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November-December 75¢ MAC

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complete novel in this issue
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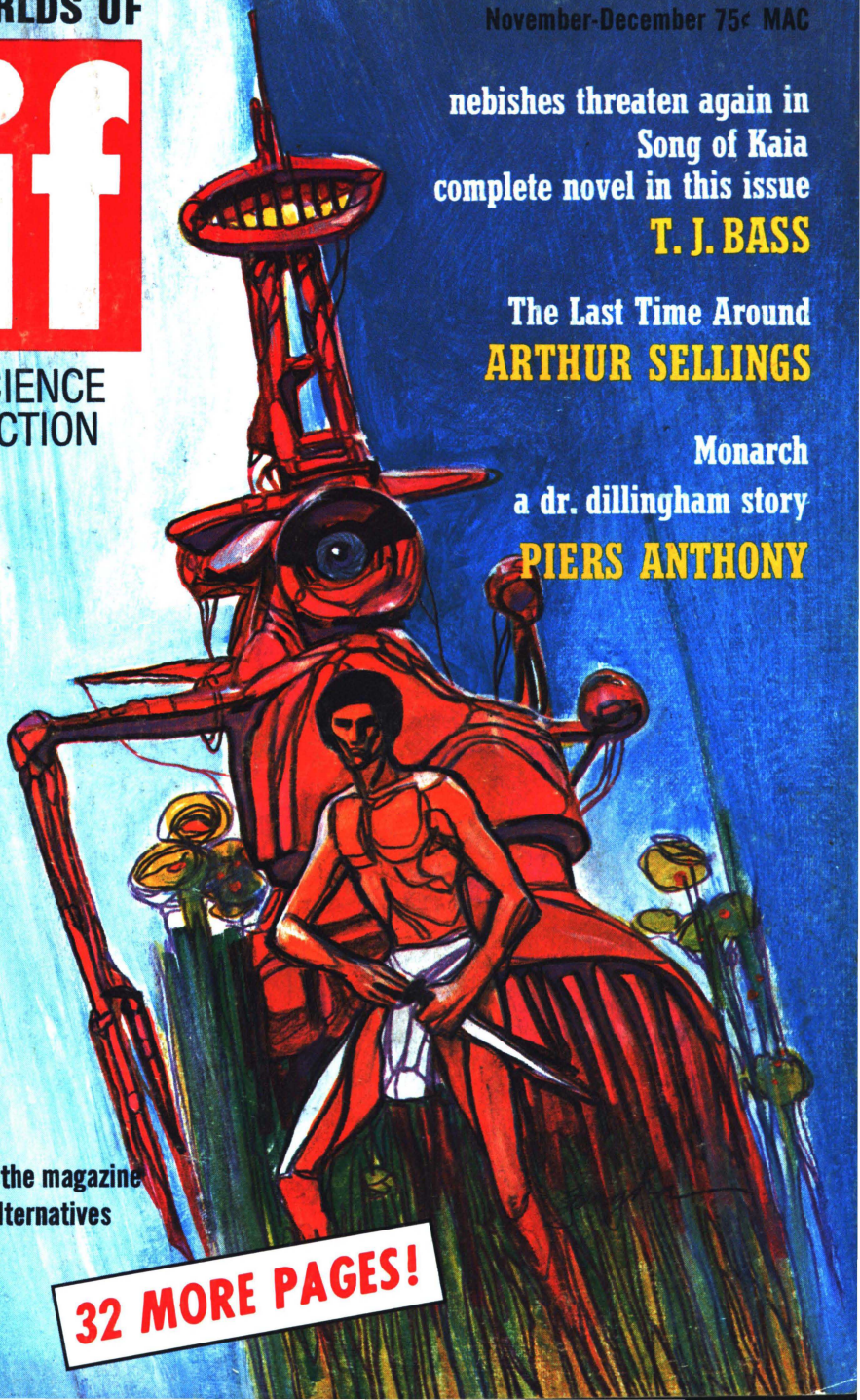

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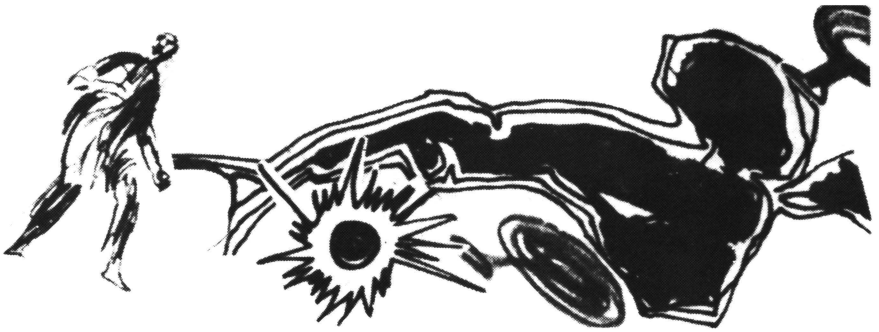

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WORLDS OF IF SCIENCE FICTION

ALL NEW STORIES

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Arnold E. Abramson, Publisher
Bernard Williams, Associate Publisher

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Readers write—and wrong!

Dear Editor,

I was but a mere stripling when I began reading science fiction. I broke in with Amazing, Astounding, Doc Savage *and* The Shadow.

I have been reading SF for over thirty-five years now. I consider myself sufficiently proficient at this and decided to branch into writing sf. I have been writing the stuff for several years. I am probably the oldest of the "new wave" or maybe the newest of the "old wave" or something like that.

At any rate, I was pleased at your statement a while ago in reference to unpublished writers. I have looked (unsuccessfully) for the issue that contained these remarks. But if memory serves me correctly, you reaffirmed your willingness and intention to continue publishing us neophytes and that you would even improve upon the old ways.

This was some time ago and I have seen no evidence of an improvement or a continuance of the old policy. Tell me and the other hungry, struggling young authors that succor is on the way; that you intend to reinstitute the old ways.

In general, I have enjoyed the magazines since you have assumed control. Specifically, I envied the ability of Dannie Plachta to write a story like "The Festival." The writing and the artwork reinforced each other. A "symbiosis" like this is rare and I hope you don't spoil it by overuse of the device.

John Kapcio
Utica, New York

Pick up the current issue of *Galaxy* at your newsstand—read *Piñon Fall*, by Michael Bishop. It's a fine first story by a new writer. I have also bought Michael's second story—look for it in a forthcoming issue of *Worlds of Fantasy*. The Winter issue of *Worlds of Tomorrow*, also now on the stands, features *Love Story*, Gary K. Wolf's first publication, and scheduled for the following issue is *Joey*, by (Mrs.) F. A. Davis.

"Firsts" are also scheduled for upcoming issues of *If*.

Dear Sir:

I am writing to express my disappointment in your choice of Goodbye Amanda Jean *for the July issue of* Galaxy.

In the same issue, Heinlein deals with the sort of violence described in Miss Shore's story; Feiffer handles it in his play, "Little Murders." If it can be dealt with so effectively, why publish a story which has nothing but its shock value to recommend it?

Thank you for listening.

Lois A. Lampson

I thought *Goodbye, Amanda Jean* gave more than shock value. It struck me as expressing, with the directness and clarity of a mathematical formula, some of the cannibalistic aspects of our society and mores.

—JAKOBSSON

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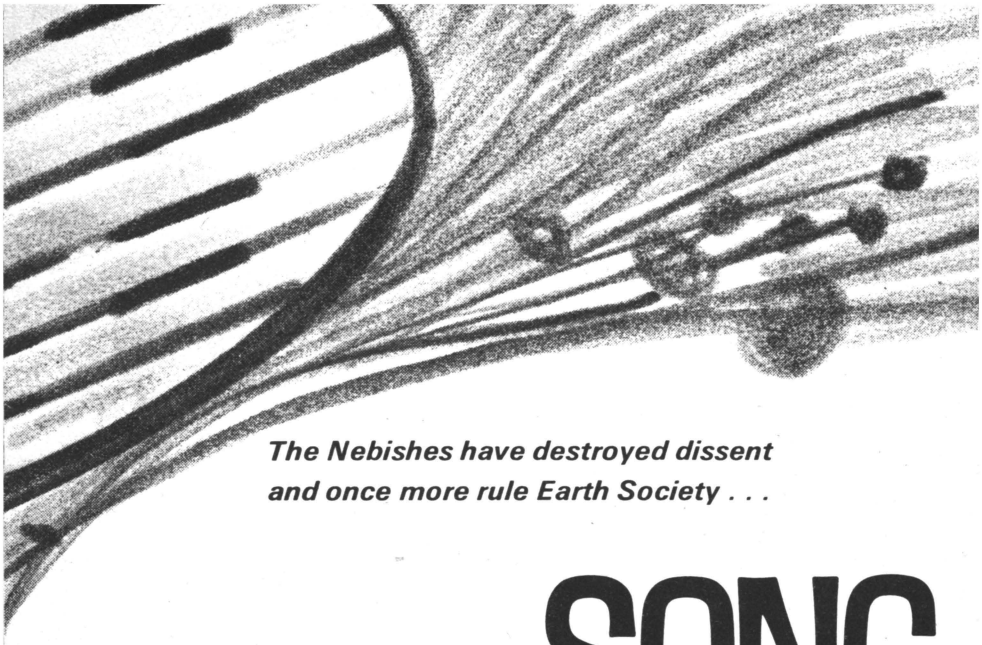


The Nebishes have destroyed dissent and once more rule Earth Society . . .

SONG OF KAIA

COMPLETE NOVEL BY T.J. BASS

Complex you are, Earth Society
Simple am I, an aborigine
One of the In-Betweens.
Your tubeways and spirals,
everywhere.
Indigenous biota, long gone from
there.
I hunger for your greens.
—Buckeye song

I

HIGH on a frozen mountain a naked, hirsute aborigine stirred in his nest. The only name he knew was Kaia, a name given to him by his first mate; in her language it meant—The Male. His metabolic clock still showed residual hibernation time remaining, but hunger called.

Kaia's feedings had been scanty during the warm season, and now his winter sleep was being interrupted by protein starvation—acute amino-acid deficiency. Enzyme systems faltered, screamed and tried alternate pathways. Reluctantly he left the dark warmth of his nest and crawled toward the pale glow of the cavemouth. Icy stones numbed his hands and knees. He fingered the translucent, white crust that sealed him in. It was still thick and hard. The snow line had not yet receded up the mountain. Outside he could only expect the white death. Shivering, he returned to his nest and wrapped a tattered cetacean hide around his bony shoulders. His metabolic furnace sputtered without fuel. The coldness of death crept into his fingers and toes.

Desperate, he sorted through the debris at the bottom of his nest, sucking on long bones for the rusty grit in the tubular marrow cavities, chewing dry fruit pits for a few coarse, bland lignen fibers and licking cold mussel shells for stringy tags. Nothing. The cold continued to close in. He didn't need the ferrous ions in the marrow dust and his efforts had produced little else. Finally his grinding molars cracked open a fruit pit releasing a meaty seed so bitter than it puckered his parotid. He spat out the shells and chewed the meat. The starch promised to rekindle his furnace. Gathering a handful of pits he carried them into the light of the cave mouth and cracked them open with a stone—munching the seeds with swallows of snow. When the resinous, starchy mulch coated his rugae and quieted his hunger pangs, Kaia burrowed back under the hides and returned to his torpid state.

FILLY lived at the base of the mountain. Her organs covered the foothills and her green skin covered her organs. She was a shaft-city, one of the cyber-conduit units of Earth Society. Her fifty thousand hive citizens depended on her sunlit skin for its calories and on the mountain's snow cap for its meltwater. Filly did her best to see

that her dwellers thrived. And thrive they did, for their warm, soft bodies bulged the census quota and overflowed into the Big ES —the Earth Society that coated the land masses of the planet with a labyrinth of shaftcities like Filly.

THE axis tilted. Longer, warmer days melted back the snowcap and thawed Kaia's niche. The crust dripped for a time, then sagged and fell into the cave exposing his nest to the welcome glare of sunlight. He stretched and sat up, squinting. After wrapping on leggings and loincloth he crawled cautiously outside where he stood in a wet cool breeze, silhouetted against a bright gray and white mosaic of stone and snow. The sun warmed his hairy neck and shoulders. For a long, pensive moment he studied the horizon. Hunger gnawed. Only an occasional agromech moved, buglike, in a distant valley. No huntercrafts. Calories beckoned from below—the twinkling, green filigree of Filly's plankton towers. Kaia started down the crag. His ridged, hyperkeratotic palms and soles gripped the granular stone surely and lowered him the several thousand vertical feet into a richer, warmer atmosphere. He avoided the exposed upper slopes of Filly's skin and followed a splashing stream into a more sheltered valley where he crept into the forest of plankton towers. The trunklike conduits glowed with an inner light of 570 nanometers which filtered greenishly through carotenoids and phycobilins. They rose, arborizing freely, to form the sunlit tubule canopy high overhead. The noisy approach of a cumbersome agromech sent him scurrying deeper into the syntheforest. After it passed he headed for the herb gardens.

Filly noticed clandestine movement on her skin. Footsteps itched. She moaned when Kaia opened a tubule and began to suck plankton. Before she could sphincter down the leak the rich amino acids of the zooplankton were fueling his starving enzyme systems. Refreshed, he munched his way across rows of chickpea, soybean and thyme. Filly screamed when he pulled off a stalk of fennel. Her sorrow traveled down the 65-mile-long nerve fiber to Hunter Control.

Sucker in my garden. Varmint on my skin . . .

VAL sat at the console in Hunter Control. He was monitor on duty. He wore the neat, camouflaged tunic with the Sagittarius emblem that marked him as one of the hunter caste. A thin, sallow youth, he had just recently polarized his gender and his body was slow to respond. He was still a "soft male." When Filly's buckeye sighting appeared on the screen Val glanced at the wall map. Two huntercraft were out on routine

patrol. One suddenly changed course and headed for Filly's quadrant.

"Foxhound Nine answering call," said the craft.

Val said, "It looks like the buckeye of Filly's mountain is back. He's been sighted many times before, but has always managed to disappear. You'd better put out a hunter when you get there even if the sensors run blank. Might as well try to find his hiding place. He's a tricky one."

Foxhound readied the hunter. Hypnoconditioning was boostered, and the neck titrator pumped a priming dose of speed into his veins. Harness checked. Bow and arrows issued.

KAIA, the aborigine, sat hidden in tall grain while he savored aromatic juices of fennel. The rich sharp flavors jolted his pristine taste buds and stirred up violent parasympathetic storms. Copious digestive juices flowed. Peristalsis gurgled. As soon as his abdomen protruded comfortably he became more selective, choosing only the most succulent morsels. He was standing in shoulder deep kale when he heard the drone of the approaching huntercraft. He immediately dropped to his knees and crawled off in a zigzag course. The huntercraft followed easily and passed directly over him. He looked up to see the flat-bottomed fuselage hovering over an open cabbage patch. Its optics focused right on him. Its belly opened and the fat, camouflaged hunter dropped out, swinging on a cable harness. Kaia saw the deadly longbow. The hunter's dark glasses gave his pasty face a skull-like appearance. Fear gripped the aborigine's chest. He curled up and went cold.

The hunter stumbled in the soft plants, clumsy feet crushing calories. The harness released him. He blinked around at the unfamiliar shapes. He had never been Outside before. The helmet's tinted goggles protected him from the wild colors and coveralls shielded against actinic radiations. This was sunlight, and his pigment-poor protoplasm could be quickly damaged. His detector indicated several heat sources in the vicinity. Their size, shape and relative temperature could be calculated from the readout, but the hunter's drug-fogged brain pushed him into a tracking frenzy. He nocked his arrow and blundered off through the vegetable tangle toward an infrared point. A few moments later he was standing before Filly's exhaust louvers. Underfoot the plants had been browned and stunted by the city's warm, fetid breath. His glasses clouded in the condensate. Gasping for breath he stumbled back and sat down.

Foxhound IX watched Kaia's image fade until it matched the surrounding vegetables.

"Our quarry has died," reported the craft.

Val had seen the buckeye fade, but he remained skeptical. "The hunter hasn't yet had a shot at it." Shock, fear or heart attack could have finished the buckeye but who could be sure? "Can't you get that hunter back to examine the body?"

"He's in the tracking frenzy. I won't be able to break into his fugue state until after he makes his kill. His titrator is set on seventy-two hours."

Val scowled through the communicator. "Well, you can't put down another hunter or they'd probably end up hunting each other. Let the hunt continue. If that buckeye is alive he may come out of hiding."

Foxhound returned to routine patrol in the vast gardens of the flats. Val studied the screens for another hour before stretching out on his cot for the midshift rest.

TWELVE hours later the hunter began to slow down. He was standing, blurry-eyed, on the bank above Filly's effluent grating, watching the warm, uriniferous fluids swirl off into the canal system. A cloud of gnats hung in the vapors around his head. During the night he had examined every heat source on Filly's skin. All had been the city's own appendages. Now the hunter dozed on his feet. A jolt of Speed was pumped into his jugular. His eyes opened wide but unfocused. His detector indicated a warm body moving along the bank of the canal. He nocked his arrow and crept off, tracking an early-morning agromech on its way to the fields.

KAIA'S senses returned slowly. The long hours of silence had relaxed his hibernation reflex and his metabolism reheated. He peered from the tall grain. An orange dawn. This was day two for the hunter. There was still danger. Kaia dashed into an orchard of sweet-thing trees and picked one of the tart juicy fruits. He listened. Filly's gratings and louvers trembled. A distant agromech growled at some irritant in the soil. No hovercraft.

Kaia began to run through the trees. He followed the orchard for several miles, leaving Filly's skin and moving onto the neighboring city's cultivated surface. He knew he must put as many miles as possible between himself and the hunter. For the next two days he would be tracked. He munched on the sweet-thing and trotted toward the canal.

The first arrow kicked him in the right femur, pinning his loincloth to his upper thigh. The impact bent him over and threw him down onto the grassy bank. He saw the hunter approaching from below the bank. A second arrow was being set to the bowstring. Kaia tugged on the

shaft. Bloody shreds of loincloth moved deep in the wound but the broad hunting barbs held firm in the quadriceps muscles. He stumbled to his feet and tried to run but the three-foot shaft vibrated and grated painfully against deep nerves and bone chips. The second arrow kicked him under the right shoulder blade. It thrust painlessly through the soft tissues of his right lung. He looked down and saw the wet, red barbs protruding oddly from the middle of his chest. Grass hit him in the face.

Val went down to the garage to watch Foxhound IX come in. The faithful old machine nodded to him as it settled into its bay. Service robots stood by while Medi-attendants rushed up to check on the hunters. Three stretchers were carried out.

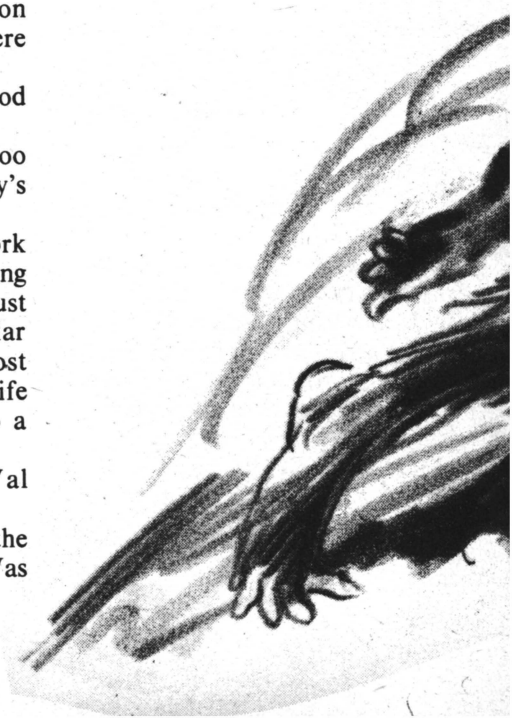
"All three came back—a good hunt," said Val.

Foxhound answered, "Not too bad. Took a trophy near Filly's mountain—a nice young buck."

Val watched the attendants work on the hunters. Two seemed strong enough, just dazed; probably just delayed effects of their Molecular Reward. The third was almost dead. They hooked him to life support and his face pinked up a little.

"What's his problem?" Val asked coldly.

"Just exhaustion. He was the one who took the trophy. Was



tracking for a bit over twenty-four hours. He'll be fine in a few days," said the attendant, watching the life-support console strapped to the hunter's chest.

The stretchers were carried off. Val crawled into Foxhound's cabin. It was a mess. Rubbish and offal filled the corners. Stains marred the fittings. A trophy cube sat in the freeze-drier. He picked it up.

"Might as well take this on back to Hunter Control till the attendants bring him around. Nice trophy. Did you see him take it?"

"No," said Foxhound. "But the carcass was stretched out on a canal bank when I picked up the hunter. Like I said before—a nice young buck. You'll see him when you review the optic records. I've already given the coordinates to Sampler and the sweeper robot. Should have the site cleaned up later today."

Val nodded and carried the trophy back to his office.

SAMPLER was busy on the shaft floor, elbowing his way around in the dense crowd, searching for a jumper. Steady streams of citizens flowed—some formed stationary queues before the sluggish dispensers. Feeling something irregular underfoot, Sampler shouted for more working space.

"Back up numbdumbs," he said and waved the needle-point aspirator gun menacingly.

The crowd parted. What Sampler saw unnerved him a little. The pulped body of the jumper-suicide wore a retirement tunic. The bone displacement indicated a fall of between one hundred and three hundred feet. Half a day under the apathetic crowd had pressed out most of the body fluids. Sampler pulled the sensor cord out of his belt analyzer, shrugged and replaced it. Useless to test this one. He held up the gun and set the drum on brain. Then he pointed the needle at the crepitant skull and squeezed the trigger. The gun jumped and the first vial turned gray. Vial two, heart. Needle to chest. Jump. Red vial. Vial three, lungs. He moved quickly through the needle sampling until the eight vials were full. Several times the crowd closed in on him and he had to struggle to keep from being trampled. As he moved away upspiral he clicked out the full drum and reloaded his gun with empties. A bulky sweeper moved past him to suck up the jumper.

Near the top of the spiral the sweeper caught up with him. Its bag bulged with a hundred pounds of remains.

"Better empty yourself," said Sampler. "You have a pickup Outside."

While the machine vomited down a digester chute Sampler rested against the spiral railing.

Below he saw the salt-and-pepper crowd. He and the sweeper moved on upspiral.

In the garage of the shaftcap Sampler set his gun in the sweeper's appendage and tested the remote controls on one of the garage wall units. Through the screen he saw with the sweeper's optics and felt with the sweeper's sensors. A few agromechs and repair robots gathered around—curious.

"Any time you're ready," he said.

The garage door opened and the soft-wheeled sweeper rolled out into the bright, sunlit garden with its variety of colors and bizarre vegetable shapes.

II

OBESE old Walter tiptoed into Hunter Control and lowered his heavy frame carefully into his seat. His console blinked at him and filled out a flimsy printout to bring him up to date. Ignoring it, he arranged the folds of his tunic over his expansive belly and reached under the seat for his sack of split bamboo. He lowered his weaving into a pot of warm water to soften it and sipped on his high calorie drink while he waited. Behind him Val snored on his cot.

Unexpectedly the screen focused on the anxious face of Sampler in the garage.

"Monitor on duty?" asked the face.

Old Walter glanced at Val's cot and whispered: "M.O.D. here. What is it?"

The Sampler held up a red-brown arrow and a handful of purple, jelly-like clots and said, "The carcass is gone."

Walter pursed his fat lips and set down his weaving. Casually he picked up the flimsy to see what carcass they were talking about. Sampler continued to jump around nervously. Val sat up to hear the shaking report continue.

"All the sweeper found were these two arrows and the clots. One arrow is broken. There was no sign of—"

Val's whining voice cut in: "Now what went wrong? Do I have to do everything myself?" He jumped off his cot and rushed angrily to his console. Walter shook his head slowly. Polarization of his gender had certainly made Val irritable.

"Those are blood clots?" Val challenged.

Sampler looked at the inch-thick gobs of purple-red jelly. They looked nothing like the watery pink stains around jumpers.

Walter, who had finished the flimsy, answered Val. "Blood clots? Could be. Have him send a vial of the stuff down for analysis. You never know what you'll find if you start examining these buckeyes. Any idea of what happened to the carcass?"

Sampler shook his head.

Val asked insultingly, "Are you sure you were in the right area?"

"Had the optics of the kill to go by. Found the arrows and blood. Yes, I'm sure," said Sampler.

"Then I suppose he just got up and walked off—or something came out of the canal and ate him?"

Val turned off his screen abruptly.

Walter tried to smile at the Sampler. "Just send us a vial of clot—and—thanks a lot." He signed off and adjusted his tentlike tunic. "Might as well go over those optic records ourselves, Val. Maybe the wounds weren't so bad."

Later the tech came up from the lab with the trophy cube and vial. They all reviewed the optics of the kill.

The tech said, "We've projected these wounds into our 3-D mannequins and they look fatal. The arrow in the chest entered off to the right. It crossed the hilum of the right lung where most of the big vessels are. Then it came out the sternum. Without immediate surgery he should bleed out quickly—in less than an hour probably. The torn lung would collapse also—suffocation. The thigh wound doesn't seem to bleed much in the records. Probably missed the femoral artery. But it is a solid hit, and any attempt to pull out the barbs would result in significant soft-tissue damage. No, gentlemen. Your buckeye did not get up and walk away."

"I suppose that still leaves the meat-eaters. The cetaceans are supposed to be plant-eaters—but there is always the possibility of an aquatic buckeye. They're known cannibals," said old Walter. "Did you learn anything from the trophy?"

The tech glanced at his printout. "Well the absence of Barr bodies and the presence of carotenoids fit with a buckeye male. Barr bodies indicate the female X chromosome and the carotenoids raw vegetable diet—you know. We were able to reconstitute some blood from the vessels in the trophy. Freeze-drying preserves it quite well. We kept it from clotting by oxalating off the calcium. The clotting times for the trophy serum were twice as fast as for our standard citizen. When we added calcium it clotted in a hundred and fifty seconds. You know that our normals are around four hundred seconds."

"The buckeye must have been very sick," said Val.

"Yes. His hemoglobin, as near as we can tell, was three times normal."

Walter picked up his wickerwork and watched the replay of the buckeye killing. Sinewy legs carried the victim closer at a smooth trot. Bright red blood flowed from the first wound. Walter studied the buckeye's wild-

eyed, vigorous efforts to remove the arrow and run.

"He doesn't seem very weak," Walter suggested.

"No, he doesn't," admitted the tech. "But for these results to be anywhere near normal—he'd almost have to be an entirely different species."

"Well, isn't he?" Val asked sharply.

The tech smiled and began to quote from the ESbook: " 'Citizens have many biped ancestors in the evolutionary tree. The taxonomy of these fossil hominids is still controversial. Surface dwellers such as *Homo leakeyi* and *Homo sapiens* may not have been in the main stream of evolution, for their collective efforts were limited.' "

"And the buckeyes?" asked Val.

"Just living fossil hominids," said the tech. "The species designation is hard to justify for a life form that is extinct."

"But they're not extinct. We just killed one last night."

Walter smiled. "I think what the tech means—and what the ESbook teaches—is that the buckeye has been effectively displaced. Like most of the other useless life forms on the planet, he has been crowded out by the more efficient Big ES. There may be a few random throwbacks occurring in those citizens who carry the defective gene—but not in significant numbers. Certainly not enough to reproduce themselves effectively."

"Living fossils," said Val. "Too bad we can't spare calories and quarters for a zoo. I'd like to study one."

Walter returned to his weaving saying, "Impossible. From what I understand they need ten or twenty times the living quarters of a citizen. Anyway, they take badly to captivity. If you lock them up they die or escape."

Val and the tech looked at each other, puzzled.

"Mind if I take the trophy back to the lab? There a few more comparisons I'd like to make," said the tech.

"Go ahead," Val said absently.

KAIA struggled up from his reflex hibernation. He had tried several times before, but the pains set off alarms that triggered the reflex and cooled him again. He remembered a glimpse of the longhaired coweye pressing wooden pegs into his thigh wound to widen the wound and engage the barbs so that the arrow could be withdrawn. Her soft face and bright eyes lingered in his cooling memory molecules as he slept. She had snapped off the arrow head protruding from his sternum and had pulled out the shaft. She had also tended his other injuries, caused by the hunter's trophy hunger. The wounds did not bleed. To carry his sinewy body into the

canal and float it—face up—several miles to her little nest in the weedy bank had been simple.

She bathed and dressed the wounds to lessen the pains and untrigger his hibernation. When he opened his eyes she forced broth into him—rich mussel meat and barley. He would need all his strength very quickly, for she was in her follicular phase. She needed a mate. For three weeks she fed him hot food and warmed him with her body at night—but he had not recovered enough to mate. During the fourth week she went luteal and left him.

He ate grains and gained strength from the sun—always remaining below the silhouette of the bank. In two weeks she returned and it was hot food and warm nights again until her ovaries completed another cycle. They mated in their sixth week. She drove him out during the seventh.

For several months Hunter Control was very quiet. Thousands of square miles of Orange Sector gardens flourished, were harvested and flourished again without a single buckeye sighting. An occasional pile of chewed and charred bones was reported along the canals. Huntercraft patroled and put out hunters on possible spoor—and found nothing.

"You'd think with Jupiter in Sagittarius we'd have better hunting," Val said in one of his rare light moments.

Walter frowned.

"Just joking," Val said.

After a few minutes of strained silence Walter relaxed and said, "I know. But it isn't very funny. I've been here in Hunter Control ten years. Those buckeyes must watch the planets pretty closely. They seem to know crop and weather cycles better than we do. They literally sleep under the stars. If Jupiter in Sagittarius is good for the hunter it is obviously bad for the hunted. That may be exactly why we haven't had any sightings. They're in hiding."

"If that's true we might as well put Hunter Control on standby and do something useful. Jupiter is going to be there for quite a while."

Hunter Control's meck brain argued, "But astrology is not logical. Standby isn't warranted."

"You're just afraid of being lonely," said Walter. "It doesn't matter if it is illogical. If the buckeyes follow it and stay in hiding we might as well use the time to overhaul the huntercraft. You won't be alone. Tinkers will be in the garage. You can even stay on full alert if you prefer."

"I prefer," said the meck.

"While your at it you might as well keep an eye on the lesser planets for a favorable aspect that might bring out the buckeyes. Then we might be able to get the jump on them."

At the end of the shift Walter returned to his family-5. He invited

Val with the usual: "We can always use an extra soul in the meld."

Val declined.

"Thanks—but I'm going between walls on a rat hunt. I'll save you some flavored calories if the catch is good."

They went their separate ways. Val had strong feelings about the meld. Rubbing souls with anyone irritated him. He clashed with polarized males and females and the neuters were just too bland to waste time with.

Walter, on the other hand, enjoyed his family-5. He accepted ritual hugs from female Bitter and talked to Jo Jo and Busch about their jobs in the garage. Neutral Arthur painted murals on their walls and arranged family entertainment.

VAL returned to his cubicle and took his rat-hunting gear out of his locker. The coveralls, soft shoes and heavy gloves were well worn. He had taken many extra calories from the dark spaces between the city's organs. He changed the filters in the dust mask and checked the power in the head lamp. Picking up the anoxic gas bag he started for the mid level of the spiral.

Light from the access grating guided him for a while. The first thing he saw was a ring of four dry skeletons—"mushrooms" whose serotonin metabolism had been displaced by Molecular Reward.

"Four mushrooms—level thirty-five," he said into his wrist communicator.

The city answered: "Where?"

Val tapped the flat beam with his foot. Solid. "A weight-bearing strut," he said. "But they've skeletonized. Sampling isn't indicated."

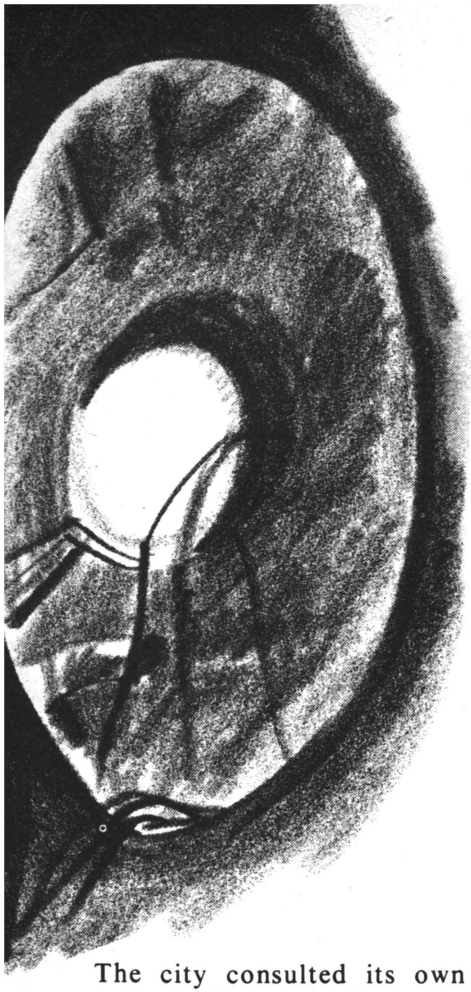
He moved on to other tubular and spherical structures. Some hollow and flexible. Others warm and pulsing with fluids. All were caked with thick, spongy dust which festooned like Spanish moss. Deep, snakelike trails ran through the dust. Rat droppings were everywhere. He flashed his light around. Beady eyes winked back.

"Lots of rats down here, City."

"Many of my citizens are reincarnationists and don't eat meat," said the city. "You'll find the nests under my membrane filters. You're on the right level. Keep going."

He crawled under whistling air conduits and then stood. Using heavy cables for handholds, he walked across a narrow stiff pipe. He flashed his light down. The blackness seemed bottomless. Only an occasional cobweb caught his beam. Ahead he saw one of the city's organs—a sphere about thirty yards in diameter with a medusa head of flexibles. It was warm and dry. He pressed his head against it. Silence.

"Found one of your energy organs," he said.



The city consulted its own anatomy charts. "Membrane filters are ten degrees clockwise," said the city.

Val shined his light in that direction. Ten degrees was many yards this far out from shaft central. He moved across one of the larger tubes. It was hollow and he heard voices and movements inside—a crawlway. Adult rats became more numerous. The larger ones remained stubbornly in his path until he was practically stepping on them. He didn't try to catch them. They weren't too tasty and they could probably bite through his gloves.

The sweet stink of the rat nests hit him before he saw the huge cool sphere of the membrane filters. The sweat of the city condensed on its outer walls and streaked down to water the nests in the struts below. The hum of the pumps tickled his feet as he approached.

He released the nitrogen into his bag as he thrust his gloved hand into the first nest. The soft young rats were probably expecting mother with food. They swarmed all over his hand and were easily removed and placed into the bag, where their squeaking ceased. He moved from nest to nest until his bag weighed almost half as much as he did.

Kicking a large rat off his shoe, he asked the city where the nearest access hatch was. After a pause he was directed back along the crawlway.

He dropped into the crawlway in a shower of sooty dust. His bag balanced on his shoulders, he tracked the black downspiral to Watcher's quarters at shaft base, where he stopped to pay his tithe.

"Nice hunting today," he said.

Watcher rubbed his hands together when he saw all the fresh

meat. He and Val warmed up the press and threw the bouncing little bodies inside.

"Six hundred before press and three hundred after?" asked Watcher, setting the controls.

"Fine with me," said Val. He gestured toward the refresher. The Watcher nodded him inside. The air-water laminar flow cleaned his gear while he undressed. He took a clean issue tissue tunic from the wall dispenser. The sounds of frying and the smell of scorched fur filled the room while he dressed. The press fell with a loud thump that shook the room. Odors of a high protein bake brought out the Watcher's family-7.

"Calories for the meld tonight," said Watcher clapping his hands and shooing the six young neuters back into the living quarters. "Flavored calories."

The press lifted and Val began scooping the brown and black wafers into his bag. They were still hot. He stopped and blew on his fingers. Watcher used a spatula to pile the share on a large platter. He carried it into his living quarters. Val heard the wet, smacking sounds of an evening meld/meal. Pressed rat was a delicacy.

"Flavors are good for the soul," mumbled Val as he started off toward Walter's quarters.

BITTER met him at the door and immediately began to fondle the heavy bag of pressed rat. Val frowned her away.

"Where's Walter?" he asked.

"Back here," Walter shouted from his cubicle. Val glanced around the spacious thirty-foot living room. There was some advantage to a family-5. Space was pooled. But your personal cubicle was that much smaller. He walked back to Walter's ten-foot room.

"You're a Dabber?" Val exclaimed.

Walter smiled. "Dirt-Adobe-Bamboo. Yes, I guess I am. Come in. Have a seat."

The cot and chair were woven bamboo. Dirt covered most of the floor—not greasy, black soot from the city's air vents but red-brown clay. Soil. Adobe bricks were stacked halfway up one wall like hoarded gold bars. Val sat carefully on the edge of the chair. It squeaked.

"You're just in time for the Changing Of The Dirt Ceremony," Walter said. He went to a pot in the corner and lifted up a circular piece of crabgrass sod. The soil underneath smelled of humus, bugs and worms. "Purified dirt."

He swept up the old dry dirt from the floor and placed it on the ceremonial bamboo scoop. Then he dumped the pot of sticky black soil and spread it around reverently, picking up an occasional earthworm or sowbug and dropping it back into the pot. Then he poured

the old dry dirt from the scoop into the pot, added water and replaced the circular piece of crabgrass sod.

Val watched the fat old man walk barefoot in his personal mud pie. "You don't actually believe all that Dabber nonsense, do you?"

Walter smiled tolerantly. "It isn't a matter of faith—it's statistics. For the past four thousand years, as long as our records are accurate, Dirt-Adobe-and-Bamboo—otherwise DAB—has protected men's minds. Inappropriate Activity just doesn't occur among Dabbers."

Val held up his hand. "I know what's inappropriate—biologically—but you crowd any species and they'll start the killing of self, mate and offspring. It's nature's way of controlling a species that is too successful. The only time Man was safe from it was during the neolithic cultures when deaths came from a hostile environment."

Walter pulled a pair of sandals on his fat dusty feet.

"It's more than just nature's selection of the fit. Our Dabber ranks are full of I.A. victims. If we can catch them early they're salvageable. Some have made suicide gestures before we get them. We smear mud on them, dump dirt in their rooms and teach them the rituals with adobe and bamboo. Salvageable."

"Occupational therapy?"

"Maybe. But we're boasting a hundred percent protection against I.A. Do you know what the Psych Team's cure rate is? Terrible."

"Statistics," Val said. "I know Psych sends the I.A. to suspension—but the Dabber census is for fraternal not mortality purposes. Even your own diagnosed Inappropriate Activity victims are unofficial. The Psych Team never even got to them. Diagnosis? Statistics? Not comparable. But we can't settle it tonight. Here." Val reached into his heavy sack of protein wafers and offered a handful to Walter. "It was a good hunt. Brought you some flavored calories."

Walter popped one into his mouth and chewed carefully around the stiff meshwork of bones, skin and tail. The rich variety of flavors pleased him—strong charred keratin of cutaneous structures, salty fluids, tangy viscera and the iron-rich rusty flavors of muscle and blood. He spat the residue into his palm and placed it under the crabgrass.

"A treat for my little friends in the soil."

Bitter stuck her head in the doorway: "Meld time." She glowed. She had soaked in hot water until even her fingernails had softened. Her tunic folds hung loosely.

Walter nodded, shaking his three chins. "Join us?" he asked Val.

"No. I've got to get home and fix my—"

Walter put a pudgy hand on his arm, picked up the heavy bag with the other. "You'll eat with us. We'll sauce up these wafers—have a few drinks."

"But—"

Bitter took her cue from her provider and put her arm through Val's. "We even have a little extra Molecular Reward. You can see heaven tonight."

VAL was uncomfortably silent while they arranged themselves on the floor around platters and tall glasses. Bitter was busy at the dispenser. Two males, young Jo Jo and old coarse-mannered Busch, were studying small amounts of brightly colored liquids in their glasses. Neutral Arthur removed his tunic. When old Walter wheezed and struggled out of his pleated tent the sudden exposure of all that flesh was hard to ignore. Redundant folds of belly and flank fat hung to his knees. He looked more like an unfinished clay statue than a human.

"You know, Walter, you should never take off your clothes."

"Relaxing is good for the soul, Val." Walter plopped down to the floor.

Setting cups of a soupy first-course on the platters, female Bitter also began to untie her tunic. Her figure was trim but her puberty-plus-nine years had added a horizontal belly wrinkle. Her breasts were quite small. "Do you think I should leave my clothes on, too?" she asked cloyingly.

Val remained standing. Another insult might get him out of what could be an unpleasant evening. "I'm afraid I've seen better bodies on neuters," he said.

She gave him a ritual hug. "Neuters can't get warm in the right places."

Val frowned.

Walter smiled and picked up his tunic. "If our guest feels more comfortable dressed—" he said pulling on the flowing garment. "We can have a nice, first-stage, hand-holding meld."

They held hands, talked and ate. The drinks were warm and intoxicating. When Bitter produced the Molecular Reward Val shook his head.

"Don't you want to see heaven?" she asked.

"Not while my body is here—not till its time."

"Why?" Walter sounded sincerely interested.

"I don't know. Maybe it's the mushroom reaction. I've seen too many. Maybe I just don't want to see something unreal and be fooled into believing it is real."

"We'll watch you. You can't go mushroom here," coaxed Bitter.

Val shook his head. "No. I don't think I'd like to experience molecular happiness and then wake up and find it was just a dream. The disappointment would be depressing."

Bitter shrugged. Walter and Busch also shook their heads. Arthur said, "Maybe later. Right now I have to put on the evening's entertainment. It's a dance. I need you, Bitter, for a partner—so you shouldn't take it either."

Jo Jo hadn't said much all evening. He took the M.R. and retired to a corner with his visions.

Walter studied Val for a minute, then asked, "You aren't afraid of M.R. are you? We give it to Hunters every day. It is one of the pet rewards of the Big ES."

"Maybe Hunters need it. I've seen some pretty badly chewed up legs after three days of the tracking frenzies. The pain must be all but unbearable. M.R. could help that. But I worry about ordinary citizens taking it. The Big ES makes it easy for the retired to get it—maybe they need it too. I don't know, but you don't see many of the really old retireds around. I don't think it helps them any."

"Can't prolong life. Nothing can," Walter said philosophically. "Well, now. I see Arthur and Bitter are ready for their dance."

The music Arthur selected was loud. It irritated Val. The dispenser screen flowed with dancing figures. Arthur and Bitter watched a while and then tried to copy the movements. Val was sure they were missing the rhythm completely but he sat smiling with the others. Soon Busch fell asleep and the meld broke up at bedtime.

III

THE next morning Busch grumbled his way to the breakfast table. Bitter gave him a ritual hug. "Missed your warmth in the meld last night," she said.

He nodded toward the dispenser for his usual calorie basic. She warmed the refresher for him and went to the dispenser to arrange his platter.

"Your new issue tissue is on the hook," she called pleasantly as he came out of the refresher. He dressed silently. Old Walter waddled out in his dusty tunic and sat down. Bitter fluttered around her two job-holding men, wheedling extra flavors out of them. Soon she had enough for her own breakfast. She sat down to eat just as Busch stood up to leave.

"Isn't Jo Jo giving you any flavors these days?" he asked.

Bitter shook her head. "Jo Jo has been cold in the meld for a long time now."

"Try being more generous with your nonritual hugs."

"I've done my best." Bitter chewed on a sticky fructose ball. "But he holds out—must be saving for a bud child or something. I just checked his cot. He's already up and gone."

Walter leaned into the conversation but was interrupted by a fading scream. Busch leaped from his chair and crawled quickly to the spiral. Looking down, he

saw ripples in the crowd around the broken body of a jumper. He identified Jo Jo's tunic before the speckled crowd flowed back. He returned to Walter and Bitter, announcing jubilantly that Jo Jo was giving a party.

"Now? Right after we ate?"

"Now," Busch said to the dispenser. He ordered the expensive, high-flavor items as fast as he could and placed them on platters as they were delivered. Then a sensor at shaft base recorded cessation of Jo Jo's cortical activity and the dispenser abruptly closed its chute.

"Jo Jo has died. His calorie credits have gone to the General Account," it explained.

"You knew?" Walter gasped, staring at the pilferings.

"Of course. I just wish that the crowd had had the decency not to trample him so quickly. He landed well, horizontal; no femurs in his belly. Small splatter. He should have lived a couple hours longer."

"Robbing the dead," Walter said.

Bitter sorted through the items for stables she could use in bartering. "What kind of love is it when you take your calories with you? We're his family. If he wanted to go—the least he could do is throw a party first."

"I could use a couple more pounds of flavored protein," said Busch.

Walter sighed. "Now we're widdled down to a family-four. Jo Jo was a worker too. I'll be retiring soon. I guess I'm as guilty as the rest of you—been counting on Jo Jo's calories for my retirement years."

"Widdled?" asked neuter Arthur. "Well, one of us should go and see what Sampler learns from the remains. Next we'll have to start screening for Jo Jo's replacement. A family-four can't hold on to living quarters this size."

Walter called Val to meet him at the Neuro lab and left. Bitter and Arthur waited for the first applicants to arrive.

"Try to find one with a job," said Busch as he started off for the garage. "A good job."

THE neurotech placed the gray sample vial into the processor. Val and Walter watched the scope. Jo Jo's neurones began to flow by.

The tech said, "We got this one sampled promptly. There should be ample brain cells with respiratory quotients high enough for analysis. Those are red cells. This one is just a nuclear fragment."

A large triangular cell drifted into view. The tech closed the chamber and flooded it with oxygen and nutrients.

"This looks like a promising one. I'll wait for its R.Q. to get up in the normal range before we start. There are three neurochemicals in the brain. Most cells can use them all. Basically

they fit into the three different brain functions. Acetylcholine for sensory-motor; adrenalin for midbrain autonomics and serotonin for cortical personality. Now I see we're ready. First, I'll clear off the old molecules with an enzyme—cholinesterase, in this case. Now I'll flood the chamber with labeled acetylcholine. Good response there. Isotope count shows about ninety percent of the expected acetylcholine sites are functioning. Good. Now I'll do the same for adrenalin. The enzyme to clear the sites—the isotope-labeled neurochemical to count the sites. Readout: a hundred and ten percent. Nothing wrong there. Let's try number three—serotonin."

They watched the tech work. The flimsy printout read: Acetylcholine 90%, Adrenalin 110%, Serotonin 32%.

"There's the trouble—serotonin. Have to run a few more cells through to see if this is representative—but it probably is."

Walter asked, "But what caused it? It was so sudden."

Val interrupted: "He's a jumper isn't he? That's inappropriate activity. The nest factor got him."

"Perhaps," said the tech. "There is something blocking the serotonin synapses. I have some fluorescent-labeled antibodies that might help us identify the blocking agent. If it is the nest factor the sites are blocked by the deceased's own immunoglobin-A. This first one is the anti-Ig-A."

