and she squeezed her mother fiercely around her middle so that flour puffed from her apron. "You would, too, if you knew him. There's nobody that knows more things than Dad. Like ... well, how Baker valve gears work and what were the best runs on the *Morning Hi* when she was steam-driven, and the piston speed on *City of Truro* when she did the century ... well, just about everything like that. You see...."

Alice looked out at the cameras

with round, serious eyes, and the two wire-service men immediately gave her wide grins and double, upward thumbs back. "...Dad is tremendously interested in everything and he's always thinking and asking questions."

The obvious mixture of total love and complete admiration produced a cascade of tears and snuffles from Ms. Frankheimer and a brief hiatus in the interview. Alice, in what the wire-service men agreed afterward was the classiest moment in a very classy performance, instantly produced a sweet, heart-decorated hankie from her tiny skirt pocket and dutifully handed it over to the TV lady.

"Of course, Dad and I have a special kind of love," said Alice, since it seemed to her that people would get bored if nobody was talking. "It's the special love between father and his youngest daughter. In seventeenth-century New England, they said the youngest daughter was the father's *tor-tient*, and if she were to die of consumption or one of the million other things they died of then, the father would be so sad that sometimes he just gave up and lay down on the ground next to her green grave.... I don't mean that Dad loves me any more than my brother or my sister. Dad would never do that! It's just, well, *special*, like King Lear and Cordelia."

Ms. Frankheimer, herself a youngest daughter, was now rendered completely unable to continue, and Betty Lou Muth realized they had

definitely peaked the interview. She hugged Alice briskly and smiled in a motherly way at the cameras. "Alice is very good in school and she has a very active imagination. As you can see, she reads a great deal." Mrs. Muth looked around. "I think Alice speaks for us all with regard to my husband. My two other children are flying in tonight with Congressman Hazelton and some of his staff, and I have a large meal to prepare, so if you can excuse me now...." She looked questioningly around at the reporters and cameramen, but it was evident that no further footage could compete with that already in the cans, and so the Muths were excused.

Once back inside the house, Betty Lou Muth peered at her daughter with mingled awe and suspicion. "Where did you ever pick up that 'tortient' stuff, Alice? Talk about laying it on thick!"

Alice, immensely pleased with herself, shrugged and then grinned at her mother. "We had a unit on colonial New England family life in *Contemp. History*, and the book talked about it. And anyway" — Alice glanced at herself in the hall mirror — "I think it's true. Dad and I *do* have a special love. I *am* his tortient."

Mrs. Muth lit up a cigarette and puffed furiously. "You're the biggest ham in town, that's what you are! You know how they cut and edit, Alice. They'll have you looking like a cross between goody-two shoes and

the little match-girl."

Alice was unperturbed. "You know what Uncle Nate says about the public, Mom."

Betty Lou grinned and puffed some more. "Yeh. I know his motto. 'Remember the Checkers speech. There is *no* bottom.'"

The meeting with the press held by Congressman Hazelton and his niece and nephew at Bangor airport was also brief but had no TV cameras. Both Melissa and Bob Junior were now transformed by their disguises into characters from an unlikely Albee play about Middle America. Melissa's great beauty could never be wholly lost in face goop, green eyebrow crud, and a buzzy, fluffed-out hairdo that seemed to be held together with shellac or epoxy, but the long brown skirt, sack-like blouse, and sensible shoes gave her the unlikely look of a ravishing butterfly trapped half-in and half-out of its dreary cocoon. Bob Junior, tall and keen as any astronaut or young stockbroker, peered alertly at the reporters from behind large, black-rimmed glasses. His single-breasted, conservative, middle-priced suit-coat fitted his large shoulders splendidly, but Nate had been careful to get the pants a trifle short so that his huge feet in their brown-leather, wing-tipped oxfords stuck out in undeniable prominence. As Nate explained later to his sister, "I wanted the Maine farmer boy turned Rhodes Scholar ready to boot the ball for Oxford." Junior's hair, now a flat



plane across his head and cut so close on top that the scalp showed white beneath, amply fulfilled his uncle's original desire: the marine D.I. look.

The local Bangor A.P. man flashed the congressman a big smile. "Mr. Hazelton," he said briskly. "The wire service says your office will have a statement on the *Langley* this evening. Can you give us a hint on that?"

