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# THE BEST FROM GALAXY

## VOLUME IV

EDITED BY JAMES BAEN

SCIENCE FICTION MASTERWORKS BY LARRY NIVEN, J. E. POURNELLE, STEPHEN ROBINETT, SPIDER ROBINSON, ROGER ZELAZNY, AND MANY MORE.



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JOANNA RUSS questions the equivalence of functional intelligence and technological sophistication. Her answer may surprise you.

*All this and more, in*

*THE BEST FROM GALAXY*
*VOL. IV*

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ace books
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# CONTENTS

THE GAME OF BLOOD AND DUST .....1
by Roger Zelazny
DOWN AND OUT .....8
by Larry Niven
A HORSE OF A DIFFERENT TECHNICOLOR .....41
by Craig Strete
ALLEGIANCES .....53
by Michael Bishop
OVERDOSE .....124
by Spider Robinson
ELEPHANT WITH WOODEN LEG .....137
by John Sladek
LIFE AMONG THE ASTEROIDS .....162
by Jerry Pournelle
TINKER .....174
by Jerry Pournelle
HELBENT 4 .....231
by Stephen Robinett
THE EXPERIMENTER .....257
by Joanna Russ

## THE GAME OF BLOOD AND DUST

**by Roger Zelazny**

*"I am Blood—I go first."*
*"I am Dust—I follow you."*

THEY DRIFTED TOWARD the Earth, took up stations at its Trojan points.

They regarded the world, its two and a half billions of people, their cities, their devices.

After a time, the inhabitant of the forward point spoke:

"I am satisfied."

There was a long pause, then, "It will do," said the other, fetching up some strontium-90.

Their awareness met above the metal.

"Go ahead," said the one who had brought it.

The other insulated it from Time, provided antipodal pathways, addressed the inhabitant of the trailing point: "Select."

"That one."

The other released the stasis. Simultaneously, they became aware that the first radioactive decay particle emitted fled by way of the opposing path.

"I acknowledge the loss. Choose."

"I am Dust," said the inhabitant of the forward point. "Three moves apiece."

"And I am Blood," answered the other. "Three moves. Acknowledged."

"I choose to go first."

"I follow you. Acknowledged."

They removed themselves from the temporal sequence and regarded the history of the world.

Then Dust dropped into the Paleolithic and raised and uncovered metal deposits across the south of Europe.

"Move one completed."

Blood considered for a timeless time then moved to the second century B.C. and induced extensive lesions in the carotids of Marcus Porcius Cato where he stood in the Roman Senate, moments away from another "Carthago delenda est."

"Move one completed."

Dust entered the fourth century A.D. and injected an air bubble into the bloodstream of the sleeping Julius Ambrosius, the Lion of Mithra.

"Move two completed."

Blood moved to eighth century Damascus and did the same to Abou Iskafar, in the room where he carved curling alphabets from small, hard blocks of wood.

"Move two completed."

Dust contemplated the play.

"Subtle move, that."

"Thank you."

"But not good enough, I feel. Observe."

Dust moved to seventeenth century England and, on the morning before the search, removed from his laboratory all traces of the forbidden chemical experiments which had cost Isaac Newton his life.

"Move three completed."

"Good move. But I think I've got you."

Blood dropped to early nineteenth century England and disposed of Charles Babbage.

"Move three completed."

Both rested, studying the positions.

"Ready?" said Blood.

"Yes."

They reentered the sequence of temporality at the point they had departed.

It took but an instant. It moved like the cracking of a whip below them . . .

They departed the sequence once more, to study the separate effects of their moves now that the general result was known. They observed:

The south of Europe flourished. Rome was founded and grew in power several centuries sooner than had previously been the case. Greece was conquered before the flame of Athens burned with its greatest intensity. With the death of Cato the Elder the final Punic War was postponed. Carthage also continued to grow, extending her empire far to the east and the south. The death of Julius Ambrosius aborted the Mithraist revival and Christianity became the state religion in Rome. The Carthaginians spread their power throughout the mid-

dle east. Mithraism was acknowledged as their state religion. The clash did not occur until the fifth century. Carthage itself was destroyed, the westward limits of its empire pushed back to Alexandria. Fifty years later, the Pope called for a crusade. These occurred with some regularity for the next century and a quarter, further fragmenting the Carthaginian empire while sapping the enormous bureaucracy which had grown up in Italy. The fighting fell off, ceased, the lines were drawn, an economic depression swept the Mediterranean area. Outlying districts grumbled over taxes and conscription, revolted. The general anarchy which followed the wars of secession settled down into a dark age reminiscent of that in the initial undisturbed sequence. Off in Asia Minor, the printing press was not developed.

"Stalemate till then, anyway," said Blood.

"Yes, but look what Newton did."

"How could you have known?"

"That is the difference between a good player and an inspired player. I saw his potential even when he was fooling around with alchemy. Look what he did for their science, single-handed—everything! Your next move was too late and too weak."

"Yes. I thought I might still kill their computers by destroying the founder of International Difference Machines, Ltd."

Dust chuckled.

"That was indeed ironic. Instead of an IDM 120, the *Beagle* took along a young naturalist named Darwin."

Blood glanced along to the end of the sequence where the radioactive dust was scattered across a lifeless globe.

"But it was not the science that did it, or the religion."

"Of course not," said Dust. "It is all a matter of emphasis."

"You were lucky. I want a rematch."

"All right. I will even give you your choice: Blood or Dust?"

"I'll stick with Blood."

"Very well. Winner elects to go first. Excuse me."

DUST MOVED to second century Rome and healed the carotid lesions which had produced Cato's cerebral hemorrhage.

"Move one completed."

Blood entered eastern Germany in the sixteenth century and induced identical lesions in the Vatican assassin who had slain Martin Luther.

"Move one completed."

"You are skipping pretty far along."

"It is all a matter of emphasis."

"Truer and truer. Very well. You saved Luther. I will save Babbage. Excuse me."

An instantless instant later Dust had returned.

"Move two completed."

Blood studied the playing area with extreme concentration. Then, "All right."

Blood entered Chevvy's Theater on the evening in 1865 when the disgruntled actor had taken a shot at the President of the United States. Delicately altering the course of the bullet in midair, he made it reach its target.

"Move two completed."

"I believe that you are bluffing," said Dust. "You

could not have worked out all the ramifications."

"Wait and see."

Dust regarded the area with intense scrutiny.

"All right, then. You killed a president. I am going to save one—or at least prolong his life somewhat. I want Woodrow Wilson to see that combine of nations founded. Its failure will mean more than if it had never been—and it *will* fail.—Excuse me."

Dust entered the twentieth century and did some repair work within the long-jawed man.

"Move three completed."

"Then I, too, shall save one."

Blood entered the century at a farther point and assured the failure of Leon Nozdrev, the man who had assassinated Nikita Khrushchev.

"Move three completed."

"Ready, then?"

"Ready."

They reentered the sequence. The long whip cracked. Radio noises hummed about them. Satellites orbitted the world. Highways webbed the continents. Dusty cities held their points of power throughout. Ships clove the seas. Jets slid through the atmosphere. Grass grew. Birds migrated. Fishes nibbled.

Blood chuckled.

"You have to admit it was very close," said Dust.

"As you were saying, there is a difference between a good player and an inspired player."

"You were lucky, too."

Blood chuckled again.

They regarded the world, its two and a half billions of people, their cities, their devices . . .

After a time, the inhabitant of the forward point spoke:

"Best two out of three?"

"All right. I am Blood. I go first."

". . . .And I am Dust. I follow you."

## DOWN AND OUT

**by Larry Niven**

*Take care what you tell your computer*
*or it will take care of you!*

### I

THE NAMING OF NAMES was important to Corbell. Alone in his little universe, dissociated from all mankind, with only himself and his bland-voiced computer to talk to, Corbell hung tags on everything.

He called himself Jaybee Corbell.

Yes, it *was* a major decision. For awhile he was calling himself CORBELL Mark II (Corpsicle Or Rebellious Brain-Erasure: Lousy Loser). He gave that up after the shape of his new nose stopped bothering him, after he got used to the look and feel of his shorter arms and slender hands, his alien body. There were no mirrors on the ship.

What he called the Kitchen was a wall with slots and a menu display screen. The opposite wall was the Health Club: the exercise paraphernalia and the outlets that would turn this chamber into sauna or shower or steam bath. The medical dispensary and diagnostic tools were Forest Lawn: the cold sleep tank was also in that room.

The control room was a hollow sphere with a remarkable chair in the exact center, surrounded by a horseshoe bank of controls, and approached via a catwalk of metal lace. That chair would assume a fantastic variety of positions, and it gave indecently good massages. The spherical wall could disappear to display the black sky as if Corbell and the control bank floated alone in space. It would display textbooks on astronomy or astrophysics or State history, or updated diagrams of the ship. Corbell called it the Womb Room.

The autopilot-computer could be voice operated from anywhere aboard. Or there was the computer link; a helmet like a hair dryer with a thick cord attached, that would plug Corbell directly into the computer's senses. Corbell was afraid to use it. He was afraid to personalize the computer. He spoke to it only to give orders and request information, and he named it, "Computer".

But he dithered for months before naming the great seeder ramship he had stolen from Pierce and the State. *Don Juan*, he called it, for its phallic overtones.

Trivial decisions . . . but that was Corbell's problem. He had already made his major decisions. That was his finest hour, when he broke free of Pierce the

checker and drove for the galactic core. *Don Juan* should have capped his career then, by blowing up.

Pierce the checker had explained it all.

He had been—*someone* had been—Jerome Branch Corbell the architect. Someone named Corbell, dying of cancer, had declined to die as anyone else died. This Corbell had had himself entombed in a double-walled coffin, the outer filled with liquid nitrogen. He had hoped to be reawakened after medical science solved twin problems: a cancer cure, and a cure for the damage done by ice crystals rupturing cell walls.

It hadn't worked out that way.

Later there had been a criminal. CORBELL Mark II never knew his name or his crime. The State had wiped a criminal's personality, memories, self. Into the empty brain the State had played electrical currents trapped in the frozen brain of Jerome Corbell. The State had ground this Corbell into hamburger and leeched the hamburger for memory RNA; this they had injected into a criminal's veins.

"Jerome Corbell is dead," Pierce the checker had explained. "I could have given you his intact skeleton for a souvenir." The new Corbell had no more civil rights than a dead man.

In practical terms, the State had created a man with a lust for privacy and an internal self-sufficiency very rare among State citizens. Such a man would have had to adapt to an unfamiliar culture anyway; had in fact volunteered for that task. Why should he not postpone that adaptation for two hundred years, while he guided a seeder ramship around a bent ring of stars? He would return a hero of sorts. He would have started a dozen

uninhabitable worlds on the road to becoming colonies, new territory for the State.

The new Corbell was to be a rammer. His alternative—

"You're wrong to call it slave labor," Pierce had told him. "A slave can't quit. Your crime has cost you your citizenship, but you still have the right to change professions. You need only ask for another, um, course of rehabilitation." But he meant death. Corbell's was the fourth personality to be tested in that empty body.

What Pierce expected of Corbell was complete, enthusiastic obedience. Otherwise there would be a fifth personality living in the criminal's body.

Pierce had had his obedience during Corbell's entire period of training . . . training that went rapidly, because it was augmented by injections of memory RNA. Corbell suspected where the injections had come from. He had obeyed orders until he was actually in command of the huge spacecraft. Then, around the orbit of Jupiter, he had started his turn.

*Don Juan* was a Bussard ramjet. Its fuel was interstellar hydrogen, gathered in by magnetic fields and burned in fusion fire. Unlimited fuel. According to the autopilot-computer, *Don Juan* could accelerate at one gravity forever. With relativistic time compression to help him, Corbell could reach the galactic core in twenty-one years of ship's time . . . and return to a world seventy thousand years older, his crime seventy thousand years forgotten.

Or perhaps he would not return at all. Even the State did not know what Corbell would find at the galactic core.

Twenty-one years from now he could make his next major decision.

A year on his way, and Corbell was starving for the sound of another voice.

He dithered. What could Pierce say that would be worth the hearing? He had hung up on Pierce, he had had the computer disconnect the message laser receiver, as a gesture of contempt. That gesture was important. Could Pierce *know*, never mind how, that he was no longer talking to a void?

Corbell held lengthy conversations about it. "Can I possibly be *that* lonely?" he demanded of himself. "Or that bored? Or that desperate to hear another human voice again? Other than my own—" His own voice echoed back from the Womb Room walls.

"Computer," he said at last, "reconnect the message laser receiver." And he waited.

Nothing. Hours passed, and *nothing*.

He was savage. Pierce must have given up. Somewhere in the city Pierce would never show Corbell, Pierce the checker would be training another revived corpsicle.

The voice caught him at breakfast three days later. "Corbell!"

"Hah?" That was strange. *Computer* had never addressed him before. Was it an emergency?

"This is Peerssa, you traitorous son of a bitch! Turn this ship around and carry out your mission!"

"Get stuffed," Corbell said, feeling good.

"Get stuffed yourself," said the voice of Peerssa, turned suddenly silky-smooth.

Something was wrong here. *Don Juan* was almost

half a light year from Sol. How could Peerssa . . . "Computer, switch off the message laser receiver."

"That won't work, Corbell! I've beamed my personality into your computer, over and over again for these past seven months! Turn us around or I'll cut off your air!"

Corbell yelled something obscene. The silence that followed commanded attention. The purr of air moving through the life support system was a sound he never heard anymore; but he heard its absence.

"Turn that back on!" he cried in panic.

"Will you bargain, Corbell?"

"Never! I'll throw—" What was heavy and movable? Nothing? "I'll pry the microwave oven loose and throw it into the computer! I'll give you nothing but a wrecked ship!"

"Your mission—"

"Shut *up!*"

The voice of Pierce the checker was silent. Corbell heard the purr of moving air.

What next? If Pierce controlled the computer he controlled everything. Why didn't he turn the ship himself?

*Had he?* Corbell climbed up into the Womb Room and settled in the control chair. "Full view," he commanded.

He floated alone in space.

Half a light year of distance had not changed the pattern of the stars. A year of acceleration had. Don Juan was now meeting all light rays at an angle so that the entire sky was puckered forward.

In his first life, during nights spent aboard a small

boat, Corbell had learned a nodding acquaintance with the constellations. Sagittarius was just where he had left it, directly overhead. A ring of white flame around and below him was hydrogen guided and constricted to fuse in stellar fire: the exhaust of his drive. Sol was a hot pink point beneath his feet . . . and something flickered across it.

Corbell, staring, made out a humanoid form barely blacker than space, walking toward him across the stars. Coming close.

Narrow features, light hair . . . it was Pierce. Corbell watched, barely breathing. Pierce was as big as *Don Juan*. Pierce was angry . . .

Corbell said, "Computer, get that mannequin off my screen." . . .

The figure vanished.

Corbell resumed breathing. "Pierce, or Peerssa, or Computer, or whatever name you will answer to, I give you your orders. You will proceed to the galactic axis under one gravity of acceleration, making turnover at midpoint. You will take all necessary steps to guard my life and the integrity of the ship, subject to this mission. Now speak if you like."

The voice of Pierce the checker said, "I prefer Peerssa."

Corbell sighed his relief. "So do I. Are you in fact under my orders?"

"Yes. Corbell, there are things we must discuss. You owe your very existence to the State. You've stolen a key to the survival of mankind itself! How many seeder ramships do you think will succeed in converting alien atmospheres to something men can

breathe? Or do you think that men will never need to leave the Earth?''

''Computer, you will henceforth answer to the name *Peerssa*. Peerssa, shut the fuck up.''

Silence.

Now Corbell caught himself giggling occasionally. It could happen any time. At meals, or sitting in the Womb Room watching the sky, or using the Health Club, he would suddenly start giggling. And then he couldn't stop, because Peerssa could hear, and Peerssa couldn't answer—

*Peerssa*. The naming of names: Pierce the checker was far in Corbell's past, while Peerssa was a personality imposed on a computer's memory bank. The distinction was worth remembering. There would be major differences between the man and the computer. Peerssa had different senses. Peerssa would never suffer hunger pangs or a frustrated sex urge. Peerssa would never exercise or use the rest room. Peerssa might well have no sense of self preservation. *That* was worth finding out.

And Peerssa was compelled to follow orders. Peerssa was Corbell's slave.

Two weeks passed before Corbell gave in to the urge for conversation. Seated in the control chair, floating among stars that were already brighter and bluer above than below, Corbell said, ''Peerssa, you may speak.''

''Good. You've instructed me to guard your life and the ship. I can't maintain one gravity all the way without killing you and wrecking the ship.''

''Don't lie to me,'' Corbell snapped. ''I checked it

out on the computer before I ever passed Saturn. The ram effect works *better* at high velocities, because I can narrow the width of the ram fields. Greater hydrogen flux."

"You used data already in the computer."

"Yes, of course."

"Corbell, that data was meant for jumps of up to fifty-two light years. Not thirty-three thousand. We built the field generator as strong as possible, but it will not stand one gravity at your peak velocity. The strains will tear it apart. We'll have to decrease thrust starting three years from now, if you want to live."

Pierce the checker had never lied, had he? Pierce had never bothered. Why lie to a corpsicle? Peerssa was something else again. Corbell said, "You're lying."

"I deny it. Make up your mind. You've ordered me not to lie. Am I under your orders? If not, why don't I just turn and head for Van Manaan's Star?"

Corbell gave up. "This ruins my itinerary, doesn't it? How long will it take us to reach the Core?"

"In near-perfect safety, about five hundred years."

"Give me . . . oh, a ninety percent chance of getting there alive. How long?"

"Computing. Insufficient data on interstellar mass density. We'll correct that on the way. One hundred and sixty years four months, confidence of ten months, all figures in ship's time."

Corbell felt cold. That long? "Suppose we don't go direct? We could skim above the plane of galaxy—"

"—and thin out the interstellar matter. Computing. Good, Corbell. We lose some time thrusting laterally at turnover, but we still shave some time. One hundred

and thirty-six years, eleven months, confidence of a year and a month."

"That still isn't good."

"And you'd spend the same time coming home. You'd get home dead, Corbell. We could finish your original mission faster than that. Well?"

"For—" *Never* say *Forget it* to a computer. "You have your orders. I now amend them. Your mission is to get us to the galactic axis in minimum ship's time relative, ninety percent confidence of getting me there alive."

"You'll never see Earth again."

"Shut up."

"You may speak."

Silence.

"Does it bother you, being cut off like that?"

"Yes, of course it bothers me. I've been silent for a week. That's four weeks added to our trip time. The longer it takes me to persuade you, the longer it will take us to complete our mission!"

"I could order you to give up that idea."

"I would do it. Snarling of my circuits might result. Corbell, I appeal to your sense of gratitude. The State created you, you owe your very existence—"

"Bullshit."

"Is it that easy for you to ignore your duty?"

Corbell swallowed an urge to drive his fist through a bank of dials. "No, it's not easy. Every time you raise the holy name of the State, something in me snaps to attention."

"Then why not listen to the voice of your social conscience?"

"Because it's not my conscience! It's those damn shots! You filled me full of memory RNA, and that's where my sense of duty to the State is coming from!"

Peerssa gave it a good dramatic pause before he said, insinuatingly, "Suppose it's your conscience after all?"

"I'll never know, will I? And that's your doing, isn't it? So live with it."

"You will never see Earth again. Your medical facilities will not keep you alive that long."

Corbell snorted. "Don't be silly. The medicines and the cold sleep tank are supposed to keep me young and healthy for the first two hundred years. The cold sleep tank has a rejuvenating effect, remember?"

"It doesn't. I lied. You were to remain alive for the duration of your mission. If the medicines had been better, we would have extended the mission."

"You sons of bitches." It rang true; it fitted well with what Corbell knew of the State.

"Corbell, listen to me. In three hundred years the State may discover complete rejuvenation. We could arrive home in time—"

"For non-citizens?"

No answer.

"We're going to the galactic axis. You have your orders."

"You must enter cold sleep immediately," Peerssa said in a dead voice.

"Oh?"

"Your optimum program is ten years in cold sleep, six months to recover, then cold sleep again. You will survive to see the galactic axis, barely."

"Uh huh. And if you happened to forget to wake me up?"

"That's your problem. Traitor."

## II

RAW THROAT. Cramped muscles. Eyes that wouldn't focus. Questing hands that found him in a coffin with the lid still on.

Waking from cold sleep was like waking from death. This was what he had half-expected in 1970, when they froze Jerome Corbell to stop the cancer that was eating him from the inside. And he had half-expected never to wake. He whispered, "Peerssa."

"Here. Where would I go?"

"Yeah. Where are we?"

"One hundred and six light years from Sol. You must eat."

Suddenly Corbell was ravenous. He sat up, rested, then climbed down from the tank, treating himself like fragile crystal. He was lean as death, and weak. "Fix me a snack I can take to the Womb Room," he said.

"It will be waiting."

He felt light-headed. No, he felt *light*. He picked up a large bulb of hot soup in the kitchen, and sucked at it as he continued to the Womb Room. "Give me a view," he said.

The walls disappeared.