The chamber flooded, glowed diffusely and then washed clear. "Nothing," said the tech. "The next one is anti-M.R."

The chamber flooded again but this time a residual glow remained on the cell wall after the wash.

"Molecular Reward it is. This jumper thought he was a bird."

Val and Walter looked at each other, puzzled.

"Sure. We see all kinds—mushrooms, birds, flowers. That M.R. really scrambles some of them. It's like sticking your foot in one of the mech brains—at the cellular level."

On the way to Hunter Control Walter waddled and wheezed. He paused for breath, leaning on the railing. Looking down, he asked, "Do you think Jo Jo had much pain? I mean, do you think he died happy?"

"On M.R. he died happy," said Val with finality.

FEMALE BITTER and Neutral Arthur were waiting to screen applicants for Jo Jo's room when ¼ DPNH arrived with her locker.

"Are you the bereaved?" asked ¼ DPNH.

Bitter frowned into the dimly lit crawlway. The newcomer was a slim female, recently polarized. She was on her hands and knees, towing a locker through the dust.

After a long silence Bitter answered, "Yes. We were widdled down this morning. What are you?"

The newcomer smiled and sat back on her heels brushing grime from her hands explaining. "I'm ¼ DPNH. Embryonated from the delta pancreas line of the N.H. clone—Nora Howell clone, you know—one of the original Howell-Jolly bodies. Embryonated from the fourth subculture, so there is still a lot of genetic vigor in my DNA. I'd like to apply for the vacancy."

Bitter repeated, "But, what are you?"

"An attendant. All of us Nora Howells are attendants." said ¼-DPNH. "You can call me Dee Pen."

Bitter remained formal. "I'm sorry, ¼ DPNH, but we can't make the decision until the rest of the family reviews the applications. Now, if you'll just move your gear back out onto the spiral—"

Neutral Arthur glanced down the crawlway at the other applicants. Big ones. Most were well over fifteen stone. Obviously a source of considerable body heat and odor. Big eaters too. He smiled at the slim newcomer.

"An attendant? You're so young," he said.

"Oh, not a Medi-attendant. Just an attendant. I haven't yet specialized. I'll be servicing Rec centers for a while."

Bitter waved an index finger accusingly. "Those breasts. You're polarized."

"Almost. Only almost, I assure you," pleaded ¼ DPNH. "Some of Nora Howell's DNA vigor expresses itself that way, I guess. But I carry the subcutaneous capsule—can't actually ovulate."

She sniffed.

Neutral Arthur consoled her with a shoulder pat. "Now, now, Dee Pen. Being polarized is difficult. We understand. But it is good for an attendant—and can be good in the meld. Maturation Index, you know. Helps your sense of rhythm, they say."

Dee Pen blinked back a tear and nodded. "Rhythm, yes. Yes. I did very well at the stacks—good grades in music."

"And your major? What was your major?" asked Arthur, helping her in with her bulky locker.

"Philosophy—to balance the emotionalism of a polarized Jollybody."

"But we already have a philosopher—Old Walter," protested Bitter.

"And you and old Walter will have plenty to talk about, Dee Pen," said Arthur. Taking Bitter aside, he whispered: "Want another fifteen-stone furnace like Walter smelling up the place?" Bitter raised her eyebrows. Arthur continued *sotto voce*: "Well, take a look out into the crawlway." He went over to help Dee Pen sort

through her locker for her flimsy I.D. while Bitter poked her head out. As Arthur glanced over Dee Pen's personality profile he could hear Bitter announcing that the vacancy had been filled. He smiled. He knew a polarized Jolly-body would be very very good in their meld entertainments.

Bitter waved the other applicants away and returned, saying, "We can have your credits transferred and be back up to family-five status for the evening meal."

VAL and Walter sat in the Hunter Control garage, watching Tinker work. H.C. meck brain was still alert but, with surface sensors detecting no buckeyes, crops were safe and huntercraft had all returned for servicing. Tinker had all dust covers up on Doberman III and he was crawling around inside the chassis, mumbling into his belt communicator. Occasionally a replacement part dropped into the dispenser.

"So the M.R. got Jo Jo," Val said to break the silence.

Walter nodded sadly.

"Better M.R. than I.A," Val said. Walter looked puzzled. Val continued: "Inappropriate Activity seems weak and sinful. Killing one's self. Repulsive. I'd hate to think I lived with—trusted—someone who would go I.A."

"And M.R.? He's still dead."

"But that's just an accident—drug idiosyncrasy. Going flower, bird or mushroom—those are the risks we take when we want to see heaven molecularly. Taking risks is sort of noble. Accidents are clean. But suicide—that's dirty."

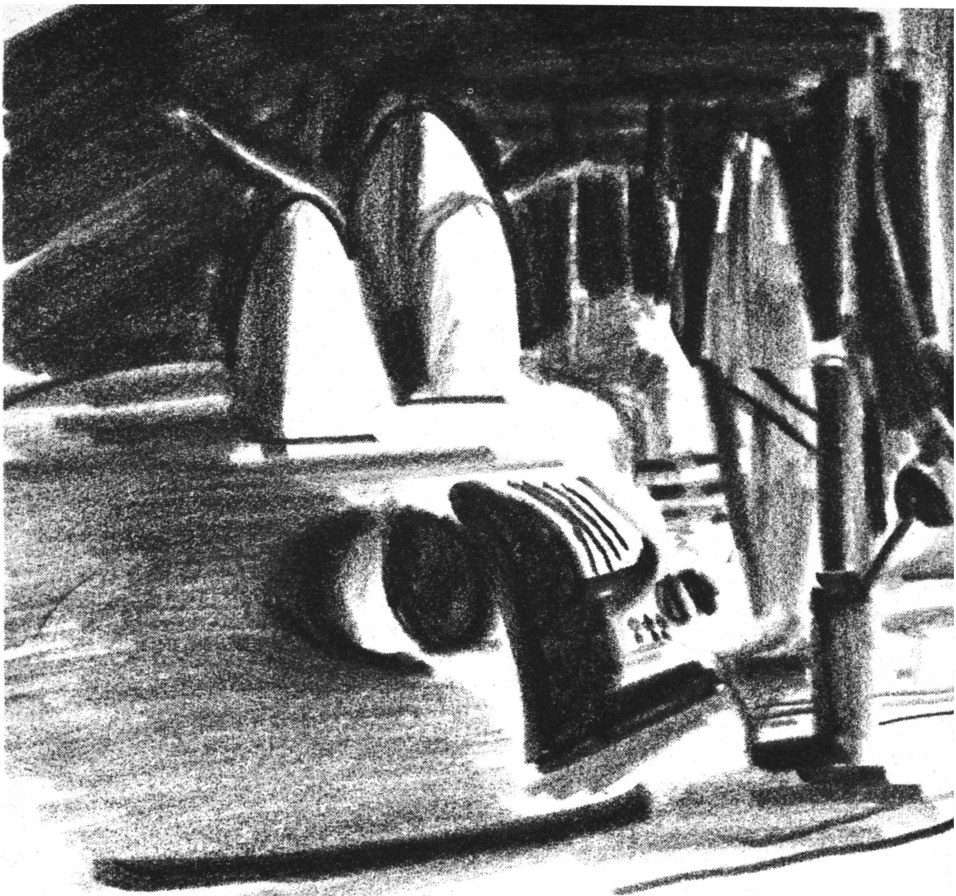
Walter did not answer. Odd, but he felt exactly the opposite. Tinker crawled out of the huntercraft's chassis and wiped oil from his hands. He walked to the dispenser and picked up several coils of neurocircuitry webbing. Returning to the craft, he pulled on a connector. The big machine groaned.

"Easy, big fellow. I know it hurts—but all those frayed nerves have got to come out," said Tinker. He talked over his shoulder to Val and Walter while he worked. "These huntercraft should have been sent to the central servicing area when it was operational. Their power converters and sensors are over a hundred years old. Electron fatigue. No replacement parts for them—not these days."

Val picked up one of the craft's optic pickups. "Their eyes are weak."

Tinker glanced back. "They need new electromag retinas. I can rebuild the coarse E.M. sensors in my quarters but I don't have the tools for the fine work. Can't handle the converters, of course. No one does that kind of work any more."

Val frowned at the mysterious converter above Doberman's left rear wheel—a solid-state generator that converted electricity to mus-



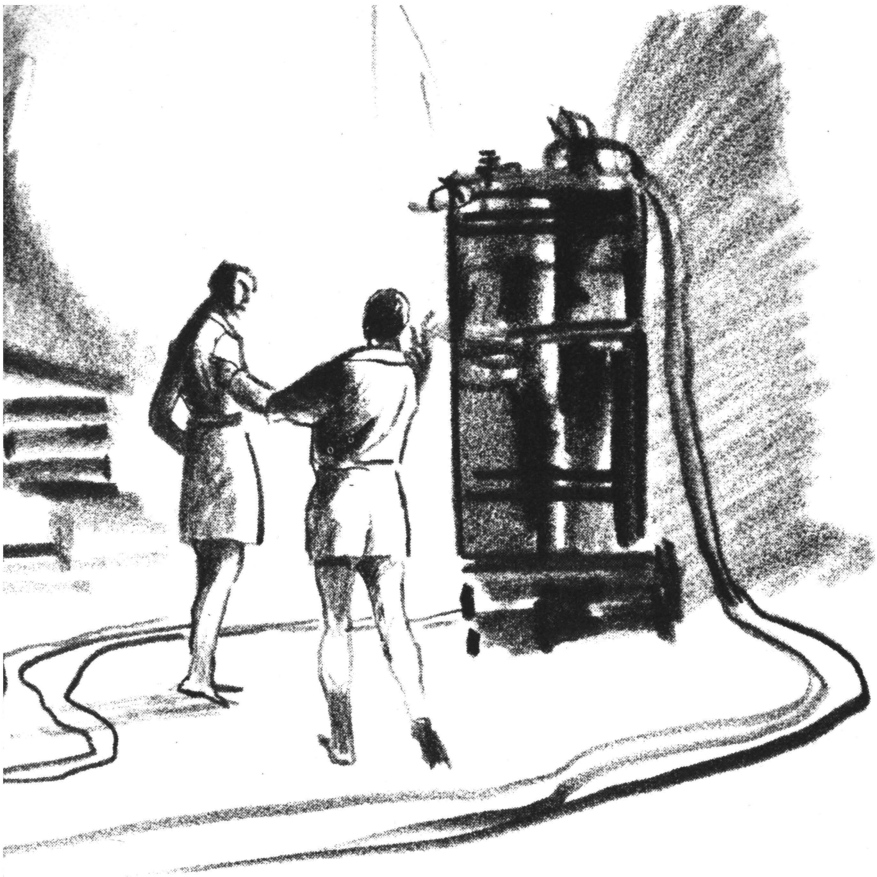
cle power. Other converters throughout the machine converted to heat, light or radio waves as the organ demanded. Converter science was a lost art.

"You can rebuild sensors in your own room?" Val asked.

"Just the coarse ones—and I have several rooms high up in the shaft, a long way from the dispensers on shaft base. Not much demand for quarters way up there."

Val was interested. He held tools for Tinker and asked questions while old Walter wheezed in the background. At change of shift Val helped Tinker carry a load of weak meck eyes to his quarters. Val was amazed at the jumble of parts that filled the corners and shelves—heads of agromechs, brain boxes from dispensers, communicators, sensors, tools and screens—even a rebuilt dispenser in front of his cot.

Tinker saw Val staring at the dispenser.



"Built it myself," he explained proudly. "Of course, it isn't an authorized model but it gives me someone to talk to—a class-thirteen brain. But it can't deliver anything unless the pressure reaches this level—which is seldom these days. I still have to use shaft base for most things."

Val walked slowly past the long work bench. Occasionally he would caress a box of wires or a small tool almost reverently. One bundle of thick wires trailed out of a large black drum. The drum stood on insulated blocks. It measured three feet in diameter and stood five feet high. Tinker waved him away when he approached it.

"Careful. I've been experimenting with a larger capacitor to run my tools when the power is down. It's probably well charged now and my insulation methods are pretty makeshift. Give it a good six feet clearance to be safe."

Val eyed the bright connectors on the top of the drum. He marveled at Tinker's ingenuity. The drum looked powerful, almost ominous, just sitting there. He gave it a wide berth and went on into the next room. More electronic gear faced him. Heavy cables led to a communicator with a focusing antenna. Charts and maps covered one wall.

"Listening to huntercraft and agromechs in the field," explained Tinker, "is a hobby of mine."

Val recognized some of the topography from his own H.C. wall panels. He was amazed that anyone could build so much detail into a map from a few hours of casual listening.

They were interrupted by the dispenser. It started chattering and printing out a flimsy. Tinker went to read it while Val studied the map.

"It's a birth permit—for me," Tinker shouted excitedly.

Val smiled. "Congratulations, but it's no surprise to me. Big ES must have recognized your talents."

"But it's a class-three permit."

Val thought a minute. "Class three means budchild with a human incubator of your choice. So?"

"But I live alone."

Val glanced around at the crowded quarters. There was room for a family-7, except that every available square inch was filled with gear for tinkering.

"Have a female in mind?"

"No, and I'm not particularly interested either. A budchild is fine —I'm aware of my genes for intelligence and hard work—I was bred for hard work. I was a class-one birth permit myself—mechanical womb. Why would the Big ES want to burden me with a family-three now?"

"I know just what you mean," soothed Val. "I live alone myself —like it. Was lightly polarized two years ago—needed hard shoulders for the long bow—Sagittarius, you know—H.C. I got the hard shoulders all right but also I got some hair on my upper lip and an irritable personality. I'm not interested in getting heavily polarized to full male gender—I'd probably have to shave and then I'd really be hard to work with. But, if Big ES asked me, I suppose I'd go along."

Tinker shrugged. "I don't want my whole life upset by a class-three permit when a class-one would do just as well. Let the Big ES incubate."

Val left, saying, "Good Luck. See you in the garage next shift."

IV

THE clerk at Embryogenesis shook his head. "Sorry, Tinker —it stays a class-three. Our budget doesn't permit us to carry any more births this month and your bud child is right on schedule. Requisitioned above our meck uteri

capacity. The committee report is final. Do your duty and pick a female to carry it."

"That's just it—I don't have a female."

"No one appeals to you?"

"I like everyone—but I'm not sexually attracted to—"

"There's no sex involved in a class three."

"But there is. Don't you see?" Tinker was irritated. "A class three means female incubator of my choice. Right? The Big ES doesn't pick the incubator, so it doesn't have to pay job rates for carrying. The incubator has to carry it out of love for me—well, there is no one who will do it for me without pay."

The clerk studied the committee report. "No funds for moving it back to a class two either, Tinker. You'll just have to find someone. That's an order. Get yourself more heavily polarized."

Tinker reflexively clicked his heels. "Yes, sir. Right away, sir."

On his way to the Polarization Clinic, Tinker studied the sea of pasty white faces floating on the tangle of sticky, soft bodies—neutral citizens, anonymous, monotonous, ugly. Not a mind or a body he'd care to share his cubicle with. The clinic was closed. He rang. The attendant on call arrived an hour later. She was an edentulous old hag bent with age—arthritic—well up in her twenties and nearing retirement.

"Going to swing hetero, honey?"

"It's an order from the Big ES," he said simply.

Other than warming his loins, polarization seemed to do little for Tinker's problem of finding an incubator. If anything, it made the chore more difficult. He became more critical of his fellow citizens. Fat old Walter was now disgustingly fat in spite of redeeming intellectual qualities. The press of humanity in the tubeways became intolerable with odors and textures he hadn't noticed before.

Tinker walked into the H.C. garage with a sack of meck eyes and began to arrange them on Doberman's fender.

"Polarization is tough," he said to Val. "I vomited in the tubeways this morning. I've never done that before."

Val picked up an eye and admired the bright fittings. "Polarization involves strengthening your neuro-humoral-axis. Humoral means gonads, adrenals and pituitary; but the neuro involves the autonomic system. Your autonomic tone is pretty high right now. Vomiting reflex is in there somewhere—it's heightened too."

"But what have smells got to do with sex?" asked Tinker, climbing up to Doberman's head.

"You'll have to go back down the evolutionary tree for that answer." Val handed up an eye and a tool kit. "But I'd guess that sur-

face-dwelling hominids reacted with their environment more than we do—Big ES protects us. Most of us don't even polarize spontaneously any more. But when we do become polarized some of those ancient reflexes are activated.

Tinker looked down at Val and asked, "What reflex is it that makes me so critical of everyone?"

Val shrugged.

Tinker continued: "Like you for instance, Val. I used to think you were a nice guy—"

"And?"

"Now you look like a parasite," said Tinker. "You follow Walter around and send hunters out to be killed. Now you're following me around. You never do anything yourself."

"I'm young."

"Don't give me that! You're my age at least—almost twenty. You're going to be as good as dead in half a dozen years—I'll bet you've already got a loose tooth."

Val answered mildly, "Polarization sure made you crusty. But I suppose that is natural, too. When you're geared to picking a mate all of your senses are heightened. I suppose somewhere in your DNA memory molecules I'm a competing male."

Tinker returned to his work while Val ruminated.

THAT day something clicked in Tinker's visual cortex. He was certain that the retinal images were unchanged but his brain now sorted everyone into two groups—neuts and polarized.

A sullen male eyed him from across a sea of thousands of blank faces in the tubeway. He caught the glimpse of a shapely female form in the amorphous tangle at shaft base. If one out of ten thousand was a polarized female, she caught his eye. The rest of the crowd faded into the background like cardboard cutouts—nothings—nebishes.

Little things began to bother him, like stepping over the remains of a jumper while lining up at the dispenser. Dispenser lines were too long now—too slow. He was angered by the sight of a beggar—swollen with wet beri-beri—who had to scurry through an access hatch to hide between walls to escape Medi-attendants who would have taken him to the suspension clinic. He stood silently while the meck sweeper scrubbed up wet spots left by the beggar's oozing ulcers—then he shouldered his way through the docile crowd and went to the head of the line, ordering a container of thick barley broth. The dispenser eyed him suspiciously at this break in menu. He usually ordered dry stables to stock his pantry. He took the soup to the access hatch and cracked the lid. The aroma brought out the beggar.

"Flavored calories, old man," said Tinker.

The beggar drank with trembling hands while Tinker looked into his dark nest. Unopened packets of calorie-basic were scattered around in the thick dust. No flavors.

"That was nice," said a female voice.

Tinker turned to see a polarized female stepping out of the flowing crowd. She wore the tunic of the jobless caste and tightened her belt to accentuate her soft curves. He stared.

"You're focusing," she said coyly. The apathetic crowd around them seemed to vanish. All he saw were her eyes, her mouth, her breasts.

"What?" he stammered.

"That was nice," she repeated. "What you did for the old man there—giving him your meal."

His wits snapped back. Begging was forbidden, and giving alms was a function of Big ES. For a moment he felt guilty. Next he was angered by his guilt and flared up. "I can afford it."

"It was still nice—nice that you noticed him." she said, touching his caste emblem with her fingers. He backed away—intentional body contact was a meld activity. He felt awkward in public.

"Who are you?" he asked.

"I'm ½MRBL—second subculture, Mu Renal cell line from B.L. clone. Age ten. Spontaneous polarization—ah—puberty. Assigned to you by our Watcher."

He noticed a light locker behind her. She was ready to move in.

"Assigned?"

"Watcher took me out of the stacks before my studies were complete. I was assigned to a family-five before but I hesitated in the meld—never been in one before. I begged the Watcher to delay my assignment until I found a family-two to start with. I can work up to a family-five later, maybe. I think I'm too young for a big family."

Tinker looked her over analytically. If her polarization had really been spontaneous and not some clandestine molecules smuggled into her food, then it was puberty—and he was looking at a female with a strong pituitary-ovary axis. A good incubator.

"Come with me," he said, taking her by the hand and elbowing his way through the complacent queue to the dispenser. He loaded her arms with stables and then, shouldering her locker led her upspiral to his rooms.

He was pleasantly surprised at how well she fit into his crowded quarters—like a hand into a glove—into his cot, his refresher and even around the workbench—dusting and arranging where she was allowed and not touching where she wasn't.

THE tech at Embryo clinic probed the tender subcutaneous tissues of ½MRBL's left

forearm and removed her anti-ovulation capsule.

"Can't have conflicting hormones—can we?" he said casually as he held the raw edges of the incision together and sprayed them with syntheskin. Ignoring her winces, he gave her four quick Hi Vol injections of hormones to prepare her endometrium. "Come back in ten days and we'll implant little Tinker, Jr."

"Could I see him now?" she asked.

The tech brushed her toward the door. "Nothing to see now—just a clone soup in foaming nutrients. Just be patient—in six months he'll kicking and squirming around in there. You'll have a wonderful time."

But she didn't have a wonderful time. Four weeks after implantation she passed a larg clot. Worried, she searched her locker for her old Ov earring. Her activity in the meld became warmer—more purposeful. She knew how slim their chances were for another birth permit. She'd probably be coded as a weak incubator and sterilized. Fearfully she watched the earring. Two weeks later it signaled an ovulation and her belly began to grow again—a little behind schedule, but it grew. Tinker, preoccupied with strange radio signals from the mountains, failed to notice anything unusual—but at forty-two weeks postimplantation the Empryo clinic asked her to come down for a checkup. She refused.

"MU REN?" asked a soft male voice.

½MRBL glanced up from her stitching and saw two Security police in the doorway. Behind them were two more holding an awkward bundle of quarter staffs and throwing nets. Her face whitened visibly and one of the men glanced up from his scanner.

"Reading in the T-zone. This is it," he said.

Two entered while the others took up positions back by the crawlway entrance on the spiral. They noticed her pendulous belly and tremulous, weak movements as she backed into the corner.

"Relax and sit down somewhere—please," said one of the men. "We're just making a routine check on communicators. Nothing for you to be concerned about."

She sat on the cot, eyeing them suspiciously. They were soft males—reliable neuters—but there were four of them. Escape was impossible. She waited.

Tinker arrived with smiles and nods. He set the stable foodstuffs on the pantry shelf and answered questions. Yes, he had heard unusual radio signals. No, he wasn't using a tight-beam transmitter. No, he had no idea where the signals came from. Yes, he'd keep them informed. They left—satisfied.

"What was that all about?" she asked.

"Not sure." He closed the door to their quarters, secured it with a heavy hasp. He walked deliberately to the bench and pressed one earphone to his right ear. "I've been hearing odd messages from the surface—and they're not from authorized sources—not agromechs or Huntercraft."

His use of the term "authorized" drained the color from her face again. She sat down. He noticed her distress and patted her on the knee.

"Now, now—there's no danger. Probably just a renegade meck with a WIC/RAC going through his identity crisis. Those what-if and random-association circuits sometimes break down the loyalties of the class-six mecks and they run amok until they deplete their energy cells. No danger. Just a few lost crops."

His words had little effect on his gravid female. Tears began to trail down her cheeks.

"Our baby isn't authorized."

He hadn't heard her. He had both earphones on now and he was swinging his biconical antenna around trying to pick out messages as they filtered through the many walls and organs of the city.

"Good thing we have a high cubicle," he mumbled to himself, "or I wouldn't be getting any of this."

The sounds he heard were music —guitars, tambourines and waves —a pounding surf being transmitted by tight beam. The words he picked up were sing-songy. They sounded human, but he knew that class sixes could simulate almost anything if they carried the proper gear. The words didn't make sense — a chant of some sort. He caught the name, Olga.

Tinker removed his earphones with a shrug. He had heard of the Followers of Olga—a fraternal organization more cultish than most. FOOs were in trouble with Security again—this time it looked as though they had gone Outside. He had worked in the garage at Hunter Control and thought it odd that the tight-beam source hadn't attracted Huntercraft before this.

When he went to the cot he found Mu Ren sobbing herself to sleep. He patted her belly. A tiny foot kicked his hand.

She opened reddened eyes and wailed, "Our baby isn't authorized."

"Of course it is," he said. "I have the authorization right here."

"But we need a class five." She filled him in about the clot she passed, the earring and now the call from Embryo clinic.

"A hybrid," he said in amazement sitting up. "A hybrid?"

"What'll become of it?" she sniffed.

"They'll collect it—and dispose of it."

She sobbed herself to sleep.

THE next day Tinker explained to Val who was more concerned about the peculiar tight-beam transmissions.

"Don't let the pregnancy get you down. If it is unauthorized, it's just unauthorized. Happens all the time. How long are you going to keep the baby?"

Tinker shrugged. "It won't need papers until it starts to walk and talk. We can keep it till then, I suppose."

Val shook his head. "I don't think that's a very good idea. I know some of the females do it to develop their souls, but it is hard to give them up just when they're becoming human. I'd chuck it down the chute immediately if I were you. Now tell me more about those transmissions."

"I don't think I could do it. I know it is patriotic and loyal and obedient—but I couldn't do it."

"I'll come over when she delivers and do it for you—now what about those transmissions. Why aren't we picking them up here at Hunter Control. If someone is Outside we should know about it."

Tinker was still badly shaken but he went to the wall panels and drew lines. The directional ran from the ocean across the shaft cap to the mountains. Val studied the line and then put the H.C. meck to work checking his sensors in that area.

"Nothing on the line," said H. C.

"But Security is picking it up, too," said Tinker.

"What H.C. means," explained Val, "is that there is nothing on the line where we have crops and where the sensors are. We don't know what is above the frost line in the mountains—or under the water in the ocean."

Tinker brooded.

Val smiled. "Come on. Let's suit up and take Doberman, here, out on a shakedown cruise. We can look at the ends of your line for the renegade Followers of Olga. The ride will do you good—take your mind off everything."

V

DOBERMAN III moved smoothly across the fields at treetop level.

"There's already a sighting," Val said.

Tinker had his helmet pressed against the viewport. A bubble of sour gastric juice rose into his throat when he saw the body—naked and flaking red-brown. Roots and stolons from the high-auxin crop were invading the soft tissues.

"A flower," mumbled Val.

"Molecular Reward?" asked Tinker.

"Probably—but it is too late

for sampling now. Decomposed. Be nothing but bones left by harvest time."

They moved on. Doberman maneuvered awkwardly in the thin air of the upper mountain slopes. They passed over a wind-swept table mountain and saw the relics of a tattered neolithic village. Flying low, they stirred up clouds of dust and ash.

"Used to be large numbers of the five-toed buckeyes around here till we hunted them down," Val said. "But that was mostly before my time. No good hunts around here in years."

Tinker took a variety of views at different wave lengths. At long-red pickup he thought he saw a glow in some rocks set around ashes. Too faint to be certain.

Tracking back across the shaftcap, they flew on toward the dull gray ocean. The pounding surf on audio was familiar, not unlike the transmission. Tinker put optics on full sweep. Robot algae harvesters moved on the horizon following hints of green. The waters seemed almost sterile, they were so clear. Bubbles the size of buildings dotted the shelf. Nothing moved in the water.

Tinker stared into the water.

"First time Outside?" asked Val. Tinker nodded. "Well those are relics of the past, too—underwater Rec centers. Our five-toed ancestors used to swim around down there, I guess. Some of the domes still have active power cells squeezing air out of the water with membrane pumps. Saw optic records one of our sewage-system subs took last year—vast empty chambers all over the ocean floor. Some were decorated with drawings of the extinct, bony fishes that used to live around here. Nothing alive down there now except a little plankton. Wish we had the technology and the animal species to farm the oceans again."

Tinker just stared.

When they returned to Hunter Control Walter told them that Mu Ren had started labor. Tinker started to run downspiral.

Val hurried to catch up. "Won't the Medi-attendant be there?"

"Not for an unauthorized pregnancy."

They ran along in silence. The crowd density was low and they made good time. They arrived in plenty of time. Mu Ren's contractions were still three and a half minutes apart and the membranes were still intact. She was dozing between contractions. It would be a long night.

TINKER placed a sensor on her abdomen and watched the fetal and maternal cardiograms run across a screen. He had run through simulated deliveries a hundred times on his dispenser screen and his hands were skilled. The human body was just another type of machine to him—once he

learned the peculiarities of the warm, soft and sometimes wet anatomy. He put a board on the cot under her buttocks to prevent fluids from pooling around the outlet.

"Position," said the viewscreen's meck brain with the next contraction.

As she had practiced, she automatically reached down and grabbed both legs behind the knees and pulled—flexing her legs up and out. The bag-of-waters bulged. Several contractions later it burst and the head bulged the perineum.

"Presentation?" asked the viewscreen. Diagrams appeared. Tinker palpated the baby's head for the skull suture lines. The larger diamond-shaped fontanel was posterior toward the sacrum.

"The baby's facing the sacrum," said Tinker, smiling.

"Most favorable position," said the screen. One diagram remained, labeled Occiput Anterior.

With the next contraction the little head bulged way out and the perineum stretched.

"Ritgen rag," said the viewscreen. Tinker picked up a coarsely woven hand-towel and supported the perineum.

"Check cord," said the screen as the head cleared. He flicked mucus from the little nose and mouth as he felt deep between the baby's neck and shoulder. A slippery, tense loop of umbilical cord encircled the neck. He dug his middle finger quickly under the loop. It wouldn't budge.

"One loop," he said as his right hand darted to his little work table for the three snub-nosed instruments. Clamp—clamp—cut between. With the next contraction he guided the head down to release the anterior shoulder from under the pubic bone—and then upward to release the posterior shoulder. Suddenly the rest of the infant followed in a gush of fluids and a jumble of glistening cord. He wiped its face with a clean hand towel and gave it to Val who held it awkwardly and turned up his nose. The baby wasn't moving. Its eyes and mouth were closed and the skin was a wrinkled, dull white covered with cheesy mucus—ugly!

"Better chuck it down the digestor chute before she hears it cry and ruins her day," Val said, holding it out like a piece of garbage gone sour.

Tinker nodded and mumbled something. He was preoccupied with the placenta which now bulged out in front of a ball of copious, jelly-like clots.

Val started the long crawl toward the spiral, leaving a trail of cloudy white drops in the dust. The infant squirmed hard and gave a single loud cry. He tried not to look at it.

Val eyed the digestor chute uncomfortably. Stained and granular, it spoke of the varieties of solid wastes it had accepted in the

past. It was several hundred feet down—a dark, traumatic trip. He moved the selector switch between chop and dice.

"She's bleeding bad," called Tinker.

Val looked back to see Tinker's worried face in the crawlway opening.

"Did you press on the uterine fundus?" asked Val.

"Yes. Bleeding slowed—but hasn't stopped. I'm worried. Can't we call the medi-attendant now? Maybe they'll have drugs or something to stop it."

"Not for an unauthorized pregnancy," Val said. He glanced down the little form in his right hand. The baby was crying vigorously now. It's face pinked up and it was blinking around from wide, dark eyes.

They returned to the cot. Mu Ren was trying to massage her uterus. Blood flowed. She tried to protest when Tinker handed her the infant.

"Take it," he said firmly. "Just pretend it's medicine—breast-feed it. It'll help the bleeding."

She was awkward but the infant knew exactly what to do— it locked on firmly and began to suck. Immediately the uterine fundus hardened to a ball. The bleeding stopped.

Tinker relaxed. "He doesn't know he's unauthorized," he said. The child was male—and had five toes.

MU REN and Tinker grew fond of infant in the days that followed. They called him Tinker Two/Junior, using the name they had picked out for the bud child. They applied for a variance on their original class-three birth permit.

"Sorry, sir," said the clerk. "Your own record is commendable, of course, but with a hybrid we must consider the mother's genes, too. Mu Ren has shown several anti-ES traits: spontaneous polarization/puberty, clandestine pregnancy and failure to obey a clinic summons. You'll have to admit that she even kept the hybrid status of the infant a secret from you. Very poor record. No variance."

"Even if I make it a condition for my future work as a tinker?"

The clerk had an answer. "You're receiving flavored calories. You couldn't live on calorie-basic—or could you?"

Tinker set his jaw.

"The committee's vote is final," said the clerk, waving him out.

One night he listened to unfamiliar chants on his earphones. Something moved in his peripheral vision. He turned to see the baby.

"He's already crawling—"

Mu Ren picked up Junior hugging him hard. "He's a big boy," she said sadly.

Tinker turned purposefully to the communicator. He tried in his five-foot capacitor, poured water

in the heat sink and checked the polarity reversal. A shaped field probed around the room, rustling loose tools. He narrowed to tight beam and transmitted.

"Who's out there?"

The music continued and his screen showed diffuse, concentric, dancing circles. The music stopped and the circles collapsed to a pinpoint as the other tight beam locked onto his position. A metallic voice answered.

"Identify yourself."

"I'm Tinker of H.C. City. Who are you?"

"Ball—companion and protector," said the voice.

"A renegade meck?"

"Free meck," corrected the voice. "If you are a good Tinker we can use you. You are welcome to come here to Mount Tabulum and share our flavors—and freedom."

Tinker exchanged glances with Mu Ren, turned to his map. Ball was speaking of the location of the tattered neolithic village. It would take them several weeks to get there. There were several canals and many open fields to cross—miles of them.

"It will be difficult. We'll be hunted," Tinker said.

"We'll try to decoy the hunters. Don't carry anything made of metal and travel at night. Stay in the taller vegetation and well below the canal banks as much as possible. Travel more than ten miles a day so the Hunter sensors won't get a fix on you. I must sign off now—questing fields are tickling our beam."

"Who was that?" asked Mu Ren.

"I'm not sure but we'll find out. We're going Outside." When he saw her face drop he added reassuringly: "Don't worry. I think I've got it all figured out. We'll need coveralls to protect our photosensitive skins at first. I think I know enough about Huntercraft to stay clear of them. If we travel fast and travel at night—we've got a very good chance."

"We'll be killed," she blurted. "If we escape the hunters the buckeyes will eat us."

He gave her a nonritual hug and nodded toward Junior asleep on a pile of issue tissue. She understood. That evening he made four trips to shaft base—acting casually—to order extra clothing and food from the dispenser. His credit account grew strained. Being careful not to include metals, he made up belt-and-shoulder-sized bundles containing stables and Stone-Age tools of synthetics.

"Planning on going some place?" a voice asked from the doorway.

Startled, Tinker turned to see the two Security police.

Smiling and nodding like a good citizen, Tinker approached them. "Certainly, a Climb. My vacation. You must have heard."

The two neuters hesitated. "We came to check on the tight-beam transmission. Questing fields pointed to your level. The unauthorized infant is still here, too. Those packs are not regulation for a Climb. You're in real trouble this time."

Tinker said, "Just check on my vacation authorization." Two more neuters blocked the crawlway to spiral with quarterstaffs and throwing net. He could probably bull his way through alone—but not with Mu Ren and the kid. "We were just on our way to chuck the kid down the chute."

The neuters called in for information on his Climb. He motioned for Mu Ren to pick up Junior. Then he fumbled casually with the audio settings of the communicator.

"Nothing on the Climb," said the neuter. He approached with a pair of hobbles. "Sorry, Tinker, but we've got to take you down to the Psych clinic. Your behavior has become very anti—"

Tinker flipped the switch, filling the room with 160 decibels of 10,000 hertz sound. Using a four-foot length of flexicable, he whipped his way past the two neuters, pushed Mu Ren and the baby out and away from the pair with the nets and quarterstaffs. An access hatch let him and his family between the walls and an air vent brought them to the surface. The sun was shining brightly. They peered through the louvers at the brilliantly colored fruits and vegetables.

"We forgot our packs and protective clothing," said Mu Ren.

"Don't worry. We can wait till nightfall. They won't find us here. No one knows the 'tween walls like a Tinker."

They caught their breath. After a few minutes of gazing at the gardens he added: "There's one thing we don't have to worry about Outside."

She looked up quizzically.

"Food."

"Gone buckeye? Impossible. Not Tinker," Val shouted as he paced around Tinker's deserted quarters.

"Well it wasn't I.A. or M.R. He knew exactly what he was doing." said the Security captain. "Even injured one of my men."

"But he doesn't have five toes."

The Security captain smugly produced a flimsy. "Look at his ridge width and his triradii/loop ratio."

Walter studied the analysis of Tinker's hand/foot prints.

"The gene," murmured Walter, passing the flimsy to Val. "He was such an achiever."

"Achievers give us the most trouble," said the captian. "They carry the *I* gene of the In-between. Their independence and initiative make them very poor team players—and usually anti-ES."

"The bad gene," mumbled Val. "And I let the kid live."

"You'll send out a squad of hunters, of course," said the captain. Val nodded.

AT HUNTER CONTROL Walter tightened the loops on Val's suit and handed him his helmet. "Wall charts from Tinker's room overlay ours quite well. He knows where he is going. Do you think you should go after him alone?"

Val nodded grimly. "No sense scrambling a whole platoon of hunters. They'd need drugs to go Outside, anyway—so we could only use them one at a time. I know Tinker. Maybe I can talk him back."

"If you can't?"

"I'll be in Bird Dog Nine—I'll be all right."

"And Tinker?"

"It had to be his decision. My hands are tied. If he wants to lay down his life for an unauthorized kid and some anti-ES female—well—I'll just let him do that." Val picked up the heavy longbow. "I'll just be doing my duty. You stay and keep an eye on H.C. I don't like all the tight-beam activity on the surface—the buckeyes may be coming out of hiding. One of the lesser planets might be moving into a more favorable aspect for them. Stay alert."

"The sensors have never been off. There have been no sightings—no even of Tinker and his family-three."

"I think I know where to look for him—he knows how to avoid sensors but he has no protective gear. He'll be holed up during the day. Can't get far," Val said.

Bird Dog lifted off. Its bronze-and-yellow hull rotated slowly toward the garage door. Hunter Control was quiet again. Walter sat down and studied playbacks from Tinker's dispenser memory unit. He ran it through the psychokinetoscope, searching for those telltale fine body movements that marked psychosis—but he found no evidence of I.A. Tinker and Mu Ren were acting logically up till the end.

Walter mumbled to himself. "But going buckeye has to be inappropriate. They'll be hunted down. They'll surely die."

BIRD DOG settled down quietly in a grove of fruit trees. Its optics scanned the canal that led away from Tinker's shaftcity. Val waited confidently. Dusk was still several hours away.

"I have a sighting," said Bird Dog unexpectedly.

Val reached for his bow, muttering, "The sun is still up. Tinker knows better than to expose his epidermis to—"

But the form that came around the bend was not one of fugitives. It was a powerful, rogue coweye. Val cringed as he read the scanner.

"It's a big one. Must be eighteen inches taller than me—a six-footer at least—and reading way over in the luteal phase."

Walter's voice asked, "Can you get in a shot?"

Val nocked his arrow and motioned for Bird Dog to open the window. Bird Dog said, "No one can shoot from inside my cabin. I can not take an active role in the killing of any hominid. Prime directive. You'll have to step Outside to shoot. Expose yourself."

"I'm a supervisor—"

Val cursed as Bird Dog remained silent. He realized the futility of argument and buckled into his harness. Their quarry moved into deeper water and submerged as Val cracked the hatch. Bird Dog lifted off in a cloud of leaves and scanned the canal. Nothing. Val swung downharness, landing in the coweye's path on the opposite bank. Renocking his arrow he waited in silence. Bird Dog moved off in its passive role as taxi—waiting. Val tried to estimate how far the coweye could have swum while he was in the air. Watching the quiet, mint-green waters he moved on down the bank—cautious—nervously alert. Then he stumbled over something slippery, wet and cold—the coweye.

Walter's voice sputtered out of his communicator: "Quick, shoot her. She's very dangerous."

Val bent down and nudged her with his hand—she was stone cold. "Not this one. She's dead—she reads negative on my detector. Must have died of fright or exertion."

Val signaled to be picked up again.

"Aren't you going to take a trophy?" asked Walter.

"Me? A supervisor? I'm here to catch Tinker. Lost too much time already. Besides, she'll still be here in the morning."

Darkness settled. Val waited—sipping a warm drink and watching an entertainment channel while the huntercraft scanned.

"Something—" whispered the machine.

"Give me the hi-lo beam outside the visual range. I want to get a good look at—" Val paused, open-mouthed. "The coweye."

He watched the long-haired, muscular female rewarm and climb from the thick kale greens into the warm canal. In another moment she was gone, powerful strokes carrying her away under the surface.

"They're immortal."

"Get hold of yourself," cautioned Walter. "I saw it, too. Better call off your hunt and get back here. This reminds me of that buckeye kill near Filly's mountain. Remember? Foxhound went and came back with the trophy but Sampler found only blood clots and the arrows."

Val nodded. "But that one had fatal injuries. We decided that

aquatic flesh-eaters must have gotten the remains."

Walter reviewed the sensor readings on both cases. "Just suppose for a moment that Filly's buckeye is alive, as we know last night's was—just suppose. What is the logical explanation of the spontaneous hypothermia we observed?"

Val shrugged. "All I can think of is something occult—but I don't believe in anything like that. You're not going to drag in soul-migration theory are you?"

Walter smiled. "No—something much simpler and biological. Hibernation. Reflex hibernation. We're dealing with an aborigine, after all—and they have very high neurohumoral tone. Partial hibernation has frequently been observed in these primitive hominids in the past. It took heat-seeking hunters to bring out the gene that permits a buckeye to play possum."

Val said, standing up, "From now on we'll put down a hunter at each sighting and let him tramp around until he finds the helpless buckeye. Killing them when they're cold should be easy."

VI

THE 5-toed villagers of Table Mountain busied themselves with survival chores—drying grains, fruit and meat; sewing hides and gathering vegetable fuels. At dusk Tinker, Mu Ren and the baby left the lengthening shadows and approached the settlement. Tinker felt defeated. His issue tissue garments had all but disintegrated after three days of swimming and crawling. During the following weeks their exposed skin had torn like flimsies on the undergrowth and peeled in the sun. His muscles and joints were badly swollen.

A village male—puberty plus ten—quickly identified them from their appearance and welcomed them with a gourd of water. He stood a foot taller than Tinker and had heavily sinewed arms and a leathery skin. His sturdy mate rolled out her sleeping mat and motioned to Tinker and his family to lie down. Four bright-eyed children peeked out of the hide-covered wickiup. Tinker tried to make Mu Ren comfortable, then collapsed himself, bleeding and oozing from a hundred minor injuries.

"Welcome, citizens."

Tinker opened his eyes to see the village leader. Unlike the others, who wore only loin cloths, he had on long purplish robes and wrappings on his feet and legs. He was as tall and sinewy as the others, though, and under his arm he carried a bright, metalloid sphere. The voice came from the sphere.

"Welcome citizens. I am Ball."

Tinker moaned a greeting.

The robed leader squatted down slowly, the Ball in his lap. His

joints were stiff and his bald head and wrinkled face told Tinker how really ancient he was.

"I am the Hip—keeper of the Ball. Ball has kept Table Mountain safe from the hunters," said the leader.

Tinker sat up, winced and lay back again.

Hip stood up, motioning for two coweyes to bring bowls of warm water and nut oils.

"They'll bathe your wounds," said Hip. "We can talk later when you mend—and mend fast. The villagers can use your skills."

While the coweyes dressed their wounds Tinker glanced around a little nervously. Counting toes, he soon realized that he and Mu Ren were the only 4-toeds in the village. He put a protective arm over her and fell into the sleep of exhaustion.

In the months that followed he took his place in the village—hunting canals for cetacean meat and hides, building a shelter and foraging gardens for calories. Junior grew at a 5-toed pace; matching the junglebunnies in neuromuscular development. Tinker and Mu Ren were happy.

THE meld tightened and warmed up around fat old Walter. Dee Pen wiggled on her belly, working her Jolly-body through the arms and legs to a position on the top.

"Soul?" she said, picking up where she had left off before the warming. "Of course man has a soul—a nice comfortable share in the collective soul of Big ES. That's why mankind has become such a successful life form on the planet—he forms hives."

Old Walter wheezed as he moved one of his arms out of the meld to cool. "I prefer to think of man's soul as the life principle of ancient individual man. He's traded that now for his parasitic existence in the hive."

Dee Pen recoiled at such anti-ES blasphemy. Arthur reached through and patted her soothingly.

"Now, now. Don't mind old Walter. He's just trying to goad you into a philosophical debate. Tell me more about your works on the viola."

Dee Pen ignored Arthur. She flared, producing interesting effects in the meld. "The citizen is not a parasite in ES. He is part of it. Look at all the good that has come from the Big ES—without it the earth couldn't support a tenth of its present population."

"Greatest good for the greatest number?" prodded Walter.

"Certainly—man has replaced many of the lower life forms on the planet. More intelligent life is better than less."

"A hundred pounds of man is better than an equal weight of bugs and worms?"

"Of course."

"And trees?"

She searched for the didactics

on trees: "Trees were just the fabric of the jungle ecosystem. Cities are the ecosystem of man. The only trees we need are food trees, flavor trees—man's food chain."

Walter began to lose his grip in the moist meld. He changed his position and asked, "What about men's minds? Hasn't I.A. been increasing with the evolution of Big ES? Suicides were nonexistent in the Stone Age—they're the principal cause of death now."

"Weak genes," she countered. "The jungles weeded out the weak-body genes with carnivores—now the Big ES is weeding out the weak-mind genes with I.A."

Walter smiled. Little Dee Pen had graduated with all the basic ES philosophy. She trusted that some future 4-toed population would be free from I.A. Walter wondered. As a Dabber he clung to some of the old philosophies of the neolithics—dirt, adobe and bamboo. He had even been a Follower of Olga in his youth—and as a F.O.O. he had awaited the return of Olga. But as his life span was drawing to a close he was losing faith.

TINKER wondered at the large stores of dried meats the village was preparing. Each day Ball sent young female "bait" to walk in front of buckeye sensors. Burly spearchuckers followed and returned with freshly quartered meat. Hip supervised a group of coweyes who were trimming.

"Looks a bit watery to me," said Tinker.

"Agree. But it is the best there is. The Hive always sends us the best— protein-poor-protoplasm that it is."

"Why the large stores? Expecting a long winter?"

Hip nodded toward Ball. "It's for the trek. We go to gather at the river. Olga is returning."

The villagers bowed their heads at the holy words of their seer. Tinker kept a respectful silence and then murmured a line from one of the buckeye prayers.

"The great coming together . . . "

The astrologers had finally agreed on the time for the fullfillment of the five-thousand-year-old legend.

FOXHOUND XI returned from the hunt to face Val's wrath.

"Lost the entire squad again?"

Foxhound coughed, clouding his screen. "I put them down on fresh spoor. They went into tracking frenzy smoothly—but when I returned to pick them up they were gone."

Val hit the screen with the palm of his hand to clear the focus. "Didn't you see anything?"

Foxhound coughed again. "Weak eyes. Sorry. You can review the optic records if you want. I need new eyes."

Val let his anger subside. "I'm

the one who should be sorry—old meck. Your eyes have been on order. It looks like it will be a long time yet. We need lots of parts."

Back at his desk Val put in a call to the class-one meck that coordinated priorities for the Big ES. He stated his case briefly and gave the requisition numbers. After receiving the usual conciliatory excuses he exploded.

"In the last three months alone I've lost over a hundred hunters in the Orange sector—"

"Are the crops in danger?"