"I can't, boys and girls," said Hazelton easily, "because we haven't made it up yet. The president and the Pentagon met this morning on the *Langley's* mission. Obviously, my reaction will depend on that decision."

"Do you think there is any chance the *Langley* might be involved in combat with Soviet fighters?" This from a young woman stringer from Boston.

Hazelton grinned at her. "Only through the most grotesque and unlikely series of circumstances. The *Langley* flies far too low and slow to withstand even the most halfhearted attack by jets."

The woman reporter squinted fiercely back at that. "Then you would agree, Congressman, that the landing of the *Langley* has nothing to do with the so-called Russian missile freighters, but is in fact an attempt by the Pentagon to force Ice Island Three down the president's throat? Isn't it true that the Environmental Protection Agency will not permit the aircraft to land at Moosefoot or anywhere else in the U.S., quoting more recent laws that they say nullify provisions of the Air-

craft Atomic Energy Act of 1963?"

Hazelton's eyes glittered and he pulled at his short, foxy-grandpa beard. "That question, I assume, will keep several dozen lawyers busy for months. I doubt the *Langley* has sufficient food aboard to wait out those appeals and reversals. As to what rip-off the Pentagon is presently plotting, my only comment on that is: I am not a student of insect life."

He looked around impatiently at the several reporters. "Ladies and gentlemen, please! Obviously, I will not comment now on the various options open to the president. The *Langley* is his responsibility, not mine. What I will say is that I feel President O'Connell should come up here, to Moosefoot, and sit down with the people, the *only* people, who understand what the *Langley* can actually do."

"You do believe then, Congressman, that the *Langley* has a useful role? That it's not a flying nuclear disaster, as the environmentalists are claiming?"

Hazelton nodded vigorously. "The *Langley* can play a large, significant, and positive role in our national life. That will all be made evident after the president has made his own assessments. Now, let me introduce to you the son and daughter of the aircraft's commanders, Bob Junior and Melissa Muth."

The young lady from Boston found Bob Junior a little too precious to be true, and she spoke directly at him.

"Mr. Muth, how do you react to the various charges from the ecologists — specifically, the Friends of the Polar Bears — about the *Langley's* danger to Arctic life?"

Bob Junior rubbed his large jaw with a big hand, the way Jimmy Stewart did in the movie about going to Washington, then cocked his head at her. "If you're talking about Ice Island Three," he said in a slightly twangy, down-Maine voice, "there ain't any polar bears at those high latitudes. There's no food up there, especially around that part of the Arctic where there's little or no water left unfrozen."

He looked around at them and his dark eyes flashed scorn. "Any one of you could have looked that up, you know? I learned it for a merit badge in ecology about five years ago." He turned now to drill into the Boston lady at close range. "Of course you press folks would rather make up stuff to fit whatever sentimental hokum you think will peddle the most garbage.... With the result that brave and good men, like my Dad, may be driven to give up their lives to prevent some imaginary environmental risks!" This last was delivered with a hard-edged thrust that quite wilted the Boston reporter, and she softly retired, blinking at the stern-faced young giant.

Congressman Hazelton put his arm around Junior's large shoulders and smiled frostily at the reporters. "Bob here was an Engle Scout, you know?" he said coolly.

Nobody else seemed willing to tackle Bob Junior again, so the local A.P. man smiled tentatively at Melissa and phrased what seemed to be the most innocuous of questions. "Well, Miss Muth, I imagine you're proud of your father up there flying that huge, dangerous machine?"

Melissa nodded curtly. "Of course we're all proud of Dad. It isn't just the first nuclear airplane, you know. It's the first steam-driven flying machine as well." She paused thoughtfully. "Well, unless you count Professor Langley's machine that Glenn Curtiss rebuilt and flew a few feet up off the water in 1915." She looked around at them, as if they were white slugs on some bad meat. "None of you knew any of that, did you? You're writing stories on the flight of the *Langley* and you don't know the first thing about it! Why, there are wonders and marvels happening around us every day, and you people are all writing about some pro football player or rock freak getting busted for cocaine! Disgusting! And you call what you do a *profession*!"

That pretty well ended the interview, and the reporters shuffled away to consider their worthlessness in the airport bar.

Since Stubb's copter could handle only three passengers, Nate Hazelton sent Emmeline back to Moosefoot with the young trooper who had driven them down.

Bob Junior smiled at his uncle.

"You'll sure get that cop's vote, Uncle Nate," he said in a practical-sounding voice and with a heavy wink.