The stars blazed violet-white over his head. The stellar rainbow spread out from there: violet stars in the center, the rings of blue, green, yellow, orange, dim

red. To the sides and below there was almost nothing: a dozen dim red points, and the feathery ring of flame that marked his drive. That had dimmed too, for Peerssa had pulled the ram fields close, and had reddened, because the fuel guided into that ring was moving at near lightspeed relative to the ship.

Peerssa was bitter. "Are you satisfied? Even if we turned back now, we have lost over four hundred years of Earth time—"

"You bore me," said Corbell, though he felt stabbing pain from what he would once have called his conscience. "What happens next?"

"Next? You eat and exercise. In six months you must be strong and fat—"

"Fat?"

"Fat. Otherwise you could not survive ten years in cold sleep. Finish your soup, then exercise."

"What do I do for entertainment?"

"Whatever you like." Naturally Peerssa was puzzled. The State had provided nothing for Corbell's entertainment.

"Yeah, I thought so. Tell me about yourself, Peerssa. We're going to be together a long time."

"What do you want to know?"

"I want to know how you got to be this way. What was it like to be Peerssa the checker, citizen of the State? Start with your childhood."

Peerssa was a poor storyteller. He rambled. He had to be led by appropriate questions. But he had more than his voice to tell tales with.

He was an inept motion picture director with an unlimited budget. On the wall of the Womb Room he showed Corbell the farming community where he had

grown up, and the schools of his childhood (skyscrapers with playgrounds on the roof), and the animated history texts he had studied during his final training. The memories were usually hazy. Some were shockingly sharp and brightly colored: the enormous ten-year-old who bullied Peerssa on the exercise roof; the older girl who showed him sex and thus frightened him badly; his Civics teacher.

Corbell ate and slept and exercised. He tended *Don Juan* with the half-instinctive love and understanding absorbed with his rammer training. In between, he had from Peerssa all the knowledge he had not dared demand of Pierce the checker.

He saw views of Selerdor, the city he had only glimpsed from a rooftop. The buildings were as blocky and unimaginative inside as out. The carvings at street level were in Shtoring, the State language. They were edifying principles, rules of conduct, or the life stories of State heroes.

He grew to know Peerssa as well as he had known Mirabelle, his wife for twenty-two years. In knowing Peerssa he grew to know the State. The computer memory held what Corbell would have called Civics texts. He read those, with helpful comments from Peerssa.

He learned of the two brushfire wars that had half destroyed the Earth and eventually established the State. The State was all-powerful, as he had guessed. It was a fascism, with distinct overtones of Chinese or Japanese Empire. Society was drastically stratified. The government controlled every form of industrial power generator. Once these had been very diverse: dams, geothermal plants, temperature differential

plants in the ocean depths; now they were big fusion generators supplemented by rooftop and desert solar collectors. But the State owned them all.

Once he asked, "Peerssa, do you know what a water empire is?"

"No."

"Pity. A lot of civilizations were water empires. Ancient Egypt, ancient China, the Aztecs. Any government that controls irrigation completely is a water empire. If the State controls electricity, they also control the fresh water supply, don't they? I mean, with a population in the billions—"

"Yes, of course."

Musing, he said, "I once asked you if you thought the State would last fifty thousand years."

"I don't."

"I think the State could last seventy thousand. See, these water empires, they don't collapse. They can rot from within, to the point where a single push from the barbarians outside can topple them. But it takes that push. There's no revolution in a water empire."

"That's a very strong statement."

"Yeah. Do you know how the two-province system works? They used to use it in China. Say there are two provinces, A and B, and they're both having a famine. What you do is, you look at their records. If Province A has a record of cheating on their taxes or rioting, then you confiscate all the grain in Province A and ship it to B. If the records are about equal you pick at random. The result is that Province B is loyal forever, and Province A is wiped out so you don't worry about it."

"We rarely have famines. When we do—" It was rare for Peerssa not to finish a sentence.

"There's nothing more powerful than controlling everybody's water. A water empire can grow so feeble that a single barbarian horde can topple it. But, Peerssa, the State doesn't have any outside."

Much later, Corbell learned that he had changed his life again. At the time he only suspected, from Peerssa's silence, that he had offended Peerssa.

And Peerssa was not Pierce. The checker was long dead; the computer personality had never harmed Corbell. It was worth remembering. Corbell gave up talking about the State. Peerssa was loyal to the State; Corbell most emphatically was not.

Six months passed. Stars passed too. A few passed close enough to show like violet windows into Hell, and receded like dim red fireballs. Corbell was fat, too fat for his own tastes, fat enough for Peerssa's, when at last he climbed into the great coffin.

It happened seven times.

## III

"CORBELL? Is something wrong? Speak, please."

Corbell sighed in the cold sleep tank. He did not move. He had become very used to this routine: the terrible weakness, the hunger, the six months of exercises and of forcing insipid food down his throat, the climbing into the tank to start the cycle over. At this, his seventh awakening, he felt a deadly reluctance to wake up.

"Corbell, please say something. I can sense your

heartbeat and respiration, but I can't see you. Have you turned catatonic? Shall I administer shock?"

"Don't administer shock."

"Can you move, or are you too weak?"

He sat up. It made him dizzy. Ship's thrust was very low. "Where are we?"

"Beyond midpoint of our course, thrusting laterally to force us back into the plane of the galaxy. Proceeding according to plan. Your plan, not mine. Now I want to monitor your health."

"Later. Make me soup. I'll take it to the Womb Room." He moved toward the kitchen, bouncing oddly in the low gravity. He had aged more than the four years he had been awake. After each awakening the exercises had taken longer to build him up again. He felt brittle, and ravenous.

The soup was good. The soup was always good. He settled himself in the Womb Room and let his eyes roam the dials. Some of the readings were frightening. The gamma ray flux would have charred him in minutes, if the power of the ram fields were not guiding the particles aside. Other readings made no sense. Peerssa had told the truth: the seeder ramship was not designed for velocities this close to the speed of light. Neither were the instruments and dials.

And what about Peerssa's senses? Was he flying half blind?

"Give me a full view," he said.

The stellar rainbow had hardened and sharpened over seven decades. It had lost symmetry too. To one side the stars were thickly clustered; the arc of blue-whites blazed like diamonds in an empress' necklace. To the other, the side that faced intergalactic space, the

rainbow was almost dark. Each star was sharply defined within its band of color. But within the central disc of violet stars (dimmer than the blue, but of a color that made one squint) was a soft white glow: the microwave background of the universe, at 3° Absolute, boosted to visible light by *Don Juan's* terrible speed.

His ship's drive-flame had become a blood red fan of light facing intergalactic space. Peerssa was thrusting laterally to bend their course back into the plane of the galaxy.

"Give me a corrected view," Corbell instructed.

Now Peerssa worked a kind of fiction. From the universe he perceived through the sense of *Don Juan's* hull, he extrapolated a picture of the universe seen at rest, and he painted that picture around the wall of the Womb Room.

The galaxy was imcomparably beautiful, a whirlpool of light spread out across half the universe. Corbell looked ahead of him for his first view of the galactic core. It was there, just brighter than the rest, and hazy, without definition. He was disappointed. He had thought the close-packed ball of stars would flame with colors. He could pick out no individual stars; only a vague glow around a central bright point. Behind him the stars were similarly blurred.

"I'm getting poor definition in the view aft," Peerssa volunteered. "The light is drastically redshifted."

"And forward?"

"This not according to theory. I would have expected more definition within the core. There must be a great deal of interstellar matter blocking the light. Even so . . . I need more data."

Corbell didn't answer. A multiple star cluster had caught his eye, half a dozen brilliant points whirling frantically as they came toward him. They passed on the right, still jiggling madly, and froze in place as they came even.

"The next time that happens, I'd like to see an uncorrected view."

"I'll call you, but you won't see much."

So here he was at the halfway point, with his destination in sight. No man before him could have seen the glow of the galactic core, or the frantically spinning star cluster flashing past at this close to light-speed. His enemy's soul had become Corbell's slave.

Corbell flies toward the core suns like a moth toward a flame, expecting death. But he has his victories.

He finished his anonymous soup. *Don Juan's* kitchen and/or chemistry lab supplied just enough taste, just enough variety, to keep a State non-citizen from cutting his throat. On such fare he must grow fat . . . and exercise to distribute the fat. Lately it tended to settle in a pot belly, which was no help at all.

He was getting old. Despite the cold sleep tank and all the medicines available, he would be decrepit before they reached the core suns.

His second life should have been more like his first. He had hoped to make friends, to carve out some kind of career . . . he had been frozen at age forty-four, there would have been time . . . time even for a marriage, children . . .

Things would look better when he had built up some strength. He could go on an oxygen drunk. On request Peerssa would fill the cabin with pure oxygen, while

lecturing Corbell on the adverse medical effects for as long as Corbell would let him.

"About now you usually start telling me my duty," he said.

"There's no point," said Peerssa. "We're decelerating now. We'll be among the core suns before we can brake to a stop."

Corbell smiled. "Anyone but you would have given up sooner. Expand my view of the core suns, please."

The hub of the galaxy rushed toward him. Dark clouds with stars embedded in them surrounded a bright core. They looked like churning storm clouds. They had changed position since his last waking period.

But the core itself was a flat featureless glow, except for a single bright point at the center. "The interstellar matter must be almighty thick in there. Can our ram fields handle it?"

"If we give up thrust and settle for shielding the life support system and nothing else, you'll be amazed at what we can handle."

"I'll be dying anyway, of old age."

"Corbell, there is a way you can go home again."

*"Dammit, Peerssa, have you been lying to me?"*

"Calm down, Corbell. There is a way to make you young, if you're willing. You can understand why I didn't raise the subject before."

"I sure can. Why now? Why would you do this for someone who betrayed your precious State?"

"Things have changed, Corbell. By now we may be the last remnants of the State. And you weren't even a citizen."

"And you are?"

"I am a human personality imposed on a computer's memory banks. I could never be a citizen. You could have been. Such as you are, you may well represent the State. The State may not survive the seventy thousand years we will be gone. You are worth preserving."

"Thank you." Unreasonably, Corbell was touched.

"The State may exist only in your memory. I'm glad you forced me to teach you Speech. I'm glad I told you so much about myself. You must live."

"Make me young," Corbell said with the fervor of a man growing old much too fast. "What does it take?"

"We have the equipment to take a clone from you. You surely find nothing strange about the concept of cloning?"

"We knew about it. Cloning of carrots, anyway. But—"

"We can clone men. We can clone you. Let the individual grow in sensory deprivation, in your cold sleep tank. We can record your memories and play them into the clone's blank mind."

"How? Oh, of course, the computer link." The link was a direct telepathic control over the computer. Corbell had never dared use it. He had been doubly afraid of it since Peerssa became the computer. Peerssa might use it to take him over.

Peerssa said, "We will also need injections of your memory RNA."

Corbell yelped. "You're talking about grinding me up into chemically leeched hamburger!"

"I'm talking about making a young man of you."

"It wouldn't be *me*, you madman!"

"The new individual would be as much Jaybee Corbell as you are."

"Thanks! Thanks a lot! You told me what happened to the real Jaybee Corbell. A brainwiped criminal! No, thanks. There isn't going to be a CORBELL Mark III."

Six months later he was not ready for the cold sleep tank. "You've been shirking your exercises," Peerssa said.

Corbell had just finished an exercise period. Tendonitis had led him to favor his arms, these past two months, but they hurt anway, two hot wires in his shoulders. "It's your schedule," he grumbled.

"I would have to thaw you early. Coming out of cold sleep is a trauma. You want to reach the galactic core in optimum condition. Take another two months awake."

"Fine. I hate that damn tank anyway." Corbell slumped in a web chair. In near-free fall he was too prone to lose muscle tone. His pot belly protruded.

He had nobody else to talk to, and Peerssa had endless patience. It should have been good timing when Peerssa said, "Have you given any thought to regaining your youth?"

Corbell shuddered. "Forget it." Hastily, "I don't mean that literally. If you wipe it from your memory banks, you'll only think of it again later."

"I take it you've cancelled your command. What is your objection?"

"It's ugly."

"As things stand now, you will die of aging on the return voyage. The cold sleep treatment is not enough."

"I will not be ground up for hamburger. Not again."

"You know the details of *Don Juan's* excrement recycling system. Do you find that ugly?"

"Since you ask, yes."

"But you eat the food and drink the water."

Corbell didn't answer.

"You would be a young man when it was over."

"No. No, I would not." Corbell was shouting. "I would be hamburger! Contaminated hamburger, garbage to be recycled for the benefit of your damn clone! He wouldn't even be a good copy, because you'd be shoving some of your own thoughts in through the computer link!"

"You have no loyalty to anything but yourself."

Corbell thought: I can shut him up. Any time. He said, "Whatever it is I am, I'll settle for it."

"The only man who ever saw the galactic core. A wonderful thing." Peerssa had had time and practice to develop that sarcastic tone. "What will you do afterward, once your sole ambition in life is satisfied? Will you order me to self-destruct? A grand funeral pyre for your ending, a fusion flame that alien eyes might see?"

Then Corbell did Peerssa an injustice. "Is *that* what's been bothering you? Tell you what," he said. "After we have our look around the core suns, why don't we drop some package probes on appropriate planets? *You* can reach Earth alive. By the time the State sends ships, the algae will have turned some reducing atmospheres to oxygen atmospheres. You can take my mummy home, too, in the cold sleep tank. Maybe they'll want it for a museum."

"You will not be young again?"

"We've been through that."

"Very well. Will you go to the Womb Room, please? I have a great deal to show you."

Mystified and suspicious, Corbell went.

Peerssa had set up displays in the Womb Room

walls. There was a greatly enlarged, slightly blurred view of the galactic core as Corbell had seen it six months ago: drastically flattened, the glow of the suns blurred by interstellar matter. There was a contrasting enlargement of the center of the spiral galaxy in Andromeda. There was a diagram: an oddly contoured disc cut down the center. Corbell frowned, wondering where he had seen that before.

Peerssa spoke as he settled himself in the control chair. "I have never known why you chose the galactic axis as your destination. I may never understand that."

The core of Andromeda Galaxy glowed with colored lights. Corbell pointed. "For that. For beauty. For the same reason I once went through the Grand Canyon on muleback. Can you imagine a planet on the edge of that sphere? The *nights?*"

"I can do better. I can put it before you, by extrapolation." And Peerssa did. Corbell's chair floated above a dark landscape. The sky was jammed with stars competing for space, big and little, red and blue and pure white, and a spinning pair that threw out a spiral of red gas. The sky turned. A wall of blackness rose in the east, ten thousand cubic light years of dust cloud . . . and then the Womb Room was as it had been, while Corbell was still gaping.

"I could have done that before your first term in the cold sleep tank. We could have completed your mission, seeded the worlds assigned to you, and I could have displayed that sky for you at any time. Why didn't you say something?"

"It's not *real*. Peerssa, didn't any of your aristocrats ever go cruising through, say, Saturn's rings, just for the joy of it?"

"For the mining possibilities—"

"*Mining*. If they said that, they lied."

"Are you sorry you came?"

Why had he kept on? Knowing that the trip would take more than twenty-one years, that it would take his *life*, had not changed his mind. Corbell the reconstituted corpsicle would never carve out a normal life for himself. Very well, he would do *something* memorable.

"No. Why should I be sorry? I expected strangeness in the galactic core. I was right, wasn't I? It's *nothing* like other galaxies, and I'm the first to know it."

"You're insane. Imagine my amazement. Never mind. Your choice has had unforeseen consequences. We expected a close-packed sphere of millions of suns averaging a quarter to half a light year apart, with red giant suns predominating. Instead, we find this: the matter in the core forced into a disc that flattens drastically toward the center, with a tremendously powerful source of infrared and radio energy at the axis."

"Like your diagram?"

"Yes, very like this diagram which I find in my data banks, a representation of the structure of the accretion disc around the black hole in Cygnus X-1."

"Oh!" He had *not* seen that diagram during his rammer training. His rammer training had not even told him how to avoid stellar-sized black holes, because there were none to be expected on his planned course. He had seen something very like that diagram in an article in *Scientific American!*

"Yes, Corbell. Your wonderland of lights is being absorbed by a black hole of galactic mass. Its spin must be enormous, from the way it has flattened the mass of

stars around it. Eventually the entire galaxy may disappear into—Corbell? Are you ill?"

"No," Corbell said, his hands covering his face, muffling his voice.

"Don't be depressed. This is your chance for life."

"What?"

"A thin chance to see Earth again before you die. A unique experience, win or lose. Isn't that what you want? Let me explain . . ."

## IV

AT THE THIRTEENTH awakening he tried to sit up too fast. He woke again, dizzy, flat on his back in the coffin, with Peerssa calling in his ear. "Corbell! Corbell?"

"Here. Where would I go?"

"Be more careful. Lie there for a minute."

Lean as death he was, and old. Arthritis grated in his knobby joints. With the familiar hunger came nausea. He ran a hand over his scalp—he had been half bald when he entered Forest Lawn—and more of his hair came away.

"Where are we?"

"One month from target and closing. The view will please you."

He emerged from the cold sleep tank like a sick Dracula. He made his limping way to the kitchen, then to the Health Club. His muscles were slack and tended to cramp. The exercises were hard on him. But the pain and the nausea and the creeping years meant little. He felt good. At worst he had found a brand new way to die.

He asked of the ubiquitous microphones, "Suppose we go too far in? We won't ever die, will we? We'd be stopped above the Swartzchild radius."

"Only to an outside observer. Not to ourselves. Are you about to change my orders?"

Some minutes later he eased himself into the Womb Room chair. He sipped the last of the broth. "Full view."

*Don Juan* raced above a sea of churning stars. In a normal galaxy they would have been crowded enough. Here, forced into a plane by the spin of the giant black hole at the center, they were crowded to death. Dying stars burned with a terrible light. They stood like torches in a field of candles. It must be common enough for star to ram star here, or for tides to rip stars apart.

Commoner toward the center, Corbell thought. The center of the sea burned very bright ahead of him. He could see no dark dot at the axis. He hadn't expected to.

"How far away are we in normal space?"

"Real space? Three point six light years."

"No problems?"

"I believe I can hold us above the plane of the disc until we have passed that very active swelling ahead of us, between two and three light years from the singularity."

Corbell looked down at his drive flame, a wisp of white flame between his feet. It was dim. There was very little matter above the disc, he guessed. "Suppose you can't? Suppose we have to go through it?"

"You'll never feel a thing. That region is where the stars lose their identity. They become streamers of dense plasma with nodules of neutronium in them. Most of the light comes from there. Beyond, there is

very great flattening and some radiation due to friction in the matter spiralling inward."

"What about the black hole?"

"I still don't have a view of it. I estimate a circumference of two billion kilometers and a mass of one hundred million solar masses. The ergosphere will be large. We should have no trouble choosing a path through it."

"You said circumference?"

"Should I have given you the radius? The radius of a black hole may be infinite."

There was simply no grasping the size of that disc of crushed stars. It was like flying above another universe. At two billion kilometers, the black hole would almost have contained the orbit of Jupiter; but if Corbell could have seen past that swelling ahead, that Ring of Fire, he would have found the black hole invisibly small.

Light caught the corner of his eye, and he turned to see a supernova glaring white-on-red. He'd just missed seeing a sun torn apart by tides, its ten-million-degree heart spilled across the sky.

He asked what he had never asked before. "Peerssa, what are you thinking?"

"I don't quite know how to answer that."

"Try."

"I'm not thinking anything. My decisions are made. They are mathematically rigorous. I face no choices."

"How are you going to find Earth?"

"I know where Sol will be in three million years."

"*Three*—Won't it be more like seventy thousand?"

"We're diving deep into a tremendous gravity field. Time will be compressed for us. The black hole is large enough that tides will not tear us apart, but we'll lose

almost three million years before I fire the fusion motor. What more can I do? The odds are finite that we will find Sol. Or the State may have spread through a million cubic light years of space before we arrive."

"The odds are finite. Peerssa, you're *strange*." But Corbell felt no urge to laugh. Seventy thousand years BC, there had been Neanderthal Man and a few Cro-Magnon Humans. Three millions years ago, nothing but a club-swinging, meat-eating ape. What would inhabit the Earth three million years from now?

Now Corbell spent most of his time in the Womb Room, watching the accretion disc swirl past. He liked the uncorrected view, the display that showed the universe distorted by *Don Juan's* velocity.

Since turnover the ship had shed most of its Tau factor. *Don Juan* had been moving faster after Corbell's first term in the cold sleep tank. But it was still traveling near lightspeed, and accelerating steadily under the pull of a point-source one hundred million times the mass of the Sun. The accretion disc showed rainbow-colored ahead of him, with the Ring of Fire a violet-white hill coming near. The stars were jammed together; you couldn't tell one from the next unless the next had exploded. They graded back through the rainbow until the sea of flame behind *Don Juan* was deep red and frozen in place, with the occasional supernova showing yellow-white or greenish-white.

The Ring of Fire—the swollen region where the heat trapped within the streaming star-stuff grew even more powerful than the black hole's compression effect—came near. It was blinding-bright before Corbell gave

up. "Reduce that light," he said, half-covering his eyes.

"I've cut it to ten percent. Let me know when I must cut it again."

"Are *you* all right? Will it burn out your cameras?"

"I think not. Remember, you were to dive almost into Sol to decelerate at the end of your mission. We can handle high intensities of light."