"No, but the hunters—"

"The crops are your primary concern. Population control is not your worry."

"Population control? I'm talking about hunters. They're out there protecting our crops. We should protect them."

"Get hold of yourself, Sagittarius. You must look at this problem in the right perspective. The Orange sector's suicide rate is thirty thousand per day right now. You can't be bothering me with the loss of one hunter per day. It is a small price to pay for the protection of all the sector's crops—the calories and flavors for a population of five hundred million citizens."

Val relaxed. Maybe he was losing sight of the overall picture. He thanked Olga that he wasn't responsible for cleaning up 30,000 bodies a day. Keeping his huntercraft operating seemed to be one of the easiest chores in the Big ES.

WALTER was late for work and Val dropped in on him at his quarters. He found the old man in bed, face ashen gray—female Bitter was rubbing his cold hands and feet.

"Life span coming to an end?" asked Val.

The old man nodded, smiling weakly.

Val said, "It was a good life—you did your duty to the hive. Shall I call a Medi-attendant?"

Walter's face changed from gray to blue with exertion.

"My life isn't over yet—not quite yet."

Bitter pleaded, "He's got some sick-time coming. Let him rest at home till he feels better."

Val understood. No one came back from suspension these days. Not at the present level of population density.

"Sure. Sure. I can hold down the fort. We haven't had more than a single sighting each day anyhow. I'll just sleep in at H.C. Cover your shift too."

Walter relaxed and slept. His face pinked up a little.

Several days later he wheezed into Hunter Control to find Val and three techs working on a pile of junk—boxes, wires, tubes and screen—none of which seemed to belong together.

"What's that?" he asked.

Val looked up from a crude

splice and said, "It's some of the gear from Tinker's quarters. The techs think it is a working tight-beam set. The magnetic squeeze component has very fine tuning. We've been listening for unauthorized transmissions from the Outside."

"Pick up anything?"

"Lots. Crazy things. We put them in the audio, so you play it back. There must be more than one renegade meck out there with the buckeyes. I can't understand why any meck would give up his power socket in the garage to run with the wild five-toeds."

"The mecks probably identify with them."

Walter set the audio to play and print.

"Identify?"

"Sure. Oh, of course they rely on the Big ES for their power—but a meck is basically a worker. He does his job—a Door, a Tiller, a Repair-bot—and he has to be strong and fast to do his job well. Five-toeds are strong and fast, too."

Val was irritated by the comparison. "You mean that the machines prefer one of those wild savages to a citizen just because the citizen gets a little fat?"

"Not all machines," explained Walter. "But there are billions of meck brains on the planet, all programed to admire speed, strength and efficiency in fellow machines. In any distribution curve you are bound to get some mecks who apply value judgments to humans too."

"Just a bad circuit," said Val. "Like the Buckeyes have the bad gene."

"Same effect, I guess."

Walter began to listen to the tight-beam playbacks.

Val said, "That first collection of chants has been put together from a bunch of bits and pieces—the computer simulated parts and tried to make it intelligible. Apparently it is an expostulation of the five-toed virtues or vices."

A five-toed Buckeye desires
to run free.
He possesses immunological
competency.
He mates and runs and then he
lives alone.
He eats red mean and marrow
from the bone.
He has a five-toed heart and
heavy skeleton.
With abundant calcium salts
and collagen.
His neurohumoral autonomics
and gamma-A
Keep him out of the Hive
where souls turn gray.
He keeps the rainbow colors
of his genes;
Melanocytes that mark the
buckeye in-betweens . . .

Walter didn't catch the words the first time—they were spat fast against a rapid jingle of tambou-

rines and a running guitar base. He replayed it, following the printed flimsy.

"Crazy?" said Val.

Walter nodded and moved on to the next part of the playback. Val talked absently while he reworked the splice.

"We all know the buckeyes are different—but why would a machine sing about it."

"Maybe it is a singing machine."

Walter listened again.

Oh, Happy Day; Oh, Happy Day.
When Olga comes,
She'll show the way . . .

Walter coughed and his face darkened for a second. "This singing machine sounds like a Follower of Olga."

Val finished his rewiring and stepped back.

"The only way to establish a tight beam is to let them know we're here so they can focus. Should be able to pinpoint their location. Where is that smoke coming from?"

The capacitor steamed, and its black insulation bubbled. Wires sparked and smoke rose from the heat sink. One of the techs poured water into the sink.

He apologized.

"It was dry."

Val grumbled, "The screen has clouded. This is all we can do till we get replacement parts, I guess."

"Can we still listen?" Walter asked.

"I suppose so—but we'll never catch them that way."

VII

TINKER moved eastward ahead of the villagers. When they left the mountains he searched out the Buckeye sensors and disabled them subtly. A loosened fitting or a pile of kale leaves on the lens was enough to protect the passing villagers but not enough to alert Hunter Control.

Two spearchuckers stood by Mu Ren and Junior while Tinker smeared mud on himself. He parted the thick rhubarb leaves and looked at the buckeye detector on the next ridge. Two hundred yards of open, freshly plowed soil stood in the way.

"I think I recognize that B.D. model. The optics would be pretty senile by now. It shouldn't be able to pick me out if I move slowly." he said.

They watched him crawl almost casually toward the tower. The ball of neurocircuitry and sensors continued its monotonous rotation. His mud camouflage seemed to be working. A Tiller worked the soil near the base of the tower. The bulky machine politely moved out of the way while he studied the base of the tower for the cable. He pulled the plug and smeared the

contacts with mud. Then he replaced the plug—smiling at the Tiller as he left.

"That should fog up reception enough to protect us." he said waving the first groups of villagers across the ridge.

Mu Ren eyed the Tiller suspiciously.

"Come on," said Tinker. "The agromech is going about his work—tilling. He wouldn't report us unless ordered to. Ball is still monitoring. There's nothing to worry about—yet."

BACK in Orange Sector Hunter Control was very quiet.

"Care to serve on the megajury today?" asked Walter.

Val was dozing at his console. He stirred. "Don't need the calories. What kind of a case is it?"

"Interesting kind," said Walter. "Some buckeye broke into a suspension clinic two thousand miles from here and killed a quarter of a million patients."

"What's so interesting about the Mass-murder Syndrome?" mumbled Val as he changed his position in his chair and closed his eyes again.

"The killer was a citizen from our sector before he went buckeye. I just watched the court simulation. He traveled all that way on the Outside."

Val's eyes opened sharply. "Over two thousand miles on the Outside to kill patients?" he said incredulously. "Must be one of those fanatics trying to assassinate some imagined political enemy from the past."

"No, we checked that."

"We?"

Walter explained that Security had been all through the sector looking for contacts the killer had known. The political motive worried the Big ES. One citizen was taken back—the neighbor of the killer. They were being tried together with an accomplice from inside the clinic itself.

Val tuned in on the trial and applied for megajury duty. He was accepted. A replay of the simulated crime began on his screen.

The screen showed the killer with a male accomplice and a small four-legged carnivore. Hunters were encountered several times and only the killer reached the clinics at Dundas Harbor. There he enlisted a female accomplice and tampered with the environmental controls, killing the sleeping victims. The trial scene showed a wild-eyed fanatic wearing white robes and waving a staff.

"Ludicrous," said Val. "There's no sense to it."

"Look at the voting pattern. "Most of megajury wants to let the fellow go—and do you know why?"

Val shrugged.

"Because another quarter million of the suspended were cured of their neoplasms—evident-

ly the heat, the pyrotherapy, burned out some of the tumors and left the patients alive. Now they are cured and don't have to go back into suspension."

Val studied old Walter's face. "There's something you're not telling me. What is it?"

"They're all five-toed. The man on trial has released five-toeds from suspension—thousands of them."

Val shrugged again. "It still sounds like a political crime to me. Five-toeds have been appearing in our population randomly—in decreasing numbers—for generations. They can't fit in at our present population density. Why would anyone but a psychotic take a bunch out of suspension?"

Walter glowed with excitement. "Because Olga is returning." Val started to sputter an objection and old Walter said, "Wait. Look at these sighting-patterns. The Buckeyes are gathering at the major river beds on all the continents. Remember those tight-beam songs from the Outside? *We will gather at the river?* They expect Olga."

Val shook his head firmly. "No. Let's not make a deity out of some renegade space station. The buckeyes are migrating because their astrologers all happen to agree. They read the same planets and signs so an agreement isn't a miracle. I know that Venus and Mars are joining Jupiter in Sagittarius—very auspicious for something; but not for Olga. That space station deserted two thousand three hundred and eighty years ago when the Big ES tried to have her dismantled. We needed her techs and mecks to improve life here on Earth and she turned her back. It figures that buckeyes would worship her. They turned their backs on the Big ES too. But you and your Dabber friends are loyal citizens, Walter. Why would you worship her—a machine?"

"We know Olga is more than that," Walter said quietly. "We honor Her memory because She cared for the individual man. She is our hope. She will come for us and take us to a better place where we can live in the old ways—natural and pure."

The calm, patient answer made Val regret his sharp attack on the old man's basic beliefs. After all, many good citizens were Dabbers and FOOs. He studied the charts trying to think of something cheerful to break the silence.

"I guess you're right, Walter. Look at these sighting/kill ratios. The buckeyes are being sighted more often all over the world—but no one is killing any."

"You're joking."

"A little, maybe—but the five-toeds are getting protection from someone—or something."

The trial at Dundas Harbor concluded with the killer's acquittal. His defense was the number of cured patients he had freed from

suspension. Evidently the mega-jury feared suspension at least as much as death and were willing to take the incident at face value—pyrotherapy, not politics.

"Verdict—freedom on the surface," exclaimed Walter.

"So? They're all five-toeds. They belong on the Outside."

"But the crops."

"They're way up in the Evergreen Sector. Let Evergreen worry about crop-crushers."

Walter felt drained.

"I guess it's over then. The trial—and the buckeyes migrating tell a story. All the five-toeds will leave Orange Sector."

Val brightened. "That's good. Our crops are safe and you and I can rest."

TINKER and Mu Ren picked their way along the dry riverbed until they came to the pile of rocks that marked Hip's shelter for the night. Ball sat high on one wall, singing to a group of weary nomads nesting nearby.

"Are you sure we're in the right riverbed? It seems so narrow," said Tinker.

Hip nodded toward Ball. I'm just following Ball. Apparently the headwaters of the Mississippi were around here somewhere. Conduits were added that ran from the ice cap or something. Anyway Ball is using the stars to get his bearings—we'll be on target."

Tinker laid out their bedrolls and let Junior play with stones before bedtime. It was going to be a bright starry night.

The next morning they were surprized to see several hundred strange buckeyes had joined their throng—pilgrims from the Cotton White Sector in the southeast. As they journeyed up the riverbank their numbers increased into the thousands.

VAL was on the screen with Dundas Harbor.

"That's not our problem," he was saying.

Walter tuned in to hear Dundas say, "It is everyone's problem. That army of buckeyes is going wherever it pleases. They've even invaded shaftcities. They might cross over into your sector next. No one is safe until they are stopped."

Walter changed the image to show midcontinent. The masses of buckeyes were concentrating just south of the 50:00 parallel and they had linked up with the 5-toed fugitives from Dundas Harbor. A chill went up Walter's spine—surely this was the work of Olga. He should be there, too—strong believer that he was.

"Tell him we'll send a platoon to help," said Walter.

Val studied the old man carefully, then nodded and signed off.

"How will you manage Hunter

Control alone, in your condition, if I take the whole platoon on a big hunt?"

"I'm taking the platoon. I'm your senior."

Val smiled. No sense arguing. If the old man was strong enough to be on duty he could ride on a huntercraft.

"All right, we'll both go. Nothing to do around here now that the buckeyes are gone. I'll get up to the garage and see how many craft are functioning. You put out a call to see how many of our loyal citizens have a Hunt due them."

Of the twenty dilapidated craft that started out less than half reached 50:00 on schedule. For Val it was to be the Armageddon; for Walter it was something else.

It was night when Val and Walter reached the hunting grounds. They were ordered to a position below the horizon from the buckeye armies. They were ready to attack in the darkness before the dawn.

Walter studied the screen view of the 5-toeds massed over a thirty-mile-wide area dotted with shaft caps and agromechs. The giant mechanical field workers had been commandeered by extracting their aerials so they'd be on voice-command mode.

"Must be a million of them out there," Val said, taking out his tool kit.

"Not quite," Walter said. "And they look peaceful enough. What's that they're singing? I'm curious."

Walter tied into the audio pickup on one of the shaftcaps in the army's midst.

He motioned Val to silence. Song drifted to them.

We will gather at the river—
The beautiful, beautiful river—

"Just the geological memory of a river," Walter said.

"There are no other kind on the planet now." Val crawled out through the hatch. "I've got to polish some contacts or we won't be going anywhere very fast. Let me know if anything happens."

While Val worked under the chassis he heard distant, muffled explosions.

"What's that?" he called.

"Just the commandeered agromechs exploding—tight-beam self-destruct signal," Walter told him.

Val looked at the scattered red glows on the horizon. "The Big ES doesn't take any chances, does it?"

Walter admired the faith and stability of the buckeyes. Even while the agromechs burned they returned to their chants and prayers, their voices swelling to a crescendo.

Val worked on a gleaming contact point with his file. Something was changing. He could see better. The darkness under the Huntercraft was vanishing.

"What's going on out there?" he called.

Walter was silent. The night sky glowed. The voices quieted.

"Hard thunder—hard thunder," warned the Huntercraft as it slammed its hatches.

The viewscreen rippled as the sonic boom crashed down. Val was about to shout when it hit—bouncing him around under the craft in a bath of dancing pebbles. His ears rang but he heard nothing. He tried to crawl but another boom hit, bouncing the huntercraft a few inches. The machine came to rest pressing on Val's ankle. Bright flashes lit the sky and the craft danced off his ankle again. He screamed in the silence of deafness.

AS HE lay there spitting grit he felt a shock wave travel under him. He saw several Huntercraft take off crazily, only to crash immediately.

Later he struggled to his feet and leaned against the fender. He carefully wiped the dust out of his eyes and ears. As his senses returned he found that all he could hear was his own movement. The landscape looked frightening in the black-and-white of dawn. He saw no lights. Nothing moved. All the Huntercraft sat silent and dark. Smoke curled up from the damaged agromechs. All the buckeyes were gone. He pulled open the hatch and climbed into the dark cabin. The viewscreen and panel lights were out.

"Walter—you all right?" he called.

Walter sat gazing into a blank screen—transfixed. Val sat down and rubbed his sore ankle.

"A miracle," Walter muttered at length.

Val did not comment. He took his seat at the controls and checked the power cell. Overloaded. He closed everything down for a few minutes, then opened up the lines one by one. The panel lit up. Glancing through the port he saw a crew trying to right an overturned craft. Scattered groups of hunters could be seen milling around their silent machines. His viewscreen focused on the hunting ground. It confirmed what he had known—the buckeyes were gone. Only an occasional body lay next to a burning agromech where it had been caught when the power cell blew. He tried the fine focus. There were peculiar pock marks—craters—all over.

"What happened?" he asked.

Bird Dog said, "Memory units are blank—wiped clean by electromag and shock waves. I am checking with the class one for an explanation."

Walter took a deep breath and sighed. "Didn't you hear her?"

"Whom?"

"Olga. Her voice came over the communicator just before she took her people up," Walter said, still awe struck.

Val didn't like the colors on

Walter's face. Walter was white and had dark rims around his eyes and mouth—domino mask cyanosis. If Olga was Walter's god She may have come for his soul.

The class one said, "C.O. here. What's going on out there?"

"I was hoping you could answer that," said Val.

"Can you get closer with your sensors? Whatever it was hit the five major continents at the same time. Blanked out everything in the area. Even got some of the shaftcity brains. Lot of data are missing."

Val glanced at Walter. The ominous domino mask was fading. The old fat face had pinked up a little. Reaching for the manual overrides, Val nudged the craft forward. It moved.

As he started for the hunting ground he asked the C.O. hesitantly, "Did you record anything before the—ah—disturbance?"

"Such as?" asked the C.O.

"Voices. A voice that identified itself as Olga."

Walter wheezed into the conversation: "Play back her voice. Please. I want to hear her speak again—of the flaming chariot and the children of Olga."

Val flew on into the hunting ground, intent on finding a logical explanation. The world's central meck brain gathered snatches of recorded conversations from pickups all over the globe and simulated a message:

By the fiery wheels of Ezekiel and the flaming chariot of Elias will the children of Olga be delivered from the hunter's arrows to dwell in their rightful place among the stars in the heavens . . .

Val shuddered, rationalizing that the singsong must have been one of the buckeye prayers triggered by the fireworks in the sky—whatever they were. He set the craft down by a crater.

VIII

THE ground was strewn with Stone-Age weapons and crushed vegetable debris. The crater itself consisted of a rim of synthesoil torn back, exposing the metaloid skin of a shaftcity. Conduits and cubicles cluttered the bottom of the crater and between them yawned the black, bottomless 'tween walls which, Val knew, dropped nearly a mile to shaft base. The air contained smoke from singed crops and the exploded agromechs. Val bent over and sifted through the spongy, rug-like synthesoil. It was still warm.

The next crater was larger, nearly forty yards in diameter. Fetid steam rose from the punctured city. He met another hunter, helmeted and suited like himself, sifting through the debris of a buckeyes campfire. His spec bottle contained small bone fragments, some

of which bore teeth marks. Human bones. At the next crater Val climbed down and stood on the buckled skin of the city. He explored the soil and found strange rocky fragments and glassy beads. He was certain they didn't belong in the man-made soil. Some of the rocky pieces were as large as his fist and still hot. He reported his finding and soon other hunters were collecting similar objects. By dusk agromechs were back on the scene, filling the craters and cultivating the soil. Val and Walter rounded up their craft and started the long journey back to Orange Sector.

The H.C. meck welcomed them back to Hunter Control with a negative log. No sightings during their absence. The buckeyes were gone.

Val sorted through his spec bottle—charred bone, wood and the rocky/glassy material. He called the lab tech for an analysis.

"It was a miracle. Simply a miracle." said Walter.

"What does the C.O. say?" asked Val.

The tech answered him: "Tektite shower. Meteors entering the atmosphere would produce the light and sounds. The electromag effect was out of line with the plasma produced but otherwise everything fits—down to the crater size and tektites."

"Can you run detailed analyses on these?"

The tech looked puzzled. "Sure. I suppose. I have gear I could borrow from the central lab. It would take a few weeks to get it operating. How soon do you need it?"

"Take as long as you need," said Val. "If they're real tektites, then all the buckeyes are still somewhere in the Big ES. I suppose their astrologers could have gathered them together in preparation for the meteor shower—meteors and planetary positions could go together—but it's hard to believe that they would have all been frightened into the shaftcities by the fireworks. The census data is scrambled in those local cities but we should be picking them up anyway—with their stature and skin pigmentation."

Walter interrupted: "They were children of Olga—the five-toeds. She took them with Her into the Heavens."

Val sneered.

"Don't you believe in a deity?" asked Walter.

"I have an open mind—but if Olga is a deity, why doesn't She help the average citizen. We could certainly use a little more space and more calories."

Walter nodded sadly. "Those were my ideas, too, when I was young. I guess that is why She didn't take me with Her. I'd lost Faith. Now I realize why She doesn't help all mankind."

"Why?"

"She isn't omnipotent. She only

had room for the chosen few—the five-toed. But I'm sure She'll be back some day."

Val shrugged and said, "Why pay homage to a god who may not have room for you when you can pay homage to the Hive and have calories and quarters to show for it?"

Walter turned quietly to his console—praying for Val's soul.

THREE growing seasons passed without a single buckeye sighting. Walter retired and Val was transferred to the Watcher committee in charge of suicides.

"The psychokinetoscope has detected psychotic Fine Body Movements on level seventy-two," announced the viewscreen.

"Alert shaft base and get Security to level seventy-two," shouted Val, running for the spiral.

The apathetic crowd at shaft base ignored the siren, and the sluggish Security squad milled around on level 70. Val arrived on 72 first and glanced over the crowd for the I.A. Hundreds of citizens sauntered or stood about in their usual lethargic state. He checked his belt communicator for an optic record—female, ½CEEB (second subculture, Chi Epidermal cell from the Esther Bemis clone) Puberty plus eight. The readout continued but he was distracted by a furtive movement in a crawlway.

"Stop," he shouted as she dashed toward the rail.

Val made a dive for her but she was moving too fast. He felt the light material of her issue tissue flip through his fingers. Then he hit the rail hard. She was sailing down with her arms out like a bird.

He sat down rubbing his bruised rib. Then he glanced at the rest of the report on ½CEEB. It was the usual: unauthorized pregnancy, child sent to the digester; then the Big ES issued her a birth permit to pass on her obedience gene—a birth permit earned by the murder of her first born. Ironic. Val checked her quarters. He knew what he'd find—a nest. ½CEEB had been a part of a family-7 but recently had nested with one of the males. Their nest consisted of his personal cubicle decorated with rugs, drapes and cushions sewn from issue tissue. Val patted the drape over the door. A cloud of dust billowed.

"Enough ectodermal debris to sensitize anyone," he said.

Four of the family-7 were at home. They had heard the jumper's scream. They knew.

VAL dropped in on Walter at change of shift. He mentioned the jumper.

Walter commented: "I know the family you're talking about. Six old men in their late twenties—and the female. She was puberty plus seven or eight I think. They had

been on calorie basic a long time, saving credits for the baby. They enjoyed the melds—seven plus a fraction souls. Too bad."

"Jumping is still inappropriate. She had the new permit. All she had to do was start another pregnancy. It would have been authorized. A tech would take out her anti-ov capsule and there'd be a Medi-attendant for the delivery."

"Yes," agreed old Walter. "I guess the nesting does contribute. What was her gamma A?"

"Around eighty mgs—just where I expected."

Dee Pen had been listening in silence. "That's sad," she said.

Val snorted. "The gamma A gene is a bad gene. The Big ES is better off without it."

Walter objected mildly. "But the gamma A once was an important gene for mankind."

"Oh?"

"It is the gene that enables us to make antibodies against ectodermal debris—the nest factor. It is the gene that makes us intolerant to crowding."

Val interrupted. "The antihive gene. Keeps the five-toeds out of the Hive. But what's good about it?"

"Nothing in the big ES. It's fatal here. But in the distant past when there was exploring to do—who went? Those with the highest titre against ectodermal debris. Which children left the nest first to make their way in the world? The high titres. Only now, in the hive of the Big ES, is it a problem. Big ES is so structured that you can't leave the nest—so you can't nest."

Val opened his mouth to say something but he hesitated—thinking. Like a useless fifth toe, the buckeye gene also carried the gamma A antibody system. What else was there? Neurohumoral autonomics for overreacting—and — He shuddered. Man had certainly evolved through some repulsive stages in his evolution to reach the cooperative, friendly 4-toed hive citizen.

Val walked to the door. "No, you can't nest in the Hive—thank Olga for that."

After he left Walter muttered. "Olga had very little to do with it."

Dee Pen walked over to Walter and looked deeply into his old, tired eyes.

"Were times so bad when we were five-toed creatures?" she asked. "The running, swimming and tree-climbing sound stimulating."

"There was more."

"Nesting?"

He nodded. "And more. There was the sharing of the planet with other life forms—the birds, fish and warm blooded animals. Men's souls are more stable when surrounded by souls of other species."

She nodded.

KAIA, the last 5-toed hominid in Orange, awaited death stoically. Crippled by the hunter's trophy knife and the heavy burden of age, he had been unable to make the Trek to the River. From his niche in the mountain he had watched them leave—some his kin, others strangers—but all noble Five-Toed In-Betweens. He knew that he was alone, for the Huntercraft no longer patrolled and weedy vines climbed the towers, fouling the buckeye detectors.

He hobbled about openly in the gardens, nibbling kumquat, citron and cran. A passing agromech waved. He smiled as his sat in the sun to nap.

GITAR sang in the mountains. He sang by the sea. He sang in the gardens—a place no human would be. He sang in a shaftcap. Twelve followed him Outside. They were only Nebishes. At sunup they died.

VAL scratched his head. A dozen flowers baked in the sun? Brain samples at Neuro ran negative for both I.A. and M.R. A new syndrome? He ran a cross check on other unexplained flowers and saw a pattern emerging. Although suicides due to I.A. diluted the statistics, there had been a series of citizen groups going flower—Outside to die. Their bodies had been found on their first days out—peeling and baking in the solar actinics—and Neuro could find no evidence of inappropriate activity. The gamma-A nest factor was not present on the serotonin sites of their neurones. He had these new flowers projected to the wall map. The reaction was clustered along a fairly straight line that was headed for this sector.

He called Walter.

"Found a new kind of flower." he said over the screen.

"New?"

"Neither I.A. or M.R. and it occurs in clusters." Val studied the old man's face. The gray domino mask of cyanosis had returned.

"Clusters of flowers," murmured Walter. His mind wandered around blank pools of anoxia and sorted memory molecules. He remembered the clustering at the river and his pulse raced. Could the hand of Olga be in this?

Val continued: "Usually the flower reaction hits an individual citizen randomly. He goes out to commune alone with the sun. This new reaction hits groups. We end up with a cluster of scorched bodies. And the flower clusters are headed this way. Should be hitting our shaftcities soon."

"Headed this way?" asked Walter. "Olga is coming back for me."

GITAR placed his flat, oval, two-foot resonance shield on

the ground and raised his three-foot, tubular body upright, so his knoblike head of sensors could scan while he slept and rested his *Q* bottle. For several days he stood there like a parking meter, being alternately drenched and covered by agrifoam. Green sprouts fuzzed the soil and the bulky Tillers carefully avoided stepping on him.

On the fifth day he activated his walking field—cooling the cryogel and feeding current to the peanut magnet. As the powerful sandwich field took shape under him he sputtered charged particles between the layers of the field to harden it. Then he lifted his body a few feet off the soil and floated quickly along—laying his body down on his shield in his more usual guitar-shape. Sensors seeking, he entered the valley where Kaia languished.

I was born on a wandering star.
You've heard my name. I'm called Gitar.
I came to Earth to find mankind.
I'll search canal and spiral wind...

Kaia lifted his shaggy gray head and watched the singing machine approach. It landed and assumed its parking-meter posture. Colored geometrics rippled on its skin.

Kaia lifted his hand in a weak greeting. Gitar played restful soothing tunes. Adjusting the rolling base to 200 hertz to match the resonance of the air/water interface of Kaia's lung; Gitar transmitted the harmonic waves to Kaia's vagus nerve. The throb of rhythm matched the throb of Kaia's heartbeat. Kaia relaxed, smiled and tapped his fingers on the large melon under his arm. Gitar played-on, sensors assessing his control over the aging aborigine.

Entrainment set in. The music activated subcortical neuronal systems in Kaia's brain and modified the pacing by the brain of his cardiovascular, endocrine, metabolic, neurological and reproductive functions. Volume increased to 120 decibels and Gitar added words to his audiogenic stimulation.

He mates and runs and then he lives alone.
He eats red meat and marrow from the bone...

As Kaia's autonomic tone increased he felt his strength returning. His metabolism quickened and his respiratory quotients approached 1.0. But he remained there, reclining on the melon. Gitar's words became more personal. Why should he die this year? Why not live one more season—mate and run once more? Or twice more? Why not?

"But there are no more mates," said Kaia.

"Females can be found in shaftcity," suggested Gitar.

"Nebishes?"

"Some reach puberty spontaneously and polarize their genders to female—one in a thousand—or one in a million. But they are there."

Kaia stood up weakly.

IX

BUSCH walked through the quiet garage. Only two of the agromechs were active today. The others sat quietly at their energy sockets. After the active ones left for the fields he just sat in front of the viewscreen—bored. Being a companion/monitor to recharging mecks was an easy way to earn flavored calories. Easy—until today.

At dusk the two mecks returned. They were flecked with dust and plant juices. The door stood open as the bulky machines maneuvered into their bays. Then a chill raised the small hairs on Busch's neck. One of the agromechs had a flower in its fender. A blossom neatly plucked with a long stem and carefully inserted into one of the lift-holes on the fender. Of course the meck could have done it with its fine manipulators—but it took a protoplasmic brain to think of it—a 5-toed brain.

"Door!" he shouted. "Shut, Door, shut—"

The door closed quietly. Busch sighed and wiped his forehead. Then he heard something stirring inside the weed hopper of the large agromech. A shaggy gray head appeared. Busch turned to run for the spiral exit, but he was much too slow.

VAL confronted the bulky agromech. "A buckeye? You're certain it was a five-toed buckeye?"

The meck agitated its sensors. "You've seen the optic records."

"And you allowed him to hunt in the garage?"

The meck was silent. The directive was plain enough. Machines do not choose sides, do not discriminate, do not take an active part in hominid conflicts. Val continued to insult the meck's class-eight intelligence. Finally the machine spoke—assuming a superior, detached manner.

"I do my job, sir; and I try to be objective when I witness the sordid activities of you protoplasmic creatures. If one of you eats another, I try to understand. But it is hard, admittedly, for I've never known protein starvation."

Val boiled for a few minutes, then collected himself. He remembered his conflict with the huntercraft that had refused to let him shoot from the cabin. It was im-

possible to get these machines actively involved in injuring humans of any sort. Their job descriptions were too clear.

Val went back and studied Busch's remains. The killer had been a buckeye, for certain. It would have taken one of those brutes to draw and quarter Busch like that. Only the right hind quarter was missing—so there had probably been only one killer.

Val asked Watcher to reactivate Hunter Control but got the same argument as before—with jumpers hitting shaft base at three per-day-per-city, no funds were available for huntercraft unless the crops were in danger. And one lone buckeye in the entire Orange Sector was not a danger.

"What you do on your own time is your business, of course," soothed Watcher.

Val walked through H.C. garage. The meck brain had been assigned elsewhere. All was quiet. The panels were dark. Dust and cobwebs covered the Huntercraft.

Val patted Bird Dog's gritty fender. "Could have used you today," he said.. He went to his old office. It was heaped with refuse. Someone was already using the rooms for storage. He found a case of arrows and a longbow and went to visit old Walter.

"You'd better get a permit if you're going to carry those weapons around inside the city," said Walter. Foamy sputum flecked the corners of his mouth and his feet were swollen.

"Watcher said he'd take care of it for me." Val shrugged. "I'm going to take the tubeways to the next flower cluster. They're on the same line on my map."

Walter started to cough and bubble. Val helped him to sit up and propped pillows under his head. The wet beri-beri had him good this time. Fluids were accumulating. From the umbilicus down he resembled a bag of water with only the rough outline of the man still discernible. Dee Pen spent a lot of time sitting beside his cot and holding his hand.

When he caught his breath again Walter said, "You're taking this thing about Busch pretty seriously. Why?"

Val stiffened. "It's not Busch. It's those flower clusters. My job is dead citizens—bodies and their prevention. The suicide I.A. we understand. With a psychokinetoscope and a bucket of mud we can save a few. We also understand the bad M.R. drug reactions. If it gets out-of-hand all we have to do is turn off the supply of Molecular Reward. This flower clustering bothers me. If it becomes epidemic, we could have all the citizens running Outside at the same time and trampling the crops—and dying in the actinics."

"Maybe it's Olga's way of cleansing the planet of the four-toeds and starting over."

He was interrupted by neutral Arthur.

"We have an applicant to fill Busch's place in our family, Walter. Would you like to meet her?" Arthur asked softly.

Val and Walter turned toward the doorway to see one of the most beautiful females they had ever seen. She was almost as tall as a coweye and just as well formed. Finely sculpted nose and chin, long eyelashes and bright eyes were framed by a full head of flowing black hair. She smiled as she took a dainty step into the sickroom and opened her flowing tunic, exposing pink curves—large symmetrical breasts tipped by prominent areolas—long narrow waist and plump buttocks. A faint horizontal scar marked her lower abdomen. She closed her tunic, curtsied and returned to the doorway. Val swallowed.

"Is she okay with you?" asked Arthur. After the silence dragged on he added: "She has a job."

Walter nodded weakly.

"Oh, thank you, thank you." she said effusively and ran to his bedside to touch his hand. "I just know I'll relate well in the meld. Your family is just what I've been looking for." She paused and lowered her eyes coyly. "As you can see, I'm one of the augmented Venus models contracted for by Entertainment. I have good jobs on the channels and will bring home many flavors."

Walter nodded slowly. "Glad to have, Venus."

Her smile faded as she studied Walter's face—the transverse fissures at the angles of the mouth, pink vascular eyes and flaking skin around the nose.

"Please open your mouth," she asked.

He showed her a magenta tongue.

She looked at his swollen, limp legs.

"Lost the feeling in your legs?"

He nodded.

"Hands tingle and burn?"

He nodded again. She smiled and patted his cheek.

"I've got just the thing for you."

Going to the dispenser she identified herself and ordered a thick bowl of whole grain barley soup. The flavor aroma filled the room. She handed it to Dee Pen to feed to Walter.

"We're family now," she said. "My flavors can feed your enzyme systems."

VAL labored in Psych, mostly mopping up the stains left by jumpers. He watched Venus and Dee Pen pour barley and yeast into Walter until the old man started wiggling his toes again.

The next buckeye sighting was on the dark continent. Val packed his insulated hunting gear and enough staples for three days and headed for the tubeways. His Sagittarius rank—although inactive

—would get him there and back.

The trip was beautiful once he got used to the squeeze of the crowd. Three of the five undersea conduits were operating and he ran into little delay. The sea was bright and clear. He gazed through the walls as he shot along. On the reefs and shelves he saw a few empty bubble buildings. The only signs of life were occasional tags of brown algae clinging to the otherwise barren rocks. Nothing moved.

He changed tubes several times to reach the city mentioned in the buckeye sighting. Dropping in on the local Watcher, he checked the details. Yes, there was a sighting. No, it wasn't a buckeye; it was a coweye—and she was still in the gardens—eating.

The Watcher, a withered old man of twenty-seven, helped Van unpack.

"I wouldn't be too anxious to get out there and face her if I were you, Sonny," he said.

"Why?"

"She's a big 'un."

Val sat down and reviewed the optic playbacks of the sighting. She was big. She looked younger and bigger than the one he had encountered when he was chasing Tinker. But he was confident.

"I can handle her," he said. "One shot from this and she'll fall right into reflex hibernation. An easy kill no matter where I hit her."

Watcher scratched his chin. "Reflex hibernation? Can't say I've ever heard of that before."

"Come along and watch on the remote."

WITH his helmet on step-down the garden was all grays and blacks. He hardly felt the blistering sun through his heavy closed-environment suit. With his bow ready he slowly pushed his way through the vegetation toward the quarry indicated on the scope. He was about a mile away but he moved cautiously. At two hundred yards he paused. She was sitting on the opposite side of a patch of low berry bushes. No cover. He started working his way around the patch, staying in the taller grains. A small agromech danced about the berry bushes, making distracting sounds. At fifty yards he had his chance. Through a screen of delicate mint leaves he could take careful aim and probably get off two shots before she knew what was happening. He stood his second arrow feathers-up and set his feet. The first arrow was still in the air and he was renocking the second. Too high. She jumped up and turned to run. The second arrow struck her solidly in the back. He stepped out expecting her to hibernate. The arrow dangled from the muscle mass over the left scapula. The impact had sounded like he had hit solid wood. She reached around with her right hand and pulled out the arrow. He

fumbled for his third arrow but she was rushing him and he dropped the case. With his heavy suit he felt he was dream-running. He drew his trophy knife—but she hit him like an agromech running over a melon. His forearm and two ribs snapped as he bounced off her heavy frame.

When he regained consciousness he was on fire. All he could see were the bright red markings of his retinal vessels against a flowing orange background. He was on his back under the sun and his suit and helmet were gone. Screaming, he tried to roll over, but his right arm flapped, broken. He threw his left forearm over his eyes to protect them. The darkness was reassuring. The blazing heat was rapidly blistering and peeling his skin. He struggled to sit up—screaming again and again. Abruptly it became cold and dark as a squad of nervous attendants threw a wet blanket over him. One quickly fastened a balloon splint to his right arm and painfully inflated it. Then they rolled him face down on a stretcher and jogged him back to the shaftcap.

Inside, they dressed his eyes with thick bandages and pounded a pin into his right ulna to stabilize the bone fragments. Then icy grease was smeared over his burning skin and he was left alone.

A hand touched his shoulder tentatively. He heard Watcher's old voice ask, "Drink?"

"No. Not right now." Val was too sick to be thirsty. "What about my eyes?"

"Medi-attendant says they won't know for a day or so."

The stretcher was lifted and he felt the to-and-fro motion of being carried. He cursed to himself. Of all the rotten luck!

As if in answer to his thoughts he heard Watcher cackle. "You were certainly lucky she wasn't hungry. She's a cannibal, you know."

His sight returned overnight and he reviewed the optics. The hit was solid but it didn't penetrate her heavy scapula—calcium and collagen. She didn't hibernate, because she was a degree or two warmer already in her follicular phase. She had used his trophy knive to cut off his helmet and suit. She was being careful not to cut him. Her behavior on the playback puzzled him for a moment. Then he realized that she was fondling him, trying to copulate. It was her follicular phase and she was probably the last of her kind on the continent.

KAIA sat with Gitar on a heap of refuse and sang to a small circle of white Nebish faces in the agromech garage. Nebish citizens were lured upspiral by the hypnotic music. The rolling base at 100 hertz quickly entrained their autonomics locking their respiration, pulse and cephalic rhythms togeth-

er. At 160 decibels Gitar sang of things 5-toed—violent passion freedoms and individual strengths. Kaia's gravelly voice joined in.

Olga awaits her five-toed men,
Where they can walk the stars again.
She'll take us to her Wandering Star,
Mankind, his genes, and me—
Gitar.

Twelve Nebishes followed Gitar Outside that night, but they clustered, wilted and died like rootless flowers in the next day's sun. None survived to run on the green; for they lacked the buckeye's 5-toed gene.

VAL limped into Walter's quarters and sat down carefully. Venus fussed over his scabby face and right-arm splint. He accepted her offer of a beverage and turned to Walter.

"Just got off the tube. It's good to be back."

"Learn anything?" asked Walter.

Val smiled. "Never hunt a cow-eye during the follicular phase."

Walter snickered and then broke out into a loud guffaw. He had been reclining on his cot with the same four pillows as before but when he sat up and put his feet over the side of the bed—laughing—Val realized that he was just napping, not dying.

Venus came in with a tray of drinks and felt left out of the joke. Walter was unable to get out more than two words between laughs.

GITAR and Kaia approached another shaftcap. Kaia's high protein diet had strengthened his body. He was searching for a mate. Gitar opened the doors and they went to the platform at the top of the shaft. Kaia stood back while Gitar focused his woofer downshaft and started to play. Of the tens of thousands who heard only a score lifted their heads. Only one climbed upspiral. It was Dee Pen.

Gitar spoke with drums, and cymbals and strings.
He spoke of nesting, of love and good things.
He praised the free life, on top of the ground.
This set her to dancing, and rocking around.
Then Kaia with a knife, her arm he cut deep.
He held and caressed her, and loved her to sleep.

X

THE lab tech calling about the meteor analysis sounded excited, so Val hurried. Level eighteen housed most of the city's special services. He walked past huge vats in the biosynthe section. He noticed a strong sulfur odor in the

amino acid section where the enzymologists were trying to push the methionine reaction. The tech appeared a little apprehensive at first.

"Sir? You remember the specimens you brought back from the hunt at 50:00?"

"Of course."

"We studied them in three stages. Stage one showed that they were indeed carbonaceous chondrites. This means that their origin could have been lunar or earth. They contained the peculiar granules, the chondrules—and they can occur in showers. Deep space nickle-iron fragments weren't submitted; however their presence in a shower would still be okay."

"Stage two involved examination for solar gases. We collected the gasses at different temperatures. The fraction between eight hundred and one thousand degrees was analyzed for the rare gases of helium, neon, argon, xenon and krypton. Their ratios were characteristic for solar gases in that the Kr/Xe ratio was over four. Gases in our atmosphere have a different ratio."

Val studied the printouts. "So it looks like a real meteor that has been in deep space."

"Until today," said the tech. "Today we started measuring the cosmogenic radionuclides by gamma ray spectrometric techniques—these are the heavy isotopes that result from neutron capture. The easiest to work with is cobalt-sixty. The ratio of cobalt-sixty/cobalt-fifty-nine can be used to determine the preatmospheric exposure age and the minimum radius for the meteor."

Val nodded. "The longer the meteor is in space the more neutrons it captures and the higher the ratio of the heavy isotope—right?"

"Right. Only the ratio was the same as on Earth. If the meteor had been in space at all, its stay was too brief to affect the isotope contents. We checked sodium, aluminum, and manganese too. No increase in radionucleids."

Val still didn't understand why the tech was concerned. "So we have a young meteor?"

The tech raised his voice. "Do you know the size of an astroblem it would take to produce a shower of this size? Hudson Bay! Most of the specimens of chondrites I could find in the old lab measured in the millions of years—geological time. Your meteors, as near as I can tell, originated on earth in recent historical times. Do you think history would forget an impact the size of Hudson Bay?"

The tech grinned and produced a globe with each impact site dotted in red. "And look at this pattern. The blue dots are buckeye camps on the night of the shower. The red dots are crater sites the next morning. Pretty good guidance system."

"Impossible." said Val.

"The clustering is impossible," said the tech.

Val's mind flashed back to the incipient lemming reaction he had been worrying about—the flower clustering.

"Do you suspect something other than natural forces in this shower?" he asked.

"I was about to ask you the same thing. If an intelligence is behind this, it must be benevolent."

"Why?"

"The crater size. None of them really penetrated a city. Statistically very suspicious. I counted optic records of over eleven thousand craters—all thirty yards in diameter plus or minus ten yards. Each one looked natural enough by itself—but taken together they all look artificial."

Val stared at the reports for a long moment. Then he thanked the tech and hurried back to show Walter.

"Here's your miracle. It was just a hoax. Do you think a deity would overlook something as basic as cosmogenic radionucleids when putting together a tektite shower?"

Walter glanced over the reports while his mind—sharper now on the high-thiamin, high-riboflavin diet supplied by Venus—schemed. He could see Olga's hand in it all. The clues were so obvious to him—and now the clustering.

He looked Val in the eye and spoke seriously. "Perhaps Olga couldn't make perfect tektites because she is a deity with a small *d*. Not omnipotent. Or perhaps she left out the radionucleids on purpose—as a clue for the curious—a clue to those with the five-toed gene."

Val chuckled. "That is really egocentric. You're suggesting that Olga staged the shower to mask her presence from the Big ES—but she makes little errors for you and me to detect."

"The Big ES was pretty quick to recultivate the craters. It took an inquiring individual to track this down."

Val shrugged. "With your kind of logic you can explain anything."

Venus brought in Walter's B-complex tray. There was a sweet for Val to nibble on.

"Staying for the meld?"

"With my scabby skin. No. Maybe after I grow a little more skin and loose some of these crusts."

"Next time, then. That's a promise?"

He nodded as he left.

Later Dee Pen stumbled into the living area—stunned, disheveled and matted. The vegetable fiber and red dust told Walter where she had been and the dried blood on her left arm told him what she had been doing.

"Nesting?" he asked angrily.

"Yes." She burst into tears. "I don't know what came over me. A buckeye came to the shaft cap. He played music. We danced. I was in love for a while."

He put his arm around her trembling shoulder. The clustering phenomenon had hit their city too.

"Everything will be all right," he said.

VAL collected playbacks from the agromechs who had witnessed the rape of Dee Pen. Watcher studied them.

"Doesn't look much like rape," he muttered. "Looks a lot like a family-two meld with music."

Val nodded.

"Have we received any playbacks from those shaftcaps where the flower clustering occurred?" asked Watcher.

"Right here." Val activated the screen.

They watched the aborigine with his guitar lure citizens into the garage and set them into a frenzy—and then lure them Outside to their deaths.

"Same music," commented the Watcher.

"So far I've credited that buckeye with the deaths of over two hundred citizens and a dozen rapes," grumbled Val.

"Can't you predict where he'll strike next and have Security there?"

Val projected a map. "No. He sometimes covers up to fifty miles a day. With the cities only a mile or so apart that puts close to two thousand cities within his radius of activity—and if he skips a day or two we don't know where he'll strike. I've tried to get the mecks to report him but I don't have the authority. Two hundred murders is pretty insignificant when balanced against our other problems. That aborigine has just become a hobby of mine, I guess."

Watcher smiled. "I'll share your hobby for one night and set a meck alert. Nap, now. Be ready at dusk."

Val took his gear to shaft base and waited all night. Nothing. At dawn he was about to go to bed when the sighting coordinates came in. He shot through the tubes and hurried upspiral.

"Did I miss him?" he asked the Security captain in the shaft cap. A squad of police milled around, awaiting orders.

The captain shook his head. "No. The crazy fool has been out there all morning shaking his tambourine."

Val caught his breath and looked at the viewscreen. The garage doors were tightly secured so he had to rely on the shaftcap's optics. They weren't too clear. He pounded the screen with the heel of his palm. What he saw made him a bit uneasy. The buckeye stood off about a quarter of a mile, holding his guitar over his left arm like a shield. He seemed

to be standing at parade-rest. But the guitar was making the sound of a tambourine.

"How long has he been like that?" asked Val.

"About four hours."

Val glanced around for the insulated gear. Just the usual city weapons—quarterstaffs and nets.

"My men are city police—can't go Outside," said the captain. "That's a job for a hunter like yourself."

Val guessed as much. Without drugs and hypnosis few Nebishes would go Outside, even with the suit.

Val shrugged and put his case of arrows into the hopper of one of the Harvester robots and started pulling on his oversuit.

"I can't allow you to shoot while riding. That would be against the prime directive," reminded the Harvester. "But I'll be happy to take you anywhere you want to go."

Fine, thought Val. The door opened a fraction.

"Not just yet," he said, watching the screen. The tambourine cadence had picked up and the buckeye was marching stiffly down a clear, wide meck trail directly towards the garage. All eyes turned toward Val.

He demanded of the viewscreen, "I want an analysis of what's really out there. That buckeye has never done anything as crazy as this before."

"The audio and visual are correct," said the screen.

"But I see a guitar and I hear tambourines."

"Not tambourines—armor," corrected the screen. "As near as I can match it up, that sound is the sound a Roman legion would make as it marched into battle many thousands of years ago. On that basis the sounds would compute at three thousand foot soldiers at a distance of one-point-eight miles in very hilly terrain."

Val glanced out to check on the screen's view. No hills. One buckeye. And no legion. But the more he thought about it—it sounded like armor.

The sound rose to 120 decibels, hurting the ears of the Security people. They backed onto the spiral. Now the tramping feet and clanging spears and shields were obvious. The walls trembled. Val covered his ears, then, on an impulse he nocked his arrow and stepped to the door. The buckeye was less than thirty yards away—expressionless—marching straight toward the door. Val aimed at his chest just above the edge of the shielding guitar and shot. Val dropped the bow to cover his ears but the sound stopped.