Melissa sniffed and curled her long, elegant upper lip at the two men. "You chauvinist sex-pigs are really obsessed by the merest thought of somebody making love. Emmeline happens to be a very gentle, lovely person, Uncle Nate! And the fact that she needs a forty-two D-cup does *not* mean she's a moron! Look at this great job she did on me at the beauty parlor. She knew *just* what you wanted."

"Don't you lecture me about Emmeline, Melissa," said the congressman in a venomous tone. "There's no reason why a man looking after the nation's vital interests can't share some companionship with a...."

"All gassed up, Nate!" shouted Stubb Moody three feet from the congressman's ear, thus ending his lecture.

Bob Junior sat up with the pilot, the congressman behind him and Melissa behind Stubb. With a flutter of hissing sound, the machine chattered up into an almost-dark sky. Hazelton leaned back in the cramped bucket-seat and sighed. "O.K., Stubb. I think we've all earned a puff of that good old goody."

The pilot immediately pulled a dirty-white, spit-marked monster joint from his breast pocket and passed it back. "Jesus, Stubb," said Congressman Hazelton, "where do you get such big rolling paper?" For Stubb's joint was indeed the size of a small cigar.

"Glued a bunch 'o papers tugetha,

Nate," replied Stubb in a loud voice. "Then we dun't have tu keep lightin' up all the time."

Hazelton lit up and sucked strongly on the reefer, then exhaled with a slow but complete whoosh. "Ahh, Stubb, this is some of your best shit yet."

"It's the mature stuff, Nate. Young Bob an' me been raisin' it since the end of frost on a south hillside way back up."

"Yeah," said Junior. "I started the plants under lights in the fall, so we had three-footers when the sun began to really get hot. Got the place fenced. Otherwise, the deer gobble the damn grass right up."

Hazelton toked appreciatively. "If I get to be president, you boys can have the Department of Agriculture."

Some moments passed in silence as the tiny cabin became more and more filled with the tantalizing smells of burning cannabis. "Uh, Uncle Nate." Junior turned around, "Uh ... hey, you're kind of Bogarting that joint."

Nate Hazelton took another long toke and let out the smoke in a snarl. "Yes, you would deny an old man a few moments of relaxation snatched from a hectic, all-day rush. It's disgusting! What do you young people need with all these stimulants, anyhow? You should be facing the wind, your heads clear, your breath sweet...." He crouched back into his corner of the cabin, toking steadily.

Melissa gave her uncle a scornful glance. "*Really*, Uncle Nate! If you're

going to get maudlin in your high, at least let us come along for the trip!"

Hazelton took one more deep suck and, holding in, passed the now-ravished joint to his niece. The remaining three now reduced the joint to roach and then to ash in a round of efficient passing. Stubb promptly produced a new one.

So the flight went pleasantly forward into the cold Maine sky, the dark, continuous forest passing underneath and only an occasional wink of light showing a solitary house. They were still about forty minutes from Moosefoot when Stubb Moody suddenly handed the headset back to the congressman. "Mizz Muth, Nate," he said.

Hazelton reluctantly passed on the reefer and put the set over his head. "Yeah, Lou. What's happening?"

"Nate, your office just hung up. A Mrs. Houghton."

"Right," said Hazelton briskly. "That's Isobel, the best Washington shark in the business. What does she know?"

"The president has tentatively decided to ditch the *Langley* at sea, Nate. They're all meeting tomorrow morning to firm up how and where."

Hazelton smacked one fist into the other palm. "Right! That's what we want, Lou!"

"But Nate, isn't the ditch the riskiest of all for Bob and the rest if we don't get it stopped?"

Hazelton could hear the concern in

her voice. "Lou, this has to be the best way for it to go. If Shamus had lost his nerve and just dropped her tomorrow on the ice island, we'd have a problem reversing that. But he's damned if he wants to give in to the hawks. The point is, now all he needs is another suggestion and he'll see the whole thing clearly. Shamus is no fool, Lou. I don't know how he got in. Sometimes the country gets dumb-lucky. Believe me, he's down there right now looking for a way out that does it all for him. We're going to give that to Shamus.... O.K., what else? What is Isobel doing?"

"She said she called the wire service and the newspapers with a statement. You want me to read it, Nate?"

"What's the gist?"