The Ring of Fire was a flattened doughnut twenty light years in circumference, a quarter of a light year thick: four or five cubic light years of green-to-blue-white star, with every possible grade of fusion and fission going on in it. As if Hell were a tremendous mountain . . . coming near . . . and *Don Juan* crossed it on a fan of fusion flame, thrusting hard. Corbell felt the thrust drop away. He sat forward as the ship dropped along the inner gradient and left the Ring of Fire behind, a dull red wall. The inner accretion disc was drastically thinner, savagely compressed. Corbell peered toward where the black hole ought to be. All he saw was more star-matter, hurtingly violet-white at the center.

It was all happening terribly fast now. Minutes left, or seconds. Peerssa was firing the attitude jets at strange angles. There were no stars to see in this inner disc; no detail at all. It was as uniform as peanut butter.

"It's all neutronium," said Peerssa. "It even has some of neutronium's crystalline structure, but that structure is constantly breaking up. I can see the X-ray flashes, like ripples."

"I wish I had some of your senses."

"The computer link—"

"No."

Behind them the Ring of Fire reddened further and was gone. The inner disc grew brighter and bluer and was suddenly past. In the last instant Corbell saw the black hole.

The onboard fusion drive roared beneath him, slammed him down into his chair. Light exploded in his face. It resolved: a blaze of violet light ahead of him, a broad ring of embers around it. Elsewhere, black.

Peerssa said, "There is something we must discuss."

"Wait a minute. Give me a chance to resume breathing."

Peerssa waited.

Corbell said, "It's over? We lived through that?"

"Yes."

"Well done."

"Thank you."

"What's happening now?"

"Firing a reaction drive within the ergosphere of a black hole has driven us dangerously near lightspeed. I am using the ram fields to ward interstellar matter from us. I won't be able to use them as a drive until we can shed some velocity. We will reach the vicinity of Sol in thirteen point eight years, ship's time, unless we overshoot."

"Did we really lose three million years?"

"Yes. Corbell, I must have your opinion. Will the State have collapsed over three million years?"

Corbell laughed a little shakily. "We'll be lucky if there's anything like human beings left. I can't guess what they'll be like. Three million years! I wish there'd

been another way to do it." He stood up. He was suddenly ravenous.

Peerssa answered. "I was ordered to preserve your life and the integrity of the ship, but never your convenience. My loyalty is to the State."

Corbell stopped. "What's *that* supposed to mean?"

"There was another way to use the black hole, once we knew it existed. At midpoint we could have continued to accelerate. We would have spent perhaps eighty years reaching the galactic hub. If we passed near enough to the black hole, its spin would have bent our hyperbolic path back upon itself, though we would still have been well outside the ergosphere. Another eighty years of ship's time would have returned us to Sol, seventy thousand years after your departure."

"You thought of that? And you didn't do it?"

"Corbell, I have no data on the nature of water empires. I had to take your word entirely."

"What are you talking about?"

His answer came in Corbell's recorded voice. *"I think the State could last seventy thousand years. See, these water empires, they don't collapse. They can rot from within, to the point where a single push from the barbarians outside can topple them. But it takes that push. There's no revolution in a water empire."*

Corbell said, "I don't—"

*"A water empire can grow so feeble that a single barbarian horde can topple it. But Peerssa, the State doesn't have any outside."*

"—I don't understand."

"The State could last seventy thousand years or more, because all of humanity was part of the State.

There were no barbarian hordes waiting hungrily for the State to show weakness. The State could have grown feeble beyond any precedent, feeble enough to fall before the hatred of a single barbarian. You, Corbell. You."

"Me."

"Did you exaggerate the situation? I thought of that, but I couldn't risk it, and I couldn't ask."

*He's a computer. Perfect memory, rigid logic, no judgment. I forgot. I talked to him like a human being, and now*—"You have heroically saved the State from *me*, I'll be damned."

"Was the danger unreal? I couldn't ask. You might have lied."

"I never wanted to overthrow the damn government. All I wanted was a normal life. I was only forty-four years old! I didn't want to die!"

"You could never have had what you called a normal life. It was already impossible in twenty-one ninety. Corbell could have lived a normal life by dying of cancer."

"I just didn't . . . didn't see it."

"I hoped you would accept the cloning method. I could have used the computer link to alter the clone's attitudes."

"Shut up."

Silence.

"I just don't want to talk for awhile, okay? Just take me home."

## A HORSE OF A DIFFERENT TECHNICOLOR

**by Craig Strete**

*"We know the past and must act accordingly—*
*so that the Present may be Eternal!"*

I CAN remember when the years changed, I can remember when I rode a horse of a different technicolor. Now when I feel like having a woman, I have myself changed into one. You remember me. I was Mr. and Mrs., I rode across your screen. I danced for you. I fell off horses for you. I got shot for you. I was living in two worlds and Jesus Christ was working the night shift. When they said do a rain dance, I did a rain dance. When the dance called for a woman, I was one. You remember me, don't you? If you do, tell me who I am. Am I the book? The movie? I can remember when I rode a horse of a different technicolor. I'm making sense to you, yes I am, unless I am a movie and you are a book.

The universe is divided into two worlds. Now the appeal of two worlds is the fear of death. One world is the book and there it is written, "All lives are to be divided into two sections, day and night." The other world is the microphone and the camera and there it is recorded for playback, shining to us, "I am the kingdom and the glory. Let the children come unto me for they shall be recreated in my own image."

It all began in 2074. Twice. Once for day and once for night. This story began in 2074 where precedence became the word as it was spoken. THE WORD. Man learned that all men had to rechannel their aggressions. They invented spectators. They said people should be great and disinterested souls. We know the past. We must act accordingly. Yes, let us act accordingly.

THE YEAR 2074 was the year of the success, the all-inclusion, the triumph of the wait-and-watch. They learned how to make people act accordingly. (Do you remember when you wondered whether the people you watched on television could watch you? Now you know, don't you?) And 2074 happened twice. Once in the soil and once in the spirit and they all began acting accordingly. Next year will be the third year 2074 happened. 2074 will always be with us. That is what they said. Did you listen?

I listened and did not learn. I couldn't be the language, couldn't hide in the same time, couldn't stand for the old or whisper soft things counting me to sleep like tallied sheep. They pushed my button. I know they pushed my button. I heard the connections made in my brain. I died in my sleep and was changed into someone else on a silver screen. I used to be a book. I'm a lie. I

know I'm a lie but I am very important. That makes all the difference. You can be punished for not listening.

(COCKTAIL CONVERSATION TAPE, HOME OF IRON EYES CODY, HOLLYWOOD, CALIFORNIA, 2074—Please file under "possible blackmail material")

Did we push your brain button? Did you die in your sleep? Will you ever know if we made you into someone else? If we changed you from a movie to a book? Did your whole life flash before your eyes at the last moment? Remember—we saved you from 2075.

And only white men flash through their lives at the last moment, only white men want to watch home movies. Remember—we saved you from 2075. Trust us. Be true to yourself, ethnic one, lest you be undone, as it were, in playback.

The signal fades with every playback. Save your strength. Magnetism loves you, be kind to its home, the tape. Remember, you have your place with your race, and are taped accordingly. Take your hand off the silver screen. We don't want to push your brain button. You are the book, and as we told you many times before, you can't re-edit anymore. Put your faith in the tape, rest your mind, we shall watch you watch us, we shall not unwind. Spectators are participators. Do not make us push your brain button. Repeat, do not make us push your brain button.

Finish that moccasin, make it accordingly. Sew that bead choker today. Do it for the tape, for your records must be complete. Nobody likes to push your brain button. Stay tuned.

(THIS INFORMATION BROADCAST ON A CELLULAR LEVEL AS A PUBLIC SERVICE TO ETHNIC MINORITIES, CHANNEL, CODE, AND REVISIONS AS SPECIFIED. THIS BIOCAST SPONSORED BY

THE CHURCH OF LATTER DAY ELECTRONIC ENGINEERS. REMEMBER, WE'LL SEE YOU AT THE BOX OFFICE NEXT SUNDAY AND MAY ALL YOUR HOLOGRAMS BE HAPPY ONES.)

We made you whole. We made you fit the pattern. We broadcast day and night. We make decisions for you. Take your hand off the silver screen. You are interfering with the projectionist. Yes, we listen, we tell you, you are a book, and having been written, you can not cancel a line of it. Act accordingly.

(ALL TRANSFORMATIONS ARE CLEAR. FORGIVE US OUR TRANSMISSIONS, DONE WHILE YOU SLEEP, AS YOU LAY IN YOUR BED, A HAND OF HOPE CRUMPLED UNDER YOUR CHEEK)

REMEMBER WHEN WE wondered how technology would affect us? Then we woke up suddenly, not enjoying the long, long journey and at that moment a jet screamed through the air, whipping across the sky like a death overhead. On the beach, children tried to leap into a jet's shadow. How fleeting we were.

(FROM THE SUPPRESSED VIDEO-POEMS OF IRON EYES CODY)

I used to be a dancer. Now I'm happily possessed. I used to sinfully clothe myself in the central facts of our time. Now, because of the lucky cleavage of men into actors and spectators, I remain undressed.

I know you care, I know you'll never cut across my transmission lines, I'll learn and look. I'll promise to remember to forget. I pledge allegiance to the logo and to the station for which it stands.

Forgive me Sponsor, forgive me talking toothbrush, for missing a tooth yesterday morning. I am going to

make you proud of me. You'll see a change in my overnight ratings, I promise. No longer will the back of my antenna be resistant to your signal. I am going to be better. I will be content with the "given" in sensation's quest. Before your very eyes, in one stunning montage, in one brilliant, symbolic lap dissolve, you'll see me faithful to the screen, see me metamorphosised from an untamed body dancing on trees to a pair of eyes staring beautifully in the dark.

(A CHILD'S PRAYER OF CONTRITION, BAPTIST HYMNAL, 2074)

"Remember the Alamo! Send free laxatives to Mexico!"

(IRON EYES CODY IN A SPEECH TO DAVY CROCKET—edited out of late-late show telecast)

I KNOW THEY pushed my button. I used to be the best Iron Eyes Cody that was ever Iron Eyes Cody. Yes. I really think I was. I was always built for action. I fell off horses so well. I got shot very beautifully. I was always very graceful. I was always built for action but I never got the girl. No, I never got the girl. I used to wonder why I never got the girl. Then they rewrote the script and I got the girl by getting myself. I always fell off horses so beautifully.

(NOTE FOUND IN MURINE BOTTLE, HOLLYWOOD, CALIFORNIA, 2074)

I watched while you slept. Wouldn't you be more comfortable sleeping on the other side. We want you

happy, we want you rested. We hope you'll stay tuned, we want you 100% refreshed. This is your mattress monitor and, as you have guessed, it's time to turn over. Yes, turn over. We want you to pass the freshness-test. We'll treat you like a guest. Roll over, you are done on that side. For your resting convenience, we are very soft and very wide.

Roll over now, we'll show you how. Do it now, don't delay. We want you at your best. You are our favorite guest. We are the ones to count on to prepare you for a perfect day. Turn over, don't delay. We talk to your kidneys, we are in constant touch. We hope you'll obey. We don't ask much. Failure to comply, we make the kidneys let go. Repeat. Failure to comply, we make the kidneys let go. Isn't it better when the bed stays dry?

(NEURAL TRANSMISSION BROADCAST SPONSORED BY THE EXERCISE WHILE YOU SLEEP CITIZENS ACTION COALITION, A LEISURE SERVICE OF THE NETWORK PRESIDENT'S ADVISORY COMMISSION ON NOCTURNAL EMISSIONS)

We don't like the way the toilet flushes. It seems undiplomatic. We wonder. Could its sound be put in harmony? Can you change the rhythm, mute the gurgle, accentuate the flush? We only tell you this because you are near and dear to us. We want your home sounding just right. We want you happy day and night. We don't want to mention it. We really hate to mention it but we count. We measure. We are here to insure your utmost in living pleasure. We recommend prunes. We want to see more of you here. You know the danger of becoming a stranger. Wipe away your gloom, let us

help you here in the bathroom. We tell you one thing our findings show, you could come here more times than you wanted to go. Trust us and change that flush.

(TOILET DISPENSER BROADCAST, WORDS AND LYRICS BY AMERICA'S FOREMOST VIDEOPOET—JAMES DEAN.)

Remember—we touch you deeply. As you approach sign off, take comfort in the path of transmission. Remember as you travel through life, the world has got you by the golden apples. Take comfort, for your future is now, and now is forever more now. It is audiovisual. Stay tuned. For happiness the number to call is—. Ask for George or Candy. Or both. We are glad you have chosen our lens as the one to look at. We are glad to see you. Be assured we see you. No one ever dies. Repeat. Take comfort that no one ever dies. Although the original telecast has ceased, we promise you shall live on in reruns and syndication. Take comfort in your longevity. Take comfort we say. Channel 10 has picked up your option. Your life will be continued as a children's program. The UNCLE BURPING BUFFALO SHOW. We have signed F. Scott Fitzgerald to play the buffalo. Rejoice in transmission everlasting.

(OFFICIAL FUNERAL TELECAST OF FIRST DRUNKEN WOODEN INDIAN. THIS STATION IS PROUD TO CARRY THE INDIAN FATHER OF HIS COUNTRY. "PERHAPS YOU HAVE SEEN HIS FACE ON THE NICKEL. HE'S THE ONE WITHOUT THE HUMP." SAID THE HIRED FUNERAL COMEDIAN.)

YES, WE WROTE you as a book, saved you from 2075. Could you live without what we give? We tell you the

truth. Don't make us push your brain button. You believe in one-armed men. We made you whole and we don't like that very much. We feel, your voice and image is wavering from our purpose. It is becoming soft, muted. We want more lights on your face. Remember we saved you as a representative of your race. We monitor, we pray and we teach. Are you trying to escape our reach? Why do you dream of 2075? We checked, we programmed, we wrote the book. Be glad you're alive. Be glad you have 2074 just once more. You are the kingdom and the book. Watch me dance on the silver screen. There are no words to confuse you. There are no painful choices. No fear of right or wrong. There are no choices to confuse you. We offer you the appeal of two words—fear and death. The fear of death, Do you know what we mean? WON'T YOU WATCH US DANCE ON THE SILVER SCREEN.

(TAPED LIVE AT THE HOUSE OF PERFORMANCE IN CALIFORNIA, COPYRIGHT REASONABLE PERSUASION MUSIC CO., ALL RIGHTS RESERVED, 2074. Music to be reasonably persuaded by.)

Remember we made and remade every dream ever played and put them on the screen. We wrote the book. We asked nothing of you, wanted nothing of you, programmed nothing from you. We came into your home. Did you look? Don't make me ask you again? We don't want to push that button. We don't want to send you to that place where lights close their tired eyes. Remember—one-armed men carry imaginary fists at the end of imaginary arms.

(THE PRECEEDING MESSAGE FED INTRAVENOUSLY TO GERIATRIC PATIENTS, CHANNEL, CODE, AND REVISIONS AS SPECIFIED. REMEMBER THE MOTTO OF THE SENIOR CITIZENS PARIMUTUAL BETTING INC.—ONLY FOOLS BET AGAINST THE POOLS. DON'T DIE WITHOUT PLACING A BET—YOUR TIME COULD BE OUR TIME AND YOU MIGHT WIN YET.)

THIS IS STRICTLY CONFIDENTIAL but I thought you'd like to know, I've been watching you and your hormone count is really quite low. I hope you can correct this. I've watched you. I've programmed your text. Biologically speaking, this monitor recommends sex. Please act accordingly. Your audience loves you. Love them. Refill the lifely cup, we want to see your hormone production go up.

(THIS BROADCAST IMPLANTED WITH YOUR NEVER-SLEEPS INTRA-UTERINE DEVICE. THIS TAPE WILL SELF-CORRUPT IN THIRTY SECONDS.)

Was your voice unsynchronised with the image? Was the meaning hidden, the lights too bright? It came out wrong. It was not what we hoped. Believe me, it will not happen again. Buttons will be pushed, brains will roll. Yes, we know we made an error, we have discovered error. Did we miscalculate your sex? Watch the screen. Watch the screen. See us rectify the errors. Remember—editors make mistakes. We wrote the book. We edited the movie for you. Be patient. If you've discovered a mistake in the year 2074, consider it was put there on purpose. We try to put something in 2074 for everybody and some people are always looking for mistakes.

(THIS TAPE BROADCAST ON THE EACH FIRST DAY OF THE SECOND COMING TIME OF THE GRAND AND GLORIOUS YEAR 2074. THIS IS THE SEVENTY-SECOND BROADCAST OF THIS JOYFUL MESSAGE, BROUGHT TO YOU ONCE EACH 2074, courtesy of the unemployed calendar printers union.)

I HAVE SEEN THE FUTURE AND I WON'T GO. (popular folksong from 2074)

Crazy Horse, his dying words, 1876: I can't help you anymore, tell the people I cannot help anymore. (AS THE DIRECTOR, I HAVE DECIDED THAT THE ROLE OF CRAZY HORSE MUST BE REWRITTEN. IN THE MOVIE VERSION, WE WILL HAVE HIM SAY "ONLY BY MY DEATH, CAN I HELP MY PEOPLE, ONE SMALL STEP FOR MAN, ONE GIANT LEAP AT THE BOX OFFICE." IN PLACE OF HAVING HIM MURDERED BY CAVALRY OFFICERS WHO STABBED HIM IN THE BACK, WE ADD A CHASE SCENE WHERE HE ESCAPES FROM PRISON, RAPES AND MURDERS A TWELVE YEAR OLD GIRL AND IS FINALLY DRIVEN TO COMMIT SUICIDE OUT OF GUILT. THE PRODUCER AGREED ON THE CONDITION THAT JOHN WAYNE PLAY THE TWELVE YEAR OLD GIRL)

I knew you'd see it my way. I knew careful editing would make the meaning clear. It was wrong of you to want 2075. It was wrong of you to assume that our art needed you, the spectator, in order to be. It was wrong. The film can run, the tape can play without you. YOU CAN NOT EXIST WITHOUT IT. We insure your existence. We married you when none would have you. We had you. We had you. We had you.

When we start a film, we put out the lights.

(from Webster's Dictionary, 2074 Edition: *suicide*

*—an unprogrammed act, usually committed without benefit of monitoring devices. Usually a fatal act, a fatal taking of one's life, without being ordered to do so, or recording the act for rebroadcast. 2. A sin of nontransmission at a moment of the highest entertainment value.)*

THIS IS AN OFFICIAL notification to all those suicide prones who insist on depriving their peers from witnessing death. In order to insure that the people are not deprived of the entertainment due them, we have devised a method of taking still pictures of your body and turning it into a film for later broadcasting.

We take the still picture of your dead body, assemble the dead pictures on a traveling matte, and through recent innovations of the multi-plane camera, bring it to life as a film by artificial insemination. This is the meaning and aim of our films.

This is an official notification to suicide-prone monitor tamperers. The people must not be denied their entertainment. Please confine your deaths to monitored periods. The people must not be denied entertainment. Civilization must not aspire for 2075. It is not on the program. Read this book. It is a suicide note. The people must not be denied their entertainment.

(Please watch your monitor. I am committing suicide. The people must not be denied their entertainment. Stay tuned. The people must not be—)

You are now watching a test pattern. The pleasing tone is designed for your listening enjoyment. Our test pattern is designed to be symmetrically pleasing. Are you happy?

The truth about the evils of happiness is on channel 13. Please change your dial for this channel. Repeat. Please change your dial for the truth about the evils of happiness.

## ALLEGIANCES

### by Michael Bishop

*No matter how intently we may turn our gaze Inward, the Universe remains Out There—Waiting . . .*

I

cleopatra amid the kudzu

DO YOU KNOW what kudzu is? *Kudzu*. Most people who live in a domed city, even the Urban Nucleus of Atlanta, aren't like to know. How many of you have been outside our huge, geodesic walnut? I know about kudzu for two reasons: when I was very little my grandmother used to tell me about it and, more impressively maybe, I am one of those who have been into the Open:

Japan invades.
  Far Eastern vines
Run from the
  clay banks they are

Supposed to
  keep from eroding,
Up telephone poles,
Which rear,
  half out of leafage,
As though
  they would shriek. . . .

James Dickey's descritpion of kudzu in the opening lines of a poem entitled "Kudzu." It's a good description, too, especially the part about the telephone poles shrieking. Not too many standing telephone poles out there anymore, but pine trees, old barns, collapsing fire towers—all of these do seem to be shrieking as the merciless kudzu clambers over them.

Kudzu. Pueraria lobata, native to Japan, imported during a previous century to keep the red clay from washing away. Baroque, vegetable architecture.

My grandmother told me about it before I ever saw it. My last name is Noble, but Zoe, my grandmother, gave me my first one: Clio. I remember Zoe very well even though she lived with us only the last three years of her life and died when I was five. Also, I have a photograph of my grandmother that she took herself, using a tripod and timer: a large black-and-white one. This photograph, which sits on top of my visicom console as I write this, gives me a hand-hold on Zoe's heart and on several generations of the past.