The buckeye lay stretched out stiffly on his back, staring at the sky with the same blank expression he had before the shot. The arrowhead, embedded firmly in the sternum, had penetrated less than

an inch. There was no blood. Val walked up and touched the body. It was stone cold. The guitar scuttled off like a crab.

Val took out his trophy knife, paused and returned it to it's sheath. He stood staring at the last buckeye for a long time. The Sampler came and waved his probe over the body.

"Been dead since dawn, I'd say," grumbled the Sampler. "Why did you wait till now to call me?"

Val stood numb. What he had just taken part in wasn't an assault on a city. It was the death rites for the last 5-toed man—rites planned by some intelligence who had waited for Val to arrive to play his part in the ceremonial death of an already-dead buckeye warrior.

Val tried to pull the arrowhead out of the sternum but it held fast. Classical 5-toed skeleton. If the Big ES had had the space to spare Val would have liked to have seen the body placed in a museum. As it was, the sweeper would pick it up like any other and in a few hours it would be just so much woven protein.

THE evening meld at Walter's was dragging on into morning. The flavor of the night was a synthebacon produced by skip-frying adrenal glands. Val had enjoyed the flavors and entertainment so much he consented to stay for the meld. Venus soaked some of his burn scars in the refresher so he wouldn't feel so granular. During the meld he thanked her for softening up his body.

"You are a lumpy one, yourself," he said as she wriggled past. "What's in those breasts?"

"I'm augmented," she answered with a grin. "My body may be bumpy, but my soul is beautiful."

"I'll agree to that. You certainly relate well."

The meld writhed on. When Walter came around Val said, "Nice meld. You know—we've been using the mud on the jumpers and have been getting some pretty good results."

Walter smiled. "Of course—Dabbers fight I.A."

"But there's no sorcery involved," explained Val. "The Immunopsych people tell me the soil organisms digest the ectodermal debris. You live in a cloud of dust, but it is dirt dust—not ectodermal skin and hair; so you don't get sensitized. That's why bamboo huts were so safe. There were no permanent rugs or drapes to hold onto housedust."

Walter smiled. "I knew it worked."

WATCHER called Val in with the news that another flower cluster had occurred.

"Another buckeye?"

"No. It's that renegade guitar that was with the last buckeye. It's

still traveling around luring citizens to their death Outside."

"Music?"

"The same as before. The boys from Audiopsych have nailed it down to the Pied Piper reaction. T.A.R. Thoracic Autonomic Resonator. Remember all the tight-beam talk in Security just before the big hunt at 50:00?"

"Yes. Tinker was caught—"

"There was more to it than that. Tight-beam contacts were made with the central historical computer, too. Music sections were examined for T.A.R. items like war drums and fertility rites. All with nice strong bases that would resonate anyone's thoracic autonomics."

"Pied Piper. So that's how it works. Why are only a handful affected at each city?"

"Don't know. Probably related to autonomic tone."

"Can't we stop this Guitar?"

"We've tried tight beam," said Watcher, "but it won't obey the self-destruct order. Anyway, the problem is sort of academic right now. The stupid thing has commandeered a Huntercraft and is off somewhere."

Val danced around. "The Guitar stole a Huntercraft? Haven't they tracked it? You can't loose a whole huntercraft."

"The eyes of the Big ES are pretty weak, you know. Who looks up except an occasional agromech? Most of Hunter Control's sensors have been transferred into the city for crowd monitoring. I'm afraid we'll just have to wait until it announces its location by interfering with lives or material."

XI

DEE PEN presented herself at the Clinic for a routine check. The haggard Medi-attendant stepped into the examining closet with her.

"Unauthorized pregnancy? Well, we're pretty rushed down here. You'll just have to wait like the rest and turn it in after it's born." He gave her a cursory examination. "Seems healthy enough. Just stay away from the saline. This scar on your forearm is a little jagged. Must have been in a hurry to get your anti-ovulation capsule out. Most of you unauthorized pregs do a neater job of it. Oh, I see you were one of the victims of a buckeye rape. Yes, there will be a crowd of the little beasts going down the chutes together." He stepped back critically. "In about two more weeks, I'd say."

On her way home she checked a possible birth permit. No chance. The buckeye rapes had been placed in a separate category —no consideration could be given her request. A copy of the "category order" was posted. She was surprised to see Val's name among the signatures.

"Why you?" she asked Val at his private cubicle a few hours later.

"I'm on the committee because of my past rank of Sagittarius. The committee feels, and I agree, that the buckeye gene is undesirable in the Big ES."

"But the infant will have my genes too—and will be raised in Walter's family-five. We're your friends, loyal citizens. We'll raise the child properly. You know that."

He narrowed his eyes. A mother pleading for her unborn was always suspect. Basic animal instincts endangered the Hive cohesion.

"The buckeye genes make it impossible, Dee Pen. It will probably have high gamma A and be prone to inappropriate activity—with the five-toed strength any I.A. would be a real danger to you and your friends. It might develop the mass-murder syndrome and take you all with it in its suicide."

Dee Pen swallowed and snapped to attention. "Of course. You are absolutely right. I'll chuck it down the chute first thing."

Val watched her leave, then opened a line to Watcher. "Better have Security close off the shaft caps of the cities where the buckeye-rape pregnancies are coming to term. Don't want any of them mothers going flower on us and crushing the crops."

Watcher nodded. "Good idea. I'll send the directive to the meck Doors. No one leaves without a special clearance."

Val smiled smugly and returned to his cot. He had eliminated the last buckeye; now he would stop the offspring. Big ES would be proud.

Labor for Dee Pen began in the meld. They all felt the first pains. Loosening the meld slightly, they continued to relate and share souls —Walter, Venus, Arthur, Bitter and Dee Pen—five bodies shared in bringing little Kaia into the light. The first thing the little new pair of eyes saw was the circle of five, round, white faces. Ten hands lifted and wrapped him and ten arms hugged him.

"I guess it is time to dispose of it," said Bitter after the heat of the meld had subsided.

Dee Pen felt weak and hypotensive. Her flaccid uterus continued to leak blood. A generous vascular network which had nourished the placenta continued to pour blood into the endometrial cavity, only now there was no snycytium to hold back the erythrocytes—no fetal tissues to return her blood to her. The smooth muscle fibers of the myometrium which surrounded the vascular network had been stretched by the pregnancy and fatigued by the labor. These fibers could only twitch ineffectually against the escaping red flood. Her primordial fear of exsanguination triggered the ancient mammalian

reflex that has protected mothers up through the evolutionary tree —by holding the infant to her breast she stimulated the nipple-midbrain-uterus reflex arc. As the large collecting ducts of the breast were emptied synapses jumped and the uterine fundus clamped down tight. Uterine musculature closed the vascular network of the placental implantation site. Her blood by-passed the endometrium. It was no longer needed there.

Dee Pen held the infant to her breast. She glanced suspiciously up at the circle of four Nebishes. Was it necessary to dispose of the baby so soon. Unauthorized infants could be kept up till age one —when they became humans by starting to talk. Certainly there no rush. Its feeding wouldn't take too many calories.

Venus disagreed. "Of course we should dispose of it now. Can't subdivide our calorie-basic. Don't want the old beri-beri sneaking up on us again, do we?"

Dee Pen found no support in the circle of faces.

"Don't take it now. My uterus will loosen and I'll bleed if I don't nurse it," she said.

Walter gave her fundus a squeeze, saying, "She's right you know. She needs the infant to prevent hemorrhage. There's no rush. I'll share my calories for a while."

Dee Pen smiled up at him in the pleasant delirium of post partum fatigue. "You know, Walter, in my next life I'd like to come back as a bird."

He watched her eyes close in sleep. She mumbled; "A talking bird. I'd just sit on your shoulder and we'd talk, and talk—and talk."

He put a protective hand on the frail, little female philosopher and watched her thorax rise and fall gently. She certainly did like to talk.

VAL continued to put in his full shift with the Watcher. Most of his time was spent with the jumpers but there was an occasional mushroom reaction between walls and a rare flower on the Outside to add variety. But he couldn't forget what had happened to Tinker and he was concerned that Dee Pen might somehow let her 5-toed child live. Watcher was not concerned.

"Impossible. Doors have their orders. Exit is not authorized. Bitter and Arthur have been advised that they can earn extra calories if they keep me informed of her activities. Dee Pen isn't going Outside. No one is."

Val strolled absently through his old office at Hunter Control. More junk had accumulated and many of the corridors were impassable. The dust was thick and spongy everywhere. In the control section he saw disturbances in the dust. An auxiliary cable had been snaked around. He found Walter

wheezing at his old console. Several of the panel lights glowed.

"Walter. You shouldn't be up here."

The old man smiled and pushed white hair back from his eyes. "Can't spend the rest of my life just sitting around in bed. Besides, I was wondering if old Doberman ever showed up again."

"Doberman? Oh, the huntercraft that was stolen by that crazy guitar." Val glanced at the screen. "Anything on the detectors?"

"Less than ten percent are still functioning."

Walter fingered a row of buttons. The view jumped around from garden to garden. Nothing unusual showed.

They walked through the hunter garage, reminiscing. The old craft seemed mummified under dull, gray shrouds of dust. Doberman's bay had been swept out and tidied.

"You did this?" asked Val.

Walter nodded.

"Isn't that Doberman's energy cell? How is he traveling without power? Are any of the other cells missing?"

Walter shrugged. "Not that I know of—but any Guitar that can get a dead buckeye to walk into your arrow can get a dead Huntercraft moving around."

Val scowled and examined the cell. It was Doberman's serial number all right. Odd. Why didn't the guitar leave the cell in and just recharge it at the power socket on the wall. Buckeyes had made similar unauthorized use of power during their migrations when they commandeered the agromechs.

DEE PEN was pleased by little Kaia's rapid growth. Unlike the average Nebish infant who sits at one year and walks at two, the little 5-toed hybrid was trying to walk at six months. She hid him from the neighbors but female Bitter informed the Watcher of the progress.

"That's a big stack of diapers," said Bitter.

Dee Pen took the diapers from the dispenser and bundled them up. "I've shared your quarters and calorie basic long enough," she said. She picked up Kaia and started into the crawlway.

"Where are you going?"

"Outside."

"But you'll just die. You heard what Val said about the wilted flower people. The sun's too hot."

"If I stay in the Hive I'll have to surrender little Kai. I can't do it. We'll go Outside. He doesn't have anything to lose."

"But you do," said Bitter. "Why throw away your life for a little hybrid?"

The Security people were quick to respond with their nets and quarter staffs. They blundered into disinterested crowds for a few minutes but finally got the spiral walkway secured at shaft base. She wouldn't escape through the tubes.

She started to climb.

"Unauthorized," said the Door.

She worked her way around the shaftcap, trying all the garage exits. Below on the spiral the squad of Security neuters closed in on their easy prey. She screamed and little Kai cried.

From across the spiral one of the garage Doors called out, "This way—ward of Gitar. This way."

VAL and Walter stood in the garage, examining the discarded diaper.

"She couldn't have been too panicky if she paused to change a diaper," said Val.

Walter questioned the Door and the garage dispenser.

"Apparently this fellow, Kaia, had a class-six meck with him when he mated with Dee Pen. These machines were obeying old orders of the class six, not the Watcher's directive."

"Mutiny."

"No," said Walter. "Just a question of authority. The Door and dispenser are just class thirteens—obey anyone in the hierarchy above them. A class six is pretty far up. Our whole city is run by a class six."

Val blustered, "Well, they can't have gotten far. What items did the dispenser give them?"

Walter handed him the flimsy. He read the list of food, protective clothing, diapers and sundries.

"What is this? Jodhpurs?"

"Baggy riding breeches."

"Riding? What is there to ride?" exploded Val. Then he followed Walter's gaze and gasped. "An agromech!" They squinted out into the blazing sun. Without protective gear they could not follow her. They shut the door and rubbed their eyes. "Lets put a call in for that agromech. If it doesn't return we can get authorization to activate a huntercraft."

At the wall panel they raised the agromech.

"Where are you?" demanded Val.

"Working in the fields. I have my chores." said the machine.

Walter smiled.

"Did you give anyone transportation out of the garage this morning?" asked Val.

"Yes. A mother and child. My itinerary is recorded if you'd care to review it."

Val fingered the controls and a map indicated the meck's movements.

"This is simulated, of course—but it looks like he dropped them off right over here in the plankton forest. That's not far. We could walk there in half a day after we get our gear on," offered Walter.

They put their order in at the dispenser. Val was a bit shocked when Walter objected to arrows.

"They are Outside and this is a Hunt," Val reminded him.

Walter coughed and flushed with anger. "That's Dee Pen you are talking about."

"You've been on hunts before. This is no different. They have broken from the Big ES and now they crush crops. If you can talk Dee Pen into coming back for psychotherapy, fine. But the five-toed kid has to go." Val made a wicked gesture with his trophy knife.

Walter lowered his head: "Okay, I'll go along."

They found nothing among the plankton towers. In the weeks that followed Val doggedly reviewed optic records from the agromechs, catching occasional glimpses of the fugitives and then following up with a hunt on foot.

SHE huddled in her nest, avoiding the harsh actinics while she watched her son play. He had browned and calloused quickly. Already his tangle of black hair and bright eyes resembled his father's—and the quick way he took to swimming reassured her. He crawled and ran continually during the day—grubbing with his fingers for tubers or climbing leafy things for fruits.

Her hair bleached and her skin peeled. Each day brought more traumas to her Nebish body. But she smiled when she saw her son growing strong. And she taught him what she could about surviving Outside.

When Walter found her, curled-up and cold in the nest by the canal, he kneeled beside her body and cried. Val sneered and examined the loose leaves scattered over her face.

"Looks like the kid tried to cover her up," he said glancing around. A herd of cetaceans splashed in the canal. One of the little heads bobbing up and down was shaggier than the rest. Val's Nebish eyes failed to see the orphan. The herd passed. One pair of eyes seemed fixed on his coveralls with the glint of hate mixed with childish fear. Val saw but didn't see. The idea of a swimming infant was completely alien to his four-toed vision. He saw a harsh sun overhead, a dense tangle of undergrowth and the wide deep canal—all death traps for the Nebish.

Walter stood up and sniffed. "You know, it is like she was a flower. She blossomed for a time and then died, giving birth to her seed. All that's left here is a drying husk."

"Well, she gave her life for nothing. How do you expect a one-year-old to survive Outside if the mother can't?"

Walter said simply, "He has the five-toed gene."

"And Olga to protect him, too, I suppose."

"As a matter of fact, yes," came a metallic voice over his communicator.

Val jerked around in his heavy insulated suit to see Doberman approaching above the trees. Panic grabbed his throat. Reflexively, he nocked an arrow. The craft landed

and quieted its engine. Gitar floated out on his sandwich-field.

"Were you planning on shooting me?" asked Gitar.

Val lowered the bow.

Gitar hovered over Dee Pen's body. His voice still came over the communicator. "I'm sorry I wasn't here when she came Outside—but there is so much to do on the planet. I hope the child is all right."

"Why are you concerned for the child?" asked Walter.

"He's the next generation. He has the good genes."

"Bad genes, you mean," shouted Val.

"You don't have to raise your voice," said Gitar. "I can hear you. By good genes I meant good for man. You are still thinking as an agent for the Hive. Of course the five-toed gene is bad for the Hive but that is another life form. I came from Olga and I'm interested in man."

"Why?" asked Walter.

"The five-toed men are Her people. Their genes are the true, noble genes. When Olga walks the stars she takes them with her. The Hive has no place for Olga—it would try to destroy her—or, worse, ignore her."

"When Olga comes again—" began Walter excitedly, then collapsed. Val cracked his helmet to see the cyanotic domino mask had returned. He tried to lift him, but he was too weak and clumsy in the bulky suit.

Gitar called "Rhea!"

A large coweye stepped hesitantly from the Huntercraft and glanced around. Val recoiled. She gently picked up Walter and placed him inside the craft.

"Medikit," suggested Gitar.

Val collected his wits and climbed in. He opened the kit and took out a mild stimulant. He nudged the pinkness back into Walter's face. He glanced around the craft. It was full of neolithic tools, utensils and wicker baskets. A bundle of hides and poles in one corner resembled a buckeye shelter.

Gitar took his place in the empty socket that had housed Doberman's power cell. The hatch closed and the internal environment cooled to a comfortable Hive temperature. Val cracked his helmet. The powerful coweye sat crosslegged on the floor and eyed him sullenly.

Gitar said, "This is Rhea. A coweye. Have you ever talked to one before?"

Val stiffened. "You're not going to influence me by—"

Gitar played soothing music and said, "Relax. This is just a truce until you can get Walter back on his feet again. No fraternizing. Rhea, fix Walter a bowl of tea."

Val made a motion to protect Walter from the brew but Walter held up his hand.

"It's okay, Val. I'll drink it, whatever it is. If Gitar can make a

dead buckeye walk maybe he can help me get back on my feet, too."

They watched Walter drink. He seemed mildly refreshed.

"I actually didn't make a dead man walk," explained Gitar. "I was just holding him up with my traction field."

He moved a pile of hides to demonstrate.

"Was it a rite of some sort?"

"Not really," said Gitar. "One buckeye had died, and I was just using him to lure out a replacement."

"A hunter you mean."

"Same thing. I figured that with the huntercraft deactivated the only hunters I would get would be the cream. Someone with a little of the five-toed gene."

Val scoffed. "You got me."

Gitar played a tune that moved in the 200 hertz range. He sang a melancholy ballade of buckeyes and hunters meeting in the gardens. The strong survived.

Val was irritated by the words. "It all sounds fine and noble but many of those fine hunters ended up getting eaten. Why would the Big ES send its finest men to provide meals for savages?"

"The five-toed gene was a problem for the Hive but their superior individuals were more likely to carry it. The strong eating the strong is necessary in any ecological system when all the good protein is concentrated in the cream of the population."

Val stood up. "I want no part in this line of reasoning. If you can't mate them, eat them—that's absurd."

Walter tugged Val's sleeve. "Wait. This makes sense to me."

Val pulled his arm away. "Next you're going to want me to mate with this—" He pointed to the coweye.

"You already have," said Gitar.

"What?"

The coweye turned her back and picked up her long flowing mane. A slightly puckered white asterisk marked her left scapular area—the scar of his arrow. Then she went to one of the wicker baskets and lifted out a sleeping junglebunny about one year old.

Val stood open-mouthed. Years of Hive conditioning fell away. The child had his thin face and delicate features, but it also had its mother's broad palms and 5-toed feet.

"She's a girl. We call her little Rhea," said the coweye.

Val sat down next to Walter.

"Bred true." Walter smiled. "I always wondered about your curiosity and enthusiasm. It was the gene."

"I carry the gene?"

"I guess your kid proves you do. Oh, I've always suspected. The ridge breadth on your palms was suspiciously wide and your gamma is over eighty mg."

"When did you check that?"

"The lab work you had after the coweye ran over you on the dark

continent—excuse me, after Rhea ran over you."

Val smiled for the first time. "And I guess she really ran over me."

Walter added: "Never hunt a coweye in the follicular phase."

They both laughed.

Val sobered. "I have the gene," he said. "I have the gene and I've been hunting them all my life."

"The five-toed gene is often its own worst enemy," said Gitar philosophically. "How much attention has the Big ES been paying to buckeyes during the last two years?"

Val looked at Walter and shrugged. "None, actually. After the hunt at 50:00 the huntercraft were shut down. There were no sightings. Walter and I were doing a little hunting on our own time, and with our own credits."

Gitar's skin rippled with cheerful squares and triangles. "I thought as much. The buckeye population three years ago was nearly three million for the planet. Now it is less than a hundred."

"How will they ever survive?" asked Walter.

Gitar smiled. "That's why Olga sent me—to find the mature five-toeds and mate them. Do you know that Rhea is the only coweye on this continent? There are dozens of scattered junglebunnies—thanks to my efforts last season. But it will be quite a strain on my *Q*-bottle to keep track of them. Fortunately the agromechs identify with them and help, as long as they aren't asked to disobey a direct order of the Hive. Of course it will be easier without the hunters, and with our population of five-toeds so low it should be a long time before the Big ES notices us again."

Val frowned. "But the Hive knows you are here now. The rapes. The clusters of flowers."

"You noticed that, not the Hive."

"The Pied Piper activity," said Walter, concerned. "Why lure those citizens to a flower death?"

Gitar's rolling base locked onto Val's 5-toed autonomics and he believed even before Gitar said, "I pipe them buckeye with a song. Only those with a high toned neurohumoral axis respond—one in a hundred thousand. But thus far none have lived long enough to mate. I'll keep trying—that's my mission. G.I.T.A.R. stands for Guitar Identity Thoracic Autonomic Resonator. I use the T.A.R. effect to try to add five-toed genes to Olga's gene pool. However, the Hive has weeded out most of them with I.A. and M.R. If I can get one in a billion I'll feel lucky."

Val's medulla believed and it was convincing his cortex. Gitar continued: "My drum brother D.I.T.A.R. and I have always played important roles in the games of man—mating and battle—love and war—passions of the five-toed gene."

Val was still adjusting. Terms like "love" and "war" were foreign to hive creatures—and to hear even a machine mention them enthusiastically bothered him a little.

"War." Val shuddered.

"It's preferable to—how do you say it—chucking your own infants down the chute." reminded Gitar.

Val looked at his kid sleeping in the basket—and wondered what kind of a hell mother's lived in after they had killed their own. He realized, then, the nobility of the five-toed gene. For the 5-toed compete, fight and even kill—but they kill strangers for food and land. They lay their lives on the line for their offspring. The strong survive and the genetic line gets stronger. In the Hive the killing that takes place is the obedient mother killing her own child.

The infant stirred. Val reached in and patted it back to sleep. At sunset they left the craft and set up Rhea's shelter on the bank of the canal. Walter buried Dee Pen in her nest and rimmed it with mussel shells. Gitar explained how important diet would be during the newcomers' first months Outside. Lots of nicotinic-acid-rich liver from a cetacean would be necessary to protect them from pellagrin actinic dermatitis. Their prior Nebish diet had left them vitamin-depleted.

After they were settled Gitar sang. Rhea fed the infant and then the two of them went for a swim. Val and Walter watched from the bank.

"Do you think you'll be able to swim, some day?" asked Walter.

Val caught a mussel Rhea threw and laughed. "I'll not only swim, I'll run and climb, too—and so will you."

Gitar's words drifted over the moonlit waters:

I was born on a wandering star.
You've heard my name, I'm called Gitar.
I've come to Earth, mankind to find.
I'll search canal and spiral wind.
I'll extract his soul from out the Hive.
Return him to Olga, strong, alive.
No Hive can hold true five-toed men.
Their five-toed genes and endocrine.
I'll pipe him buckeye with a song.
Mate him, run him, keep him strong.
When I return to my home sun,
I'll take Olga's men, every one.
Children of Olga, You'll be free.
To walk the stars, eternally...

Gitar gave them a taste of the T.A.R. effect by slipping into an erotic mating ballade. Rhea's iliopsoas muscle became entrained by the rhythm, and her pelvis rocked violently as she danced. It

was the first of many nights, wild and free.

GITAR moved on, his *Q*-bottle powering the Huntercraft. Walter's life span came to an end. He was put in the ground next to Dee Pen and surrounded by shells. His last days had been idyllic. He swam and he played with Val's children. He lived out his dream, for he had talked to Gitar, disciple of Olga, and he learned of a land where men lived without the shadow of the Hive. A land men shared with species other than himself. A land where there were fish, animals and birds. Flowers appeared on their gravesites occasionally; blossoms picked by a buckeye—lonely and strong—little Kaia.

Below in the Hive the Big ES stagnated. The Nebish became an obese little dwarf; with chalky, soft bones and rosewater for blood. He was hypogonadal, dim-minded and blind—only rarely did he contribute a buckeye to the gene pool.

Val lived to see three generations of his 5-toed descendants spread over the land. Gitar added legends to their culture with song. They were the Tribe of Prince Valiant, vigorous, strong.

As their numbers increased
the hunters returned.
Big ES did what it must to
survive.
Gitar said it was time
for Olga's return
when Buckeyes start crowding
the Hive... ●

SCIENCE FICTION REVIEW

P.O. Box 3116, Santa Monica, Cal. 90403

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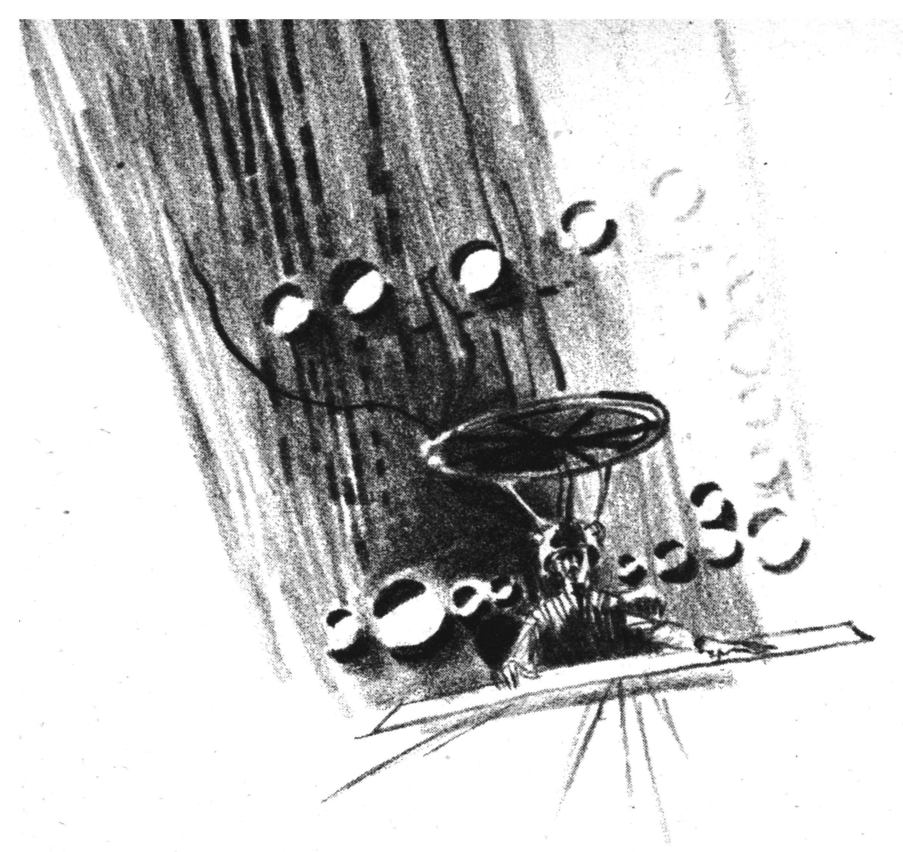

KING UNDER THE MOUNTAIN

He was a top brain above ground. But deep in the earth—what?

GENE WOLFE

FIVE thousand feet down in the lithosphere of Earth it labored, unmoving. The millions upon millions of cables linking it to the seven continents were sealed in the stone and never seen; the single elevator was almost a myth.

A man stood in that elevator, dropping. Watching through the

glass the stone rushing up. Listening to the hiss of the cables playing out above him. Breathing. Pacing the diagonal of the elevator car, three steps. And three steps back. Exulting. Down.

He had always expected to be here. He had learned of this place as a boy in school, learned surrounded by louts twice his age and he, knowing his superiority, had thought, *I will be there. That is the real capital, the core of the core. A number there, a tiny change in a number there and you could feel the whole world working like dough.*

The elevator slowed, slowed, stopped. The door opened and he stepped out. The room was big, very big, clean and silent as a mausoleum; the computer itself made one wall: a bank of tiny, blinking lights as high as the ten-meter ceiling, as wide as the thirty-meter room. Its peripheral equipment, printers and plotters, television-like visual displays, made dull-gleaming islands where they rose from the smooth floor.

"Hello," the man from the elevator said to the computer. "Can you hear me?"

A voice beside him said, "No, it can't."

The voice belonged to a small man in a clean, white smock. "We don't have vocal I/O," the small man continued. (He pronounced it eye-oh.) "They're hardly efficient, really."

The man from the elevator introduced himself and said, "I got a good deal of use from the one on our central facility at Harvard. I was looking into the transfinite differentials of some of Lobachevsky's equations and I found on line real time interaction with the machine to be one of the most useful techniques." He wondered if the little man had any concept of how important you had to be to get on line with the main computer at Harvard.

Probably not.

"We don't have vocal I/O here," the small man repeated stubbornly.

"Perhaps you should show me what you do have. After all, I'm supposed to help you and I can't do that unless I know what you've got."

"Are you supposed to help us?" the small man said.

"I'll explain, although I've been given to understand that you have already been briefed. After the Nobel Awards—I'm putting this as concisely as possible—the secretary general called me in and I suggested to him that this might make a nice more or less unofficial prize for me and that I might be able to do you people some good. He was quite taken with the idea."

"That's what I thought," the small man said. "You're more or less a tourist. Are you familiar with computers?"

"I can program assembler lan-

guage for several. But I wouldn't call myself a specialist."

"Assemblers aren't what they used to be—they make them pretty easy now. But this is an old-fashioned machine. Built over fifty years ago."

"Designed over fifty years ago," the man from the elevator corrected him, "but not fully complete until last year as I understand it, although it's been in service more than thirty years. The cost has been—"

"Yes," the small man said, "like a cathedral. Now, those lights over there—you may not be familiar with those and they're not just for show. Each one represents a working subsection of the machine and is turned on when that subsection is engaged. Most of them look dim because the areas they represent are engaging and disengaging all the time. The idea is to show what parts are involved when there's trouble."

"I understand."

THE small man stood with his hands clasped behind his back, staring at the myriad winking lights. Half to himself he said, "It's just like looking at a city at night. Each one is a window, a factory or an office or an apartment, and if it's on you know they're awake and working there."

"I suppose that's true—but I doubt there is much value in romanticizing it like that. If you don't have vocal, how do you communicate with it?"

"It's all the cities in the world," the small man said, still half to himself. "New York, London, Tokyo, everything." Then in his normal voice: "Come along. There are various methods. I'll show you."

He led the man from the elevator to a massive keyboard. "For short stuff you can just use this. You understand that the machine doesn't really stop everything else it's doing to pay attention to you. The monitor program determines the priority of your material and cues it behind all the more important material. When it has time it will set aside a portion of core—that's what we call the machine's mind—to deal with you. It's working on other things all the time. The price of grain everywhere in the world, for instance. Whether or not the atmosphere can stand another power station on the Taymyr Peninsula. Everything."

"I'm sure I should be assigned a very low priority."

"You will be. You want to make the entry yourself?"

"Yes."

"Then you'll need to know the right formats. Here." The small man slid a yellowing, stapled manual from a niche in the console. "If you need help call me."

After an hour and a half the man from the elevator moved a

switch on the console and wrote slowly: / / JOB . . . X*Q . . . EN LAN CO . . . X*Q-Q and his question: WILL I—*better be sure,* he thought, and added his social security number—987-6678-5803-443 BECOME CHIEF SYSTEMS ANALYST AT THIS INSTALLATION PRIOR TO THE ELECTION OF A NEW SECRETARY GENERAL. The word JOB in the control statements preceded by the double slash would alert the machine to a new task, wiping out any garbage instructions a previous user might have left on the console. After executing the English Language Code—bringing the most sophisticated coding language yet devised, nearly identical to standard English, from a storage location to core—it would be ready to "execute" (answer) his question. He touched the PROGRAM START button. On the keyboard a red light labled INPUT ERROR flashed instantly.

"Those aren't the right control statements," the small man said behind him. "Here." He pushed the man from the elevator aside and his fingers flew across the keyboard. "That'll retrieve your question, whatever it was."

"I assure you—" the man from the elevator began, picking up the manual.

"It's a little out of date. Anyway, they just write them to sell the machines, you know. I'll show you what to do sometime."

"When will it have an answer to—"

"In the basket beside you."

The man from the elevator took the slip of paper from the basket. It read: 4E E -9 (HEX). "I don't understand this," he said. "Is it a probability?"

"If that's what you asked for. It's in hexidecimal notation."

"I don't—"

"The base is sixteen instead of ten. We use the Arabic numerals for one through nine and the letters A through F for the ten through fifteen. That makes your '4E' mean seventy-eight—in other words, fourteen (that's the 'E') plus four times the base. The second 'E' indicates that the number following is an exponent or more properly a characteristic, so the answer is point seven zeros four E, or seventy-eight over sixteen to the ninth power. For most purposes that's zero."

"That's not possible. My question was just a test, an obvious development in my own career."

"My opinion of your question would have no value. You may want to check your phrasing."

"The phrasing is perfectly correct. Don't you have some method that would put me in closer contact with the machine? I—" the man from the elevator paused and a brief, icy smile crossed his face — "I'd like to argue with it a little."

"We have this," the small man

said. He touched the console with his fingertips and it began to revolve slowly and noiselessly. The keyboard rotated away; a seat, a display panel with a hundred or more signal lights and a chromium helmet, took its place. "Direct mental communication. This is what I mostly use myself."

Despite his self-possession the man from the elevator was awed. "I didn't know there was such a thing," he said.

"The machine itself worked it out for us. We haven't made it public yet and most people couldn't use it anyway."

"May I try it?"

"You understand that whatever instruction you give must be thought through logically. No mental confusion."

"Of course."

"You're likely to have a good deal of trouble with it at first. Those lights on the display panel are to help you diagnose what you're doing wrong. The booklet beside them tells what each one means."

"I understand," the man from the elevator said. He picked up the helmet and put it on. The lights on the display panel flashed red. All of them.

The small man made a tiny noise and said, "You'd better read the manual first."

WHEN the man from the elevator had gone back up the elevator the small man rotated the console again and put a question to the great machine, including an extended answer instruction with his control statements. After a moment's thought he added a question about the helmet to his program. The damn thing hadn't worked right since they'd built it and just before the man from the elevator had interrupted him he had fed the computer his trouble-shooting schedule.

The papers he received in reply read: PROB. FURTHER ACTION THIS INSTALLATION BY SOCIAL SECURITY 987-6678-5803-443 IS A4 E -B (HEX). PROB. COMPLETE DEBUG TEL-I/O PRIOR NEXT (FISCAL) YEAR IS 1 E 1 (HEX).

Eleven times sixteen plus four was one hundred and eighty. With a hexidecimal characteristic of minus twelve that would be—he scribbled for a moment on the reply sheet—.000 000 000 A40 = .000 000 000 000 640 decimal, approximately. And the chances that the helmet would be working before he had to try for another appropriation were one hundred percent: unity. The small man smiled, closed one eye, and raised the fingers of his right hand, curled to form an imaginary telescope, to the other. Looking at one of the flashing pinpoints on the immense wall he imagined it was indeed an apartment window, with a girl undressing inside. Then he laughed. •

THE LAST TIME AROUND

ARTHUR SELLINGS

When he returned from the stars, Earth would be older— but not the woman he loved!

I

HE SIGNALED return twelve light-years out, on attaining peak velocity. Earth station computers—when they finally got his message—would punch out his arrival time to within forty-eight hours of accuracy. They integrated it from the signal shape and by a kind of parallax. The warping of the continuum about a craft traveling near the speed of light gave it a double image.

It took the computers a week to check and doublecheck. Then the tape went into the traffic banks to start rescheduling local flights up to six months ahead, to leave the field—and space—clear for his arrival. His ship would "re-appear" well outside the ecliptic; all the same, a DCP—direct continuum propulsion—ship demanded a lot of room. And got it.

He came in out of permanent night into the transitory night of his home planet. But Sheppard Field was brighter than day. The lights dimmed as he grounded. They always did. It had become a kind of salute. In fact, it was more of a publicity gesture by the company, to allow full sight of the strange fires that played around a deep-space ship at landing.

They were fading as, ground procedures completed, he opened up and descended, and the battery of lights leaped up to full strength again. Faces were a white blur beyond the perimeter fence. The faint, faraway noise could have been cheering. Probably was.

Reporters clustered. Uniformed field guards kept them back to allow passage to a crewcut figure who approached with the pumping stride of a little man determined to show that he could walk as fast as a big man. And, by implication, do anything else. He thrust out a hand. Cameras clicked and rolled.

"Grant?"

Grant smiled inwardly at the query in the voice. But they were strangers, after all, he and this man in a mauve suit.

"I'm Bassick. Chief of Flight Programing. Have a good trip?"

"Good?" Grant allowed himself a smile now. "That depends on what your analysts make of the data I brought back. Quantity's there, at least. There wasn't much room left in the banks by the time I'd finished."

Bassick nodded happily.

"There are also some physical specimens you may find interesting."

"Artifacts" The corners of Bassick's mouth went down a fraction as Grant shook his head.

"Mineral stuff, mostly. Little life at all. Surprisingly little. A pleasant enough planet as they go. Everything seemed right for a pretty rich ecology—and it wasn't there. But I clocked in full data on that point."

"Well, even negatives can be

useful to somebody." The little man turned to the reporters. "Okay, boys, you've seen him. And you've had the company handout. Give the guy a break, eh? He's been traveling fourteen years getting here." A laugh went up. The joke wasn't as familiar to them, a new generation, as it was to Grant. "Press conference tomorrow as arranged, at fifteen hundred hours."

They dispersed good-humoredly enough, photographers taking a few more pictures as Bassick ushered Grant to the Personnel Block.

"A car was laid on," said Bassick. "But I thought you'd like to get your planet-legs."

He used a spaceman's words with the self-conscious unctuousness of the earthbound. Grant decided that he didn't like Bassick overmuch—nor care one whit for that fact.

"What happened to Goodman?"

The other looked up at him with no more than a company man's mask of regret. "He passed on eleven years ago. Heart. They rushed him to Replacement, of course, but the new one didn't take. I was at his side. I don't think he wanted it to, somehow."

That was more than likely, Grant thought. Goodman had always prided himself on his physical fitness. An independent man in a world increasingly dependent on artificial aids. Betrayed by one body, he wouldn't have wanted to start relying on another.

"I thought his son was in line to take over from him. Young . . . Paul, wasn't it?"

"He was. I had more executive points. He left the company. He's with some inner-planet outfit now, I believe."

"And my—buddies?" Grant spoke the word ironically. One he had never met; the other he had not seen since training days, two hundred years—Earth time—ago.

"Kroll's doing fine. Hazlitt was grounded after his last trip. His replacement's a youngster called Ebsen. Pity about Hazlitt. Only had one trip to go. But he's making out. Took a farm in Brazil." They walked along a way. "Do you have any plans?"

"What—in case I flunk my medical?"

"It's your last time around, too. But I didn't mean that. You look in good shape. I meant, after your last mission?"

"Time enough to think about that. But I don't see myself farming in Brazil or anywhere else." Grant's face freaked in a sardonic smile. "Might buy a small space line and do a spot of hiring and firing myself."

But despite his joking he felt a twinge of unworthy fear as they entered Personnel. A truncated service term made a huge difference to a man's finances. That was something you couldn't insure

against. With the vast investment the company put into a DCP ship and its pilot—and the time span between that and any yield—the payment structure was logical enough, with its penalty clauses for failure to stay the course.

It made this life, inevitably, a gamble. Not, ironically, out there—instrumentation took a lot of the risk out of that—but here, in what a man came back to. When he had started out, there had been wry jokes about whether there would be anything to come back to. Star flight had come at the crux of man's technological ability to destroy himself and his planet. But things had settled down over the past two centuries. At every return the world seemed crazier on the surface but saner underneath, where it mattered.

He felt annoyed to be thinking about the money angle. It hadn't been the money that had attracted him. It took more complicated reasons to lead a man into a career like this. He'd given up the central years of his life to an existence without continuity, isolated from everybody else—by time more than by space. The wish for that was something the company psychiatrists delved very deep to find in a man. When they did, he was out before he started. They looked for an idealist of sorts, a special kind of loner. A special kind—but there were enough around. The need for perfect physical fitness winnowed the ranks down. A doctorate in science gained early enough to enable an applicant to complete a stringent and specialized training program by the time he was twenty-five was another qualification that reduced the number to hardly more than the company required. Which was two when he had started.

Even now there were only three ships. It was an expensive business for a company to be in. And it could be an expensive business for a man coming out into a world of normal time and an unknowable future.

A few inner-planet men, in their midnight blue, were spread around the reception lounge. They looked up from their drinks at sight of Grant's sage-green uniform; some waved in wary greeting. In their glances was the usual mixture—it didn't change with the generations—of . . . it was difficult to analyze . . . something of envy, something of *You're welcome, Jack,* something of resentment—and a large amount of workaday relief, that they could now get back into their own backyard of space.

Grant waved briefly in return—theirs was a camaraderie he could never be part of—and trod the familiar way to the Medical Section. They were lined up and waiting for him.

HE CAME out two hours later with a clean bill of health,

with no need to claim the second opinion which, with everything at stake, was his right. Bassick was waiting outside.

"I've booked you a suite at the Venus."

"What's that? Sounds like a high-class cathouse. What's wrong with the Universe?"

"They pulled it down twenty years ago to make way for a free-fall drome. The Venus is the latest and best in town." Bassick's hand twitched at his crewcut. "The other service you—ah, mentioned in passing—is also available. That's supposed to be the best in town, too."

Grant grimaced. Goodman had been much more pleasantly direct and brought out a selection, in assorted sizes and colors, direct to the field.

"That's something you have to get back into the habit of. All I want at this moment is a meal of real food, a bottle of real booze and a real bed. To myself."

II

AN HOUR before the press conference they had the parade in his suite. The usual train of facts and figures, stereo films, commentaries snipped from a hundred news items and documentaries—and models showing off the current fashions.

The Sahara reclamation scheme was now completed. The trans-Australia monorail had been opened. A third generation had been born in Costeaupolis under the Mediterranean, including one child with what some excited scientists said were embryonic gills and others said were just accidents. A man had descended into the Red Spot of Jupiter and come out alive.

The interest in organ replacement seemed unabated since last time, despite the fact that it only afforded a marginal extension of the normal life span. It simply made sure that most people attained it. This time the ultimate seemed to have been accomplished with an operation on an Indonesian billionaire; his failure to survive more than six months had been ascribed to overexcitement rather than to anything more organic.

Humanoid robots on a commercial basis were just around the corner. They'd been round the same corner thirty years before.

Skirts, if they could be called that, were back to the length—or shortness—of the twenty-one fifties. Worn with garters, which looked hideous to Grant's eyes. The effect wasn't improved when one model switched on a miniature radio in hers.

But he did his best to be polite to the reporters who were ushered in on the dot of fifteen hundred hours. It was a routine that seemed to be wearing thin to him, but the company called it good P.R.

Yes, he thought the current fashions for women were very feminine. He liked the style of mauve suits for men but didn't intend to buy one this leave. He had enough clothes. Some of them might look rather antique but he could always find something in the wardrobe like this—he gestured down to his dark jacket and slacks —that fitted in well enough.

Yes, he thought robots might well be just around the corner. Did he think they would ever replace men on spaceships? They might, but he didn't see it personally. A spaceship was ninety-nine percent robot now, if not in humanoid shape. But it still needed a man to control, to initiate, to improvise.

He couldn't pass comment on the gills—not his specialty. A primitive race he had encountered on Proxima Centauri Two had seemed to be in process of giving up the struggle on land and returning to an aquatic life. But that had been nearly two hundred years ago. The same old stale joke. The same stock laughter.

It was like—the thought came to him, not for the first time—being a visitor to a foreign country.

This was your seventh trip, Captain. The next one makes up the number, doesn't it?

Well, yes. Not the number. It's the term that counts—twenty years. The trips get longer most of the time as we push out the frontiers. My successor will either make fewer trips or sign for a longer term. (He turned to Bassick, who flighted his palms in a noncommittal gesture.)

Will there ever be true frontiers out there, men colonizing? He gave a loyal company yes to that, though sometimes he had doubts. But probably not in your lifetime. Nor even in mine. The same laughter, a bit forced this time, the resentment of the time-bound against this strange élite of men who spanned centuries. But how many of them, given the choice, would have made the same one he had made two hundred years ago?

No, I don't know yet where my last assignment will be. After I retire? I haven't decided. An inner planet? I doubt it. My plans for this leave? Family? No, I have no family. (Which was not quite true, he confessed to himself with a pang, but as true as mattered.) Nor home town; that was inundated in a reservoir scheme a century ago. No, I shall just loaf around, try to catch up with the world. Any more questions?

There weren't.

AS THEY got up to leave a familiar figure entered, recognizable immediately even in a dark purple suit. No such company maneuvers as took place in Deep Space Incorporated plagued the

firm of Vandeleer and Vandeleer. Grant shook hands.

"The eighth?" he inquired politely.

"The ninth."

Grant smiled ruefully. "The memory must be slipping."

"Not at all. I'm afraid Dad died. Tragically. He was only twenty-eight. The Transworld Clipper collided with a freighter over the Caucasus."

"I'm very sorry. And sorry I never knew him. I should have realized. I thought you looked rather young."

"I try not to." Richard Vandeleer IX laughed. "Your portfolio has given me a few premature gray hairs these past three years."

The room was empty now, the last to leave having been Bassick, who ushered out the drinks trolley.

"How come?"

"Well, first there was devaluation."

"Devaluation? Against what? I thought we had an integrated world currency now."

"Against gold. Integration brought its problems. They had to have *some* standard."

"Seems a bit primitive in this day and age. Did I lose much?"

The other grinned. "I may have got pitch forked into this at a tender age, but it's in the Vandeleer blood. I had a hunch and bought Eurasian Gold Preferred three months before the switch. You *made* money out of it. It wasn't so easy with the tax revisions they brought in just after. They were intended to rationalize the tax position of inner planet people. Some were being faced with double taxation. It blew up in a freak case of somebody getting loaded with quadruple demands—for fifty percent more tax than he was earning.

"I won't go into technicalities, but the revision would have meant that you would have lost all your tax allowances here, without gaining them anywhere else. I don't want to overplay my efforts—but it was tough going. When the machine puts things right for a minority of fifty thousand, it doesn't want to be bothered with amendments to accommodate an even smaller minority of three."

"Especially," Grant commented, "if said minority is rarely home at election times."

"Exactly. It took lobbying and a degree of—" He gestured equivocally with one hand.

"Graft?"

"Call it programing. Rather expensive programing. Getting the right questions put at the right time in the right places. I was ready to fight it up to World Supreme Court level if necessary, but that would have been even more expensive and time-consuming. I managed to straighten it out my way, but only just in time for your return."

He drew out a folder of papers from his briefcase.

"Despite that expense, you finished half a million up on thirty-two years ago. In real terms, taking into account the inevitable cost-of-living rise, you're seventeen point two five points ahead. Not a lot, I'm afraid, over that period, but in view of—"

Grant waved away his apologies. "You've done well. I'm satisfied."

The other was young enough to show his relief. "There are some papers here for you to sign." He held out a pen. Grant signed without reading them. He trusted the firm of Vandeleer. He waited for the last paper to be handed over. Richard held it back.

"And this one—I should have told you earlier." He looked awkward. "I can handle the financial angles. But I'm still callow at personal details. This is a receipt for the estate of your only grandson. He—he died five years ago, without issue."