"That Congressman Hazelton's office has learned from reliable sources — she said you'd know who — that the president was leaning toward a wanton and dangerous ditch procedure with the *Langley*, and that you were attempting to reach the president, and so forth and so on. Here's the part she said you'd want to hear: 'Congressman Hazelton stated that the president had been unaware of the Moosefoot complex and missions until two days ago, and thus the congressman will urge the chief executive to make no final decision before himself viewing the bombing planes and meeting the trained and dedicated men who are now helping to set records in the northern skies.' "

"Nice," said Hazelton, retrieving

the joint. "Did she think the press would call the White House with that stuff?"

"They already have, Nate. Mrs. Houghton has scheduled a press conference at ten tonight, so as to just make the eleven TV news. She's going to give them a briefing on the whole Moosefoot thing and answer questions about your statement. And of course respond to anything the White House might say."

"If they're smart, they'll play dumb," muttered Hazelton. "Isobel is sure doing a bang-up job. I've got to give her a hand with that traction engine she's putting back together. Anything else?"

"Alice and I had a short TV extravaganza, Nate."

"How'd it go?"

"You can decide when you see Sarah Bernhardt on the eleven o'clock news. When do you want to eat?"

"Hold the spaghetti water until after we've landed," said Hazelton. "I'm going to try and call old Shamus as soon as we get down in your yard. Be sure all the outdoor lights are on."

After contact was broken, Congressman Hazelton stared moodily out at the dark carpet of forest passing beneath them.

"What if he won't buy it, Uncle Nate? What if he makes them ditch?" said Bob Junior.

And though he *knew* this would not happen, Nate Hazelton at that moment had a sense of the utter futility

that failure would bring, the *Langley* nothing more than a bad Las Vegas joke for a few days. Bob and the crew ... what? He stared at his nephew. "If we flop when he comes up here, we've still got my lawyer, Manny Fishbein, and his injunctions. Manny can keep the *Langley* flying for months. Then there are the weird and wonderful environmental folk. Any dumb-o can see that the *Langley* is better off up on permanent ice than underwater in the middle of the Georges Bank fishery, and that position can eventually be forced onto the slack-jaws in the executive branch."

He pointed a sudden finger at his nephew. "If you do your stuff tomorrow, we won't even have to *think* about a ditch! Now listen! The preppy snot was fine with that gang of bleeding-heart ninth-raters in Bangor, but not to the president! Shamus won't stand still for ten seconds for any of that shit. Furthermore, if you start playing fact games with them, Jack Hanrahan will eat you alive!"

Melissa patted his arm. "Uncle Nate, Junior's going to be great. You know you don't have to worry about him. We want everything to go right with Dad as much as you do." Melissa's eyes were now at an interesting half-mast position, and she aimlessly and attractively brushed her hair back. "Hoo-eee, Stubb! We've been doing some pretty good coke down there, but this grass is just *super!*"

"You can thank the Boy Scouts,

Meliss," said Bob Junior earnestly. "When I took my merit badge in agricultural, they showed about how you start plants early and then keep them from flowering too quick by putting them on a protected, south-facing hillside."

"That's what I've always liked about the Scouts," said Hazelton in a round voice. "Practical. Stuff you can use in the real world. Don't you think so, Stubb?"

Stubb Moody tried to remember his younger days. "I dunno, Nate. I wuz swampin' logs with my daddy most o' them early days. Larned to fly in Korea."

"Well," said Hazelton, shrugging, "that proves it. You actually lived the life of the Scout full time. And look how it's built up your character."

The long silence that followed this announcement was finally punctuated by a giggle from Melissa. "Stubb," she said, "Do you see yourself as *having* character or as *a* character?"

"Stubb is *a* character *with* character," said Bob Junior at once.

But Stubb lost that thread quickly and turned to another topic. "Kin I ask you a question, Melissa," said Stubb in an earnest voice.

"Sure, Stubb, anything," she said, leaning forward.

"Well," said Stubb in a thoughtful voice, "I wondered if yu had an opinion as tu why the Incredible Hulk can't seem tu get along with wimmen. I mean ... wouldn't you figgur the

Hulk'd be, well, nice?"

Melissa tried to remember back to the days of such total ennui that she was reduced to rifling Alice's extended and unindexed comics collection. "Maybe he's a faggot, Stubb?" she suggested in the most tentative of tones.