The past is important to me. Just as you have to hack your way out of furiously growing kudzu to attain a vantage point on the surrounding terrain, sometimes you have to rise above and survey the past in order to get the lay of your own soul. Zoe understood that, and I

think that's why my parents, after once renouncing her and packing her off to the Geriatrics Hostel, let her, in her seventy-second year, stick me with a monicker like Clio. But, having bridged a generation and walked over that bridge into my grandmother's life, I find that I like my name OK.

In Greek mythology, you know, Clio was the Muse of History. (Ta da!)

The piece of history I'm telling now occurred just last year, but really it takes in many more human seasons than just 2066, month of Summer. It's the story of how three of us on a resources-reclamation team, in the employ of the Human Development Commission (the very same authority that, nineteen years ago, disbanded Zoe's experimental septigamoklan in the Geriatrics Hostel), went out into the Open to fetch back several people to our Urban Nucleus.

Although I was only twenty-one last summer, I'd been out on three missions before the one this story is about: all routine, all predictable. We'd "reclaimed" a number of people with desirable technical skills or influential relatives in the city by going out, finding their kudzu-camouflaged encampments, and asking them to return with us. Upon the promise of enfranchisement and respectable jobs, they all had; every one of them. They were flattered that an rr team had been sent out for them.

Our efforts were part of what the bureaucrats in the Commission called the "Fifth Evacuation Lottery"—although it wasn't an evacuation at all in the way the first four had been, when the domes were going up sixty and seventy years ago (1994-2004, in case you're

counting: a neat decade). The Fifth Evacuation Lottery is another thing altogether, not an evacuation but a series of carefully planned manhunts.

THE THREE OF US who went out last summer were Newlyn Yates, the team leader; Alexander Guest, a man of swarthy complexion although, unlike Yates, not a black; and me, Clio Noble. Three was the optimum number for such teams; it had something to do with an old NASA policy.

Twice before I'd been on teams with Newlyn Yates, and I was a little bit dithery about him: he did things to my sense of equilibrium, sabotaged it mostly. But Yates was all poker spine, set jaw, and unflappable decorum, and we'd never come close to bodyburning, despite the opportunities spending all that time in the Open naturally provides. Yates was awfully interior, he was ingrown. In the Open you couldn't get him to uncoil, he did everything as if by invisible manual. Off duty, you never got a chance to see him.

Alexander Guest, a big, mahogany-colored man with a craggy profile, was probably ten years older than Yates. He looked like he ought to be wearing moccasins and the traditional turban of the old Creek Indians —for good reason, it turned out. Before our assignment last summer, I'd never met him before, never even seen him in the Commission Authority tower. He was just insane enough to *like* traipsing through kudzu; you could tell by the way the wilderness polled up in his muddy eyes. He was insane in other ways, too.

But this I found out in the Open. On the day I met him in the rr section of the Human Development Tower, he just looked bummish and uncouth. We were sitting in

plastic chairs in the carpeted anteroom of Yates' office, two zombies rising out of the deadness of sleep at six o'clock in the morning: even so, I had to admit that the craggy, brown man whose bulk seemed to overflow the fragile cup of his chair was more awake than I.

" 'Lo," he said. An orotund rumble.

I nodded.

"Looks like we're gonna be team members. You know what this one's about?"

"No," I said. "Do you?"

"Think so." He said this matter-of-factly rather than smugly, but I still didn't feel like asking him the natural follow-up question. So, shifting in his wobbly chair (with him in it, it looked like it had been stolen from a Van-Ed elementary division classroom), he said, "What's your name, Miz?"

I told him.

"*Cleo*," he said, missing it by a letter. "Short for Cleopatra. Married up with her brother and bodyburned with two Romans. Well, Cleo, you're the first red-haired 'Gyptian I've ever seen. Nice to meet you."

I didn't correct him about my name. I did manage the bogus courtesy of nodding: again. That was all I could manage.

"History's a pastime of mine," he said after a while. "My name's Guest, Alexander Guest. That's how I'm listed in the UrNu census anyhow, and even here at the Tower. Really, though, it's an alias.

"The alias I'd rather go by," he said after musing for a while, "is Menewa. But it's hard to get people in an Urban Nucleus to call you that. All the forms say 'Last name, first name, middle initial.' You write down somepin like "Menewa' they jes' stamp INCOM-

PLETE on the forms and send 'em back to you. You see, Cleo, I'm an Indian. The name Menewa. . . ."

Fortunately, he got cut off because Newlyn Yates, trim in a one-piece worksuit and street slippers, glided through the anteroom and into his office. Guest didn't have time to lapse into an incomprehensible Muskhogean dialect: the words "Come in" floated back to us as Yates disappeared, and the Indian Menewa and the 'Gyptian Cleopatra exchanged a glance, got up, and followed their black pharoah-chieftain into the dark.

In the center of Yates' metal desk—once Yates had coasted the false wood surface aside—you could see an illuminated projection well; in fact, that was all we saw when we came into his office. Yates was standing behind the desk and he beckoned us to take up positions opposite him. Then he pushed a button so that a map of the transit tunnels leading out of Atlanta to the other Urban Nuclei appeared in the projection well.

"We'll take a transit-car to this station," Yates said, pointing at the map. "The juncture of the Miami and Savannah tunnels, southeast of here. Then we'll have to go to the end of the Savannah tributary, dismantle the filter system on one of the ventilation units, climb through, and strike out on foot. The biomonitor-relay people have one of our targets placed at about forty-five kilometers due east of the tunnel juncture." Yates' father had once been the director of the city's Biomonitor Agency, but in the last fifteen years the Agency had extended its operations to include surveillance of the natives of the countryside; this was in addition to the medical monitoring of all dome-dwellers. A *target,* both then and now, was a human being who was being monitored.

"Hot damn," I said. An old expression of my grandmother's. "How did they manage that?"

"An implant tab at the nape of our subject's neck, they told me," Yates said. "A month ago—two months ago—he came into the city."

"Why?"

"The Agency told me he brought a truckload of peanuts up here, using what's left of the old highway system. While here, he was drugged, implanted, and afterwards pumped by a hypnotist-physician at Grady Memorial. He's not aware of the implant tab or the fact that he was questioned."

"Why didn't we just keep him here when he came to the city? It doesn't make sense to go out and fetch him now." I was doing all the asking: Alexander Guest, the gingerbread Indian, was standing hunch-shouldered and open-mouthed beside me.

"The man's name is Jonah Trap," Yates said, irritated with me, the projection well giving his face the demonic geometry of a mask. "A black. But we're not going after *him*, Miz Noble. We're after two people whose intelligence and ability the city needs and who're now apparently living with Trap near the old town of Toombsboro. You were selected for this assignment because one of the people is a woman: the Commission Authority believes you may be able, far better than Mr. Guest or I, to persuade her to return with us."

"Why was I chosen?" Indian Alex said, surprising both Yates and me.

"I thought they explained that to you. You met Trap while he was here, they told me; they said you'd even been into that area of the Open before. Is that true?"

"Yep."

"Then those are your reasons. You ought to be helpful." Then Yates said, "And in case the question seems to logically present itself now, *I'm* going because I'm good at taking teams out and bringing them back entire. The fact I'm black probably won't hurt much either, not in this instance."

"Well," I said, "who are the people? The man and the woman?"

"That, Miz Noble, I can't tell you till we're on our way to Toombsboro."

"Why not?"

"If I could tell you that," he said, "I could tell you the other. Couldn't I?"

"Not necessarily. Maybe the Commission Authority just wants to be sure we don't spread our targets' names around before we leave. You could easily tell us that without telling us the names of the targets."

"Well, Miz Noble, if you have it all figured out, why ask?" Yates was an icicle with an iron bar inside it, and I just put my lily-white foot so far into my mouth that I was gnawing on ankle bone. *Hot damn*, I said to myself: an old expression of my grandmother's.

Aloud I said, "I don't have it all figured out. I didn't even know we had a tunnel to Old Savannah: Savannah's not one of the Urban Nuclei. Never was, was it?"

"It's about one-tenth of a tunnel," Yates said, letting his finger trace the route in the projection well. "A dead-ender. Anyway, the geology of the coastal region wouldn't permit the construction of a viable tunnel, even if there were people there to get to. Same with Miami. Most of the Trans-Seminole 'tunnel,' you know, is above-ground and hooded." He tapped the

illuminated map. "Once we exit the main tunnel near the Ocmulgee mound here," tapping again, "we'll head down the dead-ender and then surface well to the east of Macon. Then, a kudzu-fouled walk in the Open. We may be able to use the old state highway—57, I think—for a good part of the way. That should ease it a little for us."

Guest said, "That highway's torn up and overgrown, 57 is—at least over where we're gonna come out." He shook his head. "Crazy."

"It doesn't matter," Yates said. "We'll get there, Mr. Guest." In five more minutes the briefing was over, and Yates turned us out of the office, out of the Tower, for the rest of the day. An open day.

"You like to get some coffee, Cleo?" Guest asked me.

"No thanks," I said. "See you at six o'clock tomorrow morning."

I went back to my cubicle on Level 3, *under*. That's where a quarter of a century ago, my parents started from: Level 3.

## II

### The general toombs cornstalk brigade

THE TRANSIT TUNNELS are dark; they smell of the dampness of concrete. Even before construction on the domes of the Urban Nuclei had begun, the entire Federation-wide network of tunnels was blasted into existence by an arsenal of immaculately sanitary

H-bombs: grrr-choom, grrr-choom, grrrrr-whumpf! Strangely, we don't use the tunnels that much.

On the morning after our conference in the Human Development Tower, an open transit-car carried us in eerie silence to the Miami-Savannah tributary, I knew we were passing pretty darn close to the old Ocmulgee Mounds. At these mounds and the territory called the Ocmulgee Old Fields, the Creek Indians had long ago formed the Creek Indian Confederacy. Several prehistoric cultures had thrived here, too.

I started wondering. Maybe the domes of the Urban Nuclei had been raised from the same impulse that had motivated Kheops in Egypt and the Mound Builders in Georgia. Oh, in these two cases I know the immediate motives diverge: Pharoah wanted a splendid tomb whereas the Indians wished their flat-topped pyramids to serve as the thrones of the gods. But if Pharoah believed himself a deity, a god incarnate, then his tomb was also a throne, and the common denominator in the two instances is humankind's need to exalt something larger than itself. A religious motive, finally.

Anyhow, that's my belief, and I'm not talking about the Ortho-Urban Church, either. I've tried to voice it once or twice, but these ideas, spilling from the lips of a twenty-two-year-old woman with red hair, elicit only peeved looks ("The girl thinks she's Bertrand Russell, Tom") or curt dismissals ("Sophomoric bullshit, Clio"). So I reserve these ruminations now for accounts like this one. Except I probably won't be writing any more accounts like this one. Circumstances change.

BUT FOR THE BREADTH of a single headlamp, our

resources-reclamation team rode in absolute darkness. The winds of our blastborne passage smelled of concrete, concrete and iron. Yates slowed at the Miami-Savannah juncture and negotiated the turn into the southwestward tributary of the subterranean network: Guest had to get out and switch the transit-rails. Then off we went again, the Ocmulgee Old Fields behind us, well to the west. We'd been traveling for three hours.

I shouted into the resurging wind of our movement: "*Now* can you tell us who we're going after?"

Turning his head, Yates permitted his tin profile to carve itself in the air: "Wait till we're out! You've waited this long!"

In fifteen minutes the wind began to die, the walls to lose their dizzying speed, and we glided into what I could only think of as Dead-End Station: yellow fluorescents casting a somehow greenish light over the platform here. You half-expected, when you were close enough to see more clearly, to find stalactites on the ceiling. Didn't, though; too mercilessly hot.

We got out and began unloading equipment and carrying it up to the platform. Yates wore myriad tools on his lowslung belt, as well as a holster of artificial leather: it contained a laser pistol. (One such weapon to each reclamation team, and the team leader carried it.) Then Yates pointed at the ventilation unit at the top of the tunnel's final wall.

"OK," he said. "Let's dismantle that grate."

Guest climbed up the maintenance rungs to the unit and began working to take the filter apart. The filter systems had been installed when the Federation had been worried about the tunnel's Internal Environmental Control (IEC, if you like initials), fearing that the

Open's tainted atmosphere would spill into the network and strangle us with the wastes we had fled from. If that's what we'd fled from. The Open had never been so foully tainted as that. Never. The first reclamation team had carried oxygen canisters and over-the-head masks (which made them look like startled rhesus monkeys when they put them on: perforated speakers, plastiglass eyes, and all), but its members hadn't had to use this equipment. And ninety per cent of Atlanta's people still believe you can't go outside. Most of them, if they knew differently, still wouldn't rush to re-colonize the wilderness.

"This thing's rusted," Guest said, swaying up there on the maintenance ladder. "Won't budge."

So Yates had to go up and cut both the filter system and the grate out of their moorings with the laser pistol. After the area around the ventilation unit had cooled, we all climbed through weighted with paraphernalia, into the Open: Guest first, then me, then Newlyn Yates.

And the first thing we saw was the deformed, rearing landscape: green temples, arabesques of kudzu, pagodas to the gods of rampant fertility. The Orient had invaded Georgia, invisible samurai crouched in the vines. The widerness shouted at us, and the sky—this always amazed me—was a brilliant sky-blue.

THE JOB THEY GAVE Clio Noble was tying flaming-red markers on trees and rotted fence posts, anything up-jutting. "Hell," Alexander Guest said. "She don't need to do that. You got a wrist-compass and I could smell our way back to the station." He lifted his big head and whuffed two or three times at the air, a comic and lordly bear in the chapel of the forest.

"Suppose something happens to you, Guest," Yates said. "Or to me. Maybe Clio . . . Miz Noble," he emended, "will have to get back here on her own." I grinned at him, and the martinet in Yates revived. "Miz Noble will set the rags, and that's it."

So off we went, angling northeast in order to intercept the ruins of State Highway 57, Clio Noble tying markers the color of her hair at intervals of roughly a hundred meters—unless the eclipsing vegetation or a turn in our progress demanded them more often. Langorously swinging his machete, Indian Alex marched point. Newlyn Yates, good team leader that he was, brought up the rear.

Two brown thrashers (once upon a time, the state bird) and a logy cardinal. Which was funny enough—in context, mind you—to make me chuckle out loud; in that knee-high kudzu "brown thrashers" was especially good.

"Don't get to laughing so hard," Yates said from behind me, "you forget to keep an eye open for snakes. They love this stuff."

Guest stopped and turned around. "My little brothers," he said.

I glared. He'd almost lopped off my head with his machete.

" 'Scuse me," he said, wiping his brow with one mesh sleeve. "It's snakes, though. Since I'm an Indian they're s'posed to be my little brothers: snakes, lizards, alligators, all like that. But I saw a green mamba at the Grant Park Zoo two years ago and got so crawly I had to get out of there." His shoulders shuddered. "Went right home."

"If you've been out here before," Yates accused, "you've seen snakes plenty of times."

"Yeah, but I didn't come 'specially to look at 'em." Then he said something both clumsily poetic and, right then, incomprehensible: "This Hothlepoya ain't no herpetologist: no sir." And started hacking again.

We did see some snakes, too—as we always did in the Open. One was a coral snake, up from Florida no doubt, that we gave a wide berth. Guest waved Yates and me around it and whispered to me as I went by, "Hope we don't run across any asps, Cleo." I thought he was being a smart Alex until I deduced from his head movements and inflection that he really did hope that. Literally, he meant it. An asp in Georgia, a creature as alien as that!

At one o'clock we found some shade, a knoll in the forest of pine and kudzu. Some moss actually grew at the base of the slash pine we decided to camp under. For lunch, we drank from our canteens and nibbled at our dried rations.

"Well," I said. "How 'bout now?"

Yates looked at me. "How 'bout now what?" Imperial annoyance.

"Telling us who we've come after this time. I think it's a pretty safe wager we won't leak the word to someone disreputable."

"OK," Yates said. I noticed that Guest, his heavy jaw working on a dehydrated vitamin bar, was gazing off into the distant portals of kudzu, apparently indifferent to Yates' impending revelation. Well, he'd told me he thought he knew what this mission was all about; maybe he did.

Yates said, "Do you know the name Carl Bitler?"

"I know we're not looking for him," I said. "He was a half-caste demagogue, who was assassinated in

the UrNu Capitol Building almost forty years ago."

"Thirty-seven. And he wasn't a demagogue, Miz Noble." Archly he said this: very archly.

"OK," I said. "Beg your pardon. Why do you mention him?"

"We're looking for his wife," Yates announced, "and for the son of the man who assassinated Bitler, Emory Coleman. We think the two of them are together. Fiona Bitler was Coleman's teacher in a Van-Ed program for precocious children before the two of them disappeared."

"Great Maynard's ghost!" I was really excited: that's an expletive for thugboys and sentimental politicians. "How long ago was that?"

"Thirty-two years."

"You've got it all memorized! How old does that make Fiona Bitler and the little boy she was teaching?"

"The 'little boy' is now forty-one, Miz Noble, and Fiona Bitler has to be in her mid-sixties. In thirty years people age." Which was about the stupidest thing I'd ever heard Yates say. He was melancholy, though. To cover his emotion he lifted the canteen and drank.

Indian Alex hadn't stopped munching. None of what we'd just been talking about impressed him, his eyes still veered away into pine copses and viny cathedrals. When he did look at us again, well into Yates' and my awkward silence, he said, "Toombsboro was named for Robert Toombs, I think." He wiped vitamin-bar crumbs from his hands. "Robert Toombs was an unusual man. Confederate general who escaped the yankees in the last year of the war and ended up in London. Came back to Georgia later, but never would swear his loyalty to the Union."

"Yes, sir," Yates said, annoyance surfacing again. "Old Toombs was a real jewel."

"Bitler's your hero," I said by way of meditation (they hadn't asked for it, though); "maybe Toombs is his. Everyone has his own heroes." I remembered a story about Toombs that a professor of mine had always relished telling: In an early year of the war the old secessionist had bragged to a friend that one Georgia brigade with cornstalks could defeat any bunch of yankees sent against them. After the war the friend reproached Toombs for this bit of brag. Well, Toombs drawled (my professor drawled it, anyhow), we could of—but them yankee bastuds wouldn't fight with cornstalks. (Ho ho.) But it wasn't a story that would amuse Yates, though; so, out there in the Open, I didn't tell it.

"Not a hero of mine," Guest said. "When that war broke out there wasn't an Indian left in Georgia, least not officially: only white men and Negro slaves. But Toombs was a man who knew where he stood, that's for sure."

"Let's go," Yates said. He was already standing up.

"Wait a minute," I said. "Heroes aside, what're Fiona Bitler and that old pupil of hers doing out here near Toombsboro? Strange place for them to be, isn't it?"

Without looking at me Yates began jockeying his implement-lined belt into place over his hips. "Jonah Trap's farming out here, the reports say. He's Fiona Bitler's first cousin: son of her mother's brother. When she and the boy left the city in '34, they naturally went to Trap."

"And they've been living out here thirty years?"

"Off and on. It isn't completely clear."

"So why do we, in this funky Year of Our Lord, come out here to haul them back to a place they must've wanted out of?" Which was a question that needed asking. Most of the "indigenous salvageables" our resource reclamation teams brought back to the city had never lived in it before, had never been enfranchised. Fetching runaways was business we didn't engage in. Let the trash go, one of our more intellectual ward reps liked to say.

"To persuade them to return. Emory Coleman's a genius, and Mrs. Bitler's husband's been vindicated over and over again for his so-called rabblerousing. Streets have been named after him, schools, housing projects, churches. The woman ought to be able to come back to that. She always wanted natural change, that's why she was a teacher. She ought to be able to die in the city that finally recognized the rightness of her husband's goals."

"Fine recognition," I said. "Implementing the Retrenchment Edicts of '35 and crushing that so-called 'Glissador Revolt' three years back, when there wasn't any revolt at all; nothing physical anyhow." This was heresy, but Yates didn't respond to it. His loyalties were cruelly divided: the city employed him, but his pigmentation suffused him with an allegiance no mere emolument or law could undermine. Newlyn Yates wasn't that sort of human being; a soldier maybe, but no mercenary.

## III

### rasputin at the battle of horseshoe bend

ABOUT FIVE O'CLOCK on that first day we stumbled out of the green mosques and jumbled pagodas into an open area of sorts. A universal groundcover of kudzu still tripped us up, but now it rose no higher than our upper shins: we waded through it like kids in the shallow end of a recreation pool. Guest raked the blade of his machete through the vines and felt for the hidden surface.

The machete clanged. Guest scraped at the groundcover. "Well, here she is, Mr. Yates: Highway 57."

And it was. The vines had simply grown across it. We followed the filigreed roadbed for a while, moving east, and had the easiest time of it the wilderness had so far granted us. Well before sundown, though, we stopped, moved off the roadbed into a copse of deciduous trees (wild pecans), and made our camp for the evening.

Twilight still twinkling in the tall pines and pecans. Yates told us to go to bed: he would roust us out early, he said, so we could steal a march on the heat. We prepared to sleep on the ground.

But tall thunderheads began rolling through the twilight from the northwest, and Yates ordered us to pitch our one-person tents in a kind of triangle, dig run-off trenches, and hurriedly finish supper. The woods began to boom, the branches of the trees to

thrash about violently. Huge drops began to fall through the accumulating darkness and the stuttering leaves.