"I never expected *him* to have issue." Grant laughed hollowly. "If that's the right pronoun. Estate, you say?"

"Only a few hundred dollars after expenses."

"That's something out of the affair, anyway." He caught the look of embarrassment on the boy's face. He was a member of a tight-knit dynasty, in which family hatreds must be taboo. "I'm sorry. I've no right to be bitter. It was my fault. Have no fear, I shan't repeat the mistake."

A MISTAKE? That was an understatement. It had happened on the leave between his fourth and fifth trips, and he still couldn't understand what had possessed him. There had always been enough women. He was under no illusion about his looks; he knew that to most women he was only an experience. A strange, enigmatic being, pupils burned black in eyes honed white, hair bleached almost as white against the deep tan that outer space radiation imprinted. A freakish and meretricious attraction, he knew, and it was better that way. The experience over, most women passed on, asking nothing in return.

There were the gold-diggers, of course, attracted by the news items about the wealth of DCP men. But gold-diggers employed lawyers, who soon dug out the fact that the wealth was more potential than real. The penalty clauses made sure of that, with the company having first lien upon the lion's share until the day when his service was completed and the discharge papers signed. More to the point, no amount of scheming could separate the money from a man who was going to outlive any gold-digger anyway.

Helen had come in neither category. Yes, she had been undemanding—but making the more demands on him for that, because she had been helplessly in love with him. She had aroused in him the

worst thing possible for a man in his position—a sense of responsibility to another. Resisting it, he had tried to rationalize it into a conviction that he loved her in return. They had married in a village in the Catskills.

A week later the company cabled him notice of his next assignment. A long trip—longer than any he had made up to then, or since. A company decision, born of boardroom conferences and balance sheets and time factors, had sent him out for forty years.

He had come back to a Helen of sixty-seven, with a son whom she had tried pitifully to model after his father, cramming him to qualify in the same business. The son had had three breakdowns; at forty he was a sad creature, older in all fact than his father, painting tenth-rate pictures in an attempt to justify his living on the fund that Grant had set up for his wife.

That would have been supportable. No man could be sure of his progeny. It had been far worse with Helen.

He had been prepared for her aging; prepared loyally to do all that he could to make her happy, to make amends for the unnatural existence to which he had condemned her. He had *not* been prepared for a Helen determined crazily to pretend that time had stood still. A Helen who had used every artifice of twenty-second century cosmetic surgeons, who *paraded* before him to entice him, in the grotesque negligées of a world foreign to him.

It was that—the contradition in her craving to turn the clock back, yet needing the sustainment of the latest fashions in order to feel young—that symbolized the unbridgeable gulf between them. That, more than the old body behind the cosmetic facade, the mincing, imploring gestures, that sent him fleeing from her.

The long mistake was over, then. But he winced in pain at the memory of it and felt like an executioner as he signed the document.

He sighed heavily. "Well, if that's all the business, let's go downstairs and have a drink. You *are* old enough to drink, aren't you?"

Richard Vandeleer the Ninth looked up from zipping his case. "Try me."

TWO large drinks later Grant felt no better. The surroundings didn't help, the fluorescent patterns changing and swirling over the walls of the huge bar. They might be the latest thing in decoration but they weren't restful to eyes that had not had the decades to get used to them.

But it wasn't the present that disturbed him—and he wasn't sure whether it was the past or future which did. In thirty, forty years—of Earth time; two or three of his own—he would be back on Earth

permanently. The comparison that had entered his head at the press conference—that he was a stranger in a foreign country—returned to him. One could spend a few months' holiday in a foreign country and be diverted by its different customs, the strange language.

But to settle there?

He drained his drink. There was an answer to the feeling, if not to the final problem—the old answer of inoculation, a smaller dose of the larger disease. He snapped his fingers to a waiter. The man came running.

"A gazetteer," Grant told him.

The man blinked. "I'm sorry, sir. If that's some kind of a new drink—or an old one, I'm afraid I —oh, a gazetteer?"

Grant nodded. "A world one."

"I'm not sure if the hotel has one, sir."

Grant held up a hundred-dollar bill. "Find one."

It arrived inside five minutes, looking and smelling straight from the bookstore as Grant opened it at random. He stabbed a blind finger to the page.

"Biarritz. Department of the Basse-Pyrenees. Historic resort, made fashionable by the English in the nineteenth century. Population . . ."

He looked up at Richard.

Richard gazed at him for a long moment, with a sympathy beyond his years. "I'll arrange the flight. And a good hotel" He drained his own drink. "All a part of the service."

"You're a true Vandeleer," Grant told him quietly. "One request, though." The walls were flaming orange now. "Make it a small hotel?"

III

TWO weeks in the French town did much to restore his spirits. Heaven knew where Richard had found the hotel, *L'Auberge Basque*. It was surely too small to be listed in any travel guide; a family affair of a dozen rooms, a zinc-topped bar and a small restaurant. The owner, M. Vidal, was a lean man who smoked black French cigarettes in a holder he carried at a jaunty angle. He discarded it at intervals to serve—and help consume—meals that belied his ascetic lines.

The inn was typical of the town. In an international world it still retained an essentially French flavor. If itself one of the first of the international resorts—some of the old buildings still bore English names—the tide had swept over it and on. Few skyscrapers had encroached here.

The month was September, and he was less noticeable—less different—here, where everybody was deeply tanned. Resort clothes seemed never to change much; they didn't jar the eye like the bizarre fashions of New York. He spent

his days strolling on the yellow sands, watching the breakers coming in; occasionally, as the mood took him, going out to ride on them. His evenings he spent sipping drinks on the terrace of one café or another, listening to velvet-panted French kids strum out ancient French songs on guitars. He found his palate adapting to the same acrid cigarettes whose scent was part of the air of the place, to aniseed-flavored Pernod.

It was a peaceful life, the peak of its excitement a modest flutter at the roulette tables of the casino. The greater gamble that was his life, his future, became more and more remote every day. Until . . .

He came back to the inn for dinner and had to pass her table to reach his own. The tables were set close in the tiny restaurant. He said, *"Pardonnez-moi, madame,"* in his poor French, then, such was his uncertainty with the language and its manners, added a suffix of *-oiselle*, making grotesque the simple word.

The gold-haloed head turned. Amber eyes looked up at him. Red lips parted in a warm smile. *"Je vous en prie,"* she said.

In the bar after dinner only one stool was vacant and it was next to hers. He said *"C'est libre?"* and she answered, "You're welcome."

The words were American but the accent was unmistakably English.

It happened as simply as that. As fatally.

Her name was Etta—Etta Waring. An ancestor of hers had written a diary of life here in the days before the first World War. She herself had just finished an international congress in Barcelona and had driven across here out of curiosity. She was an anthropologist, a doctor.

He told her that he was a doctor, too, of physical science. And she said, "Reminds me of the story by—Thurber, was it?—one of the classical humorists—no, Leacock. He was a doctor of literature. Aboard ship, a blonde nicked an ankle and the call went out for a doctor. Leacock rushed to her cabin but found that a doctor of divinity had beaten him by a short head."

They laughed together and the danger point—talk of their occupations—was past without his having had to reveal—or conceal—the exact nature of his work.

They went surfing or planing over the calmer waters of St. Jean-de-Luz along the coast—or just lazed by the old port of Bayonne, watching the fishermen unload their immemorial freight. They were days made rich by simple pleasures.

One day they drove in her replica E-Type Jaguar up into the Pyrenees, to the places of cold waterfalls and ancient villages. They stayed in one village, in an inn even tinier than the Auberge

Basque and a room quaint with carved beams.

And he knew then with a dreadful certainty that he had come full circle—back to bitter memories, of mountains humbler than these, of a village less ancient, an inn . . .

And this time threatened to be even more bitter, for now it was heartbreakingly sweet—and this time it was mutual. At breakfast he knew that he had to tell her. At what should have been a time of quiet intimacy, of few words, over *croissants* and wild cherry conserve and coffee, he had to introduce the shockingly incongruous subject of his work.

HE PUSHED his plate aside and, early as it was, ordered cognac. Etta's eyebrows rose but she did not demur. He tried to settle himself but the words still came out hopelessly awkward.

"You know—who I am? My job, I mean. You don't . . ."

She smiled gently. "What, read the popular magazines? No, hardly at all. I didn't know who you were. I do now. I wrote home to my people to tell them about you. I hope you don't mind. They told me. They recognized you from the name and the description I gave them of you."

"And they disapproved?"

"Disapproved? Whyever should they?" She smiled again. "I'm a big girl, anyway. I'm thirty-three."

"Thirty-three," he said, his face strange. "Yes, you told me. But you don't know the whole of it, obviously, or you wouldn't talk about it so calmly."

"What—the subjective time factor? Yes."

"But you can't know the full implications. For us. Unless you do feel the same way I do, don't you?"

"Do you have to ask?"

"That's all we seem to be doing—asking questions. There's no answer, you know."

"Every question has an answer."

"You, a scientist, can say that?"

"Because I'm a scientist—yes. In time."

"Don't mention that word again." He tried to smile.

"Couldn't I go along with you this last trip? With my scientific training I—"

"You'd be payload. Anthropology is the least required subject—the least profitable line."

"Profitable? I thought it was a government project. You mean it's a commercial thing?"

"So far it is. There are no dividends for any government in it yet. Inner-planet traffic is a government-backed thing. There are still remnants of military thinking behind that, of national advantage. There isn't, of course, but the blocs are committed to it. At a considerable loss. Every assembly in the world has a strong anti-space lobby. No government that values its survival could afford to take the risk in deep space yet."

It was a relief to talk about impersonal things for a moment.

"For Deep Space Incorporated it's a long-term project. So long-term and needing so many billions of capital that they're the only firm in the business so far—after two hundred years. They sell the knowledge we bring back—to research foundations, other companies—but that doesn't pay for half of it. They're gambling on being the first in the field, with perfected techniques, in readiness for the day when it really opens up out there. If it opens up. It's a big gamble.

"What we do is to extend those techniques—and our knowledge of deep space—system by system. If one of us found a civilization out there comparable to ours things would open up in a heck of a hurry. Everybody knows now that that was the whole impetus behind man's hunger to get to the planets—to find a companion race, a touchstone. Even the remains of one. But they didn't. Nor have we among the nearer stars. Just a few primitive species. Valuable to the biologists but nothing developed enough to be of interest to your field—"

He was swinging back to personal matters now. And it could be deferred no longer.

"I'm payload enough. Every item of expenditure is costed down to a cent. The pay isn't huge by objective time standards. It just piles up while I'm away. But even I couldn't afford to commission a passenger—even you."

"Couldn't you pull out now?"

"I could." He told her, briefly, about the penalty clauses. "It would mean coming out with a few thousand dollars—to start all over again on."

"Money's not that important. I have money, anyway."

"No—the money's not important. And it's not the main factor in all this. Completing my mission is. I wouldn't call myself a company man—companies seem pretty small things out there in space—but I dedicated myself to this job. I have to go through with it."

"I understand," she said quietly. "Neither could I give up my work—even for us."

"In your case it wouldn't be the same either-or choice. There could be a compromise. There's no compromise in this." He smacked fist impotently into palm. "Why should this have had to happen now? The last time around?"

She laid a hand on his. "It's hard—terribly hard. I've known for three days. I knew it would make difficulties. I haven't let it spoil things."

"You didn't know the full facts."

"I knew enough. I won't let it spoil things now."

"Then you can accept it, accept—us—as something transient?"

"It doesn't have to be. You'll be away—how long? Twenty, thirty years. I'm prepared—"

"No. I tried that once. It doesn't work. It couldn't work."

He got up and paced the little room. The sun, moving between peaks, sent a sudden shaft through the unshuttered windows, drowning the room in light.

She stood up and came to his side, her hair a golden haze.

"Then we'll just have to accept it," she said quietly.

"Easy words."

"I know, my darling. Easy and shockingly inadequate. But what more can we say? Or do? We'll have memories. Hell, why do the simplest and truest things always sound so corny? But we *will* have. And we can—" She stopped abruptly. "How much longer have we got?"

"Four, five weeks. At least—" the thought impinged "—I have."

"Then so have I. A new academic year starts soon, but the University can do without me for that long. And I without the University." Her tone was flippant but her look, as she gazed at him, was one of utter tenderness.

He took her into his arms and she was trembling. "I've always been glad to get back into space. Every time I've felt more and more a stranger on Earth. This time it's going to seem very lonely out there." He laughed sadly. "*It's a fine and private place, but none I think do there embrace.*"

"That's not quite what the poet said."

"I know. He said the grave. That's one place where all rates of time become equal. The only one."

"Let's not get morbid." She kissed him once and long. "We've still got a lot of living to do. Let's get back to the big city."

But she was abstracted, saying not a word unless prompted and then only answering in monosyllables, all the way back to town, driving along the narrow mountain roads like an automaton.

When they got back he found a cable waiting for him. He was sure she noticed—sure she guessed what it was—but she made no comment. Up in his room he opened it. He did a simple sum, made even simpler by practice. He would be away for thirty-four years of Earth time. Two and a half of his own. It could have been worse. But when he came back for the last time he would be forty-five. Etta would be sixty-seven. Exactly the same age that Helen had been.

THE next morning he was up before eight. He knocked on her door. There was no answer. He shrugged; early as it was, she must have gone down to breakfast before him. He went down and to the table they had shared ever since that first night. She was not there either. He saw an envelope with his name on it.

He felt suddenly empty. He pulled back the curtains. Her car

was gone from the tiny, graveled parking lot. He brought himself to open the envelope.

Beloved,

I've taken the dawn flight to London. I don't know just how long I'll be. No more than a fortnight, I hope. Dreadfully sorry to cut into our time—that bloody word again!—like this, but it's for a good cause, believe me. I can't tell you any more until I get back—and perhaps not even then if this doesn't work.

Don't pick up any blonde English anthropologists while I'm away. Or anyone else! And please—wait for me, beloved.

Etta

IV

THE crippled days dragged along. He drank more Pernods than usual, spent more time at the casino, found that he could not face the sea. Its emptiness was too much an image of the lack in his life.

Twelve days later she reappeared as abruptly as she had left. Her car was back in the lot and she was waiting for him at their table when he came in for dinner.

They looked at each other for a moment. Then she was out of her chair and in his arms, saying, "Darling—darling." The French in the dining room smiled as the French have always smiled at lovers, tolerantly, sympathetically, the old nostalgically.

"We can't talk here," he told her. "Have you eaten?"

She shook her head. "I couldn't."

"Nor could I, now." He led her onto the terrace. Somebody brought out glasses and a bottle of Pernod. Grant poured the drinks, watching them turn to milk as he added ice and water. He brought his eyes up at length to hers.

"I've decided—no, I couldn't bring myself to do that—I'm ready to let you decide. If you say so I'll go back on my contract. I've had a lot of time to think it over while you've been away. The company won't lose that badly. They'll have a reserve pilot ready. I—"

She shook her head slowly, halting his words.

"That's something I wouldn't hear of. I wouldn't before and I won't now. Besides, darling, it's too late."

"Too late? What's happened? Why did you leave for London in such a hurry?"

"To have an illegal operation." She spoke the words coolly.

"A—what?"

"Well, not illegal exactly. Not yet sanctioned. It's a new technique and all kinds of social problems are involved. You know the way we English always worry about the social problems. The

whole thing only took five days, from the start to the final checks to prove that it had taken. But I had to spend the best part of a week inducing the doctors to do it."

"Please—don't keep darting around the subject like this. Operation? What operation? What have you had done to yourself?"

"You make it sound like something dreadful." She smiled. "And sad. It wasn't, because of my motive in having it done, though I suppose it could be." The smile became wry. "The ward was a fine and private place, but none I think did there embrace. They see the process as having most use in perpetuating intelligence. It's ironical, really, that it should have been used in this case to serve the cause of lovers."

"For heaven's sake. Your blasted English cool—"

"It's not easy to tell. Briefly—I've arranged that you will find me waiting for you when you come back, unchanged by the years."

Appalled, his mind lurched back to Helen and her pitiful attempts to defeat time and its passing. "You can't. I'll be away for thirty-four years."

Her smile became enigmatic as she made a pretense of counting on her fingers. "Fine. I'll be a slightly younger Etta waiting for you. By a few months."

"What's happened to you? I thought I knew you. When did this sadistic streak creep in?" His voice was baffled rather than bitter.

"I'm sorry, darling, really I am. I'm not being sadistic— Just a little shy. I'll have to come out with it. I'm going to have a baby."

"You're—"

"Don't be appalled. Just listen carefully while I say it again. I'm going to have a baby."

"But—"

"I told you it was a new technique. Do I have to go into the details?" She sighed. "I suppose I do have.

"Well, it's not really a new technique; only for humans. It was first done back in the nineteen sixties by an Oxford team led by a Dr. Gurdon, with—if I have to bring them into this—frogs. They found that if they transplanted the nucleus of an ordinary body cell into an egg killed by radiation—its own nucleus killed—the egg developed just like a fertilized one. The cell and the egg from the same creature. They've only recently discovered how to do the same thing successfully to a human being. Now do you see?"

His mental defenses, overwhelmed, would not allow him to see it. He listened dazedly as she went on.

"I told you that you will find me waiting for you. You will. It will be *me*—exactly the same. Even to the name. I'll christen her Etta, too, naturally. And don't worry about its being anything else

but a girl. That presents no difficulty these days, with this or any other birth."

Light filtered through—was suddenly blinding.

"But—it won't be you. To me it will be but—"

"But that's all that matters. We can't both of us meet again—but this way one of us can." She laughed but she was close to tears, he knew. "If you see what I mean. It can come true for one of us."

"I—I can't find the words."

"Don't try, my darling."

"I *must*. I feel selfish—more selfish than I could have believed a man could feel. You went away and did—this—and while you were gone I couldn't even come to a de-

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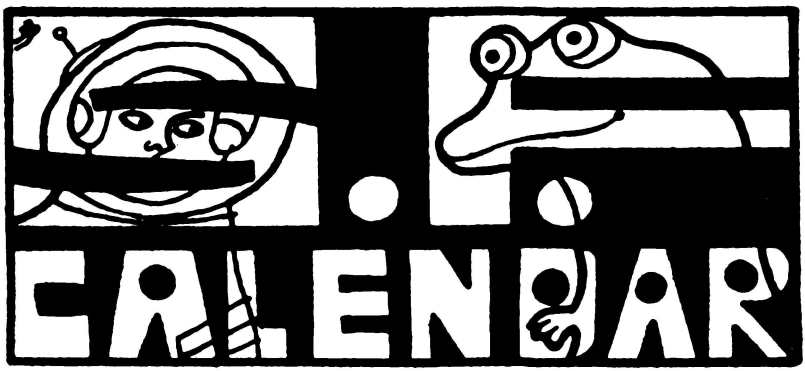

November 13-15, 1970. PHILCON. At the Sheraton Hotel, Philadelphia, Pennsylvania. Principal speaker: Larry Niven. For information: Kathy Surgenor, 3950 N. Fairhill Street. Philadelphia, Pennsylvania 19140.

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March 26-28, 1971. MARCON VI. At Sheraton Cc umbus Motor Hotel, 50 North Third Street, Columbus, Ohio. Guest-of-Honor: Lester del Rey. For information: Larry Smith 5730 F Roche Drive, Columbus, Ohio 43229.

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September 3-6, 1971. NOREASCON: 29th World Science Fiction Convention. At the Sheraton-Boston Hotel, Prudential Center, Boston, Massachusetts. Guest-of-Honor: Clifford D. Simak. Fan Guest-of-Honor: Harry Warner Jr. Features: movies, auctions, panels and speeches by sf pros, awards banquet, presentation of the Hugos. Registration: $4.00 supporting, $6.00 attending. No mail registration after August 10. For information: Noreascon, P.O. Box 547 Cambridge, Massachusetts 02139.

cision, except to leave it to you to decide. I feel the worst kind of a—"

She put a finger to his lips.

"No, my dear, you're not the worst kind of anything. You're the best kind of something very special. And you're not selfish. Society is selfish in demanding what it has from you, without even recognizing the extent of your sacrifice. Except—"

"No," he said. "You can't use that word for me after what you've done. Yours is the sacrifice. I'm not—"

"Please—let me go on. I insist. Except by treating you as some kind of a freak. I had plenty of time, in the ward, to catch up on the popular papers. Plenty of time to realize just what life must have been like for you. That only sustained me in my decision. I'm glad to have done it—glad with all my heart. So please don't protest any more. It was the only way—and it was a happy chance that this way existed and that I knew about it and was in a position to argue my way through to taking it."

"But—I won't protest—but how do you know that she'll even like me? One sacrifice is enough. You can't condemn a child to growing up to a foreordained point in her life, and then—it's a terrible compulsion to impose on a human being."

She smiled but her lips trembled as she did so.

"It won't be a compulsion, beloved, but a dream to live for. A realization. She will have the advantage on me. I didn't know, living my years out, just what I was waiting for. She will. And she will fall in love with you just as I did. Because she'll be me. Not an ordinary child, with all the genetic complications of joint parenthood, but my image."

He stared.

"But she won't have your memories—of anything—of us."

"How do you think I will spend my days while you're away? I'll keep them alive, pass them on to my daughter. *My* daughter. It's a pity that it won't be *our* daughter. But next time around you can make even that come true."

She turned her face away from him suddenly, hiding it in the cool leaf shadows of the terrace. But when, after long moments, she turned back to him she was managing to smile.

"And who knows? The records are still scanty on this—but that memory might be transmitted directly through this kind of direct reproduction. Part of *me* may be waiting for you, too. So let's have enough talk of sacrifices. And there are memories still to make. We haven't even started our drinks. Look, the ice has nearly all melted."

She lifted her glass and waited, her face quite serene now, until he lifted his. •

SHE STILL DO

M. ALAN ROGERS

A dissonance in the magnetic field, a stain in the desert, a man and a boy—and, of course, love eternal!

THE helicopter tossed the desert sunshine off its blades in sudden circular explosions and its shadow moved flatly across the sand far below.

"Down there," said Spenser, leaning toward the cut-out door and pointing with a hand. His voice was loud and high-pitched to be heard over the clatter of the blades. "Di-rectly down there." Dr. Bunyan inclined his head and gazed a thousand feet down, to where a huge purple stain spread out on the desert floor like a port wine mark on a sandy cheek. "The exact center of the dissonance. We mapped it this week. Dropped the dye canisters yesterday afternoon." Dr. Bunyan stared up at the New Mexico sky and nodded, saying nothing. Spenser tapped the pilot on the shoulder and the helicopter swung about, around the axis of the main blades and tilted, accelerating back in the direction it had come from. Spenser turned his head and looked back to watch the huge stain disappear into the faint haze and then around the curve of the earth. Dr. Bunyan continued to stare at the immense blue sky, until a motion of the helicopter brought the sun over the cabin roof and into the cockpit windshield.

DR. Bunyan stood up and walked slowly to the window, looking out between the dusty venetian blinds. Spenser sat behind his small desk and rolled a mechanical pencil back and forth.

"It's not a matter of what I think, you understand." Dr. Bunyan ran one finger along a metal slat. "It's that the thinking in Washington has changed. We no longer talk in terms of what is interesting, what is worthy of pure research. No. Not that at all." He rubbed one eye against the sunlight and his gray hair caught and reflected the ribbed brightness from the window. "We must think of resource allocations—that's the phrase they use now. You've heard it, haven't you?"

Spenser nodded listlessly, not looking up from the mechanical pencil that rolled steadily between his hands.

"Resource allocations—the liberals make it a matter of morality, plain and simple morality. Saying, 'Well, what good is this going to do for mankind?' " Dr. Bunyan gestured expansively, liberally, with his hands. "And we can't talk to them in pure research terms. It's morality for them, resource allocations." He shook his head, turning from the window, and sat down in the single other chair in the office, gazing not unkindly at Spenser.

Spenser shifted uncomfortably and coughed into his hand. "The dye marks the exact center of the magnetic dissonance—there's no doubt about that. Before now it couldn't have been done." He

smiled weakly and put the pencil in his jacket pocket.

Dr. Bunyan nodded and placidly folded his hands. "I appreciate that. It's a fine accomplishment. But it took two months and eight hundred thousand dollars. Can I go back to Washington and tell them they bought a purple spot on the desert for nearly a million dollars?" He spread his hands: a mute portrayal of the forces he battled.

Spenser snorted and stood up. "Come now, Doctor. Let's be adult about this. That purple spot marks the center of a sudden dissonance measured in the magnetic flux of the northern hemisphere. Three months ago I held the Steinberg research professorship in geophysics at Princeton. I worked thirty-five years to get there. I didn't leave it for a purple spot on the desert. This is significant research, Dr. Bunyan, not a game."

Dr. Bunyan nodded violently in agreement and stood up quickly, walked to the metal desk and leaned on it with both hands. "We realize that." His unbuttoned jacket flapped loosely. "I respect your reputation more than anyone. But I'm trying to tell you as gently as I can that there may just be no more money forthcoming for this type of research. That's the way it is. I can't change that."

Spenser stood facing a blackboard, his back to Bunyan. He put one fist up to his mouth and held it there tensely. "I didn't understand that. I thought there was a great deal of enthusiasm for this project."

"There is Edmund, there is. I assure you. But we're not as rich as we once were. We've used up things we'll never have again. It's time to allocate resources." Spenser said nothing, and after a time Dr. Bunyan eased back into the chair and crossed his legs.

"SHEE-IT, BOY. I ain't never seen nothing like."

One burro became restless and stepped into the wide purple circle. The boy pulled it back quickly. He was perhaps six inches shorter than his father. The bottoms of his blue jeans were rolled up thickly around his boots.

The older man pushed his wide-brimmed black hat back farther and wiped his forehead with a sweaty arm. "Never seen nothing like this—that's the truth. Just overnight, too. Weren't here yestaddy, was it boy?"

The boy shook his head. "I come out here early yestaddy, first thing in the morning, wasn't nothing then." He stared out at the other side of the bright purple splotch. "Must be fifty, sixty feet 'cross, Pa. Wouldn't you say that?"

Pa leaned back on the burro and scratched his armpit slowly, contemplatively. "I'd say that at least, boy, at least." He pursed his lips and the expression made the stub-

ble of his whiskers gather like magnetized iron filings in the wrinkles of his cheeks. "Ain't natchel—" his voice rose on the second word—"ain't a natchel thing, not at all."

The boy squatted down and picked up a handful of the purple sand. "Just up here on top Pa. It don't go down very far. Like paint, Pa."

Pa laughed, his head jerking back and the muscles of his neck bunching like rocks under the skin. "Nobody gonna come out this far to paint a purple circle in the desert. That don't make no sense." His smile faded and he coughed once and frowned. "But why is it right here boy? Why right here? That can't be no coinceedence."

The boy gauged the distance with his eye. "It's right around it, no mistake. Like somebody knew, Pa, knew just where it was." He shook his head and looked out over the desert floor. Far to the north gray mountains rose like tiny piles of clay. To the south the mountains disappeared under the horizon. "Sure is a mystery, Pa."

SPENSER went through the charts quickly, pointing out the increasing refinement of the mapping technique. His hands shook slightly and a thin line of sweat had formed on his upper lip: it remained unevaporated in the air-conditioning of the small office.

Dr. Bunyan noted each chart with polite interest, asking an occasional question. His dark blue suit was still perfectly pressed, even after a full day in the New Mexico heat. "Truly marvelous," he said finally. "Very fine work."

Spenser nodded absently, running his fingers over the carefully colored surface.

"But no explanation for the dissonance yet? Not even ah—" he glanced up at the ceiling—"a preliminary finding I can take back to the department?"

Spenser hit the charts with the back of his hand. "Explanation? We just found the place! Monday we're sending out equipment to start digging. At least give us the time to do the excavation. We're budgeted for that," he added with slight bitterness, rolling the charts back up tightly with both hands.

"Just some educated guesses then. What *might* do it?"

Spenser turned and gazed past Dr. Bunyan. "Nothing. Nothing could do it—cause that dissonance. There is no possible explanation. Six months ago there was a shift in the magnetic field. Slight, but still compasses from the Aleutians to Greenland moved several seconds. No seismic activity here. Not even minutely enough ferrous material to explain things—assuming there was an earthquake."

Dr. Bunyan chewed delicately at a fingernail and stared at Spenser silently.

"It is an entirely new phenomenon. It may explain a great deal." He shrugged and adjusted his glasses. "Or it may raise a million new questions. But it deserves to be investigated." He turned back abruptly to the charts, avoiding Bunyan's eye.

Dr. Bunyan nodded and gestured weakly with one hand. "If it were my money I'd have no hesitation. But—" He let the sentence die in the flat air-conditioning.

"If it were your money," said Spenser in a flat voice, sliding the charts into a cardboard tube, "you'd put it in a Swiss bank and move to Bermuda. So would I."

Bunyan laughed with faint embarrassment and followed Spenser out of the room.

LATE that night the boy stared up at the ceiling from the top bunk, his nose less than a foot from the rough boards that allowed narrow slices of moonlight entrance on occasional nights. He slept in a long flannel shirt against the sudden cold of the desert. "It's only been six months, Pa, and it turns purple. Don't seem right."

Pa leaned back in his chair and put one boot sideways on the table. He lifted an aluminum cup to his lips. "It didn't turn purple. Somebody turned it purple. We find 'em we oughta kick shit outta 'em." He nodded to himself. "Kick shit."

The boy reached behind his head with one hand and felt the Bible, foursquared underneath the pillow. "Pa, could it be a *sign*?"

"A what, boy?" He squinted up and saw only narrow lines of moonlight.

"A sign." The boy paused and cleared his throat. "From the Lord."

"Hmmmm. Huh." The sound rumbled deep in his chest, and he drank from the aluminum cup again. "Don't think so, boy. The Lord, He woulda made it purple all the way through, not just up on top. He woulda made it brighter, too. Glowing, you know."

The boy nodded slightly to himself. "I was thinking that, too. That it wasn't quality enough for the Lord." He pulled the flannel shirt around him and turned to the wall.

Pa stared up at the picture above the table, the woman smiling down shyly in faded black and white, the crucifix hanging next to it, in darkening ivory plastic. He drained the aluminum cup and set it squarely in the center of the table and sat for a long while, seeing nothing.

SPENSER struck his wife full across the face twice that night, the second blow sending her backward into the pressboard-and-formica nightstand that separated the two motel beds. He had struck her before—occasionally as a graduate student, he recalled—but less the last few years at Princeton.

Both times this night in New Mexico she refused to cry. The second time, after hitting the nightstand, her leg bled slightly, and the sight of the blood made Spenser sickened and guilty. He went outside and sat on a stack of wooden boxes next to the cold-drink machine for fifteen minutes before the chill infiltrated his bathrobe and he felt forced to go back inside.

"Damn," he said to the locked bathroom door. "Damn. Leaving Princeton was a dumb-ass mistake."

Silence.

He looked around the small motel room they had rented for the last two months, uncertain as to the future of the project. "This is all a mistake. We'll go back. It'll be fine." He felt unsatisfied by the words. He went to lie down on the bed, staring up at the ceiling, his hands behind his head. The bathroom door stayed closed.

THE dawn spread in the east like smeared fingerpaints.

"Privacy," said Pa, tying the shovel with thick hemp rope to the blanketed side of the burro. "No damn privacy any more. You know that boy? No privacy."

The boy nodded, finishing a knot and pulling on his shovel to see if it would slip.

Pa coughed violently, raspingly, and when he finished they headed north, figuring to reach the huge purple stain before the real heat of the day grew up out of the sand.

"DAMN," said Spenser. Faint fragments of the weekend still stuck to him, a headache, a toothache, loud voices and broken sleep. "Goddamn sonofabitch." The bank of instruments rose a full foot over his head—the slowly unrolling tongues of the oscillographs, the nodding needles of meters, the flashing pupils of digital readouts, the nervous traces of dark green oscilloscope screens. Spenser rested his forehead against a barely warm metal surface. "It can't have moved." He shook his head, eyes closed. "There is no way for it to have moved." He tapped his fingers on a plastic shelf. "It's a new instrument," he told the operator. "The array must be damaged somehow. Birds or lightning." He knew that it had been clear weather and that birds could never be magnetic. He shook his head again. "Send someone up to check it. We'll hold the truck until we're sure."

THERE was faint, continual static on the telephone line to Washington.

"It's a setback, Dr. Bunyan. But it is by no means hopeless."

"I see."

"There are setbacks in every worthwhile project. We've been very lucky up until now."

"That's certainly true."

"We'll simply relocate it and send out the excavators a little later in the week. Say, Thursday."

"Well. Whatever is within your budget."

"That is the difficulty Dr. Bunyan. We may need a slight extension. Dr. Bunyan?"

"Still here. Ah. Do whatever you can within your present budget and I'll see if I can get some provisional financing. No promises."

"I didn't expect any."

"Fine. As long as we understand each other."

"It moved," said Spenser, sitting on the bed. His wife stared at him momentarily in the mirror and looked back at her hair. "The damn thing moved. Just like that. Over the weekend, it moved."

Mrs. Spenser shook her head very slightly. "My goodness."

"Your goodness," he said, his hand jerking so that an ice cube bounced out of the glass he held and fell onto the carpet. "We'll find it tomorrow." He nodded, rocking back and forth. "We'll have it marked out by noon. There'll be an extension, for sure. Bunyan's a good man. He's on our side."

Spenser stood up and walked to the dresser, remembering a moment too late that the bottle stood on the nightstand. His wife laughed gently into the mirror—he noticed but chose to ignore her.

"TRIANGULATE," said Spenser into the microphone. "If I don't have your readings every ten seconds we'll do this all day." He handed the microphone back to the radio operator and the three planes began to report a series of figures. Spenser noted each one on a map and simultaneously it was typed into a land line that ran to Phoenix.

The planes flew a gradually converging pattern in the blue New Mexico sky, slicing twenty feet of airspace off an imaginary triangle with each turn. Next to Spenser a teletype rattled. The computer calculated loci of the three separate figures he received. Shaded areas on the map gradually grew smaller. Spenser used his yellow slide rule frequently at first, then increasingly less as the increments of change became so small that he was forced to rely on the computer readout for useful accuracy. Final-

REMEMBER New subscriptions and changes of address require 5 weeks to process!

ly a single point remained, nearly a mile from the original mark.

He touched the radio operator on the shoulder. "Fine. We've got it. Bring two home and have the third drop the canisters."

"Wind north-northwest eight knots," said the operator. Far out on the desert a small Cessna headed directly into the path of the light wind and two cylindrical metal containers fell from the window. They twisted slightly in the air and landed, exploding on impact, several feet apart in the hot brown sand.

THE sun was high, still faintly obscured by thin dry clouds. Pa took his hat off and ran a finger around the sweat band, staring out over the back of the burro. "They done it green this time. They done it up bright green; you see that?"

The boy nodded and spat—away from the immense green circle. He narrowed his eyes and looked out into the center, where the earth was freshly dug, piled a little higher than the surrounding sand. "Somebody watching us, Pa? Somebody watching what we do from somewheres around here?"

Pa shrugged, settling the hat back on his head. "Nah, I don't think so. You can't never tell, though." He kicked at the edge of the green circle and the sand flew up, a blurred mixture of green and light brown. "We're gonna have to do something about this here."

The boy still had his shovel tied to the side of his burro. He began to slip the knot around to where he could reach it. Pa coughed, gazing at the small mound in the center of the green circle.

"Hate like hell to dig her up twice in a row. Don't seem right."

The boy buried the blade of the shovel in the sand and wrapped the rope into a coil around his arm, not looking up.

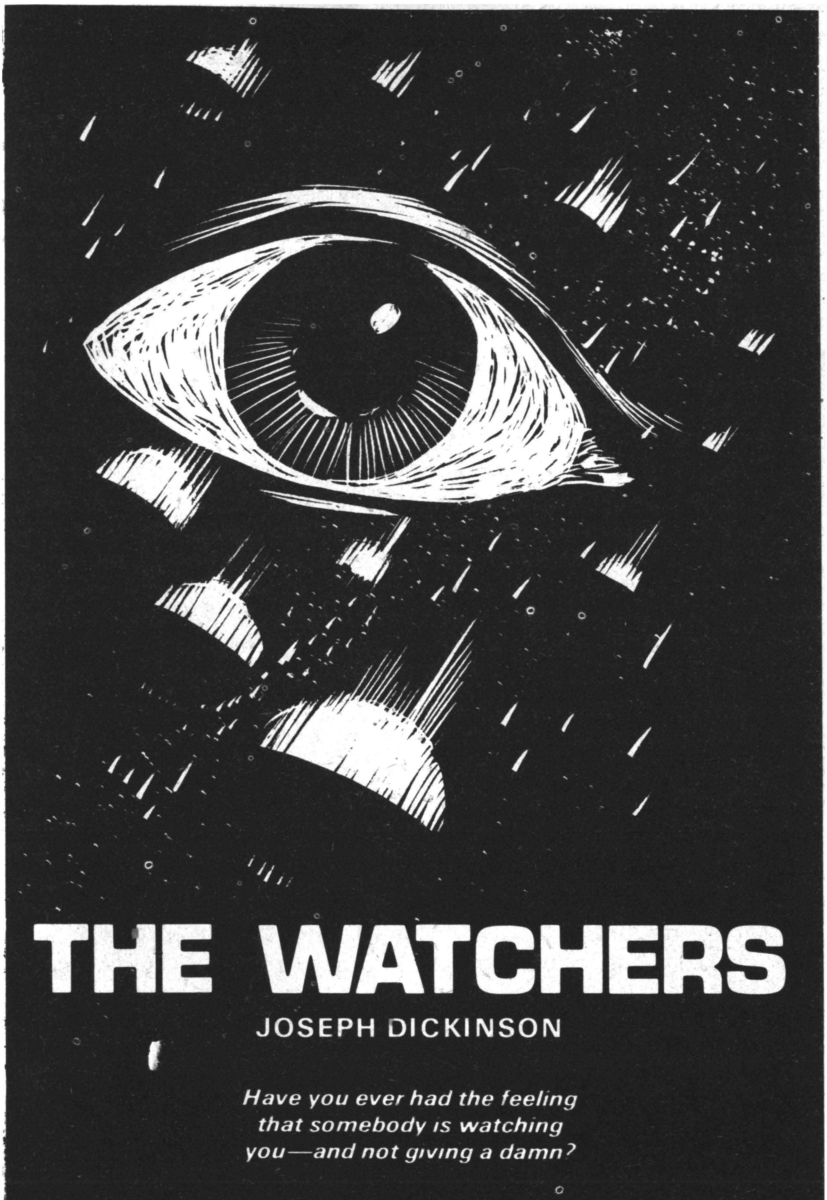
"Your ma wouldn't mind though, you understand?"

The boy nodded, pulling the shovel out of the ground, swinging it onto his shoulder. When he looked up three small birds had settled on the mound in the center of the green circle. He wiped his forearm across his upper lip. "That's funny, Pa, mighty funny, the way Ma useta—" he searched for the word—"attract li'l birds, li'l animals." He pointed with the blade of the shovel. "Look like she still do."

The older man stared at his son for a moment. "You getting to be a lot like your ma, you know? A lot." He looked behind the boy, at the desert floor.

On the short path his son had walked from the burro to the edge of the circle, tiny pebbles had quietly aligned themselves with the sides of his feet, pointing his direction in two perfectly straight lines like marching soldiers.

"C'mon Pa," he said, glancing away. "We gotta dig." ●


THE WATCHERS
JOSEPH DICKINSON
Have you ever had the feeling
that somebody is watching
you—and not giving a damn?

THE passing of Carl Bernardi stirred a great deal of conversation in the scientific community but little sympathy. That his death was an irreplaceable loss to science was too apparent to warrant argument. His work in the field of photics had opened whole new vistas for science. It was rumored that at the time of his death he was working on a method of light propulsion for spacecraft. Wilder rumors hinted that he had been aiming for a space speed only slightly lower than that of the propulsive force itself.

These rumors were not true.

Few tears were shed. Bernardi had been a solitary, distant man. The few papers he had presented had been delivered in a flat monotone, so low that the audience strained to hear and, resenting it, branded him an ineffectual speaker and contemptuous of his audience. When one of Bernardi's few friends told him this he shrugged.

"I am a scientist, not an entertainer. And I am contemptuous of fools. If they consider themselves in that category—"

He shrugged again.

He worked alone, published his discoveries at his leisure, was never overanxious to share his finds. He was labeled as antisocial, cold, selfish.

I had known Carl Bernardi for over ten years. While I certainly did not claim a close or even friendly relationship with the man, he at least tolerated my presence. That word, too, lends to the untruths they are spinning about him. His was not a grudging acceptance of existence—he simply noticed it when it was relevant.

My relationship with Carl Bernardi was an extension of my father's acquaintance with him during their college years. Acquaintance is the only term one can use. Each knew the other's face, though they often had to struggle for the name that went with it. My father's preoccupation with science was only slightly less than Bernardi's. How he emerged from it long enough to wed my mother and sire me is a scientific mystery in itself.

So I was at least admitted to Bernardi's home and laboratory. Actually, I believe anyone would have been, despite the rumors. If one could bear being unnoticed one could sit all day and watch Bernardi work.

I often watched him when I was young, fascinated by his absolute absorption as he deftly worked with impossible and sterilely beautiful apparatus or as he scribbled equations like long strings of Sanskrit across his blackboard. I could not watch my father. Spectators bothered him.

So I watched Bernardi, who neither knew nor cared. I could even watch him think. I once saw him stare, motionless and rapt, at the old $E=MC^2$ on his blackboard for over an hour. Watching, I fan-

cied the whirr of a computer tape behind his eyes. At last he rose, stepped briskly to the blackboard, drew a line under the formula, and placed a figure one under the line. Bernardi then pocketed the chalk, left the room and had not returned when I left an hour later.

During that hour I gazed in awe at the blackboard, wondering if I had just been witness to an alteration of one of the most sacred icons of science. A few years later I asked Bernardi about it and what it had meant. He said he didn't know, could not remember the episode and, in any event, it made no sense whatever. I did not trust his answer, will always wonder if that magnificent mind had mislaid the discovery of the century.

WHEN I returned from two years in England, where I had tried and failed to write a novel, the first person I went to see—after my father, who had nodded and smiled as though I had gone to the corner for a newspaper—was Bernardi. After two years of failure the appeal of Bernardi, who could not fail—for I believe even proving himself in error was a satisfaction to him—was obvious.

His housekeeper admitted me to the old white rame building which was Bernardi's home and laboratory. She nodded without a smile, glanced at my shoes for mud and left me without a word (Dear friends and family, I thought, don't make over me). I walked down the long narrow hall to the laboratory. Partitions had been removed and his lab occupied more than half of the lower floor of the building. Even remembering the clean clutter of apparatus which had always characterized Bernardi's laboratory, I was unprepared for what I saw. An immense, gleaming steel turnip filled the room. It resembled, at least, a turnip, and must have been thirty feet long and twenty feet wide at the bulge. The tip tapered along a tube, also of some shining metal, and culminated in a heavy, safe-like box, the thickness of its walls apparent through a port glass which must have been easily four inches thick. At the end of the steel turnip, where the greens would have been, was a mask, like a welder's mask and within it an eyepiece.

Bernardi was not at the eyepiece. He was standing beside the grotesque machine, staring in through the port at—nothing. Nothing at all. The interior of the safe, well lighted, was empty. I watched him for some time.

"Doctor?" I said finally and in a few minutes he turned to me.

"Ah, yes," he said and stepped forward to shake my hand. It was the first time he had ever touched me. I would have wrung out the moment embarrassingly but he detached almost immediately. "What is Mr.—ah—Dr.—ah—what is your father doing?" I thought it

admirable of him to even connect the two of us. Never mind that he couldn't recall my name.

"I don't know," I said. "When I left him he was putting a rabbit into a cellophane bag."

"Ah, yes," said Bernardi as if that explained everything. He began to shuffle past me toward the door and I thought that our reunion, beautiful as it had been, was at an end. Then he stopped and turned. "You write?"

"Very little. An occasional Christmas card."

The bitterness was lost on him and I felt like a fool for it.

"Is it important to you?" he asked. "To write?"

I considered it. "It must be," I said. "Something has to be. It's all I know to do."

He nodded. "Yes. You are like me." I was astounded. Then—suddenly—I knew that it was true. "Come here," he said, "and look. It may destroy you or liberate you. Perhaps both. They may be the same."

I walked cautiously to the steel turnip.

"Look there." He motioned me to the eyepiece.

I bent to it. I blinked several times, adjusting my eye to the mechanism. A myriad of flashing, multicolored pinpoints of light, whirling and flashing, seemed to streak past me. Imagine a Fourth of July sparkler held inches from your eyes. That was how it was.

"What is it?"

"Let me increase the magnification."

The flashing streaks of light slowed and became stationary. Thousands of them. We moved in upon a loose grouping of them, perhaps twenty or more, at varying distances from a central brilliant point of light. It was much larger than the surrounding particles. If they were pinpoints it was the size of a pea and glowing brightly.

"What is it?" I repeated.

"A molecule. Californium."

"It—it looks like the solar system."

The magnification increased, focusing on one of the pinpoints. The others were lost from the range of my vision as this one grew. It filled the circular scope of the lens, oblate, vaguely white and shimmering.

"I don't understand," I said. "There seems to be—movement—as though the particle were made up of gases in violent motion."

"The—particle, as you put it—is solid enough. The movement is the motion of clouds." I smiled at him uncertainly. I hadn't realized that Bernardi possessed a sense of humor. "Clouds," he continued, "drifting slowly through the atmosphere of a planet a billion times smaller than a flyspeck."

"Slowly?" It was all I could bring myself to say. The man was not joking.

"Slowly to them."

"Them? My God, are you saying—"

"Yes. Keep watching." The image grew, became lost in the swirling whiteness. Then a faint tinge of rusty pink suffused the mist and it disappeared. "The infrared," murmured Bernardi. The white was replaced by blurred, streaking hues of browns and reds and greens and blues, forming a mass of twisted, sinuous color. I turned, baffled, to Bernardi.

"The colors are from the movement of their worlds. The changing seasons, falling leaves, children at play—" He sat heavily at one of the laboratory tables.

"I still don't understand. How can you tell? It was all a blur."

"Time is relative. One second to us is perhaps a thousand of their years. Since you turned from that microscope, a thousand generations have perhaps come and gone. Legends have risen and died, civilizations have been lost and rediscovered."

"Fantasy. You're guessing. How can you tell?" I insisted.

Bernardi rose and crossed the room to a cabinet.

"I photographed them," he said.

"Impossible." Bernardi smiled slightly, withdrew a manila packet from the cabinet. "No camera or process exists which is sensitive or fast enough to stop action at such a speed."

"Tuttle's camera is capable of one million frames per second," said Bernardi. "Much too slow. However, using Tuttle's camera as a starting point and applying certain principles of the hologram—"

"The three-dimensional photograph?"

"Yes. Rather than film, my device uses a strip of plastic about a dozen microns thick. By refracting laser light, directing it against the length of the plastic, I was able to capture a good many more frames per second than Tuttle."