That was a new thought, and Stubb was silent digesting it for some time. Encouraged by this seeming acceptance, and having a huge need to keep talking, Melissa tried to bring forward her woefully small store of chit-chat on the comics. "Well, I mean Batman is gay, isn't he? With that nice, handsome boy ... what's his name?"

"Robin," said Stubb stiffly. The helicopter flew on awhile in silence. "Whut'd Miss Alice think 'bout all that?" Stubb asked finally and rather defiantly.

Melissa shrugged. "Oh, you know how she is, little Miss Smarty. She's read all those *books*, about the *comics*, for God's sake, by *psychiatrists*! She says there are no sexual overtones in the comics because comic heros are essentially children, and that the beautiful thing about comics is that they show a world saved by innocence, by children. Well, you know how Alice can run on," said Melissa, running on herself.

Congressman Hazelton had briefly dozed but now awoke with a comfortable sense of the nearness of food. "I am really looking forward to that spaghetti meal," he said licking his lips.

"Me, too! Me too!" said Stubb in immediate echo.

The Moosefoot ground crew was busy making the sauce for spaghetti and preparing the many chunks of garlic bread that Alice was thickly spreading. "You *know* they're going to be hungry, Mom," said Alice, chopping up another gigantic loaf, "coming in with Stubb."

Mrs. Muth looked sternly at her. "Yes, and I don't want you out back sneaking any of Stubb's dope with him."

Alice stared at her mother through shocked eyes. "Mom! You wouldn't want me to hurt Stubb's feelings. You know how proud he is of his stuff!" She sat up haughtily, "I almost *never* smoke in school. I think *that* is just disgusting!"

Mrs. Muth sighed and tasted the sauce. "The thing is, Alice, if you grow up smoking and eating, you'll turn into a fatty instead of the beautiful woman you can certainly become."

Alice laughed brightly at that. "Melissa smokes her head off and she looks like supersex-cubed! Only dopes get sloppy from the munchies!"

But that debate was instantly ended by the sound of rotor blades over the house, and they both rushed out shouting hellos as Stubb brought the fire-service copter down into the irregular pools of light created by the patio Japanese lanterns.

Mrs. Muth took one look at her older children as they disembarked and

uttered a shocked, "My God, Natel!"

But even more eloquent was Alice's loud, "*Icky-cubed!*"

Melissa turned scornfully from kissing her mother to stare at her younger sister in the entrance light. "Look who's talking! Who are you supposed to be? Little Nell? Ophelia? Ozma? What did she use to wash her feet before she put on those lovely stockings, Mom? Gasoline?"

Alice, overjoyed at finding her older sister unchanged by several months' absence, stuck out her tongue fiercely. "And *you*," she said with a snarl, "look like the girl in *An American Tragedy* ... after they pull her out of the water!"

"Food is close ahead, my friends," said the congressman pressing along with that relentless goodwill that overrides all contrary discourse.

And from behind Alice came Stubb's "Pssst!" and she saw a cheerfully glowing spark off in the darkness, so the argument was over before it had really begun.

Once inside, Hazelton ordered his sister to start the spaghetti and settled himself at the phone. "Go play with the trains or something," he said to them. "I need about fifteen solid minutes here."

"Yeah," said Bob Junior, "let's go run a turn with the Dixie Flyer, Meliss. Dad's got the whole circuit set up to let you run it with nothing else turned on."

Melissa nodded. "Right. And let's

triple-head it and try to do the Tide-water-to-Bridgeton section at over one-hundred average. Then when it's our turn to run the passenger scheduling, we'll know we can do it."

They clattered off to the basement in their new shoes while Hazelton dialed a variety of numbers. At one point it seemed that he might be frozen on hold forever, but finally he heard that crisp voice of the last young woman in the innermost office. "Congressman Hazelton? The president will speak with you in a few moments. He's with his family. Please hold on."

President O'Connell was, in fact, sipping a second, or perhaps a fourth, Jack Daniels, when his press aide buzzed his most private line. "Yeh, Dave?" said O'Connell, frowning.

"We've got Nate Hazelton on the line, Chief. His office has been grinding out bad press on us ditching the *Langley*. Moosefoot is in his district. You better talk, Chief."

Shamus O'Connell sighed and then grunted, "Put him on."

"Shamus, is that you down there?"

"Ah, Nate. Glad to be here when you called," said O'Connell, making a monster face at Happy Jack. "My people say you're concerned about the *Langley*?"