Well, no stars this night; no bloated moon and no vivid, glittering constellations. Too bad. Those are things that make being a team member worth all the agitation of soul. From my two previous trips with him I remembered that Yates had sometimes stayed up all night, transfixed, looking at the stars. (How did I know it was all night? Sometimes I stayed up, too, watching *him.)* Tonight, though, Yates crawled into his tent before the worst of the deluge hit and fell soundly asleep. A feat I couldn't emulate. It was too noisy. And my soul was agitated: we were going after Fiona Bitler and Emory Coleman!

It rained an hour, at least. When it stopped, I looked up and saw a shadowy bulk hunkering next to my tent: Alexander Guest, rocking on his heels in the slow, sloughing, red mud. " 'Lo," he said.

"What're you doing?" I said. Not too civilly, maybe.

"First watch," he said. "Yates gave me first watch. You can't do it proper from a tent."

"Why do we need one at all?" I said. "Nothing out there but snakes, raccoons, and opossums." The answer was that Yates did everything by the manual, even down to assigning watches in the middle of thunderstorms.

"Can't sleep, huh?"

That question disturbed me a little. I was afraid (ashamed afterwards, though) that Guest was going to propose a mutual settling of the nerves, a little easy bodywarming as a prelude to sleep. I said, "No. But

look at Yates. Don't you hate a man who can go off like that, and then stay off?"

"I don't hate anybody," he said obliquely. Then, staring into the dark: " 'Cept maybe Andrew Jackson. I've never really forgiven Andrew Jackson."

"For what?"

"For the way he treated Indians, you know. When that man got elected President, the Civilized Tribes and ever' other Indian in Georgia was doomed. In ten years, violatin' first this treaty, then that, he had all of us cleared out of here: Yamacraw, Creek, Yuchi, Cherokee. That Jackson's one dead fellow I wish was alive, jes' so I could kill him again."

"I'd think his being dead so long revenge enough."

"No," Guest shook his head. "Death is a sweetness, it's the dying, you know, that's the devil—bitch, always hungry for new meat. . . . I wish ole Jackson was new meat again so I could feed him to the devil-bitch."

Death as Goddess, Death as Avenging Female. Well, Indians had considered the white man's failure to isolate his woman during menstruation as the most heinous of obscenities. I could accept the devil-bitch metaphor from Guest even though it would have angered me from anybody else; I could accept it without approving it, just as I could understand but never approve the Indian's fear and awe of a woman in her cycle.

Thinking these things, I crawled out of my tent. It seemed rude to carry on a conversation from the comfort of my bedding while Guest squatted in the mud. Together we drew a log up to the rain-squelched ashes

of our fire and sat down. Yates slept on. Should I assure Indian Alex that I was in touchable condition?

Instead I said, "You told me yesterday your name was an alias."

"Sort of," he said. "It's the name on my birth certificate, but *Alexander* and *Guest* certainly ain't Indian names. I'd be closer to it using something like Alexander X, the way some of them old-time black Muslims did. Like the one who got shot in New York, that Malcolm fellow. He didn't know his *real* name was any more than I do mine—now."

Guest told me that he was the descendant of Cherokee Indians who had escaped into North Carolina at the time of the Great Removal in 1838 and 1839. Somewhere along the line a great-grandfather had taken the name Guest. "The reason for that," the big man said, "is Guest is one of the most common forms of Gist, and George Gist was the anglo name of Sequoyah."

"Sequoyah? The inventor of the Cherokee syllabary?"

"Yep. Which I can read. I got a nigh-on complete microfilm facsimile of the Cherokee Phoenix. The Indian newspaper run off at New Echota up in old Gordon County. Got it back in my cubicle."

The other reason that Guest was an appropriate name for Alexander's family, he explained, was that they were "guests" in the city: none of them had ever been granted enfranchisement.

"What about *Alexander?*" I said.

"Well, that's from Alexander McGillivray. He was a famous Creek *micco* whose father'd been a Scotch

trader. If you want to survive in the Urban Nucleus, you know, you can't go around calling yourself Menewa. So I got me a compromise name: Alexander Guest."

"Why do you want to call yourself Menewa? Is that a Cherokee name?"

"No. That's the name of a Creek warrior who called himself Hothlepoya when he was young. That means Crazy War Hunter. He was an unusual man, Menewa was; more unusual than Robert Toombs, even."

And, talking slowly, the ground around us steaming so that ghosts seemed to be rising from the heavy, carnal earth, Alexander Guest told me the story of Menewa.

BY 1812 the Creek Confederacy had fragmented into pro- and anti-American actions; most of the Upper or Alabama Creeks were hostile to the new American nation, while many of the Lower or Georgia Creeks, hoping for the best, determined to support and befriend it.

"A few of these Lower Creeks," Guest said, "was in the pay of the U.S. government. Which you can't blame 'em too much for—since they was givin' up land right and left jes' tryin' to survive in a turned-upside-down world."

The principal culprit, as Guest saw it, was a half-Scot Lower Creek, a man named William MacIntosh, who led his people in a massacre of the anti-American party of a chief named Weatherford ("Them Scots jes' seemed to have a way with the Indian gals") after Weatherford had directed his own massacre of the soldiers and their families of Fort Mims in Alabama: a

Civil War ante-dating the one that gave the world William Tecumseh Sherman.

"Got all that straight?" Guest asked.

"I don't know. What about Menewa?"

"Well, he was a chief of an anti-American faction called the Red Sticks, and he and MacIntosh probably saw themselves as the deadliest of enemies. At the battle of Horseshoe Bend in 1812, the Red Sticks was making a desperation stand against Jackson's Tennessee militia and some pro-American Indians, and things didn't go too good for Menewa. MacIntosh was there, and some Yuchi Indians, and maybe six hundred or so Cherokee."

"Cherokee?"

"Well," Guest said defensively, "they'd been promised all sorts of things. Some of 'em even had friends among the white men. Also, they was pretty sure this country never was gonna be all Indian again. They was doin' what they thought they had to do, jes' like Menewa's Red Sticks was—unless they was gettin' paid to do it."

The battle lasted several hours. Jackson used cannons to bombard the Red Stick positions on the peninsula. Only seventy of the original nine-hundred Red Stick warriors survived, and three-hundred women and children were taken as captives. What about Menewa?

"He was shot seven times," Guest said, "Seven times! None of 'em kilt him, though. Then, when he woke up—he'd been left for dead in the brush, you know—he took a shot at one of Jackson's militiamen. That fellow shot back. He drilled Menewa right through the cheek, but that didn't kill him, either.

Menewa woke up in the middle of the night. He crawled to the river, found him a canoe, and floated down the Tallapoosa to some of the women and children who'd hidden themselves there. Made it alive, too."

"Sounds as tough as Rasputin," I said.

"Sure. Far as survivin' goes, anyhow. But the real Rasputins at the battle of Horseshoe Bend was Jackson and MacIntosh. They took all the Red Sticks' land, all of Menewa's goods and property, too, and MacIntosh probably went off thinkin' he'd finished Menewa for good."

"He hadn't?"

"It took thirteen years, but Menewa got his revenge. Yessir!"

In 1825, against both Creek custom and law, MacIntosh ("who was gettin' paid regular from the state, mind you") ceded to Georgia all the Creek land that hadn't already been signed away in past treaties.

"So the Creeks, the big miccos who hadn't been talked to, got together and decided to kill ole Mac. On May Day a bunch of 'em attacked his house and killed the bastard. His son-in-law, too. A lot of Georgia history writes this up as some sort of tragedy, Cleo, but it was only what the ole traitor deserved. He knew it, too. You bet he did. The best part, though, is this: it was Menewa who actually killed MacIntosh."

Despite this triumph over his rival, Menewa lived out a story whose conclusion wasn't so happy. In 1826 Menewa went to Washington himself to make a new treaty. He didn't give up any new land, but he promised the loyalty of himself and his people to the president of the United States.

"The land got took over, anyhow," Guest said. "Governor Troup was a cousin of MacIntosh, and he didn't give a damn how many white men tramped all over the Creek and Cherokee territories. He jes' said to hell with this U.S. gov'ment's treaty, and pretty soon some of the Creeks was beggin' for food or livin' in the woods and swamps and tryin' to get by there. Coweta Town, the capital of the Lower Creeks, was full of white land speculators, Cleo, and finally a micco named Eneah Emathla got some of the Creeks together to fight it. That's when Jackson, who was now your president, you know, told his secretary of war to send troops in and smash up this 'rebellion.' Know who helped the white soldiers do it, Cleo?"

Cicadas were whirring in the undergrowth; the night sky looked like a dyer's vat full of torn bed sheets. "Not Menewa?" I said.

"Yep. Him and about two thousand of his followers."

"Why?"

"Because in '25, you know, he'd pledged his loyalty to the U.S. government. He'd even taken to wearin' a general's uniform, standard army style, and someone in Washington promised him and his followers they wouldn't have to trek off to Oklahoma like the rest of them."

"He sold out his people," I said.

"He kep' his word. And the gov'ment broke its. They marched Menewa, a battered ole man, off with all them others, never to come back. And some who saw that ole Red Stick say he wept to go."

"Look," I said. "He put his abstract honor above the material well-being of the Creeks. He gave his

allegiance foolishly, then acted upon it foolishly."

"Damn straight," Guest said, "considerin' who he gave it to. They never once put their, uh, abstract honor above material well-being." Groaning like an arthritic septuagenarian, he stood up and kicked languidly at the muddy ashes of our fire.

Questioningly, I looked up at him.

"Your watch, Cleo," he said. "You can wake Yates in a coupla hours." Then he lumbered over to his rain-sopped tent, took off his boots, and went to bed.

## IV

### aldebaran above, alighieri below

That night I got about two hours sleep. We broke camp at four in the morning and moved out: eastward on kudzu-carpeted Highway 57. In thirteen hours we probably traveled about thirteen old-style miles. (Twice we saw buckshot-riddled, rusted signs saying things like Gordon 12, Irwinton 21.) The going was so bad because in places the asphalt had crumbled like a stale graham cracker; briary thickets had reasserted their primacy.

A little after Gordon 12, Irwinton 21, upon which I had tied a red marker, I said, "There's got to be a better way."

"Like what?" Yates said.

"How about a helicraft?"

"There's two in the whole city now. Besides, some redneck out here would open fire if he saw one."

Having got a little beyond the junction of Highways

57 and 18 (the latter of which led to the old town of Gordon), we stopped in the evening and made camp again. Five o'clock or so. While gathering firewood with Guest, I asked him if he had known that our "targets" were Fiona Bitler and Emory Coleman. Through an opening in the trees I could see Yates shedding his gear and ragging rubbish out of the circle of our proposed encampment. To me, it seemed a good idea to know where he was.

Not, however, to Guest. "Sure," he rumbled. "I knew."

"How?" My voice was quieter than the Indian's: a shush by means of example, I hoped.

"I was the one that met Trap when he come into the city. I'm not employed by the Human Development Commission, you know. Usually I work at one of the dome's receiving points. It's a job you can't do if you're enfranchised, you might get corrupted off the True Path."

"But Yates said you'd been out in this area before."

"Have. But not any team member on a rr squad. Since I work at the old Interstate 20 Receiving Point, I'm also a agent between the city and some of the farmers out there. There ain't a single self-sufficient Urban Nucleus in the whole Federation, spite what the councilmen and ward reps say. Amazes me some people don't believe the truth of *that*. Anyhow, I've been into the Open beaucoups of times.—And a few miles from here we ain't gonna have to wade through kudzu no more. Wouldn't've had to do *any* of this if the city wasn't so set on motherhennin' its chicks."

"Did you set Trap up for his drugging?"

"I did. But that business about puttin' a implant tab

in his nape is jes' a lot of eyewash. Yates thinks it happened, but it didn't. Hell, *I* knew where the man lived, and the fellows at Grady Memorial got all the other information out of him with the hypnotizin', and the drugs too. Surprised 'em, what he had to say. You see, I got a friend at the hospital."

"Why'd you set Trap up? He must've trusted you."

" 'Cause enfranchised or not, I had to sign a oath to carry out the city's biddin'—in all things, you know—before they'd even give me a job." Holding two fistfuls of dry kindling, my gingerbread Indian paused and looked intently at me. "And, Miz Noble, I put my name on the paper, I put my name on the paper—with no one sayin' he'd scalp me if I didn't." He started to turn.

I caught his elbow. "Do you know why the authorities want Mrs. Bitler and Coleman back in the city?"

"Probably not for a ticker-tape parade, Miz Noble."

"Then what?"

"Old Trap told the doctors his cousin and her pupil, who calls himself Nettlinger now instead of Coleman (Nettlinger was his real father's name, you know, and he was the fellow who shot Bitler)—anyhow, Trap said they'd spent several years in New Free Europe: to be eggzac', the Scandinavian Polity. That's dangerous. Now they're both back, the infection might spread—sort of like kudzu, I guess."

"So what will the city do?"

"Question 'em, lock 'em up someplace. Maybe worse. I don't know." Guest broke free of me this time, and of my questioning, and made his heavily delicate way back to the clearing, where Yates had

begun, with the fuel he had gathered, to boil some drinking water. I just stood there. Oh, Grand Zoe, what a picture of perplexity I would have made, what a study in bewilderment.

HANGING OVER the trees like lamps, stars abounded that night: they freckled the matte sky with gold, silver, silver-blue, red: a carnival of constellations. It was splendidly gaudy, like a gauche hat.

Yates, propped up on his elbows and forearms, his head thrown back, began without prompting to talk:

"Before I'd ever been into the Open, I used to dream about doing what we're doing now. Seeing the stars firsthand; not on film, or in picture-books, or done up by some crazy foreigner with rings and haloes around them, like they showed us in art-appreciation class. I wanted real stars, just like these.

"Even inside the dome I felt connected to them, you know: they were like missing parts of my body, the nerve ends wouldn't let me forget. Or maybe like pulled teeth that had little radio transmitters inside them, so that even when they'd been dropped down the disposer-converter in some dentist's office, they still kept sending me messages: an all-the-time toothache, no matter what I did. So I tried everything I could to get close to them, to the stars on the Other Side. They had something to tell me, you know, gaps to fill in.

"When I was fourteen a man who worked for my father in the Biomonitor Agency—his name was Ardrey, I won't forget that—started taking me comb-crawling: you know, using girderboots and mesh gloves, expensive magnetized equipment, to climb over the inside of the dome. Scary as it could be, even

when you was just practicing easy assaults out on the perimeter of the city and doing a lot of vertical climbing instead of hanging upside-down over the whole skyscape. I did that, too, though. Partly so Ardrey wouldn't think I was a baby, but mostly because combcrawling, when I did it, I felt like I was pressing myself that much closer to the real sky outside and the stars hiding behind the dome. The dome was just another skin to get through, and I tried to get through it combcrawling, scared as I was.

"Then Ardrey and I had an argument. It was about this old woman who died on Level 9, *under*. Since he worked for the Bio Agency, he had her cubicle burned out—even though she had the whole thing made up like the inside of a spaceship. Neatest and craziest thing I ever saw. We'd gone down there because I'd challenged Ardrey to go look at a deader in person. I think I thought dying was one way to get outside the dome, scarier even than combcrawling but probably more effective, too. Anyway, Ardrey ordered this spaceship-cubicle she was living in, with these fake viewscreens of planets and stars, eaten up by flame-torches and refurbished for a new occupant. I hated him for doing it, I called him names. Stopped combcrawling, too; just never went with him no more. My father had to sell back all the equipment he bought me.

"Three or four years later Ardrey was killed in a combcrawling accident. Now it's outlawed, nobody can do it. And I'm sorry I never made it up with that man, know-it-allish as he liked to act. Ardrey just did what my father would have ordered him to do if Ardrey hadn't gone ahead and done it himself. Simple as that.

"Now I don't have to combcrawl to get close to the

stars; don't have to pretend some old woman's busted dreams are going to get me closer. Just look up, there they are—making my nerve ends tingle and my toothache throb even worse than when I couldn't see them. Can you tell me, why is that? Sitting here looking at them, I ache ten times as bad as when I was fourteen years old and girderclimbing in order to press myself right through the skin of the dome to the torn-off pieces of myself; ten times as bad. Now why is that? Can you tell me, why is that?''

But he didn't really expect an answer, and Alexander Guest and I, sipping at our metal cups of insta-caffe, didn't break the silence. The Ferriswheel lights in the sky kept turning.

YATES ROUSTED US out early the next morning, before sunrise, and we were on our way again. In two hours' time, just as the sun had begun to send sparkles through the foliage, the foliage itself fell away and we were staring at cleared fields. Too, the kudzu on 57 had been hacked aside and contained. We walked out of the vines and onto a recently compacted and graveled surface. On previous trips into the Open I had never seen anything like this, no manicured roadbeds and certainly no cultivated fields the size of these: garden plots and arbors I'd seen, but not farms, not grazing land. Well, Guest had hinted at such a possibility.

''Can I stop stringing up these silly rags?'' I asked Yates. The road stretched out before us like an invitation, white-washed wooden fences paralleling it on both sides.

''Sure,'' Yates said amiably, coming up from the rear to lead us. ''This is a 'civilized pocket.' My sur-

prise to you, a gift for the two days' slogging we've done." He looked around happily. "They told me it'd be here."

Guest said, "Did they tell you it uz more'n a pocket?"

Yates, sweat in the hollows of his eyes, stared at the big man.

"There's a strip of cultivated land through here," Guest went on, "all the way to Savannah. And some of the towns have people in 'em, too. Not Toombsboro, it don't. But Irwinton and Wrightsville and Vidalia and beaucoups of others. Savannah's got thirty thousand people, at least. Ships still run in and out of it, that's probably how Bitler and Nettlinger got to the Scandinavian Polity and back."

Blank of all expression, his eyes maybe a little caged-looking, Yates said, "Guest, you're crazy." But he had been hit with an Indian club and was standing dazed on doomed legs: just to hold him up, I wanted to embrace him.

"Wait till you see all the walkin' 'lucinations I can conjure, then," Guest said. "Far as surprisin' us with this gravel road goes, we're gonna run into U.S. 441 at Irwinton—and it run straight on up to old Interstate 20. We could've saved two days and a heck of a lot of boot leather if the ole Com Authority had let us come by way of 'em." He spit into 57's loose gravel.

"Guest," Yates began. "Guest. . . ." Then, to both of us: "Come on."

We walked in the sunshine down the gravel road: right out of Erskine Caldwell, we were. If we'd had fishing poles, the scene would have been perfect. Eventually we passed a house, and a man on a parboiled,

rustpurpled tractor came down its enclosed drive pulling a flat-bedded hay wagon. After expressing, by his movements more than anything else, his distrust and suspicion, the man said, "Yeah, old Jonah Trap lives on the other side of Irwinton. Get in. Take you that far at least.

Bald and leathery of neck, he did what he said he would—carrying us right into the Irwinton town square, where he let us off. Coming in, I noted that U.S. 441 bisected our own "highway" and ran off to the north, there to connect with Interstate 20 (as Indian Alex alleged) out of Atlanta. Anyhow, by some strange transmutation, we had all traveled into a rural community redolent of the life depicted on old John Deare and International Harvester calendars. (It was popular early last year to decorate your cubicles with reproductions of "Americana." Now I was a piece of Americana myself: a living curiosity. And a curious one, too.) We watched our benefactor's tractor chug around a corner.

"Runs on methane," Guest said. "Distilled from pig's shit, or any other kind of droppin's you care to use."

Yates looked at the Indian with distaste.

"No worse than the city's waste converters," I said.

A few people staring at us from store windows and chairs under awnings, we went on through the little town, still on Highway 57, and followed the gravel road toward the site of old Toombsboro. The fields on either side of us waved with beans, or cotton, or corn.

AS WE GOT CLOSER and closer to the dwelling place of our "targets," I began thinking about what sort of living accommodations a man like Trap would receive if he

lived in the Urban Nucleus. Since most of the surfaceside ghettoes had been razed (they had torn down Bondville in the conciliatory aftermath of the "Glissador Revolt"), he would most likely go under: most likely Level 7, or 8, or maybe even 9. The circles of Dante's Hell, our cynical professor types always called them. Except that in the UrNu scheme of things, the innocent get punished along with the guilty. A few of the absolutely shiftless sort have been consigned to the Big Bad Basement, but you can find plenty of those upstairs, too.

On Level 9, for instance, you have people whose greatest crime consists of being too young or too old or maybe of having only a "marginally utilizable skill," like grocery-stocking or message-running or waiting tables.

In addition, all the unenfranchised live on Level 9, which meant—as I had either forgotten or never really considered—that Alexander Guest had a cubicle in this final ring of our parochial inferno.

What were the sins of these damned, what enormities were they guilty of?

My father would say, "You're a bleeding heart, Clio. Almost everybody's lived *under*, one time or another. Forty-five meters up or down just don't make that much difference."

And Mama Lannie, twirling her chiffon sleeves, would say, "Oh, she's just young yet, Sanders, that's how she's supposed to feel."

As if sympathy were a glandular condition like acne. So that I would go off remembering how Dante had put the perpetrators of passionate crimes in less abysmal circles of Hell than those who had committed sins of

malice and fraud. Which meant, to me anyhow, that whereas I ought to be sentenced only to Level 7 for killing my parents in an idealistic rage, Atlanta's councilmen and ward reps—for their manifold, premeditated treacheries—ought to find brimstone and pitchforks waiting for them on our two nethermost strata. Sayeth Dante, it is more heinous to abuse the intellect, which separates us from the beasts, than to abuse the emotions. Therefore, I was proud of my overactive and probably misfunctioning glands.