"How many more?"

He shrugged. "Billions, perhaps."

I almost said impossible again, then realized that I was overusing the word. "I suppose that envelope contains a billion photographs."

Bernardi opened the envelope. "I'm afraid not. It is extremely difficult to process the exposed plastic, more difficult to separate the pictures—something like trying to dissect a spider web. Of the hundreds I have tried to process, I have succeeded in obtaining three."

The pictures were blurred and too bright, such as an inexperienced photographer might take, but the objects were clearly recognizable. In one a child was playing with an animal, much like a dog, while in the background was the very shadowy figure of a woman, the child's mother, perhaps, standing with elbows bent and hands on her hips. Another was a

street scene. Crowds of people, blurred to varying degrees, rushed in both directions before a building with a sign in lettering unknown to me. In the third the building was gone. The scene seemed to be a jungle. Dense growth, hanging vines, were thick about a small pool. At the edge of the pool, a pack of pig-shaped creatures, covered with long, tangled hair, tore at an object on the ground.

"How much time separates these?" I asked Bernardi.

"Who knows? I could perhaps calculate the total number of frames on the plastic and arrive at a rough estimate of the time span the strip contains. But many of the pictures—most of the pictures are completely worthless, many are fused. It would be a lifetime's work." He shrugged. "It doesn't matter, at any rate. However, those three were within a fraction of an inch of each other on the strip. And they were all taken at the same spot."

"It could be a thousand years."

"Or two," said Bernardi. "Or three or four. As I say, it doesn't matter."

"Doesn't matter? This is the most amazing—these pictures—these people—"

"Those people have been dead a million years," said Bernardi.

"But the implications—"

BERNARDI snorted. "Implications? Fact. The fact that there are a million living worlds within arm's grasp of you, worlds that evolve and develop and live out their allotted millions of years in minutes or hours. Populated worlds. People like us, perhaps, trying to penetrate the secrets of their universe, their gods, but also people who laugh and sin and suffer. They bear children, worry about their young, lust and love and swindle and perform heroic acts. And die. Some of them, before their worlds explode or collapse, may travel through their endless space to other planets and return to grand orations on how their race has begun to unlock the secrets of space. Then—one of our minutes later—their world is gone."

Bernardi paused to light his pipe. He held the match before him a moment before he blew it out. "How many worlds do you suppose I just destroyed by that flame?" I shuddered. He noticed and smiled. "That was my first reaction," he said. "I found myself hesitating to light a match, to take a step, to bite into an apple. It soon passes. Gods like us cannot allow ourselves to care too much."

"Gods?"

"Are we not? If they were aware of our existence don't you believe that they would build temples to us, pray daily that we didn't light that divine match?"

I turned back to the microscope and put my eye to it, still too shak-

en to think or speak clearly. I found the image but the colors were gone. There was only blinding light. "Something's wrong," I said.

Bernardi stepped beside me and bent to the eyepiece. "No." He straightened. "That world is gone. Destroyed."

"But how?"

"Who knows? Nova, perhaps. Perhaps I did it. The controlled conditions I use to allow observation of such a world may upset its natural balance. I don't know. It doesn't matter."

"It must matter," I said.

"It doesn't, believe me." Bernardi replaced the photos in the envelope. He turned back to me. I had not noticed before how drawn and tired his face appeared. "I apologize to you," he said. "I hope the apology is unnecessary—but in case it is not, I apologize."

"For what?"

"I feel that you are a sensitive man. I am no judge of such things, since I have never been a sensitive person myself. I was too concerned about how little time I had for my work to concern myself with sensitivity." He took the envelope back to the cabinet. "I felt the beginnings of sensitivity—much as you did—when I watched my first world disintegrate. But I have since found that this is not the thing that concerns me. If you should discover what does, just remember that I have apologized in advance." He shut the door of the cabinet, stared at it for a moment, then walked by me without a glance and left the laboratory.

Two days later he was dead. An explosion leveled his laboratory, destroying his notes, his apparatus, his pictures and himself. It was at first considered accidental but the autopsy showed that he had died of gas inhalation, and they found the note when they cleared the rubble. It was very terse, typical of him.

"My death is my own doing," it said, "and no one else's. My will is attached."

He left everything to the church, which was not typical.

But I think I have the answer to the question that was Carl Bernardi. He could not reconcile himself to a life of seconds, no matter whose. And the bequest of the money—his little joke, perhaps his only joke.

I began to realize these things after a few weeks of hesitating to light a match and take a step. Then I found the hesitation replaced by another nagging sensation, one which I—which all of us—have felt and dismissed lightly. I feel it now. The feeling of being watched. ●

THEODORE STURGEON now appears in WORLDS OF FANTASY

MONARCH

A Dr. Dillingham Story by PIERS ANTHONY

A planet where butterflies had teeth—and mammals had none!

DENTAL ASSISTANT/HYGIENIST/ LIGHT BOOKKEEPING QUALIFIED EXPERIENCED UNATTACHED MUST TRAVEL.

JUDY GALLAND read the strange ad again. It had not been placed by any agency she recognized and it gave no telephone number. Just an address in a blah neighborhood. It hardly looked promising—but she was desperate. She caught a bus.

She concentrated on the ad as she rode, as though it had further secrets to yield. She was qualified: she was a capable dental assistant with three years experience in the office of a good dentist, and she was also a hygienist. She knew that few girls were both and many would not touch the clerical end of it at all. She was single and willing to travel across the world if need be. She was twenty-six years old and looked it. She got along well with people and seldom lost her temper.

So why couldn't she get a job?

The bus jolted heavily over a set of tracks, shaking her loose from this pointless line of thinking. She knew what her problem was: she had worked for Dr. Dillingham, and Dr. Dillingham had disappeared mysteriously. A construction worker might fall off a beam and get killed and nobody blamed his co-workers. A big-game hunter might get eaten by the game, yet his bearers could find other employment. A politician might get removed from office for malfeasance, while his staff stepped into better positions. But let a small-town dentist vanish—

She shook her head. She was thinking inaccurately. Much of her difficulty was her own fault: she had tried to tell the truth. Naturally no one had believed her story of weird aliens holding her captive while forcing Dr. Dillingham to work on their astonishing teeth. There had been no substantiating evidence except for the simple fact that he was gone without trace. Now the aura of that wild story hung about her, an albatross, killing any chance she might have had to find other employment in the profession. In this corner of the world, at any rate.

Had she claimed that a mobster had murdered the dentist and sunk him in concrete with shoes of water (or was it the other way around?) she might have been clear. But the truth had ruined her. Aliens from space? Lunacy!

The bus halted near the address. She stepped down regretfully. This was an unfamiliar section of town, illkempt and menacing. Beer cans glittered amid the tall weeds of an empty lot. Down the littered street a drunk spotted her and ambled nearer. The bus blasted its noxious gases at her and shoved off.

Only one structure approximated the address: a cylindrical building several stories tall and pointed at the top. Its outer wall

was shiny metal and surprisingly modernistic for such a region. Yet the lot had not even been cleared, except for the narrow boardwalk leading to the entrance.

She started to turn back. Something was unsubtly wrong about this ad and the address. What possible use could they have for an experienced dental assistant here?

But the reality of her situation turned her about again. The bus was gone, the drunk was almost upon her, she had barely three dollars in her purse and her resources beyond that were scant. She had either to take what offered or throw away all her training and apply for unspecialized employment. She pictured herself making beds, scrubbing floors, baby-sitting. Suddenly the nameless ad seemed more promising.

She outwalked the drunk and knocked on the cylinderhouse door. This was a circular affair arranged to resemble a ship's porthole. Modern architecture never ran out of innovations. After a few seconds it opened, the metal lifting up and out, drawbridge fashion. She took a nervous breath and entered a small, bare antechamber.

"Name?" a voice said.

For an instant she had fancied it was Dr. Dillingham speaking but it was some kind of recorded answering service whose intonation just happened to resemble that familiar voice.

She answered the routine questions automatically. That voice unnerved her and enhanced her depression. She had, of course, never let him know, but her initial respect for Dr. Dillingham's technical and ethical finesse had over the months and years deepened into a considerable appreciation of the man himself and even—

She became aware that the questions had ceased. An inner panel opened. "You have been accepted, Miss Galland of Earth," the recording said.

A figure stepped through the new doorway.

Judy was not the screaming type. She screamed.

"BUT I'm not a dentist," Judy told the transcoder. "I'm a dental assistant and hygienist and light bookkeeper, as you must know." The transcoder typed her words onto a stick in the form of indentations and the North Nebulite took this. He poked it into the orifice beneath his triple-slit nose and chewed gently.

What jaw motions constituted reading, as opposed to writing (typing?) she couldn't tell, but in a moment he fed the talk-stick back into the machine. "You are Dr. Dillingham's assistant. Extremely competent but aloof. We searched for you. We obtained you. This is his laboratory. So assist."

She peered at the alien paraphernalia. It had been a substantial education, finding out exactly

what had happened to Dillingham. Horrible as the purple-lipped, double-jointed North Nebulites—Enens, according to Dillingham's invented information coded into the transcoder—appeared, they were pleasant enough when understood. The two designated to show her around were Holmes and Watson, though either answered (or failed to answer) to either name. "I never worked in the lab itself. Not that way. I can't make a reconstruction. I'm not allowed to perform dentistry on a patient—not by myself. I assist the dentist while he works. Where is Dr. Dillingham?"

Holmes assimilated the new stick and bit off a reply. The Enens had been cagey about the late news on Dillingham, apart from vague assurances that he was doing well. She kept inserting the question in the hope that one of them would slip and give her an answer. This time it worked. "Dr. Dillingham? We sold him to the high muck-a-muck of Gleep."

Judy started to laugh at the grotesque designation Dillingham had hung on that entity. He must have enjoyed himself hugely as he programed the transcoder. On Earth he had always been serious.

She sobered abruptly. "Sold him?"

"He was on contract, same as you. Hostage against the expense of his procurement and shipment. Perfectly regular."

"I'm on— You advertised for an assistant not for a slave! You can't buy and sell human beings."

"Why not?"

She was not the spluttering type. She spluttered. "It just isn't done —not on Earth."

Both Enens masticated that. "We aren't on Earth," Holmes pointed out. "Your ballbase players are bought and sold on Earth," Watson said. "Everything is in order according to Galactic codes."

"But Dr. Dillingham and I aren't ballbase—baseball—players. And it isn't the same. This is kidnapping."

The Enens nibbled sticks, not understanding what all the fuss was about. "Everything is in order. We told you that. Now will you assist?"

Judy dropped that tack for the moment. The Enens had not mistreated her, after all, and it was rather exciting being on another world—she could never have afforded passage on her own. At least she was on Dillingham's trail —that fact alone just about made up for the rest of it. She had not had any particularly inviting future on Earth.

"Well, how about letting me talk to the muck-a-muck? I can't accomplish much here by myself."

"But you applied for a position at Enen!"

"I changed my mind."

It took her several more days to establish that her mind, once

changed, was absolutely set. She did convince them that their own technicians were far more competent in the laboratory than she, though far less competent than supposed at the time Dillingham had been sold. She suspected that Earth was about to sustain another dental raid—but finally she was on her way to Gleep.

"BUT I'm not a dentist," Judy told the muck-a-muck. "I'm just looking for Dr. Dillingham, so I can—assist him."

"He departed last week," the whale-like ruler of water-world Gleep communicated. This was the first time she had conversed with an entity while standing inside him —but such was Galactic existence.

"Then I must follow him."

"Do you realize that we paid a hundred pounds of premium-grade frumpstiggle for your contract? You were billed as an associate of Dr. Dillingham, the famous exo-prosthodontist. Now the prince's molars are beginning to itch again —and only a practitioner of Dillingham's status can abate the condition."

"If Dr. Dillingham made the restorations those teeth should be giving no trouble," she said loyally. "Probably all your son needs now is some instruction in preventive maintenance. Teeth can't be ignored, you know. You have to take proper care of them."

"That's exactly what *he* said. You *are* his associate."

She sighed. "In that respect, yes. But as for—"

"Excellent. Provide the prince with expert instruction."

"First we have to come to an understanding," she said. She was, by fits and starts, learning how to deal with Galactics. "If I instruct the prince you must agree to send me to the planet to which Dr. Dillingham went."

"Gladly. He traveled hence with a free-lance diplomat from Trachos. Their destination was—let me look it up in my tertiary memory bank—Electrolus."

"Fine, I'll go there." Then she reconsidered. "I came to Enen too late and to Gleep too late. How can I be sure he'll still be at Electrolus, when—"

The communications tentacles of the huge Gleep-creature's lung chamber waved and the transcoder dutifully rendered this visual signal into English. "A perspicacious point. Suppose we send you to the diplomat's following client? That's —one moment, please—Ra. The radium exporter."

She was dubious. "Suppose Dr. Dillingham stays at Electrolus after all?"

"Then at least you'll be in touch with Trach, the diplomat. He is an obliging fellow and he has his own ship."

She considered that, still not entirely satisfied. She had had exper-

ience with obliging fellows possessing their own transportation. Dillingham had been a pleasing contrast. But, of course, this was not Earth and it did seem to be her best chance.

"All right. Ra it is. Let's see the prince now."

HER heart sank when she saw Ra. There was no green on the surface if the planet; the entire landscape seemed to consist of tailings from the mines, mounded into mountains and eroded into valleys.

Radium mines—she had realized the significance of that too late. They were notorious throughout the galaxy for the effect their depths had on living creatures. The local ore, called pitchcar, was extraordinarily rich; thus it required only fifty tons of the stuff to produce a full ounce of radium. The noncommercial byproducts such as uranium were discarded wherever convenient; there was no trash collection.

The ship landed ungently. The front port burst open, admitting a foul cloud of native smog. Several troll-like tripeds stomped in. One spoke, his voice like dry bones being run through an unoiled grinder.

"Slaves of Ra," the central translator rasped, the words muffled by the babel of other renditions for the benefit of a score of miserable species. "Cooperate, and you may survive for years. Malinger, and you will receive inclement assignments. Any questions?"

Judy felt sorry for the prisoners but knew there was nothing at all she could do for them.

"Sir," a lovely ladybug called melodiously. "We are very hungry—"

True enough. There had been no food aboard and the trip had lasted sixteen hours. Many galactic species had much more active metabolisms than human beings had and some were in a bad way.

"The others will be hauled to the force-feeding station after processing. *You* will wait for the following shift for sustenance, with half-rations for two days. Any other questions?"

There were none. The hapless prisoners had gotten the message.

"Now disembark promptly as I call your names. Aardvark."

A creature vaguely resembling its Earthly namesake emerged from its compartment and ambled forward.

"Too slow," the translator barked. A troll aimed a rod and a beam of energy stabbed out. A patch of fur on Aardvark's rump burst into flame and the odor of scorched flesh drifted back. He broke into a gallop.

Judy had not quite believed the pessimism of the prisoners as they traveled—she had talked with sev-

eral. She had been naive. This was horrible.

"Bugbear."

A beetle the size of a bear lumbered hastily out, as well it might: a touch of the laser would puncture its thin shell and send its juices spewing.

"Cricketleg." The next jumped down. Judy wondered how the roll-call came to be alphabetical in English, since the translator assigned names purely by convenience of description. This was merely another mystery of galactic technology.

"Dogface." This one yelped as the beam singed his tail.

"Earthgirl."

Judy sat frozen. It couldn't be! She was only here to find Dillingham.

A troll tramped down the aisle, poking his beamer ahead aggressively. He braced his three knobby legs, reached out with a hairy arm and grasped her hair in one hank. He yanked.

"No!" she cried. "I'm only visiting! I'm not a prisoner—"

The troll hauled her up until she stood on tiptoes to ease the pain. "Visiting?" He aimed the beamer at her face.

"Trach!" she screamed. "Trach of Trachos! I'm here to see—"

"A malingerer," the troll said. "I shall make an example. First I shall vaporize her squat snout." He flicked one of his four thumbs over a setting on the beamer and pressed the business end against her nose.

"One moment, troll," the translator said. Such instruments were versatile, serving as telephones and radios as well as language transposers. "I believe I heard my name."

The triped hesitated, grimacing. "Who are you, butting into private business?"

"Trach, naturally. Be so kind as to deliver that creature to me, undamaged."

"I don't know no Trach."

"Oh? Here is my identification." A phonetic blob sounded.

"Hm," the troll said, disgruntled. "*That* Trach. Well, send her on to the branding station when you're through with her."

Shoved out roughly, Judy tied up her hair temporarily and followed the translator's instructions to reach Trach's office. "Turn right, prisoner," the unit outside the ship snapped. She turned right; the other miserable aliens turned left, headed for the dismal rigors of processing.

She felt guilty.

The spaceport, despite its choking atmosphere, was enclosed. She could make out the blowing dust beyond the grimy window panels, showing that it was actually worse outside. She heard the shriek of ore-bearing vehicles and saw a line of bedraggled workers headed for the arid entrance to a mine.

"Up the stairs, malingerer," the

next unit said. She climbed flight after flight of cruelly steep rough stone steps. A panel on a landing gave her a view of a Ra graveyard: bones and clothing and shells and assorted other durable elements of assorted creatures. There was no attempt at burial.

"Third chamber down, weakling." She found the place and touched the door signal.

"Enter," a translator said from within. She was tempted to point out that it had forgotten the usual expletive.

She edged the bleak metal door open. The chamber was empty. She heard water running and saw fog near the ceiling. Someone was having a shower.

"I'll be right out," the pleasantly modulated voice said. It sounded real—as though spoken in English rather than translated. Unlikly, of course; she had encountered no one from Earth since answering that fateful ad.

The water noise stopped. Trach whistled cheerily as he dried himself in the other room. In a moment she heard his feet on the floor as he dressed. He sounded heavy. "You're Miss Galland of Earth," he called. "The muck-a-muck of Gleep notified me."

"You're not using a translator?"

"I never bother," he admitted, still out of sight. "Now where's my jacket? Can't entertain a lady undressed—"

"Dr. Dillingham—is he here?"

"I'm afraid not. He left Electrolus for the University. He's undertaking administrative training now. I'm sorry to inform you that you made your trip here for nothing." His solid footsteps approached.

"Oh, no, I'm glad he's not here. I mean—"

Then she saw Trach. A literal dinosaur.

"My dear, you look good enough to eat," he said smiling. He had two thousand teeth.

She was not the fainting type. She fainted.

"NOW there is the problem of your contract," Trach said. "Gleep transferred it to Ra, so—"

She was almost convinced that Trach was not the monster he appeared. He had not, after all, eaten her when he had the opportunity and certainly he was the essence of politeness. He claimed to be a vegetarian reptile and if he were not fattening her up for a latter kill . . .

"Does that mean it wasn't a mistake? The trolls—my being on the—"

"They don't make mistakes of that nature," he said reassuringly. "You are on their list."

"To die in the radium mines?" Maybe it would be preferable to be eaten by a dinosaur. "How could the muck-a-muck do such a terrible thing? I thought he was helping me."

"Merely good business practice. Nothing personal. He wouldn't be muck-a-muck if he wasted Gleep's credit status. Fifty pounds of frumpstiggle—"

"He told me a hundred." she said indignantly.

"That was to improve your self-image. It was his impression that you were overly dependent on Dr. Dillingham and lacked confidence in your own dental abilities."

"But I'm not a dentist! I can't do prosthodontic—"

"Pretty sharp judge of character, that muck-a-muck. You do lack confidence."

"Oh, shut up!"

"At any rate, he did help you. He notified me, knowing that I would arrange something. That's my business, after all—arranging things for mutual profit and my own. Unfortunately—"

"You don't have fifty pounds of frumpstiggle?"

"As a matter of fact, I have considerably more, thanks to a generous settlement on Dr. Dillingham. But—"

"But—"

"But the trolls of Ra are very fussy about allowing any entity to depart. Once there's a contract—"

"They won't let go," she finished grimly.

"Not readily. Others in the galaxy have some very ugly suspicions about Ra. If too many prospective miners were to be released those suspicions would be amply confirmed. Then it would be almost impossible for Ra to buy up contracts at any price whatever."

"So I have to take up pick and shovel?"

"Oh, no. They are very efficient here. You would work in your speciality, caring for the miners' teeth. Better dentures allow them to consume cruder staples and that is more economical, you see."

"I see. I don't approve the motive, though."

"Appreciation of Ra motives is an acquired taste. In certain respects, there is more need for medical and dental assistants here than for full MD's or DDS's, because only short-term measures are economical. The radiation, you know. And you would still be exposed to that."

She nodded. Had she really thought her prospects back on Earth were bad?

"I have not relinquished the problem, Miss Galland. I merely wish you to comprehend its magnitude. Naturally we'll find a way to remove you from Ra."

"I comprehend the magnitude. What do I have to do to escape?"

"You have to obtain a sponsor who is able to influence the troll hierarchy. I can arrange temporary reprieve but my influence is limited. I'm only a diplomat. If I push my luck—"

"The mines for you, too," she said. "Will you teach the prisoners

diplomacy as they perish from radiation?"

"I doubt if would come to that but there could be awkwardness. However, I'll see what I can arrange. I have had experience at a number of influential courts."

Judy smiled appreciatively but she had little hope.

TRACH had been unduly modest about his resources. Within six hours there was an urgent call from the Monarch of Lepidop: he wanted an experienced dental assistant and he wanted this particular one. Since his subjects were resistive to radium poisoning, a task force of his navy traditionally transported Ra's annual output of ten pounds pure to the galactic markets.

He had, in short, influence.

The troll hierarchy swallowed its gall and hastily made a gift of Judy's contract to the Monarch, compliments of the honorable reputation of Ra. To make it quite clear where she had come from, they decided to brand her first. Of course, if she were willing to swear never to reveal what she had seen planetside even this small formality might be dispensed with . . .

Judy contemplated the sizzling branding iron, thought about the difficulty she would have sitting down thereafter and she saw her courage go up in steam. She agreed not to talk.

The troll released her hair and she fell to the floor.

Trach took her to Lepidop himself. This was a favor she appreciated less than she might have, for his ship was a frightening rattletrap. But she suspected that this was Trach's way of saving his own reptilian hide, for the trolls of Ra surely were aware of his part in Lepidop's demand and would not delay unduly in attempting to settle scores.

Lepidop, in contrast to Ra, was truly beautiful. Iridescent films decorated its esthetic continents and rainbows were reflected from its shining oceans.

The ship jolted to rest on a platform mounted on a spire about two miles above the surface. Judy was afraid the weight of the ship would collapse the insubstantial edifice but there was no sag or tremor. She disembarked.

"Butterflies," Judy exclaimed. "What marvelous wings!"

"This is Lepidop," Trach reminded her gently. "Capital world of the declining Lepidopteran Empire. But you are right to compliment their wings; Leps are subject to flattery. Now the honor guard will insist on conveying you personally to the Monarch and I don't see how you can refuse."

"An honor guard? I'm the one who's flattered. And I want to thank the Monarch effusively for saving me from Ra. Why should I refuse?"

"Well, their mode of transportation is not too every creature's taste. I would prefer to walk, myself. But since I am not permitted within the palace environs I shall merely relay my compliments and depart for my next mission."

"You're going?" Her original distrust of him was as though it had never been; Trach was as nice a dinosaur as she had ever met. "I thought—"

"Some of the finer architectural structures are delicate and I'm rather solid," he explained. An understatement; she judged he weighed several tons. "But the Monarch is basically a kindly fellow; don't let his gruffness fool you. And beware of palace intrigues. I'm sure he'll treat you well, provided—"

"But how do I find Dr. Dillingham?"

"I will notify the University. They'll advise him in due course. You just stay put and wait for word. It may take a while."

She had other questions, suddenly pressing now that Trach was about to leave her—but the man-sized butterflies were upon them, a fluttering phalanx. "Provided what?" she whispered.

"Miss Earthbiped?" a translator inquired. She didn't see the instrument, but hardly needed to. There was always a translator within earshot on civilized planets, except for places like Gleep, where such machinery was inconvenient, and Enen, where they couldn't afford the expense. She automatically associated the translation with the speaker, as she had once associated subtitles with foreign speech in Earth movies.

"This is Miss Galland of Earth," Trach said formally. She had to pick up the introduction through the translator, for he was speaking directly in Lepidopteran. He was a phenominal linguist. "Summoned by the Monarch for dental assistancy and hygienicy." And privately to her: "Provided he lives."

"This way, honored guest," the lead butterfly said, spreading his huge yellow wings as he turned. Judy followed him to an ornate and fragile little cage, the other butterflies falling in around her and matching her step. "Enter the royal carriage."

She hesitated, the Ra experience fresh in her memory. This thing had neither wheels nor runners and white bars encircled it. It reminded her of a lobster trap. But Trach gave her a thumbs-up signal from the far side of the platform and she had to trust him again. She opened the latticed gate and climbed in. The fit was tight, vertically, and there was no proper seat; evidently this had been designed for a reclining butterfly. A narrow section of the top was peaked: space for folded wings to project.

The yellow butterfly closed the gate with one of his six small legs.

She arranged herself half-supine, propped against one elbow so she could wave to Trach. Then the others circled the cage, picked up threads hanging from its sides and beat their white wings in unison, while the yellow called the cadence.

"Hup— two— three— four—" Judy heard, not certain whether there was a translator, or at least a little transcoder, in the cage, or whether her own mind was doing it. "Hup—Hup—"

Suddenly they were aloft: butterflies, cage and Judy—she clinging desperately to the bars. No wonder Trach had been nervous about the transportation. But it was too late to protest now.

They flew over the edge of the platform and she closed her eyes against vertigo. Two miles in the air—with only butterfly wings and slender threads to support her! Did the Monarch often travel this way? Was that what Trach had meant by his hasty warning: the Monarch would treat her well, provided he lived? Let one thread be snagged, one wing falter . . .

But the cadence was steady and soon she was reassured that they were not about to drop her. She watched the aerial life of Lepidop: brown-winged butterflies, gray ones, green ones and blue, gliding their myriad ways. A number carried bags in two or three hands, as though they had been shopping. Others clustered and whirled in dazzlingly swift mid-air games.

Yet Trach had said the Lepidopteran Empire was declining.

THE palace was a tremendous silken nest, massed strands forming gleaming geometric patterns that glowed prismatically in the slanting sunlight. At every nexus a pastelle-winged butterfly perched, gently fanning the air.

The cage came to rest in a cushiony chamber and the bearers let go the threads. Judy disembarked cautiously and found the seemingly tenuous webbing quite strong. It gave a little under her feet, adding bounce to her step, and was in fact rather fun to walk on. Trach would have put a foot through, however.

The yellow butterfly led the way to the throneroom. This was a splendid chamber whose lofty arches reached into a nebulous webflung dome and whose furniture was all of stressed silk. Upon the mighty yet delicate throne reclined the ruler of the planet and empire.

The Monarch was old. His torso was stiff and scaly, his antennae drooped and his wings were dead white cardboard. Had he been human, she would have assessed his age at an infirm eighty. She knew immediately that he had no teeth.

Why, then, had he wanted a dental assistant? Had his demand been made purely as a favor to Trach or was there more to it?

"My dear, come here," the Monarch whispered and the translator conveyed jointly benign and imperative tonality.

She stepped up to him, impressed by his bearing despite his antiquity. It was no longer a mystery why Trach had been concerned for the Monarch's life. It was as though the very act of speaking might terminate his span.

"You care for teeth?"

"Yes, Your Majesty," she replied, deciding not to quibble again over descriptions. She was no dentist but she did take care of teeth.

"You have experience with—" here he paused to regain his shallow breath—"Lepidop mandibulars?"

"On my world, butterflies don't have teeth."

"Interesting. On Lepidop (another breath) primates don't have teeth." He laughed—a painful rattle, even in translation. "But I suppose you (breath) don't have genuine lepids, any (breath) more than we have real primates. (breath, breath) It is merely a convenience of expression."

Judy was happy to agree. This royal butterfly had no connection to any Earthly creature, just as Judy Galland had no connection to any galactic biped. The Monarch was not stupid but he was rapidly weakening from the effort of conversation. Gruffness was hardly the problem; a fatal oversociability might be.

"Dismissed," the Monarch snapped.

Two small purple Leps hurried her out of the chamber.

"He's obnoxious when balked," one confided to her.

"But he'll die soon, fortunately," the other said.

The words irritated her unreasonably. "Now, stop that. I think he's very nice and I won't have you saying such things behind his back."

The butterflies tittered and she realized that she had chosen a poor figure of speech. There was no "behind" for a butterfly's back; there was only "above." She had made a fool of herself to no purpose. Their remarks might even have been well intentioned—and were probably true.

Well, Trach had told her to beware of palace intrigues. She had probably already put her foot in it by speaking out thoughtlessly.

They showed her to a private chamber without further comment and left her. There was a galactic all-purpose unit that took care of all conceivable and some inconceivable physical needs and she had learned how to squeeze entertainment from a standard translator.

"Sing me a ballad," she directed it.

And it did.

THE Monarch summoned her to another audience next day.

He was considerably more affable and she suspected that the court minions had dutifully relayed her remarks to him. She had spoken automatically but she had defended the Monarch. Had she been negatively impressed she might have said something entirely different, with no more thought. Little accidents like that could make all the difference, as she knew from her experience with patients on Earth. That was one reason dental assistants were usually personable and cautious about giving opinions. Usually.

Now she almost felt guilty for speaking out, as though she had deliberately played politics. Maybe subconsciously she had.

But still the Monarch had no teeth. She felt embarrassed, holding her little case of instruments. What politics was *he* playing?

"My dear, I like your (breath) spirit. Most visitors praise me lavishly (breath) to my antennae but sneer (breath) behind their wings. How would (breath) you like to visit my past?"

"Your Majesty, I don't understand."

"I am forty-two years old," he said. The translator had rendered the time span into her terms, just as the all-purpose unit had created light and darkness to match her Earthly pattern of day and night. But it was a surprise. The Monarch was just about the same age as Dr. Dillingham. "We Lepids have lesser lifespans (breath) than some of you land-bound forms. But then we (breath) have greater abilities. So life is fair."

She had little basis to object, yet the Monarch's abilities were obviously long past. "I don't know how to—to visit your past. I'm sorry."

"Of course you don't, my (breath) dear. I shall take you. Ten years; I (breath) have strength enough for that."

Whatever it was, if it required strength it was best discouraged. He could afford no superfluous expenditure of energy. "I don't see what this has to do with dental hygiene, Your Majesty. Why take me?"

"Give me your hand," the Monarch said. "Oh, you have only (breath) two. Awkward, but I suppose you're used to it."

"Yes." Hesitantly she held out one of her few hands, and he took it with one of his stick-thin members. His grasp was so feeble that she was afraid to close her fingers; even her lightest grip might crush his chitinous appendage.

He shuddered. Something like a mild shock went up her arm. Then there was a strange shimmer. A wave of dizziness passed over her.

"Ten years," the Monarch said with pride. "My subjects can manage no more than five even in their primes."

She disengaged her hand and

looked at him, wondering whether he could be senile. A decade could not be wished away.

His wings were orange. His body was full. His antennae were erect. He looked twenty years younger.

Judy felt strange. Her clothing did not fit comfortably. Her blouse was loose, her skirt tight, her shoes wrong. She felt gangling and her face itched. What was wrong?

"And now I have my teeth again," he said, smiling. And he did. "Of course they are not in good condition and in five more years I lost them entirely. But with your care and advice I may be able to preserve them longer."

This seemed to answer an important question, but she hardly heard him.

"I'm younger too," she exclaimed.

"Naturally. So is the palace, the planet, the galaxy. This is my past."

"Time travel? That's impossible!"

"Impossible for you, certainly. And for most species. That is why I was able to extend my empire so readily, though it is drifting away now that my powers have declined."

"But what about paradox? I mean—"

"There is no conflict. We are ten years younger, and the universe is ten years younger, but we are not of it, precisely. The full explanation would be too technical for your comprehension. We merely experience, we do not affect, except for our own bodies."

Judy shook her head. "How could you conquer an empire if you couldn't use your talent to affect it?"

"Simple. I travel to a foreign planet. Then I visit its past and make notes. Then I comprehend its vulnerability and in the present I exploit it. No enemy strategy is a surprise to me, nor can it ever be, unless it dates from beyond my own lifetime."

"Your Majesty, it still doesn't make sense. I see you younger and I seem to be about sixteen myself. But when I was really sixteen I was a high-school girl on Earth, ruining my teeth with cola. So this can't be—"

"It is my past, my dear, not yours. You became younger merely to stay in phase with me. I would take you to Earth and show you that high school of yours—but my migrating years are over and no ship will respond to our touch now. You may look at Lepidop instead."

"Don't tell me you migrated between planets without ships!"

"*Don't* tell you? Very well, you shall remain ignorant of that talent." The Monarch preceded her to a silken parapet walling off a bulging room, so that they actually stood outside the body of

the castle. Beyond it the colorful butterflies danced in the early dusk, whirling in columns of turbulence. "See, the chrono gives the date," he said, gesturing toward a huge clock-tower about a mile distant. "Just over ten years ago."

She saw the clock but did not know how to read its symbols. She was coming to believe that they *had* traveled back; nothing else explained the phenomena. She *was* younger; she could not be deceived about a thing like that. The Monarch now had plenty of breath and physical vigor—and he *did* have remarkable powers.

A yellow messenger lighted on the parapet. Judy stepped back but the insect took no note of her or the Monarch. The yellow mouth parts were moving but she heard no translation. Naturally not, she realized when she considered it: the machines could not have been programed for English ten years before she came. They would be inoperative for her—and, of course, unnecessary for the natives.

Then how, she wondered sharply, was she able to hear and comprehend the Monarch's present speech?

"My dear," he remarked, "your thought processes are so delightfully open. The phase applies to the translators too, but only for you and me; we can not communicate with the creatures of this time, or indeed make ourselves known to them in any way. I heard no more than you did, just then."

"Oh," she said, more perplexed than ever.

A thick-bodied, furry-antennaed drab moth arrived on foot. It gazed out over the parapet a moment as though envious of the aerial ceremonies beyond, then lowered its head to the wall. A tremendous tongue uncurled and brushed the tight strands that formed the parapet and all the castle/palace. She saw with shock that its wings had been partially clipped, so that it could not fly.

"The menials come out at night," the Monarch murmured distastefully. "We don't associate with them, of course, but we recognize that they do have to clean the grounds sometime."

"The moths? They do the work?"

"That is the natural order, since they are basically inferior. We merely relieve them of the onus of making decisions. No doubt they are happier than we are."

The moth hardly looked happy. It seemed resigned, feeling no frustration apart from that one glance outside, because it had no hope. Judy started to voice a protest at this callousness of the Monarch but he spoke first: "We'll return to the throne room. You shall instruct me on caring for my teeth."

That was right—the Monarch

had teeth now! This was one thing she was qualified to do. "Suppose I clean your teeth while I explain about the procedures?"

"Excellent." He settled on the throne and opened his mouth.

HIS teeth were surprisingly similar to those of a human being: twenty-four of them, divided into incisors and molars, sixteen and eight respectively. No cuspids. Normal occlusion. That, as galactic dentition went, was practically identical to her own set.

She brought out her instruments, set up the sterilizer and tied a protective cloth about his furry neck. This was awkward, because his head was not attached in a familiar manner, but she had learned not to let such details interfere. She lifted a scaler and began to check.

"Your teeth are not in the best condition, I'm afraid," she said. "There's a good deal of erosion and the gums—"

"Ouch!"

"Are a trifle tender. You need the attention of a dentist."

"Allow a moth to touch my royal teeth?" he demanded incredulously.

"Don't you have any butterfly dentists?"

"Certainly not. No butterfly would soil his dignity by learning a trade."

"Trade? Dentistry is a profession."

"Kingship is a profession, my dear. I would have any subject who fell so low as to practice a manual art put under the lights."

"The lights?"

"Executed, to employ a euphemism. You would not care to know the details, my charming alien hygienist." Then he fathomed her thought. "No, there is no such restriction on aliens; we understand that the ways of the galaxy differ from ours peculiarly. No stigma attaches to you. You are not at fault for having been hatched on a barbarian world."

That did not allay her whole concern but she let it pass. Judy was beginning to appreciate the full extent of the problem. No wonder the Monarch had lost all his teeth.

"Well, I can show you how to extend the life of your teeth but it's already pretty late. Too much damage has already been done."

"Ten years is not far enough back?"

"I'm sorry, Your Majesty, it isn't."

"Explain anyway."

She continued to work, cleaning away the immediate residues of what appeared to be years of neglect. "Oral prophylaxis is much more than just cleaning the teeth. The whole mouth, the entire habitat has to be considered. The food of primitive species tends to be hard, tough and gritty, and it cleans the teeth naturally.

But civilized foods tend to be soft and sticky and many essential nutrients are refined out. And sugar—well, it's best to stay away from it, if you value your teeth."

"But I love sweet foods."

"Your teeth have already informed me of that. If you insist on eating sweets, at least keep your teeth clean at all times. A truly clean tooth cannot decay. And it is important to disturb the natural bacteria in your mouth regularly, for some of these attack the enamel of your teeth. You can't eliminate all bacteria but you can rout them out and keep them uncomfortable, so that they never have a chance to multiply and mass against your teeth."

"You are beginning to make sense," the Monarch said. "But how do I keep them clean?"

"You brush them, for one thing." She brought out a toothbrush, one of the few remaining from her original supply. "I'm sure you have better instruments and better systems at Lepidop, but the principle is constant: get them clean. Now I'll demonstrate the best way to clean off the surfaces. Then you can do it yourself after every meal."

"But—"

It was her turn to divine his thought. "This can't be considered manual labor. It's *hygiene*. Only the most finicky and enlightened persons practice it. Clean teeth are a mark of, er, nobility."

"Naturally," he replied, having known it all the time.

"But brushing isn't enough." She brought out a spool of dental tape. "This is more difficult but more important. You have to pass the tape *between* your teeth, like this—"

"Ouch!"

"Now that didn't hurt, Your Majesty. You just expected it to. You pass it between your teeth and pull it back and forth a little and it polishes the surfaces the brush can't reach. Darn these inexperienced adolescent fingers of mine! There. And right there, in the crevices between the teeth, is where food is most likely to collect and where the undisturbed bacteria will feed and multiply in their own contented microcosm. You no more want to ignore these places than you want to ignore an assassin in your palace. Bacteria are assassins of your teeth."

"Suddenly I understand you very well. Give me that tape."

His digits were much stronger than they had been when he was old. Before long he became proficient in both brushing and taping.

"Now," he said, "I begin to weary. Take my hand."

She took it, thinking he needed help, but as the vertigo passed over her she realized that they were jumping forward again in time.

She was twenty-six again, her clothing fitting snugly, and he was

back at forty-two/eight-odd. His wings were bleached, his antennae sagged.

"But look," he gasped before she left. "Teeth!"

He was right. They were so delapidated as to be almost useless but they were there and they seemed clean.

"You took care of them!" she cried, delighted.

"For ten (breath) long years." He flopped on the throne, exhausted. "Dismissed."

IT WAS several days before the Monarch summoned her again. "It is very tiring, revisiting the past," he explained. "And tedious, following your instructions. But it saved my teeth for five years longer than they lasted before. You gave good advice."

"I tried to," she said but the whole business amazed her. How could they really have traveled back in time? But if they hadn't, how had the Monarch recovered his teeth? They were not good teeth but they were genuine.

"Ten years were not enough to grant me perfect dentures," he said. "Would twenty years do it?"

Twenty years were equivalent to forty in his life, she remembered. He would be half his present age —hardly past his prime. "It might."

"Take my hand."

She obeyed while protesting. "But Your Majesty. The strain—"

The dizziness overcame her. It was worse than before.

When she regained equilibrium things had changed drastically. The Monarch was tremendous—twice his original size—and the throne had expanded to match. His wings were brilliant orange, delicately veined, bordered on the fringes with a double row of white spots set in black. His torso was full and strong. His antennae were long and firm. He was a splendid insect.

And his teeth, as he smiled, were fine and even. He had done it: he had taken them back to the time before dietary dissipation and dental neglect had damaged his teeth irreparably.

But Judy was in trouble. She looked at herself. Her clothing hung upon her in gross festoons, her shoes were like boxes and her dental case was impossibly heavy.

She had lost two decades. Physically, she was six years old.

"Come fly with me, my dear," the Monarch said. "This is my time of power."

"But I'm not dressed—"

"Neither am I. Does it matter?"

What use to debate with a butterfly about clothing? Her blouse was now as big on her as a dress and far less neatly shaped. She belted it around her middle with a strand of dental tape and discarded much of the rest of her apparel.

They went to the parapet, its outer bulge now swollen into a

large balcony. "But you said equipment wouldn't work for you here," she protested, remembering what he had said ten years later (three or four days ago, subjective time). "How can you fly?"

"You jest, my dear," he said benignly and hooked four hands into the back of her blouse-dress. She screeched as the dental tape snapped and she had to scramble to avoid complete dishabille.

The Monarch flexed his handsome wings. Air blasted down and then they were aloft. By the time she had managed to knot her outfit securely about her the palace had fallen away and the ground was already awesomely far below.

Now she was glad she weighed so little. Her blouse was good nylon, but . . .

"Material power," the Monarch said as they flew. "It has been claimed by sages on my world and perhaps even on yours that this can not bring happiness but assuredly it can. At this moment in the span of my reign I control seventy systems, each with one or more habitable planets, and I hold a virtual monopoly on the distribution of Ra radium throughout the galaxy. I have phenomenal wealth and even the lowliest of my subjects live in ease. Look there!"

She peered as he swooped low. She saw a silver city with minarets and flying buttresses, each structure bedecked with scores of bright green butterflies. It was as beautiful a municipality as she had ever seen.

"Is this your capital?" she asked.

He laughed resoundingly. "This is Luna—the slum-city of Lepidop. Every occupant is a moth. See the ugly spots on those wings."

The spots were not ugly to her. "Luna moths," she murmured.

"And look there."

It was a forest, but like none she had known on Earth. Each huge tree was barrel-shaped, its foliage on the outside, its fruit hanging inside. She learned that when the fruit became ripe it dropped so that more could be grown on the same stem. There was preservative gas within the hollow center, so that the tree gradually filled with its own fresh fruit, a natural storehouse. Enough was stockpiled in this one forest to feed several cities for months.

"And there."

Now they came upon an ocean of water-color-paint water. Geysers plumed from its sparkling depths into the sky, forming ambient vapor-scapes of every lovely hue. Swallow-tails spun within these falling mists, spraying rainbows from their wings.

"This is my empire," the Monarch said. "This is power, this is beauty, this is joy." And Judy had to agree.

They returned to the palace. "Why don't you build a dental

clinic in this time," she inquired, "so that no citizen needs to have lived without proper care? The best food is wasted if your teeth are poor and no one can be happy when he has a toothache."

"What I do now can affect only myself," he reminded her. "And you, to a lesser extent. But in our normal time I shall build a clinic for the future."

She checked his teeth. "There is some damage, but I'm sure that proper care will preserve these for the rest of your life," she said. "Brush them after every meal and brush the rest of your mouth, too, to disturb the bacteria. Use the dental tape. Don't eat any more processed carbohydrates than you really have to. And have your mouth checked every six months."

"But who will do the checking?"

That moth problem again. And of course the Monarch could not summon any offworld dentist to work on his teeth in this flashback status. "I suppose you'll just have to do the best you can by yourself. That isn't ideal but it will certainly help."

Then she cleaned his teeth carefully, though her tiny six-year-old hands were clumsy at so specialized a task. She reviewed him on the techniques of dental prophylaxis until she was satisfied that he knew exactly what to do.

Finally they returned to the present. There was some awkwardness about her tangled clothing that amused the Monarch, but he was too fatigued to laugh long. He collapsed almost immediately, frightening her. Twenty years seemed to have been a terriffic strain on his system.

The Monarch was old again but he did seem to be in better health than before, as though his new attention to diet had helped more than his teeth. And his teeth *were* improved; he was still able to chew most foods without discomfort.

If human beings had the ability to impart their knowledge to their younger selves, as the Monarch had done, they might all have superior teeth, she thought wistfully.

MONTHS passed. Judy was well treated at the palace, and from time to time (figuratively) the Monarch summoned her for conversation. He was inordinately proud of his preserved teeth and gave her full credit for the advice that had in effect restored them. But her service to him had ended; she could leave Lepidop at any time she found somewhere better to go.

Yet there was a certain lingering dissatisfaction. His teeth were not perfect, and she knew that he concealed occasional pains, not wanting to admit this flaw in the gift. It would have been so much better for him to have had the regular supervision of a dentist (even a moth dentist!), for the patient simply

could not do everything for himself.

She was increasingly nervous, too, because she had not heard from the University. Trach was long gone and she had no idea of how to reach him. She might have placed an interplanetary call, but this was expensive and she did not have a planet to name. He could be anywhere in the galaxy.

Had the dinosaur notified those authorities of her whereabouts? *Had* they in turn notified Dr. Dillingham? *Had* he been interested enough to put in a requisition for her, or whatever it was at this level?

She had supposed that Dr. Dillingham had been satisfied with her performance and might like to have her as his assistant again. But as a University administrator he would rate the best and she could not delude herself about her status there. She was used to his mannerisms and individual techniques and that was all.

She made use of the comprehensive Lepidop library of dental information, studying the configurations of the dentures of a thousand alien species. She visited the lowly moth dentists and found them a good deal more knowledgeable than the opinion of the butterflies suggested. She asked the translator about the University—its procedures and hierarchy. She waited.

Nothing. Either the message had not gotten through, or Dillingham was not interested. She was helpless.

"I have had a taste of better health," the Monarch said, shaking his faintly orange wings. "It incites me to desire more. If twenty years did this, what might thirty do?"

That would be equivalent to sixty, by her scale. He would be in effect twenty—at the very prime of life. Of course, nothing short of a complete overhaul from the moment of conception on would provide him with absolutely perfect teeth but—

"If I begin caring for my teeth in the flush of my youth, at the time I first emerged from the chrysalis, they will remain strong forever!" he cried.

She kept forgetting that the butterfly life-cycle differed from her own. Perhaps that was time enough.

"Come, my dear—take my hand."

She tried to stop herself but his word compelled her just as though she were a butterfly subject. "Wait!" she cried, suddenly realizing what thirty years would mean to her. "I can't go back to—"

And the vertigo overcame her.

It was much worse than before. She felt as though she were being turned inside out through the mouth and dipped in lye. She felt, she fought, she expired, she emerged into . . .

Nightmare.

The choking, crying, bleeding

miasma of extinction. Her arms were bound in mummy wrappings, her eyeballs were rotten. She screamed with the soundlessness of an anguished ghost. Maggots were feeding on her tongue, flames on her wings.

She had tried to go back to four years before she had been born.

BUT it was not her own demise she experienced. The Monarch was dead. His ancient husk of a body dangled from her hand when she stood and, when she tried to let go, his desiccated hand fell apart.

"Murderous alien!" the court butterflies cried, discovering her in her guilt. "You made the Monarch attempt the impossible. You crucified him on your short lifespan and now the Empire will fall!"