"Well, of course I'm concerned. Those men have been a part of our nuclear deterrent force up here all these years, and now you're going to drop their only mission into the ocean and

poison the seas while you're at it."

"Well, Nate," said O'Connell mildly, "I don't anticipate anything like that. They say we'll just fish the thing out and take it apart."

"Look, Shamus, my point is simply this: Your administration has had nothing to do with Moosefoot, and I happen to know on good authority that you never heard of the place before last week. So I think you should come up here tomorrow, see the base, talk to General Beardsley, find out what the wing can do for America. You can't consign those brave men to the worst kinds of risks because some weirdos are worried about a few non-existent polar bears on the pack ice."

"If the plane blows up on landing, the crew will be exposed to considerable risk, Nate."

"The plane won't blow up, for God's sake! Look, Mr. President, that's my brother-in-law, Bob Muth, flying that plane. He's the finest steam engineer and pilot in the world. He'll bring it in on the ice like a baby, Shamus."

Shamus O'Connell covered the receiver and gave his chief aide a piercing look. "Jack, that plane commander, that Muth, he's Hazelton's brother-in-law, for God's sake!"

Jack Hanrahan's wrinkled face was a Nomask of puzzlement. "I've been in this business forty years, Shamus, but what these crazy kooks are after escapes me. Put him off until after eleven. We'll see what they're doing on TV."



O'Connell turned back and took his palm off the receiver. "Sorry to leave you there for a second, Nate. Look, I have to see if we can do the Moosefoot thing tomorrow. I appreciate your concern, I really do, Nate. We're not doing anything precipitous. I mean, we really don't have to hurry when the *Langley* only goes three hundred miles an hour. Ha, ha."

"Your folks will get back to me, then, Shamus?"

"I'll get back, Nate," said O'Connell expansively. "Do my people have your number?"

"They do," said Hazelton. "I'm here in Moosefoot with the Muth family. I'll be waiting for your call, Mr. President."

Happy Jack got up from his armchair and peered out at the distant traffic and the lights of Washington. "I don't think we should go up to Moosefoot, Shamus," he said finally. "Hazelton has something going that he understands and we don't. I still don't see his connection with Ice Island Three."

The president shook his head in puzzlement. "What is Hazelton's angle, anyway? He loves the Pentagon just as little as we do. Let's think, Jack. Is it that the flight of the *Langley* will shut Moosefoot now or soon? Nate must see that, Jack. And maybe Zinkowski has offered to put a SAC wing up there instead?"

Happy Jack tested, then tasted his drink in thoughtful silence. Then he spoke slowly. "That little bribe would suborn most of them, but I dunno. Hazelton doesn't work that way...."

"I'll say he doesn't," said the president in a dark voice. "He gets what he wants by pimping, procuring, peddling kinks, and of course he knows everything dirty about everybody."

"Just hope he never writes a book, Shamus. Still, Nate would rather have the generals coming to him looking for a good bondage parlor than him begging them to keep a base open." Jack sat thinking, then said, "Shamus, that General Beardsley, what about him? You say he's a cuckoo?"

O'Connell thought back to the hectic morning. "When I ordered him to start the plane's engines, before you were there, he said something funny."

"Funny?"

"Weird, Jack. He said something like, 'we will not fail you nor the *world of steam*.'"

"World of steam?" Happy Jack sat silent for a while. "Shamus," he said finally, "do we have anybody on the staff who keeps track of spare-time recreation among the staff — you know, like softball, bowling, jazz appreciation, chorus, whatever?"

"Let's call Dave," said the president, picking up the phone. "Dave? Listen, do we have any kind of recreation director on the staff who knows what people's hobbies and pastimes might be? ... Ms. Fran Dugan? Could you try and ring her at home, Dave? ... Yeh, get right back to us." He hung up and shrugged. "What do we ask her, Jack?"

The phone soon buzzed again and both Jack and the president picked up

receivers. "Ms. Dugan?" said the president to a voice that suddenly squeaked in surprise. "This is the president. Sorry to bother you after hours.... Oh, well fine. Mr. Hanrahan is here, Ms. Dugan, and he has a question for you.... Jack?"

"Ms. Dugan," came Happy Jack's cool voice. "Is there anyone on the White House staff who might have a hobby related to steam locomotives or steam engines in general? ... Hmm, a Fred Purington? And what does he do for us, Ms. Dugan? ... Hum. Well, we'll get back if we need any more help. Thank you and good night."