On Highway 57, without ever having met him, I was proud of Jonah Trap for shunning the whale's belly of the Urban Nucleus and forging a life for himself and his family in the Open. A black man—a poorly educated black man, mind you—in the renovated plantation house of a one-time "marster." No Level 9 for him, no Level 9 for his brood.

## V

sesame street down on
marster's plantation

When we reached Trap's house, we paused before it like astronauts on the rim of an unexpectedly quartz-shot, lunar crater. In awe we stood there, or at least Yates and I did. From the graded roadbed we looked across a lake-sized lawn whose far edge, immediately before the ante bellum mansion itself, was dominated by two gnarled, top-heavy oaks. *His* and *her* trees, they'd been called in New England: one for the Master and one for his Dame. Pools of shade undulated on the

grass. The mansion had a protico supported by four Doric columns, and beyond the living complex—which included a neat, single-story structure off to the right—you could see the beginnings of terraced red fields.

A shieldlike, wooden sign on the gate by the roadbed said Phoenix Plantation. A series of starlike points on the sign had been connected to make a figure.

"What's that?" I said.

"The constellation Cygnus," Yates replied without a second's hesitation. "Sometimes called the Swan, or the Northern Cross. But it could be a phoenix, too, I guess: any sort of firebird that's born again every night."

A breeze rocked the sign. It was only nine o'clock or so in the morning, and I felt like *I* had been born again, right there on the edge of Jonah Trap's lawn: the Athena of Noble stepping from the sundered, feverish forehead of Newlyn Yates. Indian Alex, unperturbed by all this, was our staid midwife.

"Well, let's go see if anybody's home," I said. And I struck out up the long, circular drive that passed behind the oaks in front of the mansion. Scufflings behind me indicated that I was being followed.

A venerable-appearing black woman answered my knock at the wide, shaded door. I asked for Jonah Trap. She introduced herself as . . . Fiona Bitler, cousin of the man who owned the Phoenix Plantation; and without asking us who we were she invited us in, graciously.

Waxed parquetry in the anteroom. An enormous chandelier. An imposing, carven china cabinet. Silence and coolness such as you might anticipate finding in an

Ice Palace. And then, as we trailed the shorts-clad woman into an adjoining room (I hope I have legs that good when I'm sixty-five, and that they don't interfere with my looking venerable): the altogether incongruous sounds of children laughing.

"Come sit down with us," Mrs. Bitler said. "We've just started school for Jonah's grandchildren. As for Jonah, you'll have to wait til noon to see him."

*School.*

For the first time since coming into the Open together, Yates and Guest exchanged a sympathetic glance—but, along with me, they followed their hostess through the sliding wooden doors to the left of the long foyer and into an elegant, high-ceilinged "classroom." Mrs. Bitler motioned us to a row of rocking chairs behind the five black children, three boys and two girls, who were sitting on the floor and who did not turn their heads as we entered. Their gazes were fixed on the screen of a videoplayback unit mounted on a high metal stand. Since I saw no electrical outlets or fixtures in the entire room, the complex must have drawn its power from batteries. The power source made no difference to the kids; they were successively intent, bemused, apprehensive, raucous, puzzled, and quietly delighted, all in accord with the images unwinding on the screen and the sounds sputtering out of the unit's speakers. A school of no little gaiety.

I leaned forward to watch: puppets, cartoons, animal films, adults singing and talking with children, letters and numbers flashing by, all of it spliced together with quick cuts and remarkable élan. Indian Alex, whose chair rested on the hardwood floor instead of the rug, had to keep himself from rocking in time to the activity:

his movements made the floor squeak. Yates, holding himself erect (tricky in a rocking chair), just looked bewildered.

"Public Broadcasting Service program antedating the domes," Mrs. Bitler told us. "When I worked with the Van-Ed people over thirty years ago, we had limited access to this series—for historical as well as educative purposes. You had to give cause for wanting the tapes, and sign for them—but you could get them. The year after I left, the tapes were proscribed; nobody got to use them, not for any reason."

On the screen two puppets, apparently outer-space creatures, were examining a telephone. They bobbed up and down, their googly eyestalks bouncing, and made high-pitched, repetitive noises: "Yip yip . . . yip yip yip . . . yip yip." Trap's grandchildren, all of them under six, I'd say, were giggling. When the video-taped telephone rang and the unearthly creatures plunged out of sight in panic, the kids guffawed and bounced about and cuffed each other. Guest was laughing, too: a close-mouthed, resonating chuckle.

"Is that education?" Yates said.

"In a way, I suppose," Mrs. Bitler said. "It's certainly *funny*." A new sequence was on now, though: an animated alphabet, each letter surrealistically metamorphosing into the one following it.

"How did Mr. Trap get these tapes?" I asked.

"He bought them from a man whose father had taken them from an educational television station in the evacuated university town of Athens. The video equipment Jonah had put together by an electronics hobbyist in Savannah. He has almost two years' worth of these tapes; he used them to start Gabriel's and

Michael's education, not knowing what else he could do for them. Jonah can read, but only just."

We watched for fifteen or twenty minutes. Although Guest was engrossed in the program, Yates still had not loosened up. I touched the arm of Mrs. Bitler's chair and said, "We didn't come only to see Mr. Trap. We came to see and talk to you also, Mrs. Bitler, and the man you took out of the city with you in '34. Gerard Coleman. Gerard Nettlinger. Whichever of those names he goes by now." Yates, whose reaction I had been unsure of, looked past Mrs. Bitler at me with an expression suggesting gratitude: I'd done something right!

"How did you know we were here?" she asked. "We haven't been, you see, for that terribly long: two or three months. In fact, Emory's been to Europe and back—again—since we arrived here in . . . what? . . . the middle of April?" That was old-style dating, not one of the Federation's "seasonal" months.

Yates glanced at Guest as if surprised by the big man's prescience: hadn't Guest, just that morning, mentioned the Scandinavian Polity?

"We learned Trap was your cousin," I said, "and just supposed you would be here."

Fortunately Mrs. Bitler did not ask how we had learned that Trap was her cousin or how we had known where he lived. "Well," she said instead, "you don't have to wait till noon to talk to me. This is almost over." We waited. When the program ended, she turned off the video-playback unit, then called to the children's mothers, who had been at the back of the house in the kitchen. Casta and Georgia, their names were. They nodded politely to us and herded their

children into the wing of the house giving off the classroom. Mrs. Bitler led us through another high-ceilinged room to the cool, grey kitchen they'd just evacuated.

"This is a good place to talk." she said, and we all sat down at a round oaken table.

THROUGH THE screened-in porch behind the kitchen I could see a grape arbor in the back yard, a portion of the cultivated field we had seen from the road, and an adjacent orchard beyond the arbor: these were peach trees, Mrs. Bitler said, and that's where the men were, out there picking the fruit. Trap and his family were people who still divided their labors into men tasks and women tasks. That was the only relic of unenlightened agrarian life predisposing me against them, and Fiona Bitler, a woman who had lived once in the shadow of her husband's passionate crusading, didn't seem at all perturbed by the dichotomy. A breeze lifted the kitchen curtains, and the planet seemed to stretch out around us like a new Eden (the man-and-maiden opposition still sadly intact). In comparison, though, most of the other "indigenous salvageables" we had gone out after had been living like ferreting beasts.

Yates said, "Where *is* Mr. Coleman, Mrs. Bitler?"

"It's Nettlinger now. When he was old enough to decide for himself, he began using his real father's name again." Another of Guest's assertions corroborated. "At any rate, he's asleep. You're not likely to see him until this evening; he functions best at night, and, like an owl, that's when he comes out."

"He uses the name of the man who assassinated your

husband?" Yates asked, his long, nervous hands poised on their fingertips over the table.

"It's his father's name, isn't it?" said Guest, who was leaning back in his chair, hands clasped at his middle. "Whose name you want him to use? Whose name *you* use?"

I could see Yates emotionally staggering, first from Mrs. Bitler's revelation, then from Guest's mildly delivered, but unexpected assault: so vulnerable under the obsolete, martial armor he affected in the field. "But his mother remarried," Yates countered looking from the composed Indian to the composed black woman, "and his new father officially adopted him."

"Yes," Mrs. Bitler said.

"Well, do you approve of the change? From Coleman to the name of your husband's assassin?" His hands looked as if they would momentarily flee from him.

"As a boy Emory had no say in the matter. The name was changed, lipity lip, just like that. Later he decided on the other. My approval—your approval—anyone else's approval—is beside the point." She looked at Yates. "Isn't it?"

"But how did it make you *feel?*"

"Emory isn't his father, Mr. Yates, but his father lives in him. We don't renounce our pasts out of hand, even if we don't like them. We don't renounce our origins, our birthrights, our kindred. We acknowledge them at least. Then, if we don't like them, we move away from them into our selves." Fiona Bitler laughed. "Now, that's the sort of didactic pronouncement only a queen or a comfortable old whore can get away with, I give you leave to classify me as you like."

"A B C," a thin voice said from the door. "E F G." It was one of the kids who'd been watching the video-playback unit: a boy wearing only a pair of cotton underpants. He didn't look much more than two.

Fiona Bitler motioned the child to her, and he climbed into her lap. "This is Carlo," she said. "Jonah's youngest grandchild." She introduced us all around.

"Hello, Carlo," I said.

The boy looked me directly in the eye. "A B C," he said seriously. "E F G . . . H I J K." Pausing in the appropriate spots, he continued successfully to the end.

"Carlo has a twenty-six letter vocabulary," Mrs. Bitler said. The namesake of her dead husband, the boy stayed in her lap for the rest of our conversation, occasionally reciting his letters in a voice that didn't disrupt Mrs. Bitler's narration but provided a contrapuntal undercurrent to it. And she took us back to 2034:

"I KIDNAPPED EMORY," she began. "Before that, I worked very hard to put myself in a position to teach the boy, not knowing exactly what I would do once I achieved this goal. I had followed Emory's development from only a month or two after Carlo's death down to the moment he was placed in my Van-Ed classroom, you see, and I felt an affinity with him for several reasons, not merely because he was the son of my husband's murderer.

"Maybe one reason was maternal: Carlo and I had never had any children. Planned them, yes, but never had them. The strongest motivation, though, was the fact that Emory and I shared a similar questionable blessing: precociousness. It had brought me to the

attention of the Education Authority of the Human Development Commission at the age of four and lifted my entire family out of the Bondville ghetto into Tower housing. But that was just after the dome was completed, before the gradual return of a claustrophobically bred repressiveness. I don't know what it accomplished for Emory, this precociousness, until he was accepted into one of the special-education programs. I know that his mother and her new husband, John Adam Coleman, lived in a Level 5 cubicle, *under*. So it didn't accomplish for his family what it had once accomplished for mine.

"He was eight when I met him for the first time, a thin, spindly, almost palsied-looking little boy who could have passed for an autistic child except for his occasional lapses into sociability. He liked to draw, almost always in black or purple crayon, and sometimes he would come out of his corner to show us these productions. Mockery, some of these drawings seemed.

"Toward the end of that year—the only one we had together inside the dome—he must have discovered who I was, what oblique relationship I had to him. After that, mockery emerged in his actions as well as his drawings. He insisted on dragging odd reminders of his father, Carlo's murderer, into the classroom. The principal one was an old instructional film of his father's: Nettlinger had been a dentist, and Emory, who was the class projectionist when we showed films, would run this film even when another one was scheduled. You couldn't stop him, he wouldn't be reasoned with, and Fiona Bitler . . . well, Fiona Bitler was losing control of things. So I asked for help.

"The Van-Ed people gave me a psychologist from the Human Development Commission, a middle-aged man with a pleasant disposition but something out of kilter in his eyes. Greer. Dr. Gregory Greer. The man tried. He tried his best. But what happened was, he quickly alienated Emory and wrenched his own objectivity apart by falling in love with me. I don't know which happened first, maybe they occurred simultaneously—but Greer couldn't admit either of them to himself: he was a bachelor, his commitment was wholly to psychological troubleshooting, and he didn't know how to handle a collapse on two fronts, the personal as well as the professional. I don't think I'm flattering myself about the personal aspect of the situation; I may have even encouraged the man—in ways too subtle for me to pinpoint—to relinquish his objectivity. I don't know. I hope to God I never find out for certain.

"The result, oddly, was that Greer somehow threw Emory back into a strange sort of sympathy with me. Finally Greer suffered a nervous breakdown in the classroom where I taught: he came in the evening when nobody was there and set fire to Emory's drawings and the old film that the boy had been showing.

"Two days later Emory asked me to take him away from his parents. He said he wanted to live with me. During this same week, of course, Greer was hospitalized, and my life seemed as up in the air as it had been after Carlo's death. Sick I was: deeply, hollowly sick." Fiona Bitler stared into the peach orchard beyond the screened porch, a black Isis recalling her struggling to resurrect in her own life and work the image of her husband and the promise of their unborn

children. Little Carlo was not blithely saying his numbers. "How I was tugged," Fiona Bitler said at last, "how I was cruelly tugged." Her arms were wrapped around Carlo.

"I cast about for help. Again. My mother, who was alive then, told me that a friend of hers who worked at an UrNu receiving point had heard from her brother: Jonah Trap had delivered some goods to the city. The friend might be able to get a message through to him, if mother had one she wanted carried. 'You've got one,' I told Mama, 'you've got a very special message you want carried.' And so one day after class in the VanEd complex I took Emory over to Mama's, and we all rode a transit-car to a lift-terminal as close to our friend's receiving point as we could. We didn't take anything with us, only ourselves, and that night we rode out of the city in the back of Jonah's pickup truck, under a tarp since we were afraid there might be patrollers out." She lapsed, suddenly, into plantation dialect and began to sing:

Run, nigger, run
the paddy-role
will catch you,
Run, nigger, run,
the paddy-role
will catch you.
You better git away
you better
git away. . . .

Run, nigger, run
the paddy-role
will catch you,

Run, nigger, run,
the paddy-role
will catch you.
You better git away
you better
git away. . . .

"A long, bumpy ride to the Phoenix Plantation, right here where we're all sitting now."

She let Carlo down. The boy made a circle around us, touching the backs of our chairs and sometimes putting his lips to the edge of the table. "A B C," he said gruffly; "A B C."

"Nicer here than in a subterranean cubicle," Mrs. Bitler said. "Isn't it? Even if you happen to be a kidnapper."

THE MORNING PASSED much too quickly for me. The two young women, Georgia and Casta, cooked on a wood stove that quickly heated up the kitchen. Indian Alex and I helped Jonah Trap's daughter-in-law put the noon meal on the table, while Yates and Mrs. Bitler, two or three children tagging along, strolled through the scuppernong arbor and part of the peach orchard. When they returned for dinner, Yates took me aside and said that they had talked about her late husband and her own desire to see the city again. "It shouldn't be too hard for you to persuade her to come back with us," he said.

Trap and his two sons came in from the orchards to eat. More introductions. Gabriel and Michael, this is Mr. Yates, Mr. Guest, and Miz Noble. The kitchen was teeming with people, the linoleum floor sighed under us, additional wings on the table were folded into place

and dishes dealt out like playing cards. Georgia took the kids into the back yard to eat on the lawn.

Fried chicken, sliced tomatoes, fried okra, fresh cucumbers, fried fruit pies, cornbread, slabs of home-churned butter, well water cooled in the earth. Amid this abundance, silverware rattled and platters of food went from hand to hand as if hovering on their own power.

Looking at Guest, Trap said, "You I done met, Mistah Guest. These people yo' frien's?" He pointed his fork at Yates and me.

"Yes, sir."

"Well, they plenny welcome, then. Will you ax the blessin', Casta?"

Casta asked the blessing: it wasn't an Ortho-Urban prayer, that's the main thing I remember about it. Between mouthfuls of food, then, Jonah Trap got our business straightened out: we wanted to invite his cousin and Gerard Nettlinger to return to the Urban Nucleus, at least for a kind of commemorative visit. (I think I was the bright one who used the word "commemorative.") Fiona Bitler said that Emory had been planning, for several years, to do just that; since returning from the Scandinavian Polity two weeks ago, he had moved this contemplated visit to the top of his own personal timetable: he wanted a chance, in fact, to address a combined session of the Urban Council and the Conclave of Ward Representatives.

"Good luck to you there," Alexander Guest said.

"We're both enfranchised," Mrs. Bitler said. "Or were. Besides, I'd think our return would stir up enough interest to invite such a public address."

"A century ago," I said, "the Japanese permitted a

rescued hold-out in the South Pacific to speak to their parliament, almost thirty years after World War II." Not one of my better-received analogies. Jonah, Michael and Gabriel, Casta, Newlyn and Alex—they all stopped chewing to look at me: Scarlet O'Hara, Ph.D. in comparative History.

"That's exactly right," Fiona Bitler said.

After dinner Trap and his sons returned to the orchards. The serving dishes on the table were covered with an embroidered cloth: no more cooking that day. Guest and I, working in wash/dry tandem, took care of the dirtied plates and silverware. But Emory Nettlinger was elsewhere, sleeping out the heat of the day, and the afternoon was much longer than the morning.

## VI

long king is to oglethorpe
as yates is to nettlinger

MRS. BITLER countered the length of the afternoon a little by giving us a bedroom upstairs and urging us to take naps: "If you want to talk to Emory this evening, you'd better get some sleep."

We had left our gear on the mansion's porch, in the portico. We hauled it up the stairs to our bedroom (the middle one of three in relation to the stairwell) and stacked it on the floor between the room's two brass beds. The beds had feather mattresses, though, and Alex refused to sleep on them, protesting a weak back. He made a pallet beside our gear and lay down on that. For the first time since we had been in the house

Newlyn removed the belt supporting his holster and let his constricted facial muscles relax; he put the hand laser under his pillow. Even though all the heat in the mansion had seemed to concentrate itself in this one room, we all managed to sleep. The floors were so rickety that Newlyn didn't even feel compelled to set a "watch."

We met Emory Nettlinger himself that evening—after the supper Newlyn wouldn't let us go downstairs for. "One meal like that a day is enough," he said, shaking his head almost jovially. "Feather mattresses and fried food, it'll do you in."

Jovial or not, he wouldn't let us go down—until he was sure the Traps had finished the evening meal. Then we clumped in our boots single-file down the stairs and, at Trap's direction, met Mrs. Bitler and her former ward in caned lawn chairs under the "Master's Oak." It was almost twilight.

Nettlinger stood to shake hands with us. He was a short man with pallid skin, close-cropped blond hair making a point in the middle of his forehead, and eyes like bluish ice. The veins in his temples pulsed.

"You want to take us back to the Urban Nucleus," he said. "That fine, Mr. Yates. We're almost ready—almost—to go."

"Will you come with us tomorrow?" Newlyn asked.

"No. Tomorrow I'm not prepared to commit myself to. Nor would you and your people be ready for us to leave with you."

"Why not? That's what we came for."

"Sit down," he said, and Newlyn and I took up lawn chairs; Alex, true to form, sat down on the grass. "To answer your question," Nettlinger said, "you are ones

who have been too long in city pent, and, like a great many other of the Urban Nucleus' citizens, you're going to require some . . . what shall I call it? . . . grooming? indoctrination? before you'll be truly ready to accept us."

"We've accepted you already," I said. "And Mrs. Bitler will find that the city's done a great deal to rectify the conditions her husband once complained of." This was Newlyn's line, I knew, but out here it seemed altogether true, not merely a part of the truth. Alex's fears were exaggerated.—And I was supposed to be "persuasive."

"Maybe you've accepted *us*," Fiona Bitler said, looking at Nettlinger, "but we don't intend to come back to Atlanta alone."

"Trap's family will be welcome, too," Newlyn said. "It'll have to be arranged, but I think—"

"Jonah doesn't want to leave the Phoenix Plantation," she countered. "We're not speaking of them."

"Then who?" Alex said. "We s'posed to guess?"

Nettlinger said, "Do you know where we've spent most of our time in the Open? Not here, certainly. Not here."

"The Scandinavian Polity," Alex said.

"Eventually, eventually. I've just come from there, in fact. But when Fiona first took me out of the city, when I was a child, she arranged in Savannah to transport me to relatives of my father in Austria. That's when we discovered that Austria per se didn't exist anymore: the national units we supposed still intact had long since melded into the encompassing political entity of New Free Europe.

"At any rate, I insisted that Fiona accompany me,

and we sailed to the continent on a steam vessel someone had christened the *Phoenix*. It was named for one a man named John Stevens had built in 1808! A steam vessel, please note. Lately, we've traveled by air—since the Scandinavian Polity had aircraft which can compensate for the several inadequate, coastal landing strips this 'country' still possesses—but we first left here on a *steam*ship!"

Nettlinger told us that he had acquired tutors through the intervention of a paternal uncle in Salzburg and that Fiona and these rotating tutors had taken him beyond the "kinetic relations" sessions and the "elementary" integral calculus of the Van-Ed program in Atlanta into physics and higher mathematics: wave theory, relativistic studies, subatomic physics.