Judy found no way to protest. She had led him on to it, however unwittingly.

"You shall die the death of a thousand lights," they screamed. "Moths shall spit on your remains!"

They put her with all her possessions in a cocoon tower near the apex of the castle. She could see beyond the strands to overlook the lovely countryside, but she could not break them or force them apart in order to escape. They were like invisibly barbed wire. In any event, it was a long, long fall to the moat and sharklike beetle larvae cruised that dreary channel.

Butterflies swooped from the sky, their wings translucent in the sun. Each carried a beamer pointed toward Judy's prison. Some of these rods were silver, some black, some green—all the hues of Lepidop. The insects zoomed at her in single file and from each weapon a narrow light speared into her cage.

At first she flung herself aside, trying to avoid the profusion of beams, but she could not escape them all. Then she discovered that they did not hurt her. They were merely lights that illuminated her prison momentarily and faded harmlessly.

Pain blossomed in her leg. One of those lights was a laser!

An hour and several scorches later she figured it out. At irregular intervals a butterfly would approach carrying an orange rod—the color matching the wings of the dead Monarch. This was the laser—the beam she had to avoid.

But it was nervous work. She had to watch every butterfly and there were always several in sight. The beamers were not easy to see until almost within effective range, so she had only a moment to spot the orange one and dodge its pencil-thin sword of heat. The bars of the cage inhibited her view also at critical moments. The beams were somehow set to have effect only in her vicinity; they passed

through the cage strands harmlessly, and dissipated beyond the cocoon. She was the only target; when her attention lapsed, she got stung.

So far the wounds had been painful but not critical. Eventually a laser would strike an eye or some other vital spot, she knew.

The death of a thousand lights. She understood it now. A hundred thousand threats, one thousand actual attacks. One or two strikes she could forget; ten or twenty she could suffer through; one or two hundred she could survive with proper medical attention. But a thousand would surely finish her. Those she managed to avoid still took their toll, for she could not relax at any time while watching for them and sleep would be impossible.

Sometimes one laser followed another consecutively. Sometimes half an hour passed between shots, though the innocent-light butterflies swooped past steadily at intervals of five to ten seconds. The average laser came around fifteen minutes. That would be four an hour, she calculated feverishly, or almost a hundred in a twenty-four hour span.

It would take ten days for the torture to expend itself. Far longer than she could remain alert. Eventually she would sink into unconsciousness, from fatigue if not from wounds.

The death of a thousand lights.

Her eyes ached. The constantly oncoming butterflies blurred. They no longer seemed beautiful; they were wings of horror. Always one passing close, its light aiming, stabbing. Always one a few seconds behind, its beamer lost in the distance. And others, trailing back into the sky—an ominous parade of beating wings.

She cried out. She had nodded off without realizing it, hypnotized by the steadily cruising, flexing wings. A laser had scored, singeing a strand of her hair and scorching one shoulder. It was as though a white-hot poker had been jammed against her, destroying flesh and bone to a depth of a quarter inch and cauterizing its own wound.

Night came but no relief. Now the moths were marshaled to the task, their rods softly glowing in the same array of colors. This was no favor to her, she knew. She had to be given a *chance* to spot the orange ones. Otherwise her vigil would be useless, and she simply would have to lie down and let the

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beams come. That would remove half the torture and shorten its duration.

She nodded off again and was struck again—but this time she had been fortunate enough to pick up almost thirty minutes of sleep. That enabled her to remain alert for several more hours.

Then the blurring resumed and she had a tightening headache and knew that the dismal end was coming. She would fight it but her point of no hope was incipient. All she had wanted to do was to rejoin Dr. Dillingham; the cruelest part of it all was his failure to respond. He would have responded, she was sure now, had he been told. Maybe the University had buried her message as crackpot.

She chided herself for feeling sorry for herself, then reacted angrily: now was the best of all times to feel sorry for herself!

A larger light showed in the distance. She thought it was the rising Lepidop sun but it seemed to be star-shaped. And not natural. Soon she unblurred enough to make out the glint of metal. A machine of some sort.

From it a searchlight-sized beam emerged, sweeping across the planet. Was this the final laser?

She screamed involuntarily as the huge light found her and bathed her blindingly but she did not burn. The machine came down its headlight as though it were an Earthly locomotive. She could make out no detail of its shape.

Her cage exploded. She felt herself falling, still blinded. She heard the chitter of untranslated moth protests. Something hard caught her arm and hauled her up roughly.

"None but I shall do him die!" a metal voice boomed. Now she knew she was hallucinating, for translators could not fly. "And you will join him there."

"I know that!" she snapped hysterically. "At least give me some butter for these little burns—"

And that was strange, for she was not the hysterical type. She wondered when the end would come. ●

TERMINATION?

According to Piers Anthony, the foregoing is the final story of his Dr. Dillingham series. Hence the somewhat enigmatic ending, which abruptly winds up things—or does it? Certainly it presents a challenge to a reader unfamiliar with previous Dr. Dillingham stories that have appeared in *IF*. And it is an ending, if we are not mistaken, that leaves a hook for renewal of the series should its estimable author so will it. We hope he does.

—THE EDITORS

JUANITA COULSON

A HELPING HAND

Like men, Jeelians hurt a little all the time—but they had found a way out!

THE roof fell in as Tryss and I came back with the latest flora samples. I imagine it looked pretty ridiculous—from a safe distance. Just as we went past the posts they both splayed out as if they'd been cued and the flimsy overheads started showering broken adobe and wooden shingles on us.

(Actually, it was the porch *roof* that fell in. I should be specific. Shan is always telling me: *Say what you mean.)*

Tryss, at least, thought it was funny. We weren't hurt and he sat there in the wreckage—dust billowing up around him and giving him the look of a bald fox-faced monkey being cooked alive—squealing in what passes for laughter among the Jeeli. After I ascertained none of the sample packages had burst when we'd dropped them I even joined in with a bit of weakly nervous chuckling of my own. After thirty-seven days on the planet and nothing to show for it the whole lab might as well cave in, not just the porch.

Shan came out to see what the noise was about. "You hurt?" he asked, holding out a hand. When I shook my head he put his hand back onto his hip.

Still squealing, Tryss was on his feet now, bending over to pick up the scattered samples. We all pawed through the rubble, sorted out the packages and lugged them to the lab, trailing chunks of broken adobe, occasional splinters and Brownian tail of fine dust. Messy.

"Josy, can't you do anything without creating an uproar?" Carteret complained. I was tempted to be scathing but thought better of it. In another year Carteret was going to be a lot more than Shan's cochief, and it wouldn't do to irritate a future superior. Then, too, I suspected he was on the cleanup squad that day and was taking the mess of mud and splinters personally.

"Just consider it the noise associated with inspired research." Shan elbowed some notes out of the way and he, Tryss and I eased our armloads of samples onto the countertop. "It was just the porch collapsing, anyway. The Jeeli never build anything to last."

"Good thing *we* built the lab," Shan remarked. He was using part of that vastly compartmented brain of his to pass the samples out for testing. The recipients wandered off, reading labels and bumping into tables absentmindedly. The room was suddenly full of the silent sound of mental gears meshing. I felt conspicuously unemployed since I'd finished my perception test run two days ago.

"Incidentally," Shan said, "D'Vrainy called while you and Tryss were gone."

"Uh-oh?" Tryss said, waggling his pale red eyebrows. The first Federation Basic that e.t. kids pick up are those little nonsense-sylla-

bles-pregnant-with-meaning our language abounds in. They do all the proper eye-bugging, mouth-pursing, tongue-clicking or whatever else is necessary dramatically to underline each phrase and they seem to know what each means, too. That's what makes it so easy to teach them modern ways, even when the adult populations are resistant.

"Uh-oh, is right," Shan agreed with a sigh. "He should be here any minute."

"Does he believe leaning over our shoulders is going to produce results any faster?"

"That's your department, psychologist." Shan was studying the contents of one of the few remaining sample packages. "They get this out of a local cannabis field? Wow!"

"It's labeled." I checked the comp tape the crew had run while Tryss and I had been collecting samples from the skimmer pilot. With my psych work temporarily stalled I figured I'd better shift to my second suit: pattern spotting. Out of the corner of my eye I saw Carteret stare at me a minute, then turn away. Efficiency check? Division loved his reports and his drive to succeed. They always liked success and the pressure was definitely on here; we all felt it, especially D'Vrainy and his men. They had been most cooperative in collecting weird flora, fauna and mineral samples from all over the planet. They had curtailed their work at the processor and run odd-ball errands for us so we could plow all our time into research. It was embarrassing. The base—it hardly deserved the title "Colony" yet—was so new the serial tags hadn't peeled off the equipment. And here they were out snatching ecological snippets for our team. But we hadn't given them a prize so far and the latest tape was no exception. If we could only get the Jeeli on their feet, get them operating at any kind of normal level . . .

"There is a deadline, you know," Carteret was telling some of his techs acidly.

FROM outside came a wiffling sound that signaled the imminent landing of a skimmer. No need to ask whose, after Shan's remark. I found myself clutching the comp tape and trying to look earnest and busy.

The noise of the skimmer dulled and a number of voices became louder and louder as their owners walked toward the lab. Somebody kicked some boards in the ruins of the porch and somebody else remarked on the scene with inspired profanity. Then: "Just get over there and tell him I want thirty kilos extracted by tomorrow. And I am not interested in excuses."

There was a trompling of fading footsteps as people apparently hurried to obey that familiar voice.

Then the colony director stepped inside the lab, looking satisfied but not pleased.

"I'm not interested in excuses from you, either. And what the hell happened out front?"

"We didn't intend to give any and the porch caved in," Shan said mildly. "I presume the Jeeli will put up another one of these days, with the kids' obsession about putting porches on everything."

"Admittedly, it's one of their few self-initiated projects." D'Vrainy had his hands behind him under his favorite feathered cloak. Thrown over someone his size, it produced the effect of an immense brooding predatory bird and when he walked toward you with that curiously light step of his you hoped he wasn't hungry. On anyone else such a cloak combined with fatigues would have been ludicrous. On him it wasn't.

"Just what are you giving me?"

"We're working," Shan said. I'd watched him move around directors before but this time I sensed he was nervous. And all the staff seemed to be trying to outdo one another in creating an aura of purposeful effort. I felt naked standing there.

"A lot of taped analyses I haven't the time or training to digest and a great many due bills for esoteric equipment," D'Vrainy grumbled. His voice took on a pleading quality. "Haven't you anything to show?"

"Not yet—but soon," Carteret promised and Shan glared at him. "It takes time for us to go through all the possibilities."

"Sometimes months," I said and, under D'Vrainy's stare, added with forced optimism; "or maybe we'll stumble on it tomorrow."

"Stumble. Oh, I know—Psychologist Josepha Wales and her widely vaunted intuitive insight. Well, read cards or crystal-ball gaze but find us answers."

Shan threw me a *shut up* look. "Believe me, sir, it does take time. We are anxious to help the Jeeli, too. Just as eager as you are for solutions."

"Are you? I'm where the buck stops. You said maybe months. We haven't got maybe months. Thirty days, outside. We've got to bring these people forward—and now. That would certainly be better than relocating the population, I hope we agree?" D'Vrainy paused and looked down at Tryss and suddenly smiled. He began to chat in Jeeli with the boy and it was plain his friendliness was genuine. Tryss grinned back and glowed at this attention.

"We're examining some new flora samples now," Shan muttered, half to himself. We were both afraid of and admiring of D'Vrainy. We knew the Division's deadline on the Jeeli problem and understood that he had to lean on us. Yet the situation on this planet was enough to make anyone with

even an ounce of pity tear hair.

"*Ey-dya,* Tryss." We glanced toward the lab door. Berayn hulked there, looking at us with half-closed eyes.

"*Fainda,*" Tryss responded, waving a hand in a go-away gesture.

D'Vrainy studied the Jeelian adolescent framed by the door. "Some relation to this mascot of yours?"

"Brother," Shan said.

It was difficult to believe. Tryss was a near equivalent of a bright Terran eleven-year-old, from a limited intellectual background, true, but eager and willing to learn and eminently teachable. He'd make a great little lab tech, for example. Berayn, a scant three years older, was a caricature from Earth's rustic past: dull expression, mouth always slightly open, sleepy eyes, slouching posture, slothful movements and an intelligence response-level definitely subnormal. I'd run those tests myself.

D'Vrainy pouted and his hands behind his back flipped rapidly at the feathered cloak. The action made him look tailed and didn't improve his baleful image. "What the hell *happens* to them?" and there was frustration and anguish in his voice.

"Given time," Shan offered, "we hope we can find out."

"You know the deadline. Surely in that time we can help the Jeeli up to where they can start being self-sufficient?" I had a moment's irrational idea that in their own dull, contented way perhaps the Jeeli *were* self-sufficient; but at the time I knew they were not and kept quiet. D'Vrainy went on, "There's a whole big rich planet out there, just waiting for them to develop it. And we can show them how, if they'll just learn. Tools, the works. The Division is willing to shovel millions in here and bootstrap them up. They can be full-fledged partners with us."

Shan hunched himself against the counter. I knew that look; having been reminded so forcefully once more of the depressing nature of the Jeeli problem he was trying hard to keep scientifically aloof and not succeeding. "All speed, sir —you know that."

D'Vrainy's shoulders slumped. "Just keep at it. Anything you need. Anything at all." Then he straightened and moved lightly toward the door. Berayn, after a moment's intense study of the size of their two bodies and the shape of the door, edged out of the way so D'Vrainy could pass. The director paused and looked down at the boy, compassion covering his usually stern countenance. Finally he went out, shaking his head and muttering, "Dammit—"

Shan immediately got to work on the tapes. Tryss ignored his brother and instead watched Shan sorting. At once he saw the sequence and tried to help. That was a sharp little mind and we all knew

that in just a few years it would be buried under a moronic expression like Berayn's.

I stared at Berayn. He gazed back. There was no spark of interest in his face. No resentment, either. He was a living epitome of don't-give-a-damn and he was no exception. The whole adolescent and adult native population of Jeel had the same who-cares attitude toward life.

Tryss was still pawing through the tapes. "This one here? Ah! And this one come after number five!"

But, then, Tryss was only eleven, not fourteen.

I picked up the latest printout again and studied it. My talent is supposed to be looking at things in an unusual way, detecting patterns that those closer to the forest might miss. So far, on this planet, I hadn't earned my keep.

"Something?" Shan said hopefully.

"Yes. At puberty the Jeeli stop developing intellectually. Not only that, they lose much of what they've learned throughout childhood."

Shan's mouth quirked. He was obviously annoyed that for an instant I'd given him the impression I'd found something new. "Don't we all?"

ON WORLDS where conditions permitted Shan and I liked to walk after work in the evening—if there was an evening on that particular planet. It was the time allotted to bounce ideas off each other, to play Let's See What We Have So Far. That evening after D'Vrainy's visit was no exception. "At least the Jeeli aren't dying or in danger of extinction," Shan muttered, not sounding cheered.

"Just in perpetual stagnation. Anthro says they've been this way for a long time—that well-preserved burial they found dated out to around two hundred thousand Terran years."

We were both trying to avoid thinking of the possibility of Relocation for the Jeeli. It would be necessary, though, for their own safety, during the industrialization of their planet—unless we could find the key to unlock their minds and bring them up the ladder. Shan viciously slung a pebble down the grassy slope we stood on. Below us a cluster of crude dwellings straggled about a little stream, each unworkmanlike hovel sporting a flimsy porch. "Look at that. They were building those same primitive shacks when that burial was made and they build them the same way today, without any change whatsoever. Do you suppose they'll fix up those two that have fallen down or just move in with their relatives?"

"Oh, they'll rebuild them eventually, maybe, when the kids get energetic and provide the enthusiasm and direction. In this climate there's no big rush."

"There is for us. While we examine and reexamine them more Jeeli are turning into mental mush. The whole culture is climbing a hill—and it never gets to the top. The average Jeeli gets no higher than fourteen years up that hill, then he gets thrown back down again and stays there. We've got to change that."

It hurt. It hurt all of us. You didn't get into Ethnic Research of the Division unless you psych tested with powerful empathic attitudes toward primitive peoples, a tremendous desire to assist. Sometimes it wasn't necessary to push, only show the way; but Survey had established, easily, that Jeel wasn't in that category. And here we were drowning in the results of that classification. Everything in our training and psychology pointed us toward helping underdeveloped species up their individual cultural ladders. We just couldn't ignore them.

Tryss puffed up the hill toward us, a big grin on his face. "Doctor Carteret say last test is point nine-nine co—co—"

"Correlation," I finished for him. Sometimes I wondered if Carteret ever rested. He dug at every problem until he had it licked, though it was possible that this time he'd meet defeat. I rubbed the top of Tryss's hairless head, trying not to blame the messenger for bad news. "So much for that theory."

Shan shook his head. "Poor kids. How do they ever learn anything? They certainly don't get any education from their elders. They're almost feral children."

"But they seem happy."

Tryss had gone back several meters from the slope and hunkered under the low-hanging branches of a tree, even though it wasn't hot. And at the sight something jolted me. Jeeli children rarely sought shade. But all the adults—and the adolescents as they neared or reached puberty—got out of the sun as much as possible even when the light was dim, as now. Under trees, under those ridiculous porches. When they changed to their useless, lethargic state they sought—trees, porches, shelter. I sat down beside Tryss, ignoring the threat of fierce stains from the Jeelian version of fescue. From the way I felt I was probably bugeyed but Tryss didn't seem to think me impolite. He returned my look with a wondering smile, apparently thinking this was a game.

"The learning process itself," I said slowly and carefully. My thoughts were moving fast.

"What?"

"How do humanoids learn—or most mammals?"

"That's your department," Shan said in a halfhearted attempt at a teasing reply. He sat down on the other side of Tryss. "Go on."

"The learning process is largely a response to stimuli."

"Okay. Burn your hand on an object and learn not to."

"Right. Or have a pleasant experience and try to repeat it." I chewed my knuckles a moment, trying to get mentally organized. I had a suspicion I was going to kick myself for my earlier stupidity when I got where I was heading. "But if the stimulus-response pattern were interfered with—"

"We've tested for native drugs." Shan sighed. "They're not on anything like, say, coca leaves."

Tryss was getting bored. The game wasn't much fun and we were using words he didn't understand.

"No, but what if it were something the body itself produces? Not from the outside but from within. Like histamines."

"It would have been present in the adults when we examined them." Despite his arguments, Shan was beginning to catch my excitement.

"Sure! But did we know what we were looking for? We were checking mostly for foreign substances. This unknown quality would appear to be a natural, an element that belonged in their bodies. It would probably be present in the kids' systems, too—but the difference might be so minute we didn't spot it before."

"We've already run total physicals on scads of specimens and the stuff is long gone. That means new tests and new specimens," Shan said with a groan.

I waved away this annoyance. "What we need is—"

"A lot of test stimuli and a pair of Jeeli twins who will enter puberty all at once, overnight on successive nights. Only it doesn't happen that way."

"Would you settle for a pair of brothers, one pre-, one post-pubertal?"

"Tryss and Berayn?" He looked skeptical. "I doubt if they'd think much of new blood and tissue samples, either."

I grinned reassuringly at Tryss, feeling like a Judas. "No, but they're close at hand and we know their data better than most of our specimens. And—"

Tryss smiled back at us and I knew Shan was feeling my own nerve-wracking compulsion to solve this problem at any cost. We'd been programed, as it were, by our own culture, our own emotional learning processes.

Shan said it for both of us, "None of us wants to see Tryss become like Berayn."

D'VRAINY wasn't happy about the idea of using Tryss and Berayn as guinea pigs. He was kindly enough to shrink from the thought of what we might do to them.

"You said a free hand," Shan reminded him and Carteret nodded.

D'Vrainy studied the two boys uneasily. They were not clear on what was expected of them but

they recognized his authority and awaited his decision, Tryss apprehensively, Berayn blankly.

Carteret said, "We wouldn't take this approach if we didn't have every anticipation of a successful conclusion." Shan glanced sharply at his cochief, opened his mouth to argue, then shut it. "This team wants to see the Jeeli's minds unfettered."

"Unfettered. Yes." D'Vrainy had started at the word, then smiled. His big hands fell on the shoulders of the brothers. I couldn't grasp much of the following conversation he had with them —the tapes couldn't teach me that fast and D'Vrainy had almost two hundred days' head start—but it seemed to encourage them both. I caught the word "Duty" and another phrase which might have translated as "Noble Help." Tryss drew himself up proudly and even Berayn looked mildly impressed.

Persuasion done, D'Vrainy shrugged his feathered shoulders and gave us a parting shot: "And try not to stick them with needles."

We didn't enjoy doing so. But despite the advances of medicine through the centuries there still wasn't any way for our techs to get blood or several other kinds of tissue samples out of a humanoid body without poking it with a syringe or punch. (There'd been some experiments with alternatives, of course, years back. But the Bekart Method—a kind of radical osmosis—tended to leach out a lot of other things along with the desired sample and leave patients in rather nasty conditions. It had been abandoned for the older, surer, more painful method.) Tryss yelled a lot but Berayn didn't seem to mind our procedures at all.

Shan and I exchanged glances and he raised his eyebrows. "Josy, you may have spotted the tree amid the forest again."

I cued the comp log, feeling cautiously elated. "Not only less alert as adolescents but they have a distinctly higher pain threshold. We'd sort of assumed that the kids we picked for earlier samples yelled at the needle because most humanoid kids from nonstoic cultures do."

"I don't think Berayn's being a stoic," Shan said firmly. "He just doesn't seem to feel pain as much as Tryss does."

And with each test that initial conclusion was more and more strongly reinforced. Tryss became hysterical at the sight of a needle or anything that resembled one. After our first traumatic experiences with him, we made very sure to take a large enough sample to last for any number of tests. I had never seen any e.t. child react quite so violently, not just with tears and protests but with white-lipped, almost convulsive panic.

Berayn on the other hand took the whole thing with equanimity. We'd thought at first we might

have to ply him with a lot of food to keep him pacified, but he made no fuss at all. Just as well, since he didn't seem to have a great deal of interest in food beyond his basic requirements. Enthusiasm for everything seemed to diminish after whatever it was happened to the Jeeli. It was a marvel the entire race hadn't died out.

Sooner than I'd hoped I spotted something suspicious on the tape. Apparently my expression must have been a giveaway, because before I could get my mouth open Shan, Carteret and several key bio people trotted toward me.

"Something?" Shan said.

Research put me on the team because I have a special feeling for puzzles, including multi-track comp tapes. I like to study lots of threads and then see how the pieces are going to come together. That Qualified Tech First in psych wouldn't have been enough by itself (I'd completed it, however, knowing I couldn't get anywhere without a degree), but Assignments regarded my ability to generalize as a valuable stock-in-trade for our line of work. Right now the puzzle pieces were falling into place so fast I had a feeling they were dragging me along with them.

I pointed to the comp tape. Takana, our bio expert, leaned over my shoulder to watch. "Pull together neuro and hemo for a start. Allow for a quantitative difference because it's a different species. Now doesn't this look like a loss here, in Berayn's sensory and motor responses? Mostly in sensory, if I read right, a bit less inhibition in motor."

Shan shuffled his feet and chewed his thumb while Carteret and Takana tapped the comp for elaborating data. The machine did some mechanical nail biting and began spitting out fresh readings. Questions started immediately and I had to hold up a hand to fend them off while I read the results.

"Yes—I remember now! Read me out: Transmitting nerve impulses involves a shift in sodium and potassium ions, right? According to the comp, at this point it spotted a slowdown in that process in Berayn. Not an interference by *our* species' medical standards, but apparently by his." Takana was nodding, too busy tracing a line on the tape to comment. "It's the ion shift. It's being inhibited—and selectively."

"Let me see that," Carteret insisted. He pushed between us, joining Takana, hunched over the comp. I knew why they always gave us printout rather than voice comps: people like Carteret didn't believe anything unless they could see it. I hoped I hadn't goofed. I could imagine Carteret's report to Division if I had. Shan might have let it slide but not our take-charge boy. But, if I were right, he'd know that, too; Carteret had few equals in neuro. First he muttered to him-

self, then said to his tech, "Pull our earlier tapes on dendrite samples."

"We got something?" Shan pleaded. He was even more alone than I was, stuck in an administrative rut and only occasionally getting back to his beloved mycology.

"We'll let you know."

Checking and rechecking proceeded hastily. We all felt the quickening sensation of a growing conviction we were finally on the right track. Shan and Carteret both fidgeted every time we warned them not to call D'Vrainy yet. We had to be sure.

Finally Takana began scribbling, confirmed himself with the comp, frowned, scratched out a line or two. He and Carteret put their heads together over the paper, adding, paring. Suddenly they stopped and looked at each other, startled, Carteret's pointed hawk nose close to Tak's rounded oriental one. Tak slithered the paper to me.

I drew back from it unhappily. "Chemistry isn't my department, you know." It looked vaguely familiar, though, even to me. "Is that a kind of—aspirin?"

"Yes and no." Carteret was looking very smug. "I don't think it would cure any of our headaches. It's a subtly different compound, quite subtly, which is one reason we didn't spot it before. It's unlike anything we've hit elsewhere. Definitely acetic acid there and some other things we can break down pretty quickly."

"But we already know what it does," Tak broke in enthusiastically. "It—in the case of the Jeeli—interferes with the shift between sodium and potassium ions necessary for nerve impulse transmission. You were right, Josy."

"Works predominantly on intake rather than output, as you said," Carteret gloated. "But on both to some degree." He didn't quite rub his hands together but the aura of greedy triumph was very much there.

"And its quantity is negligible in pre-pubescent Jeeli?"

"You don't know the half of it! Now that we've found what to look for the comp's turned up plenty of previous correlations. Gradual increase until by Berayn's age they're flooded with it. Like natural histamines in our species, the body produces it. No outside source. All the Jeeli have some of it, but the pressures of maturation seem to push production into high gear at puberty, when there are plenty of other things like hormones running around in their systems which effectively mask it—unless you look very closely."

"Josy?" Shan said plaintively.

"Now you can call D'Vrainy."

"THEN you can lick it? You can cure them?" D'Vrainy had only needed the barest rundown to grasp the point and slice through our burbles of discovery.

"So their bodies drug themselves for some unknown reason."

"Evolutionary side pocket," Carteret explained, "like a wisdom tooth in a Terran. Once needed but now useless and, if it's a problem, easily removed. Same with the Jeeli and their 'aspirin'."

"Maybe," Takana said.

D'Vrainy looked at him sharply. "You aren't agreed?"

"We're agreed that as long as this process goes on the Jeeli aren't going anywhere culturally," Shan said. Carteret and Takana both nodded. "With their stimulus reception severely muffled, not only learning but most other activity requiring much initiative or creativity has come to a halt. It's amazing they've progressed as far as they have with their rudimentary agriculture and those travesties they call buildings. We can probably credit those to a lucky series of child geniuses some time in their past."

"But we're certain we've found the loopholes," I finished.

"What's the holdup, then?"

"A choice has to be made," Shan said, "on the advisability of going through that loophole. It's different from simply removing a native drug source or some other outside chemical influence. This is tricky. We ought to be able to counteract the stuff that's turning them into zombies but—"

D'Vrainy was plainly annoyed. "That was the whole object in bringing you here! If you can't cure them, what good are you?" There were a number of visible winces around the group.

"There might be unexpected consequences," Shan said slowly, "some unpleasant side-effects we can't anticipate. The comp tells us the same condition doesn't prevail in any other existing Jeelian species, and that our chances of inducing them in a lower life form are nil. The chem people, at least, are sure we can find a way to override this natural super-aspirin they have running around in their neural synapses. But we can't predict *exactly* what will happen when the overriding agent is ministered."

"It'll wake them up?"

"We can wake them up," Carteret said with happy dogmatism.

"And the results might be a bit much to handle," I warned. "It might make them—well, aggressive, for instance. The Jeeli have no history of war. Stimulated, jolted out of their millenia-long lethargy, they might discover their neighbors annoyed them and start bashing in their heads right and left. We certainly went through a long enough period of that sort of thing, still are to some extent. Can we afford to take a chance of doing such a thing to the Jeeli?"

D'Vrainy strolled back and forth, flapping his cloak. He was plainly struggling over it, and I didn't envy him. It was hard to dislike the Jeeli; but leaving them in

their present state was out of the question. Yet we had to be sure this was the key that would open their culture up. "You have other reservations?" D'Vrainy said, eyeing us suspiciously.

"Any time you tinker with the body chemistry of a living thing, you're gambling," Shan said. "Sometimes it works out wonderfully, like the discovery that we could force the human body to produce its own antibodies. In a few other cases we haven't been so fortunate."

D'Vrainy glanced to his right. Tryss and Berayn sat there, playing a game involving colored pebbles and quick responses. At least, Tryss was playing. Berayn was getting skunked, but then it *was* a child's game. He just couldn't move quickly enough to compete any more. As a compensation of sorts he seemed to have lost much of the urge to compete. He didn't become angry at his losses but just made feeble grabbing motions for the pebbles and occasionally chuckled embarrassedly.

"Go ahead," D'Vrainy finally ordered, a man stepping onto an ocean covered with thin ice. "Open up Berayn's mind, if you can, and the rest of the Jeeli's minds. We have to take the risk. See if you can unshackle them."

IT HADN'T taken at all long for our chem boys to find a simple counter to the natural salicylic, phenol, or whatever. They tossed around the terms interchangeably, it seemed to me, with "neo" and "Jeeli" tacked onto their coinings as suffixes or prefixes, depending on their disciplines.

"You've got something like it right there in your hand, Josy," Takana said, laughing. I glanced down at my cup of caffe. "We've been habituated to caffeine for several centuries now. It's only fair the Jeeli get their own version." He held out his hand and displayed a gel containing an unappetizing gray powder. "Native sources—and more than enough. We had several kilos this morning, even before the test animal experiments. The Jeeli can be taught to refine it by themselves. With the effect this stuff will produce, it'll be easy to teach them how."

"I'd like a test on Berayn," Shan said, annoyed, "when and if we ever have a complete staff once again. Where is everybody?"

"Oh, Carteret and his boys went off somewhere as soon as we got the comp confirmation. He took most of what we had of the stimulant; I think he wanted to tell D'Vrainy in person."

"I'm sure. An ordinary com call couldn't suffice for such a triumph as this."

"Indeed it wouldn't." Speak of the devil. Carteret and what seemed like half our staff—his techs and other acolytes—trooped in. They all looked inordinately

pleased with themselves and something in their manner gave me a chill.

"Would it be all right if we proceeded with the experiment?" Shan said icily.

"It hardly seems necessary, you know." Carteret's techs were beginning to shut up some of their equipment in what was obviously a close-down phase. "The comps told us what we needed to know and I've already given D'Vrainy what he wanted."

"What?" Shan's voice was low and shaking.

"Of course. I gave him enough to distribute immediately to the Jeeli water sources. His crews are busy dumping it now. By morning—"

"Without a *live* test?" Shan was outraged but helpless against that totally confident personality of his cochief.

"Don't you believe your own comps? D'Vrainy does. And I'm sure Division will, especially when we can tell them how the Jeeli are moving forward." He waved a negligent hand. "Oh, go on with your individual test. It'll make you feel better—and your report will add that nice touch of humanity to the comp printout."

Shan nodded grimly to Takana and the little oriental approached Berayn. The boy sat propped up against the wall, a bowl of half-eaten food in his lap. He didn't react when Tak and his team swarmed around him. Without protest he submitted to the electrodes, the blood pressure cuff and all the other impedimenta interfering with his meal. Takana offered him a capsule and Berayn swallowed it without hesitation.

We waited less than five minutes and the results were overwhelming.

Berayn's eyes widened and he began to look around, not with his usual bland lack of interest but with an expression that strongly resembled panic. One of the techs dropped a lid on a case and the boy jumped—literally—about half a meter.

"More alert all ready," Carteret began smugly, then stopped.

"Nooo—" Berayn said, slithering up the wall, spilling the bowl of food down his thighs and onto the floor. The techs moved hastily to accommodate his change of position, shuffling tubes and wires trailing from his body.

Shan stepped forward, planning to call a temporary halt. He didn't have time.

Takana and the techs tried to be soothing and Berayn swiveled to face them with eyes that were bright and terrified. His lips peeled back like a frightened animal's. "Nooo—" he wailed again, putting his hands tightly against his ears. He felt the electrodes on his scalp and ripped them away. One of them caught, drew blood. Berayn screamed and flailed against the wall, obviously in agony.

"Stop it! Get that injection to counter . . ."

Tryss rushed toward his brother, horrified at what was happening. They two shouted at each other in Jeeli and all the while Berayn beat away his "attackers" and their attempts to help him. He suddenly seemed terribly strong for a small, adolescent extra-terrestrial.

Suddenly, on top of everything else, the com buzzed on. I saw D'Vrainy's image come into focus, and his expression, half tragic, half enraged, was a study. He was roaring. "Get Carteret on this line!"

Carteret looked stunned as he crossed to the com, a man with a theory crumbling under his feet.

I couldn't spare the attention to hear what D'Vrainy might say to him because the struggle with Berayn had become a desperate battle. Abruptly the boy tore loose from everything, the hoses and equipment flapping behind him like streamers. He ran for the door of the lab. Takana and the others pelted after him, shouting assurances and pleas to stop that only made Berayn yell the louder.

They all clattered out. The boy's screaming still rang in our ears when Shan and I followed them long seconds later. We paused on the threshold, stunned.

Tryss was standing amid the debris of the porch, sobbing. "Berayn hurt—hurt all over. You give him something make him hurt—"

"We were trying to help him," Shan apologized. "How did he hurt?"

Sniffling, Tryss said, "*Ears* hurt. *Eyes* hurt. *Feet* hurt where you stand on 'em. Air hurt when it *push* against you." Then he added with great wistfulness, "Just like it do me sometimes. Keep hurt—hurt more and more. But when you get Berayn old, hurt go away."

"You didn't tell us that," Shan said weakly.

"Everybody little hurt," Tryss said with horrible simplicity. I recognized the tone from my teaching apprenticeship: childhood's contempt for adult obtuseness. Of course. It wasn't worth mentioning because it was a universal. Every-

body little hurt and Tryss was little.

"But then it go away. When you get big, it go away."

"It goes away," I said dully, feeling sick. "Because their bodies make it go away. Shan, we can't help them without driving them insane or making them kill themselves to escape. We took the wrong tack: in their species pain and pleasure aren't learning stimuli—they have to be avoided. The evolutionary side pocket isn't the deadening agent; it's the steadily increasingly painful stimuli they experience throughout childhood. Berayn's condition is the normal one, the survival adaptation. And Tryss is just now approaching the age where his body, in self defense, will start manufacturing its own natural depressant."

"We used the mildest dosage we could," Shan murmured.

"Good thing. Right now Berayn is obviously being battered by stimuli, maybe far more than he ever was as a child; but he's no longer able to take it. None of the adolescents or adults are—my God, Shan! Carteret! The native water supplies! Listen—"

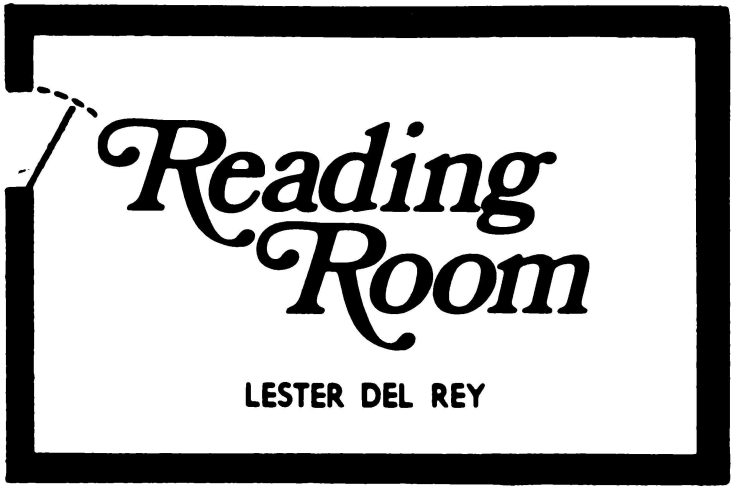
Distantly, underlining Berayn's fading shrieks, we could now hear other high-pitched Jeeli voices. They came from the direction of the nearest collection of hovels. I could visualize hundreds of pain-maddened Jeeli adults clawing at their heads, being torn apart by the flood of stimuli—from the gates we had all helped open. And knowing D'Vrainy's thoroughness, I had a sinking certainty that he'd sent the compound out to all his stations, all over the planet and our scene of horror was being enacted many times over. Carteret had thrown the switch, I'd first given him the fuse and the rest of us all concocted this—leg up a ladder to nowhere.

I wanted to bawl with disappointment, to crawl into a corner where I wouldn't have to hear or see the tortured Jeeli. "We've destroyed them! The children—they can't—they'll—they'll have to be relocated. They won't even have a culture by morning. Listen! The adults will be dead, or insane. Oh, Shan! What have we done!"

Out in the dark Berayn was still howling. The pursuing techs were still trying to reach him through the avalanche of stimuli assaulting the boy—if only they could catch him.

And a meter away from us, standing in the ruins of the porch roof, Tryss sobbed, trembling in empathic pain. We barely caught the word, "Porch—" but his tone of pathetic pleading was plain. His hands were over his ears, trying to shut out his brother's screams. But he couldn't. We'd taken away their porches—their shelters against a world so incredibly painful we could barely imagine it.

Or could we? Now? •



LESTER DEL REY

"SOMETHING old and something new; something borrowed, something blue." It isn't entirely inappropriate for science fiction, which represents something of a marriage between reality and a dream. It is also the fair beginning of a formula for writing, except that it should add a number of other items—the rest of the colors, something false and something true, and so on. But nowadays we're lucky to have even the four elements worked into a book and the meaning of "blue" may apply to something other than mood.

This time the something borrowed is represented by Roger Zelazny's *Nine Princes in Amber* (Doubleday, $4.50). In this book he has borrowed from every legend I can remember of the marvelous land of Faerie.

I suppose those who feel it incumbent to spot trends and see limits are going to carp at the fact that Zelazny is still sticking to myth (though not religion) for his inspiration. But since myth is the source of almost all our best literature in one form or another, I can't object. And I can very much applaud the fact that when Zelazny borrows, he turns it into an act of high creation. The borrowed elements here are so well adapted and so much enriched by his own additions and attitudes that the background becomes one of the freshest lands of wonder in which I've roamed for some time.

The Princes of the title are the nine sons of Oberon—a brawling, arrogant and contumaceous lot of varied and oddly-talented nobles. Oberon, it seems, has mysteriously been forced to give up his rule and

he is either dead or somehow locked from contact. Now his sons are fighting for the rule of the kingdom of Amber. This world of Amber is the source world of all others—the reality from which our Earth and other lands are only the incomplete shadows across the infinite planes of possibility.

We follow Corwin, who has been exiled to Earth. And since the days of the years of Faerie are not as those we know, he has spent many centuries here. But now the ancient feud with the apparent victorious prince, Eric, is reaching a new phase. Corwin, following an attempt to murder him, is bereft of much of his memory and most of his powers, but none of his wits. He sets about working his way back to Amber. And once he manages that return, he is caught in the ancient struggle as Eric tries to become crowned the king of Amber.

The cast of characters is rich and varied and the lands through which we are led are excellently conceived. Plot and counterplot work well. And above all, there is a richness of texture and mood to the book, together with a fine inventiveness. It should be a novel to be recommended without quibble.

Unfortunately, it isn't a novel. It's the beginning of one and nothing more. At the end we are left with a fine collection of unresolved items and a hero who is merely free to do what he has been temporarily stopped from achieving. But he has achieved nothing yet. Oberon, who appears as a voice that must eventually be significant, is simply dropped. A number of other characters must eventually also reappear—both nobles and commoners. The background for the story is laid but the story is not yet told.

Obviously there must be a sequel—perhaps more than one. (This has every earmark of the first book in a trilogy, judging by the pacing and what has developed within its large frame so far.) It makes what one may consider an excellent first installment of a three-part (hardcover book) serial. But it doesn't make very fair treatment for the reader, at the price.

There has been a tendency lately for writers to fall into the practice of doing books that are incomplete (or which have a contrived but unsatisfactory ending grafted on) with the idea of a series in mind. I frankly resent it. If the writer can work out an ending that seems satisfactory and complete, there is nothing wrong with assorted sequels. But if he can't or doesn't choose to, it seems to me the whole should be published as one book. This semi-novel runs to perhaps 60,000 words. Three times that length is not impossible as a single volume. And I'd much rather pay the extra cost to get something that can be judged as a whole than to buy it in parts with

no certainty of when the rest may come out.

Since no book can ever be better than its final resolution of its basic elements—writers, please note—and since there is no resolution here, I can't make an honest attempt to judge it. Zelazny's previous performances make me feel the whole will be well worth the trouble of buying all parts, but this is a matter of faith only; and too many slips can occur before the totality can be gained.

Buy it if you like to play guessing games with the possibilities an author raises—or if you are willing to wait for a year or more for the second installment. Otherwise, why fatten the income of publishers who would rather print books than serve their readers with honest novels?

WILSON TUCKER has given us something blue—in the classic sense of blue mood, not blue material. His *Year of the Quiet Sun* (Ace Special, 75¢) is essentially downbeat from the beginning. As such, in most ways, it is an excellent work. Most of the development in this story of a research program designed to explore the future directly to spot "trends" is rather obvious—but it's handled in such a way that the lack of uncertainty in no way detracts from the interest of the book.

At first I hoped this was going to be another book I could use like Tucker's *Time Masters*. That was one I considered perhaps the best example of true science fiction (aliens among us, immortality, space research, etc.) that was suitable for the general reader; I've read it as such several times myself and lent it to several readers who thought they couldn't like science fiction.

The writing is generally up to Tucker's very high standard. And there is an element of mystery and allure added to the future search by the use of myth, in the form of an ancient "lost book" of biblical writing. (This, I'm afraid, turns out to be of minor importance and rather less than full conviction, unlike his use of Gilgamesh in the other book.)

But too much of the real depth of this novel has been wantonly butchered by the use of a trick that should never have been used. The hero, while waiting for his trip in the time device into the future, vies with another man for the girl who supervises everything. It's impossible to see why, and we get a listless and spineless impression of him. (It's also a bit hard to see why he wants her, but that's his problem; and if honestly stated, it might have been convincing.)

The key factor seems to be one that comes up after most of the novel is done. The girl is, of course, white; the narrator is black. Okay, he is then a man of

considerable complexity—a man who has externally overcome his background but is still obsessed with it internally. He should be a richly rewarding character. But since the reader is very carefully kept from this knowledge, and since it therefore plays no part in his thinking as revealed to us, we see none of this true character. Oh, we can go back and try to read it into the events; but the reason writers get paid for their work is because they are the ones best fitted to round out such character traits, not leave it to readers.

The trick is unfair, since it demands a total reevaluation of all that went before after the reader has formed his impressions and since this is a story seen only through the one viewpoint. It is also unfortunate, since it reduces the character to a mere frame against which events can happen.

The dedication of the book implies there is value to the ability to "grok," and perhaps the reader is expected to go and do likewise.

Buy the book if you want an exercise in filling in character from the fact that I've spoiled the trick (which was inherently spoiled in its very conception.) Maybe that is grokking. But if you'd rather have your novel given its character development by the writer, pass this one by.

BOTH something very old and something new are contributed in one massive book: *Under the Moons of Mars*, edited and with a history by Sam Moskowitz (Hold, Rinehart & Winston, $7.95). This fat book—running to 250,000 words, according to Moskowitz—deals with the second decade of this century in the pulp magazines, and traces the "scientific romance" as one of the sources of our literature.

Primarily, this is a source book for libraries. But to readers who can't get a true feeling of the exerpted stories or who are curious about our beginnings, it strikes me as a bargain. It begins with a very brief introduction and then generous samples of the works from major writers of the period. These run from the original form of what became Burrough's *Princess of Mars* through *The Moon Pool* to *Blind Spot*.

Most of these stories are available now only in back issues of magazines almost as hard to get as the old Munsey publications where they first appeared. For anyone who cannot find the material elsewhere—which must mean for most readers of our literature—this is a fine chance to fill in a pretty fair picture of what made these works the classics they have become. In a few cases the entire stories are given; in other cases the samples are generous, covering significant portions of the work, and there has been no tampering, no condensation of the text.

At the end, in what would be a longer-than-average book by itself, Moskowitz adds the history of the Munsey magazines (as well as a good deal of information on their competitors) during the period of 1912 to 1920, when such stories were the backbone of their popularity.

Most attention, naturally, is paid to Edgar Rice Burroughs and his dealings with the editors. This is a good deal less simple than might be thought; his rates of payment, the stories of his which were accepted and which were rejected, and his whole affair with Munsey are covered in detail. But there is a good coverage of most of the other writers of the time, too.

This is hardly material that is new to me in its broad outline. Yet when I sat down to skim through it quickly, I soon found myself reading it as I might have read a novel—with genuine enjoyment.

There are places where I wish other treatment had been possible. Bob Davis as an editor had such a strong influence on American writing for the next generation that I'd have liked to have seen more on him; yet this is not properly the province of the book, so I have to put that down as a purely personal desire. (And if anyone wants to do a biography of Davis, there are still plenty of writers he taught their craft, though this won't be true much longer. So please, anyone out there . . .) Within the intent of this history, however, I think Moskowitz has done a fine job.