Shamus O'Connell grinned at Jack over the phone receiver. "Our single expert in the world of steam happens to be the young fellow who opens the limo doors...."

But this did not bother Jack, who waited silently while Dave tried to reach this particular White House employee. After several tries, he was discovered at one of the Washington hobby shops that his mother had suggested to the press aide. In fact, twenty-year-old Fred Purington had been chatting with the proprietor of the Steam? — Yes! hobby shop, the old and legendary steam buff, Babe Glanville, when the old fellow handed over the phone with a low, suddenly respectful, "White House for you, Fred."

"O.K., this is Jack Hanrahan, Mr. Purington. You know me, right?"

"Yessir, Mr. Hanrahan, sir. What can I do?" said Fred in a sudden stutter of confusion.

"You know about steam hobbies, right? Ms. Dugan gave us your name."

Pimpily Fred Purington made a puzzled face at the staring proprietor. "Yessir, steam is my hobby, Mr. Hanrahan."

"O.K., Fred. I'm going to give you some names. I want to know what they have to do with steam, O.K.?"

"Shoot, Mr. Hanrahan."

"Congressman Nathaniel Hazelton."

Purington grinned. "That's easy. He's one of the biggest wheels in the New England Live Steamers, owns a shay and a small logging railway he's going to get going. Talks at all the northeastern steam meets."

"Great," said Hanrahan, interrupting him, "Now, try General Bertram Beardsley?"

Purington thought a moment. "He's on the board of one of the hobby mags...." His lips made the name "Beardsley" to Glanville.

"Consulting editor, *Modern Steam Power*," responded the hobby shop proprietor at once.

Fred Purington relayed this information, then added, "As I remember, he's building a car...."

"Flash-steam, uniflow racer," said Glanville promptly. "Wants to beat the Stanley record of 190."

"That's it!" said Purington. "He's trying to beat the old steam-car speed record with a racing machine...."

"Fine," said Happy Jack. "Now, Colonel Robert Muth."

The young man thought for a mo-

ment. "He's a big model-railway man, electronics, too, great on simulating the way steam locos work. Also, he and Hazelton work on live-steam projects together."

"O.K., now what about Moosefoot, Maine, in the world of steam, Fred?"

Purington pursed his lips. "Listen, that's a big question, Mr. Hanrahan. Mr. Glanville here could answer you a lot better."

"Who's this Glanville, Fred?"

"The proprietor of Steam? — Yes! hobby shop. He knows as much about steam as anyone in Washington."

"Put him on."

"Babe Glanville here," said the old man, giving Fred Purington a wink.

"Mr. Glanville, what does Moosefoot, Maine, mean to steam hobby people?"

Glanville grinned. "Everything, I'll tell you! They got traction-engine people up there, loco people, model-steam people, one fellow with a steam roundabout — you know, a merry-go-round. There're several steamboats on the river, a big Corliss some of them are fixing up, and the last I heard, a bunch of them were tackling the restoration of one of those god-awful Lombard log haulers...."

"And this activity is focused around the air base, Mr. Glanville?"

"Pretty well has to be," said Glanville. "Not much else around up there, as I understand it. Congressman Hazelton, the fellow you asked Fred about, he's a big leader in the Moosefoot steam thing."

"Do you know Nate, sir?"

"Sure. Nate comes in here all the time. Great steam man, Nate. Lives it and loves it."

"I much appreciate this information, sir," said Jack, "and please thank Fred Purington. You have both been most helpful to us."

President O'Connell had been listening silently on his extension, and now he smiled tiredly at his friend. "Who would expect a nest of nuts in the north woods, Jack?"

"It isn't just that, Shamus," said Happy Jack in a grim voice. "A new question is, Will the crew of the *Langley* do what they're told? And if they won't, what in hell *will they do*? These people are, to put it as mildly as possible, dancing to some different drummer!"

"And yet it seems harmless enough. But why the ice island, Jack? What in hell do these nuts care about that?"

"Don't you see, Shamus? There are *two* groups here. The professor and Zinkowski and the rest of those hard-edged assholes this morning just want to play with Ice Island Three and terrify the Russians. Jesus, the airfield is a knife pointed at their throat. But way up there over the rainbow, in Moosefoot, there are different ideas and other imaginations at work."

"And what do they want?"

Jack shrugged. "Evidently they want to get their pinkies black with coal dust. I dunno. I think we ought to stay away from those cuckoos. What they've got up there might be catching."