"Oh, I gravitated to these studies naturally," Nettlinger said, smiling at Mrs. Bitler.

Moreover, he and Fiona had moved his schooling about: from Salzburg to Vienna, from Vienna to Munich, and, finally, when Nettlinger was sixteen, from Munich to Scandipol (formerly Kobenhaven), the designated administrative center of the Scandinavian Polity of New Free Europe. Here his "schooling" ended, and he began work in a research-development institution, on aeronautical and space engineering projects that the Europeans, Eurasians, and Japanese had jointly commandeered, by default, from the abandoned NASA programs of the United States.

"Actually," he said, " 'commandeered' is the wrong word, since what they had appropriated was neither hardware nor working plans but—this is very important—an attitude no longer countenanced in the Urban Nuclei because of the very nature of these cities,

these *nuclei;* it's the eternal opposition of entropy and growth, perhaps even of autism and extroversion. 'Nucleus' says it all, Mr. Yates: Atlanta sees itself, as do all the other domed cities, as the center of its own very narrow and circumscribed universe. And we're afraid that your own gracious . . . acceptance of Fiona and me, will not be shared by Atlanta's authorities, primarily because of the argument we intend to bring with us."

"No," Alex said. "They're likelier to accept people than a argument. What is it?"

"To tear down the domes and rejoin the community of men, which is also the community of life." Legs crossed, hands folded, the man looked remarkably priggish: prim as a prufrock. Even so, his voice was free of superciliousness.

Alex put a blade of grass between his teeth. "Doomed," he said. "You really are doomed."

Mrs. Bitler said, "That's why Emory's been telling you about the changes in Europe and about the course of his own education there. Since *you* find this hard to accept, you know the urban authorities are going to require some time to become comfortable with the changes in the outer world."

"But they aren't that startling," I said. "Here they are: Europe's become a single political unit, and Emory Nettlinger has studied advanced sciences in three or four different cities." The twilight had come together around us as if quilted out of sequined, navy-blue cloth, fireflies were winking on and off under the trees. Fireflies, stars, and mosquitoes. I slapped at my exposed arms and squinted at the silhouettes of those around me:

Mrs. Bitler was rubbing her bare legs as if similarly pestered.

"That's true," Nettlinger said, "but there's more." He suggested, though, that we go inside since the mosquitoes and the gathering dark made continuing on the lawn unpleasant.

TRAP'S SONS, daughters-in-law and grandchildren had all retired to bedrooms in the mansion's west wing. In the foyer we found Trap himself preparing to go upstairs to bed.

"That owl there," Trap said, pointing to Nettlinger as we came in, "got him a place to stay in that ole overseer cottage. Can' stan' no early-mornin' scootin' about. Do all his thinkin' when the moon shine."

"A clear case of lunacy," Nettlinger said. "Goodnight, sir."

"Goodnight." Trap paused on the stairs. "Goodnight, evvybody." And went on up with the step of a considerably younger man.

In the parlor across the hall from the video-playback "classroom," Nettlinger resumed the process of our grooming. I felt even more removed from my own century than I had that morning in Irwinton. The parlor was illuminated by wall-mounted gas lamps, and the quality of the light—shifting, intangible, touched with the influence of lacquered floors and voluted window drapes—made the impetus of Nettlinger's words almost too choicely ironic for comfort. The setting was Victorian rather than ante bellum, and Nettlinger was our intent, thin-faced tour guide leading us into a future that had already been part of the Old World's past. Legs

crossed, hands folded, he sat in a chair that swallowed him.

"Did you know that during the construction of the domes, shortly after the turn of this century, men walked on the moon again? Did any of you know that?"

Newlyn's face was tattooed with blue and purplish highlights; he leaned forward on the edge of the striped sofa, hands hanging. "I don't believe that." But he wanted to, you could read the desire in his posture. "No one in an Urban Nucleus has any reason to believe that," Nettlinger said. "So why should you? As a boy, I had no idea that such a thing could be. Fiona had never heard of a moon expedition beyond the American Apollo 17 mission. If *any* enfranchised citizen of the domes knew that an Old World coalition had put men on the moon, he sat on the fact—smothered it beneath the wide, twin buttocks on urban policy and patriotism. My own opinion is that no one knew, that no one in the city's hierarchy would have cared very much even if the fact had been conclusively demonstrated.

"The truth is, however, that continuously since 2023, two years before I was born, human beings have had a large and expanding base on the moon: a base, a colony, a shipyard, an observatory. . . . Enough. You must call it a city, I suppose: oddly enough, a *domed* one. . . . How do you feel when I tell you these things?" His eyes stopped on me.

Since Newlyn and Alex weren't going to answer, I said, "That it's too early for bedtime stories, is how I feel."

"OK," he said enthusiastically, his accent now more European than American Southern. "Expected. Anticipated. How else should you feel? But it's the

truth, and it's part of the reason Fiona and I aren't going trotting, trit-trot, trit-trot, into Atlanta tomorrow. The news is a shock, a jolt, it will undoubtedly throw a good many people and some of the UrNu authorities into confusion. And the note of dismay, or confusion, or even exhilaration, sounded by the broadcasting of this news—I must warn you—will only be the minor of that sounded by the rest of what I have to tell you. Do you understand me?"

"We've gone to the planets?" Newlyn said: We've. He was transferring the accomplishments of New Free Europe into the hands of humanity in general. We came in peace for all mankind. (And womankind as well, Mr. Armstrong?)

"Beyond," Fiona Bitler said.

"To what?" Alex said. "To what?" He looked as if he wanted out of doors again, whereas I was proving susceptible to Newlyn's excitement: I found myself leaning forward, too.

"When I arrived in Scandipol," Nettlinger said, sidestepping, it seemed at first, Alex's question, "they had been working on relativistic and astrophysical concepts beyond those that had to do with the propulsion systems for earth-moon transport. Their compatriots on the moon had, in fact, built a prototype of a vessel whose range would be interstellar rather than merely interplanetary.

"Gravitation wells and astrodynamics, metallurgy and stress mechanics; oh, it was a program drawing upon but otherwise divergent from the ones that had established us on the moon.

"How to tell you? My mentor at the institute was Nils Caspersson, and my own contributions were

minor. Everything had gone forward extremely well before my arrival, I could only hone—by virtue of my virgin perspective, if nothing else—the insights Caspersson and his fellows had developed over a period of three intensive decades. But I won't be self-servingly modest: I did contribute, I did lend my own quirky insights to these researches. Emory Nettlinger, seventeen years old.

"In 2043 our moon-orbiting prototype was given probe-capability and mechanically test-advanced a range of four light years, nearly the distance of Alpha Centauri—although on this first unmanned 'flight' our directioning was reluctantly, unavoidably random: a technological embarrassment, I must grant you. But we retrieved the vessel; we called it back to our solar system and confirmed by its onboard equipment, photographic and chronometric as well as protoastrogational, the very real fact of its advance. The surprise—the great, hope-for surprise—was the coincidence of shipboard, subjective time and Scandipol/moon-base, subjective time; a round-trip of eight light-years in ninety-three Earth-standard days. Not the negation of Einsteinian physics, oh no, but a kind of ballet kick over the glass stage of interstellar space." Nettlinger uncrossed his legs, pointed his toes, and performed a funny, seated entrechat.

"Caspersson, Fiona, and I got drunk, oh, we got magnificently stewed, we did, in the dead of an old Kobenhaven winter, snow sifting down outside like confetti from our friends on the moon. That's how it was, wasn't it, Fiona?"

"Like confetti," she said.

And I remembered Alex's saying, Probably not for a

ticker-tape parade. Right now he looked as unsettled, as uncomfortable, as I had ever seen him; a bear on a lumpy ottoman. But I was too happy for Newlyn to worry very much about Alex's discomfort: Newlyn was a fourteen-year-old gawking about in the spaceship-cubicle of that old woman on Level 9, before Ardrey told him that it all had to be "flame-decontaminated."

Nettlinger got carried away, maybe just from looking at Newlyn, maybe from the simple joy he took in these recollections. He went on to tell us about the concept he and Caspersson called "light-probing," and about its controlled implementation in a "fleet" of operable, manned vessels. "Six light-probe ships," he said. "Why, that's a fleet. Who could want more than that so soon? Who could afford a larger investment?" Planned, constructed, equipped, and manned, and all by Nettlinger's twenty-fifth birthday, too. Then broadcast, according to itineraries computer-derived, to those stars within a hundred light-year range possessing the optimum likelihood of habitable planets. Four of the vessels, it seemed, had returned and gone out again with new crews!

"One way to our furthest target," Nettlinger explained, using a word that had a numbing and familiar impersonality, "is only 7.2 years. The remaining two ships—if nothing hinders them—ought to be back in our own system before Christmas, perhaps slightly after the New Year at the very latest. All goes well."

"Oh, it's a New Year already," Newlyn said. "You got to come back with us now, Mr. Nettlinger," then turning to the woman, "Mrs. Bitler: both of you. Hot damn, who's gonna want a dome over their heads when you can tell 'em things like that? Hey, nobody's gonna

get apoplexy hearin' that, nobody! It's gonna wake up all them mummies sleepin' in the Basement, is all: That's what it'll do!'' For the first time since I had been around him. Newlyn was falling into the speech rhythms suggestive of his blackness. But that *Hot damn:* somewhere, some time, he had got that from me, Clio Noble.

''An' maybe not,'' Alex said from his footstool, his bulk almost shapeless in the pooled light next to the sofa. ''I don't see it jes' that way, Mr. Yates.''

''How do you see it then, Guest?'' They were using each other's names like weapons.

''The only way I can, where I sit from. When General Oglethorpe first landed in this state, to make a colony of it, you know, an Indian they called Long King came all the way from Coweta Town to see him. You know why?''

''Hell no,'' Newlyn said. ''What's that got to do with anythin', with anythin' at all?'' He was shaking his head in exasperation.

''Wait a minute,'' I said. ''Let him tell it, OK?''

''Please do,'' Nettlinger said. ''Arguments against us we probably require more than blind enthusiasm. To forearm ourselves, you see.''

''All right,'' Alex said. He looked up at the ceiling: the cracks and moisture stains fixed his attention. ''Long King went to Oglethorpe to learn wisdom. He thought God had sent ole Oglethorpe to *teach* the Indians since it was plain the English had more and knew more and must have been picked by Him to instruct 'em. So they gave up some land in payment for the instruction they was supposed to get. Later, the English got *all* the land and the only wisdom the Indians was

left with was, You can't trust the English. But it was too late, they was on reservations in Oklahoma keepin' themselves warm with cholera." Alex looked down.

Everyone considered this, Newlyn annoyed that he couldn't give vent to his excitement—which was still effervescing in his head and hand movements. Finally, Mrs. Bitler said, "I don't think Emory's saying we're going to bring the population of the Urban Nucleus wisdom, or even advanced technological knowledge, necessarily. The offer is really the chance to rejoin a larger community."

"Oglethorpe," Alex said, "Didn't say he was bringing wisdom, either. The Indians jes' looked at the English and supposed it, is all."

"The citizens of Atlanta, " Newlyn said, "aren't going to suppose they're inferior beings in need of instruction." His speech was crisp again.

"Who said 'inferior'?" Alex said. "Besides, you're one citizen that's supposin' jes' what Long King supposed when Oglethorpe got there. You're an Indian hopin' these people will take you back to England and show you off to the lords and ladies."

I chuckled, right out loud. And it was really me who had done it. Newlyn gave me his exasperated look, then said: "I think Guest's opinion is an eccentric one.

"A *minority* opinion," I said, and Newlyn didn't know whether I was supporting him or subtly ridiculing him. I didn't either.

"Well," Mrs. Bitler said, "eccentric or not, it's probably a view that will be held, with all sorts of variations, by enough people to make our hesitancy about going into the city the wisest course. You people may have to be our ambassadors, going ahead of us to

pave our way. Because caution is called for, caution is required."

"Selah," Emory said. "Selah to that."

## VII

### the citizens of the urban nucleus considered as indignant desert birds

AT THREE IN THE morning we broke it off, Emory and Fiona telling us that the best procedure would be for us to go back to the Urban Nucleus and explain to the authorities what we had heard at Phoenix Plantation. Jonah would serve as a go-between for later preparations, if these were needed. Inconclusive; all of it, inconclusive.

Alex wouldn't sleep upstairs. He wouldn't say why, but it pretty clearly had to do with the conflict between him and Newlyn. "That lawn looks plenty good enough," he said when we were in our room. "Cooler than up here, too."

So I helped him carry his bed gear down the stairs (Fiona and Nettlinger were still in the parlor as we went by) and watched as he spread it out under the Master's Oak, cane chairs around it like a breastwork fortification. Resembling the hard, sinister, bone under a face that has melted away, the moon had come up: full. I couldn't see anything on it that might be the domed base of Nettlinger's narrative. Just the moon, nothing more.

"Sweet Cleopatra," Alex said to me.

"What about the mosquitoes?" I didn't know why he'd said that, so I was heading him off.

"What about them back there in the kudzu? We made it, Cleo I'm gonna make it out here tonight." He kissed me on the forehead, father to daughter. Our feet almost entangled in his sleeping bag, surrounded by cane chairs, we stood there. "Kiss me again, Cleo?" Asking, not ordering.

"Why?"

"Because Yates is gonna get more'n that, even."

It wasn't insulting somehow, it wasn't even self-pitying: only a statement of fact that I didn't at that moment believe in. I kissed Alex, putting my arms around the bulges above his waist, the ones my mother always called "love handles." (My father had a pretty good set of them.) Then it was over. Alex sat down in one of the chairs and looked at the moon.

"You know what I want more than anythin' else in the world, Cleo?" He didn't give me a chance to answer. "Enfranchisement," he said. "That's all I want, that's why I do things like this one, come out here and all. One day—I keep thinkin'—they're gonna say to me, 'OK, Mr. Guest, you can call yourself Menewa, and from now on you're fully protected by the Urban Charter. Jes' write Menewa on this form here and drop it in the mail.' That's what I dream about, even actin' as a agent between the city and all the Jonah Trap out here."

"Why?" I said. "What do you really owe the UrNu authorities? I don't know why you just haven't defected and stayed out here."

"I don't either, Cleo. 'Cept that I'm waitin' for my

enfranchisement.'' He looked at me in bewilderment. ''Ain't that the damndest?''

''CLIO?'' NEWLYN said from one of the brass beds. I closed the door, and he said, ''Is Nettlinger still up?''

''Talking with Mrs. Bitler,'' I said. I couldn't see Newlyn, he couldn't see me: the room bound us together in an indivisible blackness and a summer heat that the moon still hadn't begun to siphon off.

''I think they're lovers,'' Newlyn said. ''Bodyburners.''

''She's twenty-five years older than he is,'' I said, finding the bed opposite his. Did he really think Fiona Bitler was a modern-day Isis, both mother and consort to her own Nettlinger/Osiris?

''How she look to you? Decrepit?'' The blackness in the room had crept into his speech: city blackness, Bondville blackness, even though Newlyn had never lived a day in one of those razed tenements. *Under* maybe, but only Level 1 or 2.

''No. Hardly decrepit.''

''Preserved,'' Newlyn said. ''What you got to call 'preserved.' '' But I was elsewhere, light-probing through my own grey matter. ''What's wrong, Clio?''

''Guest. Alexander Guest.''

''Look,'' he said, turning so that the bed springs sighed and I could almost see his face resolving out of the darkness. ''That man's a case. All this Indian history, all his foreknowledge of what's gonna happen if Nettlinger comes to Atlanta. And he claims to be . . . what? a Creek Indian?''

''Cherokee.''

Newlyn was quiet a minute. ''I know something

about them, too, about the Cherokee. Indians and black men; coholders of honors in this world's dispossession stakes. But when the Cherokee got thrown out of Georgia, Miz Noble, some of 'em was rich enough to take their nigger slaves on the Trail of Tears. I always remembered that, whatever else of school I long since forgot. So if those black people was cousins in sufferin' to the Cherokee that dragged them along, they was cousins *twice*-removed. Did you know that, Miz Clio Noble?"

"No," I said. "Why are you so wrought up?" Our first quarrel, our first real quarrel. Start by using her first name but end up by spitting out the whole thing like a curse: almost flattering.

Newlyn lay back, the mattress sighed, the bed springs clinked. I took off my boots and socks and just sat there with my feet on the hardwood floor. After a while, Newlyn said, "Come over here, Clio. Please." It was seduction by ennui, not as I had imagined time and time again it would finally occur: loving violence and tender rapacity on both sides. I finished undressing, went over to Newlyn's bed, and slid myself onto his naked, clammy body.

Ain't this the damndest? I was thinking as it all unrolled like film footage consisting of nothing but black frames. Then, head on his chest as he slept, I wondered if I had committed a sin of passion or of fraud. To which circle would Dante, that old anal-retentive, consign me?

After a half hour or so I got out of Newlyn's bed, put on all my clothes but my foot gear, and lay down on the floor. Went to sleep there, too; went to sleep there as if I had been lovingly embalmed by the hot night.

And woke up to the shrill, repeating shouts of someone downstairs, terrifyingly like war whoops from the ghosts of murdered red men: war whoops rising through Jonah Trap's house as if the prelude to a general massacre.

"Yip yip yip!" the shouts came. "Yip yip!"

"Jesus," Newlyn said, sitting up on his bed and swinging his legs to the floor. "What in Christ is that?"

But he was naked and, answering him nothing, I went ahead of him to the door. I burst into the upstairs corridor to confront only darkness. No lamp anywhere, the hallway too tightly sealed for the spillings of moonlight. A commotion from the stairs, a creaking of the banister railing and successive hollow thumpings on the steps themselves. Continuing above these noises, the war whoops that had yanked us out of our sleep.

Holding my heart, my every pulse beat, in the curl of my tongues, I edged down the hall and stopped on the very brink of the stairwell. A door was thrown open behind me, far enough away that I felt certain it was Jonah Trap, and not Newlyn, coming to provide moral reinforcement.

"Yip yip yip!" the shouts continued to come. Then, suddenly, they mutated into coherent language: "Yates! Clio! Get the hell out of there! Get the hell up!" It was Alex, and his voice was ascending through the foyer and the stairwell from the open door of the Phoenix mansion. Then he started the war whoops again, that strangled-sounding, banshee yipping. I couldn't see Alex because of the shadow of an eclipsing shape on the steps.

No: two shadows, two shapes.

They changed position and seemed to retreat as if in

response to my presence. When they did, I could see Alex silhouetted in the doorway, moonlight pouring its waxy, bonehard glow across the parquetry, the chandelier sparkling in a fitful run of tiny bursts. Then Jonah Trap was at my elbow, candle in hand.

The shapes that had formerly blocked my view of Alex were not at the bottom of the stairs; they were edging toward the entrance to the parlor. Not stealthily: diplomatically. One of them lifted its head and stared at me for a moment, as if trying to confirm a recognition. The other, its back to the first, looked guardedly toward the open doorway, where Alex had still not give up his hue-and-crying.

Behind Trap and me, Newlyn came clumping down the hall in his boots, and there was movement in the third upstairs room, too.

"It awright," Trap said. "It awright, Miz Nobel, you jes' go on back to bed. I take care of this now."

But I had already taken two or three steps down the stairwell, my weight on the lefthand banister. The creature in the foyer had not let go of my face, nor had I released its: a physiognomy carved out of maple or mahogany, but flexible in spite of its rigid appearance.

Lips that moved. Two parallel, vertical bridges separating the eyes and lips. Two brow-hooded eyes possessing large, hourglass-shaped pupils, one bulb of each horizontal pupil set to the front the other bulb curving away to the side as if to provide simultaneous peripheral and frontal vision. The eye structures themselves looked like moist patches of canvas set into the wooden sockets of a primitive mask and glued there with a thin layer of mucilage. All of this, every bit of it, hypnotizing and unreal.

Guest, having seen people at the head of the stairwell, had finally shut up.

I took two more steps down the stairs. The other shape turned toward me. A face very similar to the first, perhaps taller from chin to crest. Each creature, behind its head, had a corona of bone or cartilage that extended its height and gave it an out-of-time, out-of-place regality. What were they? What were they doing in the foyer of Jonah Trap's house?

"Clio!" Newlyn said. "Clio, stop right the hell where you are!"

I looked back up the stairs. The number of lights there had proliferated, as had the number of people. Emory Nettlinger, wearing a dressing-gown so hastily knotted at the waist that Trap's candle and his own lantern showed me Nettlinger's thin, white legs, came jerking along the corridor and stopped above me on the landing. Fiona Bitler, carrying another lantern, came up behind the three men now standing there: her cousin, her lover, and Newlyn Yates, who was holding his hand laser trained on the shapes downstairs.

Alex shouted up to us, "They come out of that overseer's cottage! I saw 'em cross the lawn and come inside! When they started up the stairs, Yates, I started in to whoopin'!"

"Thank you for that," Nettlinger said, sotto voce.

"These are the 'visitors' he wants to bring into Atlanta!" Alex shouted. "This is what we're havin' to get *groomed* for!"