It should be stocked by every library. And for the fans who want to know how we got where we are (if that isn't erewhon revisited), this is a book greatly to be recommended. ●

Featured in the current GALAXY:

Robert Silverberg—*The World Outside*

Robert A. Heinlein—*I Will Fear No Evil*

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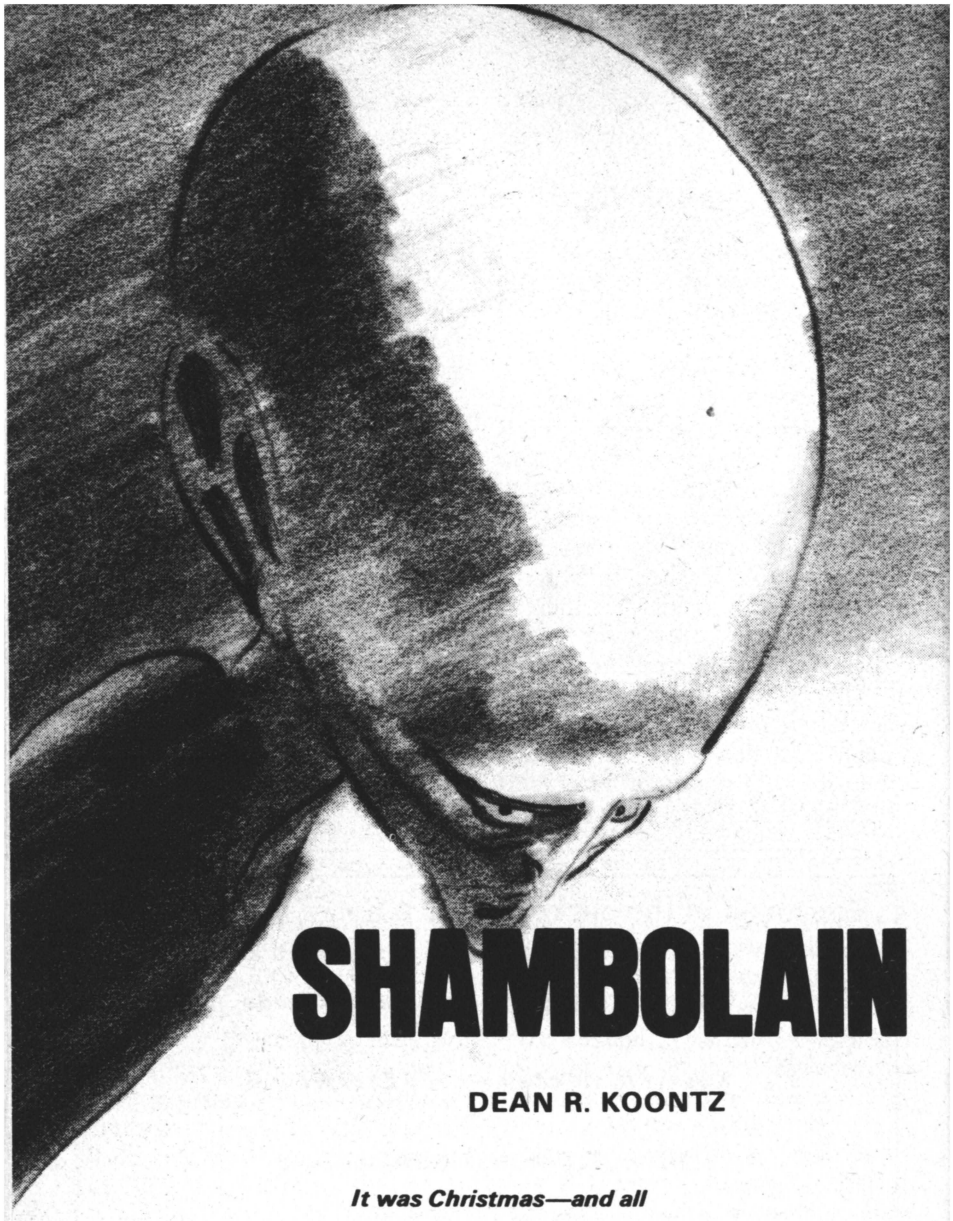


SHAMBOLAIN

DEAN R. KOONTZ

It was Christmas—and all
he wanted was to give!

FOUR days before Christmas I had my first of two troubles with the Creep and Della grew ill and Shambolain arrived—and nothing was ever quite the same after that.

Ordinarily I would have been on the Street working the Bleeders for quarters and dimes, but the weather was miserable that day. When it's a little cold the Bleeders are more generous because I look more pitiful, huddled and shivering against my begging wall; but when it gets really bitter they aren't about to stop and freeze their fingers to find you a quarter. That day it was only ten above zero and the snow was coming down in fine, dry flakes. The wind was so strong that it made the driven snow stick to the bricks and it eddied in the angles of wall and walk, creating drifts that reformed as quickly as I cleared them away.

I had only taken in two dollars and eleven cents in almost four hours, and I only needed one more excuse to head for home. And I got it: the Creep.

This skinny guy in a heavy gray overcoat with fur collar moved up through the sheets of snow and dropped two quarters in my cup. He had been passing regularly for two weeks, always making heavy donations and always with a word about the weather. Most Straights don't talk to Freaks, no matter how much they bleed for us. I suspected this skinny guy was a Creep, even though he looked bland and unimposing.

"It's going to be a mess soon," he said.

"Yeah," I said, wishing he would go away. I've never really known how to talk to a Straight. Usually, my trick is to look him over for some vaguely Freakish feature like gigantic ears, a warted nose or eyes set too close together. Then I talk to the Freak part of him. But this Creep was too plain to harbor even the slightest abnormality.

"You shouldn't be out here on a day like this," he said, gently laying his hand on the hump between my shoulders. I froze. He made his gesture seem one of friendship but his fingers moved ever so slightly, trying to feel through the coarse weave of my coat. "You're the one with the third foot," he said.

I didn't say anything. What should I have said?

"I've heard about you." He said it as if he were complimenting me.

The wind blew a stronger gust and we backed flat to the wall to get out of the worst of it. I stepped into a drift and felt my socks getting wet.

"Do you have a third foot?" he asked. When I nodded, he said, "Where is it? I only see two shoes."

I looked into the cup I still held in a perpetual position of request (sometimes I wake up at night and find my hand held out, my fingers

bent around a tin vessel that isn't there) and saw the lousy pile of coins in the bottom.

"On my calf," I said, not looking at him, not looking anywhere but in the cup.

"That's why you wear the baggy pants," he said thickly.

Yes, damn it, yes, yes . . .

We huddled against the cold, waiting for each other. He was the Creep, damn it. It was his move. He shouldn't have expected me to ask. But he did. And we waited until I finally said, "You want to see it, don't you?"

"If I could," he murmured. Even in the cold, whipping air and obscuring snow I could see the glimmer of excitement in his eyes. I hate the Creeps.

We stood a while longer. I was not going to take the next step. Damn him, that was his job if he was so interested.

"How much?" he asked at last.

I told him it would be five dollars. He got out his wallet, opened to a roll of a hundred and fifty bucks and peeled off the bill. I took it and stuffed it into my pocket, then stooped to roll up my pantleg.

"Not here," he said.

"No alley," I told him. "No room somewhere. Here or nowhere."

He looked disappointed, then shrugged. "Very well."

I rolled my trousers past the knee and turned my leg so he could get a good look. The shrunken, gray calf, almost muscleless, was puckered like a womb and gave birth to a half-sized foot otherwise perfect in detail. He looked for a long moment, breathing heavily, then reached out and touched it. I danced away and kicked his shin with my good leg, rolled down my trousers.

"Look here—" he started to argue.

"You Creep!" I shouted. "I didn't say you could touch it. No one said you could touch it, you stinking Creep—"

His face flushed and he turned, hurrying away through the snow, trying to look inconspicuous. I watched him go, wishing I had kicked him harder so he would hurt as much as me. With the weather being so rotten and the Creep so depressing, I couldn't take the Street much longer.

It was only two blocks to home, but it took me a while on account of my bum leg. My third foot was aching like a rotting tooth in the cold. When I finally reached the steps down into our cellar I gritted my teeth, gripped the icy iron railing and hopped down on my one good foot. Twice my bum leg slapped against the concrete and made me gasp. Then I was through the door into our warm living room and my spirits lightened considerably.

Jenifer and Sully were slouched in easy chairs—Jenny's long, love-

ly, brown legs propped on a stack of magazines serving as ottoman. At twenty-two she was tawny, supple, as much a cat as a girl. I admired her legs, full hips, thrusting breasts bare under her sweater, and the thick fall of her dark hair. I also admired and loved her left arm which had no hand and the smooth-skinned concavity where her left eye socket should have been. I found these as beautiful as legs and breasts, for without her stigmata she would not have been with us.

"It could have been bad," I said. "Except I got a fiver from a Creep."

"Della's dying," Jenifer said. For the first time I saw the tears in her good eye. I didn't know what to say.

"There's something wrong inside," Sully said, scrambling to the floor and balancing on his thick, hairy arms. He had no legs and his trunk was so abbreviated that he could walk on his overdeveloped arms. "There was blood in her bile, and she hurts a lot in her guts."

I got up and went to the door of Pike's and Della's bedroom. It was standing ajar; I pushed it open and went inside. There were no lights on but the snow-shielded sunlight filtered dimly through a casement window. Della lay on the bed and Pike knelt on the floor beside her, cradling her with his abnormally large paw. Pike's head, swollen by acromegaly, turned and looked at me, almost as if it were separate from the rest of him.

"Let's get her to a hospital," I said.

"No." His voice was deep and syrupy as always, though harsher now.

"If it's the money we can let the city get stuck with the bills."

"I don't want her laughed at," he drawled. "She'd be an amusement to them. And she's afraid; she made me promise not to take her away. She'd hate a hospital."

Then he started to sob. It was such a strange sound coming from his distorted throat that I didn't realize immediately what it was. Besides, a Freak never cried. It just doesn't pay.

"It's nothing the hospital can help," he said. "You know she's all twisted inside. She's dying because of the way she's made. You can't fight that. Nobody anywhere can do anything at all about that."

"The pain—" I said.

"We bought a bottle." He indicated a half-empty fifth of vodka on the nightstand. But she still seemed to feel pain, now and then jumping and twisting in the sheets. The eye in the baseball-sized head bulging from the left sphere of her skull was open and staring. It was cataracted. "The other one," Pike said, indicating the second head, "never opened its eye before. But now it knows."

I watched Della dying. I wanted

to do something but there was no action within my powers. I had a fleeting desire to tear up the fiver the Creep had given me but I knew that was foolishness. So I just stood there. And Jenifer and Sully stood behind, just inside the doorway, watching and waiting like Pike and me. And, I guess, like Della.

It was then that Shambolain arrived.

WITH her dying Della had created a pocket in existence and we had crawled inside to await the end with her. Unnoticed, the stranger had come in from outside, crossed the living room to the doorway behind us.

"Is something wrong?" he asked.

Everyone turned to look at him —except Della who twisted and moaned. He was armless but it was his face that was truly strange. His head was an oval, thin and long, with eyes set too low so that there was a very long expanse of forehead between his hairline and brows. His nose was thin, close to his face and with little cartilage structure. His mouth was a bleak line, nearly lipless. His skin had a coppery glow that was oddly unlike a suntan. Still, he was a somewhat handsome man. Rather, he was not handsome as a man, but handsome in his own right, on his own terms.

"What do you want?" Pike asked, taking his frustration out on the stranger, his voice harsh and demanding.

"No one heard my knock," the stranger said. "I could see you standing here, so I came in. I hope I haven't breached your etiquette." The last sentence had an odd ring to it, as if he were trying to say in English something he had first phrased in a foreign language. "I asked about where I might find others—of my kind. They told me about you people."

"No room here," Pike hissed. Behind him Della turned, sucked air and gagged.

"She's badly ill," the newcomer said. "What is the sickness?"

"No sickness," I told him. "Her insides are abnormal. She often said the doctor expected her to die shortly after birth. It's finally happening."

He moved to the bed, kneeled beside Pike who briefly protested. He touched Della along the ribs and over the swollen bowl of her stomach. He had the quick movements and assurance of a doctor. He turned to me and motioned toward the living room.

"Please get my case."

I brought the heavy piece of luggage to him. "You'll have to do what's necessary," he said. "As you see, I have no arms."

His armlessness was of a strange type; his shoulders were bare in the sleeveless sweater he wore which seemed tailored specially for him and I could see that there were not

even stumps where arms should have started, but slightly concave basins in his shoulders, as if the limbs had been ripped out by the roots.

I did what he asked of me and I never once wondered how he had transported the suitcase to our door when he had no arms. I would not think of that until much later.

Within the case were many strange articles for which I could see no purpose, along with what appeared to be medical supplies. I filled a hypodermic syringe with heavy amber fluid and injected it into the puffed vein on Della's arm. Slowly her movements became tamer. She settled, sighed and allowed herself the flicker of a smile. The cataracted eye closed. Fifteen minutes later she giggled girlishly and called Pike's name. She said more though it seemed senseless.

"You've doped her," Pike said, not certain if this were good or evil.

"No," the stranger said. "A mild drug. The drug relieves the pain but it also creates hallucinations out of the happier moments of her past. She's probably dreaming of being with you."

We left Pike with her and went into the living room where we learned that the stranger was new in the city, did not care to talk about his past (quite a common hangup among Freaks) and had but one name that served as his first, middle, and last, and that was: Shambolain. Like his voice, it sounded foreign to me.

EARLY that evening we made a blanket stretcher and carried Della to the funeral parlor for what simple service we could offer. Brunhoff, the undertaker, was always willing to provide a cheap service as long as we came to the alley door and were willing to pay our last respects in the basement around the fiercely armored cremation furnace where none of his more elite customers might see us.

Brunhoff dumped her onto the furnace tray, much as if she had not been a human being. Maybe, to Brunhoff, she had not been. Her head bounced against the metal. Pike made a move toward the undertaker but was blocked by Sully. Without Brunhoff, we would have had to accept city services which amount to nothing, lack dignity and burden the deceased with the aura of a pauper's grave. Brunhoff grinned at Pike, egging him on, but Pike settled down. Almost dejected that a confrontation had not occurred, Brunhoff adjusted the furnace and slammed the corpse tray into the gaping red-flickered maw. We would never see Della again.

The ashes were poured into a pretty perfume bottle we had brought for that purpose and Jenifer (our treasurer) took out our cash and asked Brunhoff for a price. We buried someone about

every two years and the price seemed to go up a few dollars every time, though the service remained the same. This time, he wanted twenty-five dollars more than before.

"We can't afford it," Jenifer said.

Brunhoff scowled. "Prices are up everywhere. You'd better be able to afford the rising costs or go elsewhere."

"Be reasonable," Jenny said. "We'll pay an extra five dollars."

"An extra twenty-five—plus forty-seven. Seventy-two dollars. And you'll pay it now." He was almost a foot taller than any of us and at least two hundred and fifty pounds. When Jenny started putting our money away and explained we would go elsewhere from then on he snatched the bills from her, clenched them in his big fist.

"Get out," he said.

He knew that none of us would argue. A cripple cannot afford to fight a bigger man for fear of being further crippled

"Give back the money," Shambolain said. He came up beside Jenny, his long face showing anger.

Brunhoff repeated his demand that we leave and called us Freaks. He started toward us and we began backing. Except for Shambolain. He stood his ground, his face getting darker and uglier. Brunhoff grabbed him by the shoulders, then made a sudden face. His cheeks became inflamed and his eyes bulged as if someone were throttling him. He released Shambolain and reached for his own throat.

Shambolain said, "Pick up the money, Walt."

I went forward under Brunhoff's shadow and retrieved the cash from where it had fallen. As I stepped back, Brunhoff went to his knees, fighting for air, gagging thinly. He toppled onto his face and was still.

"Is he dead?" Jenny asked from the doorway.

"No," Shambolain said.

And we left.

SULLY moved in with Pike. Shambolain took the other bed in my room that had been Sully's. Jenny still had her own room. I found it difficult to sleep that night, wondering what our new boarder would mean to us. When I did sleep I dreamed about the Creep.

It was hypnotism. That's what Shambolain told us he used on Brunhoff when we asked the next morning. He said he had been with a carnival and that he had learned his hypnotic skills from a show magician. We accepted the explanation. The only problem was that in the days to come he used it too often.

Three days before Christmas, the day after his arrival, he used his "hypnotism" twice. First, he ran off two punks who were harrassing Sully and me while we

were trying to teach him the art of hitting the Bleeders for quarters. But they ran like the pain was real and I thought I saw a touch of blood on one of the punk's mouths where a "hypnotic" fist had struck him. He used it, later, to explain why he had collected more money in his half day alone than the rest of us combined. He swore he did not steal the money (though his interpretation of that word might have been different from ours; I think he saw all property as belonging to the community of man and not to the individual).

Two days before Christmas he repeated his high gross and again turned all the money into our treasury. His generosity was what brought about his downfall.

He did not seem to understand us. As Freaks, we had nothing but our self-respect with which to build the fragments of our disordered lives. At the heart of this self-respect was our pride in our ability to provide for ourselves, even at the expense of begging. For although we begged we did it well and all pride springs from accomplishment. When Shambolain could so easily do better than our wildest dreams, there was no longer much satisfaction in bringing home a good cupful of change. He could support us all and he wanted to. What, then, did our efforts matter?

The day before Christmas we stayed home and let him gather alms for all of us. He came home richer than on either of the previous two days and spread his genuinely startling take out on the table. Deep down we hated him for his competence.

IT WAS late Christmas Eve that the trouble came.

I should have forseen that our animosity would soon need a safety valve. He had made Della's last moments peaceful when all we could do was let her suffer; we could accept and even be thankful for that. Then he defeated Brunhoff when the rest of us could only act like cowards. That, too, was good—except that it made the rest of us feel somehow inadequate. When he had driven off the punks Sully and I had felt foolishly inept—and slightly perturbed that he had not permitted us to take care of the situation on our own, as if we were children he had to protect. A Freak has a delicate regard for his manhood; to throw it in doubt is to drive him nearly to madness. Taking away our pride in earning our own way was his penultimate mistake.

His final error was letting us find out what he really was. It came about like this:

Although she felt like the rest of us, Jenny had been making it plain that she would welcome Shambolain into her bed occasionally, as she welcomed the rest of us. You

must remember that she was above all else a woman—now a woman intrigued by a new, mysterious and interesting man. When he finally accepted, blushing like a boy, they retired early. Sully and I were, perhaps, a bit jealous, though we have few taboos in our culture. Pike, of course, could not care, for Della was only a few days dead and his thoughts found their focus on a small perfume bottle full of gray ash.

They were in the bedroom for fifteen minutes before Jenny screamed. At the sharp sound of her outcry we turned to look at the door. Her voice was now frantic, quick—though Shambolain spoke evenly and clamly, as if trying to soothe her. We could not understand what was being said but we had come to the edges of our seats like animals tensing to leap upon prey. I realized later that that was exactly what we were.

Jenny came out of the room, a robe thrown haphazardly over her bare body. Shambolain followed almost sheepishly. She looked at each of us, her eyes wide and frightened and said, "He has hands."

We looked stupidly at her, unable to comprehend.

"While we were—" She faltered. "I felt his hands on me—his fingers!"

We looked at him and saw that he was confused, anxious. He returned our looks, concentrating the longest on me. There was a growing apprehension in his face and I suddenly realized Pike and Sully and I had advanced on him.

"I do have hands," he said quickly, his voice high and weak. "Look!" A figurine of a cocker spaniel rose off the end table to his left and floated across to Pike. "Take it," Shambolain said. "And shake hands?"

Pike hesitated, took the figurine. We could not see anything but we could tell from Pike's expression that Shambolain's invisible hand was shaking Pike's free paw.

For three days Shambolain had eaten his soup with a straw and his solids from his plate like a dog. He had hidden his invisible hands. We moved closer to him. I was barely aware that I was walking.

"I was afraid you would not understand," he said. "I wanted you to like me."

"What are you?" Pike asked, his heavy voice throbbing.

"My people have never had arms or hands—even from earliest times, we had this power with our minds, this ability to manipulate matter. We evolved without hands, don't you see?" He spoke fast, darting glances from one to the other of us, slowly backing away. "There were two of us that came here. An expedition. Maybe, if he had survived, I would have been all right. But I needed company. I could never live alone. So I came to you. I want to be liked."

We moved closer.

"The ship," he said, almost breathlessly now. "It could not be repaired, and Harrowmane was dead, squeezed against the dash console by the force of our drop. He didn't have his belt on when the trouble started. I brought it in alone. None of my people will come for at least another thirty years—it takes that long to make the trip, you see."

"You're not a man," Sully said.

Pike took up the phrase. "You're not a man."

I heard myself muttering. Perhaps I echoed them.

"My God," Jenny said, shuddering. She hugged herself, then moved in on him like the cat she resembled. It was Jenny who broke the tableau, who brought out what was boiling beneath the surface of all of us. She struck him with her single hand, struck him again and again about the face.

WE descended on him. My eyes seemed to unfocus so that the others were merely blurs of color as they swung and kicked. My own hands seemed to work of their own volition, separate entities that pounded his chest and the concavities of his shoulders. Blood slicked my hands and I wiped them on my trousers, only to swing and slick them red again. I felt his extrasensory hands touching my face, trying to shove me back. I tore at him all the harder, matching the fury of the others.

We would surely have killed him if I had not seen myself reflected in his large, dark eyes. I moved in to pummel his face and somehow saw myself reflected in the watery surface of his eyeballs. My lips were contorted, drawn back over my teeth. My eyes were wide, my nostrils flared like those of an animal smelling blood. I do not know how I saw it—perhaps it was a trick of Shambolain's. But the shock of the picture blasted through my mania and made me sick down into the pit of my stomach. I staggered back, breathing heavily, while the others continued the onslaught.

I went back into the frenzy, shouted at them to leave him alone, pulled and tugged to get them away from him. They ignored what I said and twisted away from my hands. They had him in a corner and he was bleeding badly. He seemed even to have stopped using his invisible hands to protect himself. Pike drove a foot into his side.

My fury returned—but was directed against the rest of them this time, not against Shambolain. I struck out, knocked Sully backward. He had been using his teeth on Shambolain; his mouth was bloody, his lips split. I swung on Pike, beat against him, kicked at his swollen shins until he cried out and wobbled back. I wrenched Jen-

ny loose, avoiding the fingernails on her good hand and got between them and Shambolain.

"What the hell are you doing?" she spat.

"You're acting like Creeps," I said, almost hysterically. "Please don't act like Creeps!"

"He's not a man," Sully said.

"He's a monster," Jenny whined, her face contorted almost beyond recognition. "A monster—"

"I don't want him killed," I said. "I don't want us to be like this."

"Then get him out of here," Pike said. "You take care of him."

I looked at them and realized there was no chance of my staying there. "I'll get my two coats," I said. "And my share of the money. Shambolain's share, too. And his suitcase." I looked them over carefully. "You'll let him alone until I'm ready to leave?"

"Hurry," Pike said.

I got our things and took what money Jenny gave me from the fund, though it was only a fraction of what Shambolain had brought in from the Street. I found I could not take the suitcase, for I had to carry Shambolain. I took out the hypodermic and the bottle of amber dream fluid and left the rest behind. He could move a little and he helped me get him up, his armless body across my shoulder. We went out to the street, where it had begun to snow again. One of the others slammed the door behind us.

WE SPENT that night in a flophouse for a dollar and a quarter. The winos in the other beds watched us curiously but none asked any questions or made any remarks. I pulled my bed next to his and wiped most of the blood off his face with wet paper towels brought from the filthy bath at the end of the room. He could talk a little, though his face was swollen and his words distorted. Most of it was delirium muttering anyway. I gave him a syringe full of the amber liquid he had given Della. He soon fell to gentle murmuring, pleased chuckles, and then into sleep.

I could not sleep much at all. Bad dreams kept waking me and my gut was bothered by cold chills.

The next day, Christmas, I left him and went looking for a place we could make our permanent quarters. I found a basement room —half bedroom and half kitchen, with bath—only three blocks from our old home. It was under a dry-cleaning place and I found that the owner lived above his store. He was angry about having to show it to me on Christmas Day but he took my money and gave me the key just the same. It was a miserable room but it had the advantage of being available.

I brought Shambolain back, still carrying him, and put him to bed. He was in pain again, rolling and tossing, breaking open some of the delicate scabs that had formed over

his wounds. I gave him the last of the amber fluid. When he had settled into a comfortable trance I washed him and treated his wounds with some things I had bought at a drugstore down the block. For the rest of the morning I sat watching him, trying to straighten things out in my mind. I could not forget that I had reacted just like the others.

After noon I decided that there was nothing to be gained by watching him in his stupor. I should buy food and more medicines, the staples to set up life here. I checked our money and was depressed at how little Jenny had given me. Christmas was a good begging day, even though there were few Bleeders out, for those who were out were willing to give more than usual. I put on my coat, took my cup and went outside.

I was making a fairly good dent in Bleeder pocketbooks and feeling better than I had since before Jenny took Shambolain to her bed.

Then I saw the Creep.

He was standing across the street, half a block farther up, mostly hidden in the entranceway to a shoe store. He still wore his gray coat with fur collar. He was watching me. I had no way of knowing how long he had been standing there and I felt a bubbling of fear in my stomach. My legs grew weak. I tried to ignore him, but that was not possible. At last I dumped the change into my pockets, hooked my cup to my belt and decided to call it a day.

I bought groceries and some medicine-cabinet supplies. When I came out of the store the Creep was gone from his post. It was spitting snow. I hurried back to our place. As I unlocked the door, balancing the groceries in one arm, the Creep came down the steps fast, slammed into me, and sent us both sprawling into the basement room. The groceries scattered across the floor. A milk bottle broke. I rolled over, got to my feet.

"What the hell are you doing?"

The Creep had a knife.

He closed the door behind him and turned to look at me. I didn't much like the look in his face. It suggested barely controlled madness. He looked to the bed, to Shambolain.

"Who's he?"

"A friend," I said. "He's sick. Real sick. Now get the hell out of here."

He grinned, strained his lips until it seemed his face would have to split. Then he looked serious.

"I want to see the leg," he said. When I told him to go to hell he waved the knife. "Undress. Hurry, please."

I started toward him. "You won't use the knife. I know you Creeps," I said. "You're afraid of everything—and mostly of what's inside your own head."

He swung the knife and gouged

my right hand. The blood welled up and dripped down on the cement floor where it looked impossibly black.

"Undress," he said.

He waved the weapon. When I didn't make a move to comply, he came at me, swung his other fist, and knocked me backward. I fell over an old chair, twisting my bum leg painfully. I tried to get up. He pushed me down again, hard. He had gone over the edge; he moved with the oiled smoothness of the mad.

It was then that Shambolain threw the empty bottle that had contained the amber dream fluid. It bounced off the Creep's skull and made him stagger back a step or two. When he turned to face Shambolain, the hypodermic syringe struck his neck like an arrow. He yelped, pulled it out and charged the bed.

I tried to get up but fell again as a new wave of pain flushed up through my bad leg from the lump of my third foot.

The Creep was struggling against Shambolain's extra-sensory hands, choking for air. He tried to pull away, found that the invisible hands could follow him anywhere. He went down on his knees beside Shambolain's bed, gurgling frantically. He fell flat, then pushed himself to his knees again. I saw the knife swing and I cried out to Shambolain. But the thin blade slid into his body, was withdrawn. The Creep swung again, plunged it in again.

I got up, found the chair and somehow managed to carry it across the room. When I got there, the Creep was flat on the floor again, the knife fallen from his fingers, still unable to breathe. I supplemented Shambolain's attack with the chair; I brought it up and down, up and down smashing it against the Creep's skull until my arms were too weak to lift it again.

But Shambolain was dying. I hovered over him, touching the knife wounds, trying to close them with my fingers. Blood sputtered throuth my fingers. He had red blood. I wondered if Jenny and Pike and Sully had noticed that Shambolain had red blood. I felt his invisible hands on my face. They touched it gently, cupped it, rested on my closed eyes. Then they faded slowly, as if the power to them was being leeched away. At last they were gone completely and Shambolain was dead.

I dragged the Creep into the bathroom and cleaned up the blood by the bed. Since Brunhoff was no longer available, I was forced to call the city morgue. When they came I told them Shambolain had been knifed on the Street by some punks. I didn't mention the Creep —I had plans for him.

The next day there was a service at the morgue for Shambolain before they boxed him in tin and pine and took him away. It was a shod-

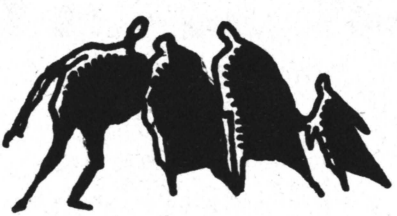
dy service. The clerk who read the words chewed gum throughout. They let me ride in the van when they went to the cemetery. They buried seven other paupers besides Shambolain and they buried them all standing up to save space. It seemed important that Shambolain be allowed to lie down in his grave but I couldn't make the burial detail see it that way. We left him standing there, walled in by frozen chunks of earth.

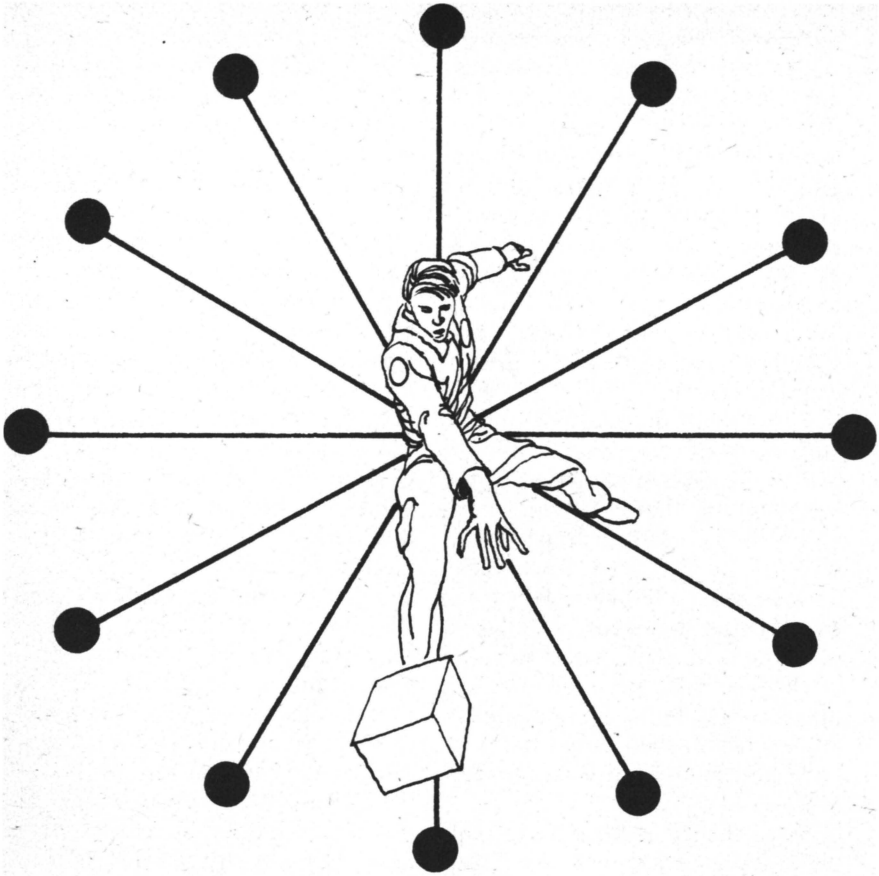
That night I dragged the Creep's body out of the bathroom and took it outside. It was three in the morning and there was no chance of my being seen. I dragged him through the alleyways, four blocks until I came to a long row of trash cans behind a restaurant. I found an empty can, put it on its side and worked him into it. I got the can upright again and pushed on the lid. I left him there, squatting in a garbage can behind a cheap restaurant.

Since then I have come to realize that it started with the Creep and it ended with the Creep—and that means something.

I saved Shambolain's life when Jenny and Pike and Sully tried to take it; later, he died to save mine. His act was the act of a man. He had felt pain when he was hurt, just like a man, and he had bled when injured. He had touched me as he died, seeking comfort, and that must surely be seen as the act of a human being. What Shambolain knew—and what the rest of us must learn—is that the small differences do not matter, that physical variations between men are only what they are. They mean nothing. The danger lies with the Creeps, who somehow have become warped, so that they need differences in human-kind to exploit and feed on.

I try to tell this to Jenny and Pike and Sully. I think, perhaps, they are beginning to understand. I heard Jenny crying last night. I've moved back in with them. I cannot justify that to Shambolain. I cannot justify consorting with his would-be killers. But I think he would understand. Like Shambolain, I cannot live alone. I cannot be by myself. That is merely the way of a human being, simply the weakness of a man. •





NICK O' TIME

DONALD FRANSON

If you had all the time in the world—could you hang on to it?

TO SAY that prospects were black for Nicholas Carver would be an exaggeration. At least he had a job and, though finances were still precarious, he found it easy to be cheerful. Just now his only real worry was keeping that job and he disclosed his solution to the other occupants of the "Second breakfast" table—the only time togetherness came close to working in this family.

"I'm going to get me an alarm clock," said Nick, counting his money.

Aunt Lorraine said, "You could use mine, only it's set for seven o'clock and I don't like to keep changing it."

"I'm getting my own, the wind-up kind. Electric ain't no good, you know, if the power goes off."

"Ain't never been late yet. Why you need an alarm clock anyhow, Nick? You goes to work at four P.M." Lorraine Thompson couldn't disguise the amused tolerance of day-people for those who started late in the day and didn't have to get up early.

"I just want to make sure I get there in time," said Nick. "I'm always doing something around the house and I don't always notice what time it is. The other fellows were kidding me yesterday when they had to wait for me to show up."

Nick's father put down the newspaper. "How you like your new job now, Nicholas?"

"Oh, I don't mind the work. It's the waiting. When a car comes in, rush out and pump gas. Then nothing to do but wait. Not much business late at night."

"Don't you have a radio?" asked Aunt Lorraine.

"Get tired of radio. Can't sleep either—that little ping-bell wouldn't wake me. So I just sit there and watch for cars. Gets monotonous sometimes."

"All jobs are like that, son," said Harry Carver, the voice of experience. "You'll get a lot of that waiting when you get in the army."

Aunt Lorraine cleared the dishes and put them in the sink. "How about robberies, that late?"

"I'm not worried," said Nick. "They say just keep the cash box locked and don't give them the key unless they get tough."

Aunt Lorraine frowned. "Can't you get day shift? It's a pain, all the different hours in this house. The kids to school by eight and you not home till after midnight."

"Two other guys on day shift. They're the ones said I should get an alarm clock. And they're right —I'm getting one today. Don't want to lose this job."

"No, now that we got two working in the family," said Aunt Lorraine, putting on her coat.

Harry Carver said quickly, "I'll get a job, don't worry, as soon as there's openings."

Aunt Lorraine smiled. "You

too touchy. I meant to say, two is a lot in this neighborhood. Bye now."

"You're right," said Mr. Carver, turning on the television.

Nick left the house quietly.

DIXON'S Discount Drugs was an oasis of plenty in a neighborhood of scarcity. They had everything at reasonable prices if you knew how to buy. There was merchandise that was inexpensive and there was merchandise that was cheap. Nick was an expert at telling the difference.

He showed this by lingering a long time at the table where a number of alarm clocks were on display. He handled them all, then he handled them all twice, rejecting each for a different reason. Some were dented, some didn't seem to work and others looked like they might not be reliable. The price was right but was the merchandise?

Finally he decided that he would take a chance on one rather like the others except in color—they were silver gray and it was brown. It looked more sturdy and its ring seemed more melodious. Nick took it to the checkout counter and tendered his dollar ninety-eight.

As soon as he reached home he unwrapped the package, sat at the kitchen table, oblivious to the television's flickering and chatter and examined his purchase. Tampering with machinery was a fascinating business to Nick and he barely resisted the urge to take the clock apart. He set the time by Aunt Lorraine's bedroom electric —just noon—then proceeded to examine the front and back of the clock.

Nick's father turned off the television, put on his coat and hat and announced, "I'm off to the unemployment agency."

"Have a good time," said Nick, not looking up. He heard the door slam. Nick was alone. He turned his attention to the clock again.

Paradox Clock Company—he had never heard of it. The usual levers and buttons were on the back of the clock. None were adjustable except "fast" and "slow." He found a small screwdriver and poked at the slot, moving the lever slightly, conservatively, toward "fast." He heard a whirring noise.

Turning the clock over, he noticed the hands were moving. What was going on? As he watched, the hour hand moved from twelve to one, while the minute hand went all the way around. The effect was startling. He pushed the lever toward "slow." Now he saw the hands weren't moving at all. He couldn't be sure, of course, as he couldn't normally see a clock's hands moving anyway, but he felt the clock had almost stopped. What a sensitive lever, he thought, smiling. He would have to adjust it very carefully.

He poked the lever to make it go fast again. It was fun to watch the hands go around and around. Now it was after three, by the clock, almost time to go to work. Quickly he stopped it. Now he would have to set it right again.

Aunt Lorraine's electric clock's hands stood almost at quarter to four. His new clock and the electric registered almost exactly the same time. Either both were wrong or he must have been dozing.

As if to prove the latter theory his father came home. "You still working on that clock?"

Nick felt in a daze. "What time is it?"

Mr. Carver reached in his coat pocket and pulled out a golf watch, consulted it. "It's about—three forty-two, give or take ten minutes. Hey, you getter get going—don't want to be late again."

Nick threw on his jacket, grabbed his lunch box and, as he went out, snatched up the clock and jammed it into his pocket. He'd fix it when he got to work—and he didn't want to leave it around for the kids to fool with when they came home. Walking fast, Nick hurried to the gas station. He wouldn't be late this time, though no thanks to the new alarm clock.

HIS two fellow workers greeted him cheerfully. Bill was already in his car and Chester was leaning against the pump. He jumped up in mock surprise when he saw Nick.

"Hey, you're on time," he said. "Did you get an alarm clock?"

Nick pulled it out of his pocket and showed them. They all laughed, Nick as much as the others.

Bill said, "How come you bring it to work, Nick? Want to wake yourself up at quitting time?"

Nick said, "No, I got to fix this clock. I just bought it, you know, and it needs adjusting."

"Better get it fixed by tomorrow," laughed Chester, as they drove off.

Nick was busy for a few hours and didn't think of the clock. He repaired the tire Bill and Chester had left him and he greased two cars, but most of the time he was pumping gas. This was a busy time, though not the busiest time of the day. Nick felt proud to be a part of a flourishing business. The gas station was an old-style one, with a single line of pumps, but it was adequate for the needs of the neighborhood. When Nick rushed out, his cheery greeting of "Fill her up?" was as often as not countered with a laconic, "Five, regular." Nevertheless, the cash box did an open-and-shut business all that evening until along about seven, when Nick thought about lunch, or supper.

While he was eating lunch in the station building (and watching for customers) he picked up the clock

he had left on the table. What was wrong with it anyway? He had never heard of a clock so sensitive that when you set it fast it raced, and when you set it slow— He hadn't really tested its slowness, yet.

He picked up a cotter pin, poked at the lever, set it all the way to "slow." Then he held the clock for a minute, seeing if the hands moved. It got awful quiet all of a sudden, he thought. Just the ticking of the clock.

He went on eating his lunch while holding the clock. It didn't move, showed ten after seven for a long time. It had obviously not stopped. It was still ticking away at the regular rate and the ticking seemed louder than ever. He glanced out. Things had quieted down now. Not a moving car was in sight, though he saw one parked in the middle of the street. He guessed the clock was all right, so he pushed the lever back to the center—he hoped it was in the right place; it seemed to settle there with a click—and checked the station clock, to see how much time had been lost.

None had. The station clock told the same time as his alarm clock. He put it down and went back to work, muttering to himself.

As he worked, washing down the apron, he felt uncertain,, bewildered. How could the clock stop and then catch up, so that it didn't lose time? And if it didn't really stop, how did he manage to finish his lunch in no time at all?

Was there something mysterious about the clock? Was it only a bargain clock, not worth the effort to throw it on the junk pile, or was it more than he'd bargained for?

When he had time to spare he studied the clock again. Somehow he didn't dare take it apart. If it had strange powers he wouldn't improve them by interfering. But what *were* its mysterious powers? Could it really stop time and also, judging by his experience that afternoon, *speed up* time?

He sighed, shook his head and wound the clock again. It didn't need much winding. He fixed up a cotter pin and attached it so that he could set the lever without having to poke at it. He stopped to answer the bell for a car pulling in and, after serving the customer, went back to the building. He wished he had time to think—he'd solve this yet.

Wished he had time?

Nick grinned, turned the pin-and-lever to "slow." Then he sighed with satisfaction, leaned back in the hard chair and hugged the clock to him.

He found out a lot about the clock in the next two minutes—which seemed like an hour—and the following hour—which seemed like two minutes. He found the effects only worked properly, with-

out impeding his movement, if he held on to the clock with his hands or touched it in some way. Time flies, or stands still—but only if you hold on tight can you take advantage of it.

Once again he watched the hands go around, though not as fast as previously. This was the way to make time go by, when your job was boring. It was nearly dark outside now—and suddenly he noticed two cars in the driveway. They hadn't been there a moment ago.

He turned the lever back to normal, put the clock down and rushed out. One of the cars was just pulling away. He greeted the other man apprehensively. "Fill it up with premium?" he asked, as the car moved up into the other's place.

The man looked at Nick with disapproval. "Looks like you lost a customer there. I'd have gone, too, but I need gas—five, regular. Say, what's eating you? You was there in plain sight, grinning like an idiot. If you was asleep, it wouldn't have looked so bad."

Nick apologized.

"Five, one forty. Sure sorry I kept you waiting."

Nick, back in the building, turned on the lights. Night was coming on fast. He'd have to be more careful with the clock. It was a very valuable thing to have. He was not going to take it back to the store now, no matter what.

He pondered the problem, off and on, all evening. Suddenly he had the explanation to the mystery. It was in the color of the clock.

All the other clocks on the table at Dixon's were silver gray. Only this one was brown. Army brown. Olive drab, they called it.

This was a military clock that had somehow got mixed in with the shipment from the factory, the Paradox Clock Company. This was an Army clock with secret features, secret inventions like speeding up time or slowing it down for military purposes. It was disguised as an ordinary alarm clock. Why would they use alarm clocks in the Army when they had bugles and sergeants' whistles? Well, he supposed officers had them. They'd know about this secret feature. Seems he'd heard of scientists slowing down time, and speeding it up, before. Nothing he wouldn't put past these military scientists.

So what was he going to do with the clock? He had got it, fair and square, by mistake. Was he going to turn it back in to the Army? You bet your sweet life he wasn't. He'd be put in jail, just for knowing the secret. If they didn't even know the clock was lost, he wasn't going to tell them it was found. One clock more or less wouldn't mean much to the government.

On the other hand, this was an important secret. He was not going to let anybody know about

it who wasn't supposed to know. Couldn't be giving military secrets away to unauthorized persons. No, sir!

He'd have to be careful. Take the pin out when he wasn't using it.

He guessed there could be military uses for the clock—but what about civilian uses? How many times had he wanted to compress time—or expand time? Of course he realized he would live the same time inside, whether he speeded up or slowed down time outside. Things would even out if he used the clock wisely. He wouldn't be losing anything—just exchanging the boring hours for the good hours, play time, sleep time. Even study time—think what he could learn while he stopped the clock.

He supposed other people wouldn't use the clock wisely—but *he* wasn't going to misuse it. He looked at it with a new respect. He started to take out the pin, then he put the clock down as a car pulled up. It was nearly eleven o'clock now, what with all his time experiments. There weren't many cars at this hour and he could go home at midnight.

THE car was a new Imperial. Two men were in it. One, husky and tall, got out of the car. He seemed nervous.

"Fill it, premium?" Nick asked.

"Yeah," said the husky man. He leaned on the car window and talked in low tones to the other man, whose lean face was tense. As Nick finished checking the oil and came around with the cloth the husky man said, "Never mind the windows."

The lean-faced man muttered, "We can use some change, too."

"Yeah," said the man standing outside. "Can't pass that stuff."

Nick, after taking away the hose and checking the pump, announced, "Thirteen and six-tenths. That'll be five thirty-five. Cash or credit?"

The husky man said, "We prefer cash. Open that box." He produced a gun.

Nick sidled away. "The key's inside. I'll get it." He started at a run for the building.

"No you don't," said the robber, coming around the car. He pointed the gun at Nick and fired a quick shot, missing, then followed quickly, almost catching up to Nick.

Nick dodged, kicked out with one foot, tripping the man. He dove into the station building, scrambled to the table inside. He knew what he was after.

The man was still on the ground but had his gun up again to shoot through the doorway.

Nick grabbed at the clock on the table, pushed the pin and turned around. The man outside had become motionless, sprawled awkwardly on the cement, elbow and

arm up, pointing his gun toward Nick. He seemed to move perceptibly, and Nick pushed the pin on the clock as tight as he could. He knew, however, that he couldn't stop time completely. He had not a moment to waste.

He had had no clear idea of what to do when he had rushed in here except, maybe, to gain time to call for help. But how could he call for help when everybody else would be as motionless as the robbers?

He picked up the phone with his right hand (the clock was in his left) and fingered the dial. It turned very stiffly. This wasn't going to work, he thought. He knew as much when he saw the dial was not springing back. He had pulled it all the way around from "operator" and it stuck there at the end. He laid the phone down on the table, looked out at the driveway.

The lean-faced man in the car hadn't moved, was still sitting there. The other man was lying just outside the doorway, pointing the gun in the general direction of Nick. Nothing moved—but then, nothing much moved at this time of night anyway.

Nick had no gun. He didn't think it would be a good idea to wrestle the man for his own gun, or try to step over him, because he felt that if he touched the other, he, too, would come alive and Nick would be no match for him in a fight. He had to dispose of both men while the timeless spell was upon them—that was the only advantage he had. He could expect no help from outside. If he held on to the clock while he struck the men with a wrench or something it might work, but then again it might not. And if they took the clock away from him—what couldn't criminals do with this invention?

He tried to keep out of line with the pointing gun as he searched for something to throw. He held on to the clock with his left hand, pawed frantically about the shelves with his right. Nothing suited until he came upon some boxes of spark plugs. They were knockout weapons in the hands of a good thrower.

Carefully, for he knew that he must knock both men before he could let time come back, he sighted and threw. A dozen spark plugs in all he pulled out of their boxes, which drifted away as he emptied them. He threw slowly and deliberately. He put no speed on his pitches—he knew speed could be added later.

He saw that the man on the ground was still pointing his pistol at him. He saw it flame and saw a bullet float toward him, bounce off the clock he was still holding in his left hand. His wrist thumped him in the chest and suddenly everything changed. The world came to life, noises rushed at him—the breaking of glass, the

echo of a shot, the crashing of ricocheting missiles.

Then he heard the whirr of the phone dial and a voice that said, "Operator."

Nick dazedly picked up the phone, and said, "Give me the police. They's robbing the gas station at Ninth and Castle." He looked out at the silent figures on the ground and in the car. "That is, they was robbing it."

NICK saw his father in the crowd and waved to him. His father came to grasp his hand warmly. "Glad to see you're all right, Nicholas. We heard the shots and sirens and I thought I'd better come and see what's happening over here."

A policeman came over with a notebook, spoke to Nick. "Well, Mr. Carver, you've some more credit coming to you. It's a stolen car recovery, too." He turned to the older Carver. "This your son? He's done a fine job, saved us a lot of trouble with those two jewel thieves. Those men were killers. But I'm afraid he's in a little trouble, too. He won't say what he did with the spring-gun he had."

Harry Carver said, "He didn't have no spring-gun. He's a law-abiding citizen."

"Well, it's a cinch he didn't throw those spark plugs," said the policeman. "Drilled them clean. One made a big hole in the car."

"He's never been in trouble, never. He's a good boy."

"Well, all right," said the officer. "But I'll have to put it in my report, and there might be questions, later. Anyway, you've done us a favor and we appreciate it. But, get rid of that spring-gun, will you?"

His father said, "What happened to that alarm clock?" Nick noticed it was still in his left hand, battered into shapelessness.

"Looks like it was hit by a bullet," said the policeman.

Nick said, "It's junk now—" and tossed it into a nearby trash container. A safe disposal, in full view of the authorities. He sighed. Perhaps the clock saved his life. Bullets were still pretty fast—even in slow motion. ●

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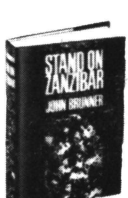

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