O'Connell lifted his eyebrows in puzzlement. "He's got us, though, Jack. If we go ahead from here without ever going up to look at the damn things, and there's some kind of screw-up with the plane or crew, we'll be covered with shit and Nate will never let us forget it. Well, let's see how badly we're being hurt at eleven tonight."

The Muths, Uncle Nate, and Stubb sat down to a huge mass of spaghetti, platters of garlic bread, and loads of wine, and soon the dining room was a quiet chorus of smacking lips and muttered requests for this or that.

"Yummy, Mom! Isn't the garlic bread good, Stubb?" said a bright-eyed Alice to the pilot sitting next to her.

"Dun't know when I've had a finer meal, Mizz Muth," said Stubb appreciately around his sixth piece of bread.

Betty Lou smiled coolly at Stubb and Alice. "When you're stoned out of your minds, my dears, even some three-day-old boiled beef liver can taste pretty good."

Bob Junior shook his head. "That's a fallacy, Mom. Only beginning dopers gorge on junky food. The fact is, grass actually improves your ability to dis-

tinguish between tastes. And this sauce is just fine, Mom. Absolutely top rate. Would somebody pass it to me, please?"

Betty Lou looked at her brother in sudden concern. "What if he won't come up, Nate?" she asked.

Hazelton poured himself a large dollop of red wine and licked his lips gratefully. "Oh, in the end he'll come, Lou. You see, they don't know what is liable to happen when the *Langley* comes in for a landing. And when they don't know what will happen about something at the White House, they do backflips to cover their bets and their butts from every angle. The important thing is not to push them anywhere but to let them discover the answers themselves. The flight of the *Langley* has to be packaged, just like everything else in this wondrous land of ours." The congressman fingered his billy-goat beard and gave them all a sly wink. "I reckon we Mainiacs can teach them New York City fellers a trick or two. They may peddle off a bridge or a gold brick to us hayseeds now and then, but let them try selling something as big and crazy as the *Langley* to the whole world! Now that's selling!"

*(To be concluded next month)*



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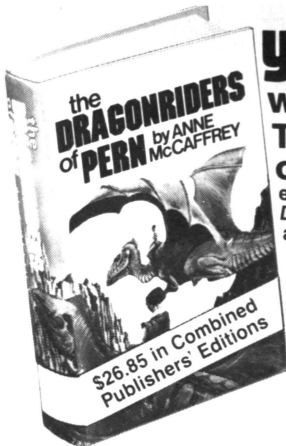
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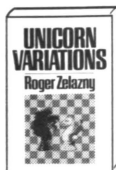
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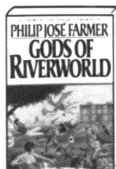
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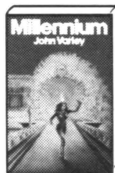
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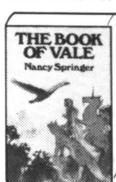
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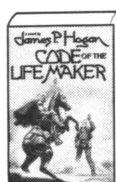
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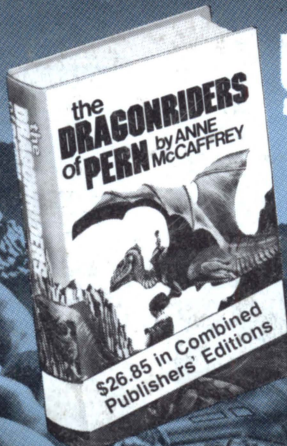
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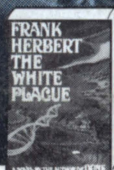
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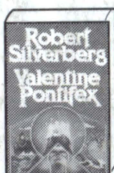
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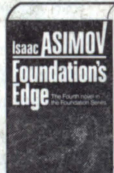
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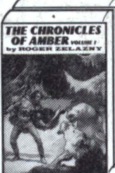
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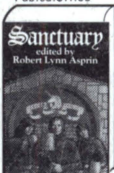
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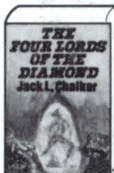
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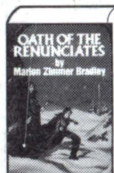
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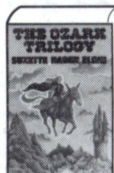
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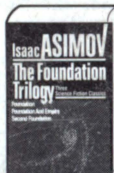
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