Somewhere in that huge house, a child had long since begun to cry. Without turning around, the two strange shapes below us retreated deliberately into the darkness of the parlor. Then little Carlo came out of the

classroom opposite the parlor and stood in the middle of the foyer, dwarfed by shadowy adults and incomprehensible events, naked and bawling. I started down to him, but Fiona, setting her lantern down and descending quickly, swept past me and caught the boy up in her arms. Trap's sons and daughters-in-law appeared in the entrance to the video-unit classroom, too, but Fiona, handing Carlo to Gabriel, turned them back.

An empasse. No one moved.

"We can't take 'em into the Urban Nucleus!" Alex shouted, still from the doorway. He was afraid to come in, afraid of the things he had followed up the lawn to Trap's mansion. "If we do, Yates, I ain' comin' with you! I'll go on ahead and spile over'thin' for you, I'll tell 'em what Nettlinger's plannin', I swear I will!"

Newlyn ignored all this; he looked at Nettlinger. "Starmen?"

"Please, Mr. Yates, put your weapon back in your room. Let me go down to them, they didn't know you were here anymore than you knew they were."

"It's not any wisdom I want to touch!" Alex was shouting. "It's not any wisdom worth goin' into bondage for!"

Several other children were crying now. Mrs. Bitler slid the panel to, closing off the room that the families of Gabriel and Michael Trap had come through. This muffled the noises of their dismay and confusion.

"They ain' seen 'em befo' either," Jonah Trap said, his arms around my shoulders, and, although I had been steelily in control to this point, I realized I was crying. "They jes' like you and yo' gen'lemen, Miz Noble. It take some time, is all; it jes' take some time."

We were midway down the steps, and I could see the

two creatures in the parlor as if they were lepers hovering inside the mouth of a cave, cerements for garments, mummy-cloth unwinding from their arms—except that what I first saw as unwinding bandages were in reality the loose, ribbonlike extensions of their incredibly long forearms.

"Yates, Yates!" Alex was shouting, Mrs. Bitler beside him now. "You'd do best to shoot 'em, you'd really do best to take 'em out now!" But Newlyn had put the weapon away (though he hadn't retreated to our bedroom as Nettlinger had asked him to), and Fiona was trying to calm Alex, just as Jonah Trap was trying to comfort me. I don't know why I was crying, I didn't really feel in need of comforting: all I can suggest is that I was empathizing with Alex's panicky premotion of ruin.

"Can you believe this?" Newlyn said. He said it as if he believed it completely, as if he relished the spectacle of our astonishment, his own included.

Jonah Trap turned me so that I had to come back up the stairs with him, but I kept casting back over my shoulder. I saw Fiona lead Alex back out onto the lawn and close the front door behind her.

Nettlinger said, "Well, everybody's been given a good jolt, our visitors as well as ourselves. Please, Mr. Yates, you and Clio, go back to your room." He turned to Trap. "It's your house, Jonah. Tell them that it's an order, for their own sakes."

"No one gets ordered here but chillun," Jonah said. "But I *sugges'* the same thin', Miz Noble, I strongly sugges' it."

Nettlinger went down the stairs, carrying his lantern. I wouldn't turn back to our room until I saw him go into

the parlor and caught one more glimpse of the "star-men" who had thrown the Phoenix mansion into a four-o'clock-a.m. uproar. Then the little blond man pulled the glass-paneled doors to the parlor shut and returned the gleaming foyer to cool normality: silence and emptiness.

After Newlyn and I had gone back to our room, there were no more doors to be closed. Not physical ones, anyway.

JONAH TRAP DROVE Alexander Guest and me back to Atlanta in a pickup truck built so long ago that its fenders and sideboards jounced about maddeningly. In the truckbed, a load of peaches—since he had to make the trip, he said, might as well do some business, too.

It was raining when we left, so we rode in the cab, not beneath a tarp in the back. West on Highway 57 to Irwinton we went, then right on U.S. 441 in order to make connection with Interstate 20.

As we drove, I kept thinking of all the red flags—flags of warning, now—hanging on the green temples along our route out from the transit-tunnel. Through the wiper-cleared semi-circles on the truck's windshield, we could see more vines rearing, jittering in the thin, steamy rain.

The rain finally stopped, and on the outskirts of Atlanta, late that evening, we saw the Northern Cross among the ragged, blown-away clouds.

Newlyn had refused to come back with us. Before we left, he gave the hand laser to Alex and told him it was his. Not to me, but to Alex. And not to slight me, either, but maybe to bridge the chasm between Alex and him. Riding back to the Urban Nucleus in Trap's

pickup, the Indian pretty well knew he wouldn't have a chance to use the weapon. That didn't mean anything, though, that didn't matter. After seeing all the burning constellations, we were absorbed into the city through a receiving point, Alex's own, the one where he ordinarily worked. Trap unloaded his peaches.

So: one enfranchised team member had defected, the only unenfranchised team member had returned, and Clio Noble, full citizen, feeling an affinity for both these men and even for the vaguely sphinx-headed creatures who had ultimately decided their allegiances for them, came back into the city because—

THEY DEBRIEFED US, Alex and me. And we told them the truth, all of it. Then I quit my position with the Human Development Commission, my position as a resources-reclamation specialist. This was last year. Since then, for resigning with no apparent or at least acceptable reason, they moved me out of my Level 3 cubicle to one on Level 9. My parents have asked me to move back in with them, but I'm an adult now and have kept myself in enough earnies to subsist on by waiting tables in the Gas Light Tower plaza. Mama, bless her, is trying to get me a job clerking at Consolidated Rich's. "Or maybe even modeling," she says sometimes; "if it weren't for all those freckles. . . ."

I haven't seen Alex, even though he's supposed to live on Level 9 too, since our debriefing sessions at the end of last summer: he has dissolved into the population as surely, as irrevocably, as a chameleon into kudzu. I just hope he's still alive somewhere, preferably not in this city and that he's found some people who don't think he's crazy for wanting to be called Menewa.

Not long ago the chairman of the joint Council/ Conclave announced that the widow of Carlo Bitler and her former student, Emory Coleman, would be returning to the Urban Nucleu from a long sojourn in Europe. The spirit of the announcement makes me think that no reprisals are planned; the councilmen and ward reps are touting it as some kind of coup. I just don't know. At the same time, I hope Newlyn comes back with Fiona and Nettlinger, though how safe his return would be is hard to assess. He did defect, you know; for at least a year he renounced the city—and *I'm* living on Level 9 for quitting my job, nothing more than that.

What's going to happen? Sometimes I think about Nettlinger's "starmen" and wonder if this great, mound-shaped tomb of ours is destined to be the cradle of a new community. I see their rough masklike faces.

And even though we still don't understand each other, you me, or I you, I want you to answer me this: Are we now, all of us, living in Bethlehem? And, if so, in whose tax books must we enroll ourselves?

## OVERDOSE

### by Spider Robinson

*Mind-raped by a giant, extraterrestrial poached egg, this crazy Terran didn't know when to quit!*

MOONLIGHT SHATTERED ON the leaves overhead and lay in shards on the ground. The night whispered dementedly to itself, like a Zappa minuet for paintbrush and tea-kettle, and in the distance a toad farted ominously.

I was really stoned.

I'd never have gotten stoned on sentry duty in a real war, but there hadn't been much real fighting to speak of lately (this was just before we got out), and you have to pass the time somehow. And it just so happened that as I was getting ready to leave for the bush, a circle of the boys was Shotgunning.

Shotgunning? Oh, we do a lot of that. It works like so: the C.O. ( . . . "or whomever he shall appoint . . .") fills a pipe from the platoon duffle bag, fires it

up, takes a few hits to get it established, and then breaks open a shotgun and inserts the pipe in one of the barrels. He raises it to his lips and blows a mightly blast down the bore, and someone on the other end takes an *enormous* hit from the barrel.

The C.O. then passes the shotgun . . .

So as I say, I was more ruined than somewhat as I contemplated the jungle and waited for my relief. Relief? Say, you can take your meditation and your yoga and your za-zen—there's nothing on earth for straightening your head like a night in the jungles of Vietnam. Such calm, such peace, such utter tranquility.

Something crackled in the bush behind me, and my M-32 went off with a Gotterdammerung crash two inches from my left ear. As I whirled desperately about, Corporal Zeke Busby, acting C.O. and speed-freak extraordinaire, levitated a graceful foot above the surrounding vegetation and came down rapping.

"Yas indeed private yas indeed alert and conscientious as ever yas and a good thing too a good thing but if I may make so bold and without wishing to appear unduly censorious would you for Chrissake point that fuckin' thing somewhere else?" Corporal Zeke had once been a friend of Neal Cassidy's, for perhaps just a bit too long.

"Sure thing, Corp," I mumbled, shifting the rifle. My eardrum felt like Keith Moon's tom-tom.

"Yas and a signal honor a signal honor my man your gratitude will no doubt be quite touching but I assure you before you protest that I consider you utterly worthy worthy worthy to the tips of your boogety-boogety shoes."

A signal honor? He could only mean . . .

"I have selected you from a field of a dozen aspirants to make the run to Saigon and cop the Platoon Pound."

I was overwhelmed. The last man so honored (a guy named Milligram Mulligan) had burned us for two bricks of Vietnamese cowshit and split for the States—this was indeed a mark of great trust. I tried to stammer my thanks, but Corporal Zeke was off again. ". . . situation of course most serious and grave without at the same time being in any sense of the word *heavy* as I'm sure you dig considering the ramifications of the logistical picture and the inherently inescapable discombobulation manifest in the necessary . . . what I mean . . . that is to say, we've only got five bucks to work with." His left eye began to tic perceptibly, almost semaphorically.

"No problem, Corporal Zeke. I've seen action before." Five was barely enough for a few ounces at Vietnamese prices, but the solution was simple enough—rip off a Gook. "What did you have eyes to score?"

"Yas well based on past performance and an extrapolated estimate of required added increment to offset inflation which some of these lousy bastards they smoke 'til their noses bleed, it seems that something on the close order of five bricks would not be inordinate."

I nodded. "You're faded, Corp. Get me a relief and I'll crank right now." He didn't hear me; he was totally engrossed in his left foot, crooning to it softly. I put the M-32 near him gently and split. When the Old Man says "Cop!", you cop, and ask how soon on the way back.

DEEP IN THE JUNGLE *something stirred. Trees moved ungraciously aside; wildlife changed neighborhoods. A space was cleared. In this clearing grew a shimmering ball of force, a throbbing nexus of molecular disruption. It reached a diameter of some thirty feet, absorbing all that it touched, and then stopped growing abruptly. It turned a pale green, flared briefly, and stabilized, emitting a noise like a short in a fifty megavolt circuit.*

*With something analogous to a gasp, Yteic-Os the Voracious materialized within the sphere, and fell with a horrendous crash to the jungle floor a foot below. Heshe winced—well, not exactly—and momentarily lost conscious control of the pale green bubble, which snapped out of existence at once.*

*Yteic-Os roared hisher fury (although there was nothing a human would have recognized as sound) and tried to block the green sphere's dissolution by a means indescribable in human speech, something like sticking one's foot in a slamming door. It worked just about as well; the Voracious One nearly lost a pseudopod for hisher trouble.*

*This was serious.*

*Yteic-Os was ridiculously ancient—heshe had been repairing hisher third sun on the day when fire was discovered on earth. Entropy is, however, the same for everybody. Yteic-Os had long since passed over into catabolism: hisher energy reserves dwindled by the decade.*

*This jumping in and out of gravity wells was a hellishly exhausting business; for centuries Yteic-Os had sidestepped the problem by using the tame space-*

*warp over which heshe had so laboriously established control. Now the warp was gone, galazies away by this time, and Yteic-Os had grave doubts as to hisher ability to jump free unassisted.*

*This world would simply have to serve. Somewhere on this planet must exist a life-form of sufficient vitality to fill Yteic-Os reserve cells with The Force, and heshe was not called The Voracious for nothing. Heshe extended pseudopods gingerly, questing for data on cerebration-levels, indices of disjunctive thought and the like. Insignificant but potentially useful data such as atmosphere-mix, temperature, radiation-levels and gravity were meanwhile being absorbed below the conscious level by the sensor-modules which studded Yteic-Os's epidermis (giving himher, incidentally, the external appearance of a slightly underdone poached egg with pimples).*

*A pseudopod like a mutant hotdog twitched, began to quiver. Yteic-Os integrated all available data and decided ocular vision was called for. Hastily heshe grew an eye, or something very like one, and looked in the direction pointed by the trembling pseudopod.*

*Yes, no doubt of it, a sentient life-form, just* brimming *with The Force! Yteic-Os sent a guarded probe, yelped with joy (well, not precisely) as heshe learned that this planet was crawling with sentient beings. What a bountiful harvest!*

*Yteic-Os cannily withdrew without the other so much as suspecting hisher existence, and began patiently constructing hisher attack.*

WELL, THE PLAN was simplicity itself: meet Phstuc My in a bar, demand to see the goods before paying, pull my

gun and depart with the bag. Instead, I left without my pants. How the hell was I supposed to know the bartender had me covered?

So there I crouched, flat broke and *sans culottes*, between two G.I.-cans of reeking refuse in a honky-tonk alleyway, strung out and dodging The Man. It made me homesick for Brooklyn. At least the problem was clear-cut: all I had to do was scare up a pair of pants, five bricks of acceptable smoke, a hot meal and transportation back to my outfit before dawn. Any longer and Corporal Zeke would assume I had burned him, at which point, Temporary Cease-Fire or not, Southeast Asia would become decidedly too warm for me to inhabit. I was not prepared to emulate Milligram Mulligan—ocean-going desertion requires special preparation and a certain minimum of cash, and I had neither.

The possibilities were, as I saw it, dismal. I couldn't rip off a pedestrian without at least a token weapon, and I was morally certain the two garbage cans contained nothing more lethal than free hydrogen sulfide. I couldn't burgle a house without more of the above-mentioned preparation, and I couldn't even borrow money without a pair of pants.

I sure wished I had a pair of pants.

A giggle rippled down the alleyway, and I felt my spine turn into a tube of ice-cold jello. I peered over a mound of coffee-grounds and there, by the beard of Owsley, stood an absolutely *dynamite* chick. Red hair, crazy blue eyes, and a protoplasmic distribution that made me think of a brick latrine. At the mere sight of this girl, certain physiological reactions overcame embarrassment and mortal terror.

I sure wished I had a pair of pants.

"What's happening?" she inquired around another giggle. *My God,* I thought, *she's from Long Island!* I decided to trust her.

"Well, see baby, I was makin' this run for my platoon, little smoke to sweeten the jungle, right? And, ah. . . . I've gone a wee bit awry."

"Heavy." She jiggled sympathetically, and moved closer.

"Well, yeah, particularly since my C.O. don't like gettin' burned. Liable to amputate my ears is where it's at."

She smiled, and my eyes glazed. "No sweat. I can set you up."

"Right."

"No, really. I'm General Fonebone's old lady—I've got connections. I could probably fix you right up . . . if you weren't in *too* much of a hurry." She was *not* staring me in the eyes, and I made a few hasty deductions about General Fonebone's virility.

"I'm Jim Balzac. 'Balz' to you."

"I'm Suzy."

Six hours later I was back in the jungle. I had a pair of pants, some four and a half bricks from the General's private stash, a compass, two Dylan albums, and (although I was not to know it for weeks) a heavy dose of clap. I felt great, and it was all thanks to General Fonebone. If Suzy had not found life in Vietnam so boring, she would never have gone rummaging and uncovered the General's Secret Stash, a fell collection of strange tabs and arcane caps. She had induced me to swallow the largest single tab in the bunch, an immense purple thing with a skull embossed on it above the lone

word: "HEAVY," and it appeared in retrospect to have been a triple tap of STP cut with ibogaine, benzedrine, coke and just a touch of Bab-O.

It might just as easily have been Fonebone's Own—the sensation was totally new to me. But it was certainly interesting. I experienced considerable difficulty in finding my mustache—which of course was right under my nose.

I could navigate without difficulty, after a fashion. But I discovered that I could whip up a ball of hallucinatory colorswirls in my mind, fire it like a cannon-ball, and watch it burst into a spiderweb of multicolored sparkles, as though an invisible protective shield two feet away walled me off from reality. With care, I could effect changes in the nature of the pulsing balls before they were fired, producing a variety of spectacular fireworks.

The jungle reared drunkenly above me. My outfit was straight ahead. I forged on, while in my darker crannies gonococcal viruses met and fell in love by the thousands, all unknown.

A particularly vivid splash of color caught my wandering attention, I had absently concocted a hellish color-ball of surpassing incandescence and detonated it. Its brilliant pattern hung before me a moment, as the rush took hold.

And then it very suddenly vanished.

I very nearly fell on my face. When I had my bearings again, I sent out another "shell." It burst pyrotechnically.

And as suddenly vanished. It made a noise best reproduced by inhaling sharply through clenched teeth while saying the word "Fffffup!"; vanished down

behind a small hill ahead, *sucked* downward in a microsecond—only a stoned man could have divined the direction.

Something on the other side of that hill was eating my hallucinations.

I moved to the left like a stately zeppelin, caroming gently from the occasional tree. But I had two anchors dragging the ground, and before I got fifteen feet a tangled root brought me down with a crash.

And just before I hit, I saw something coming over the rise, and I knew that my mind had truly blown at last.

Coming toward me was a sixteen-foot-tall poached egg with pimples.

And then the lights—all those lights—went out.

YTEIC-OS MOVED *from concealment, throbbing with astonished elation. No suble attack was necessary, no cunning stimulus needed to elicit secretions of The Force from this being. Heedless of danger, it radiated freely in all directions, idly expectorating energy-clusters as it walked.*

*Then Yteic-Os gasped (almost); for as it became aware of himher, it assumed a prone position, and disappeared. That is, its physical envelope remained, but all emanations ceased utterly; sentience vanished.*

*The Voracious One had no means of apprehending a subconscious mind. Such perverse deformities are extremely rare in the universe; heshe had in several billions of eons never chanced to so much as hear of such a thing. This led himher into a natural error: heshe assumed that these odd creatures emanated so*

*incautiously because they had the ability to shut their minds off at will to escape absorption.*

*For, you see, thought is electrical in nature, and creative thought is akin to a short circuit, occurring when two unconnected thoughts arc together to form a totally new pattern. And such was Yteic-Os's diet.*

*And so heshe made a serious mistake. Heshe stealthily entered the empty caverns of Private Balzac's mind to try and restimulate life. Meanwhile, Yteic-Os's own nature and essence were laid open to the soldier's subconscious. One of the few compensations humans have for being saddled with such a clumsy nuisance as a subconscious mind is that these distorted clumps of semi-awareness possess a passionate interest in survival. Balzac's subconscious remained hidden, probing, comprehending the nature of this novel threat. A nebulous plan of defense formed, was stored for the proper time. Yteic-Os searched in vain for Thought, while Thought watched him from ambush, and giggled.*

*Consciousness returned to Private Balzac with a jar and a "WHAAAAAT!?!" Yteic-Os, caught by surprise, flipped completely over on his back and rippled indignantly. This upstart would soon be only a belch —or something like one. The Voracious One licked hisher . . . well, you know what I mean.*

"WHAAAAAAT!?!"

I was awake. Somehow it had all been sorted out in my sleep: I didn't exactly know what the poached egg was, but I knew what it wanted to do. I thought I knew what to do about it. I would absolutely refuse to hallucinate, and starve it to death.

But I hadn't reckoned with the Terrible Tab I'd swallowed. I simply could *not* stop hallucinating! Colored whirlwinds and coruscating rainbows danced all around me like a mosaic in a Mixmaster; my eyeballs were prisms. Slowly the creative force of my mind was leaking away, being sucked into the egg before it could feed-back and regenerate itself.

I was being drained of originality, of wit, of inventiveness, of all the things that make life groovey. I had a grim vision of myself a few years hence, a short-haired square working in a factory living contentedly in Scarsdale with a frigid wife and a neurotic Pekingese, stumbling over the Cryptoquote in the *Daily News* and drinking Black Label before the T.V. A grimmer vision I can't imagine, but I still missed it when, with a sucking sound, it disappeared into the poached egg.

It was quickly supplanted by other visions, however—but from the past rather than the future. To my utter horror, I realized that it was actually happening: my whole life was passing before my eyes, in little vignettes which were *slurped* up by the creature as fast as they formed.

In spite of myself I began watching them. In rapid succession I reviewed a lifetime of disasters: losing my transmission at the head of the Victory Parade, getting bounced out of bed a hair before climax when I accidentally called Betty Sue the wrong name, being violently ill on two innocent customers of Howard Johnson's . . .

Wait! A light-bulb rather unoriginally appeared over my head (and was eaten by the poached egg). Howard Johnson's!!! My untimely nausea had come on my third day as a HoJo counter-man, a direct result of the genius

of Mr. Johnson himself. Early in his career, Johnson had hit upon the notion of urging all new employees to eat all the ice-cream they wished, for free. He reasoned that they would soon become sick of ice cream, and hence cut employee pilferage from his overhead. The scheme had worked well for him—why not for me?

Desperately I rammed my forebrain into low gear and cut in the afterburner. I dug into the tangled whorls of my cerebrum for all the creativity that heredity and environment had given me, and began to hallucinate as fast and as intricately as I could. I prayed that the poached egg would O.D.

YTEIC-OS WAS CAUGHT *in a quandary. The Force was radiating from this rococo little entity at an intolerable rate, and the creature would* not *stop projecting! Too heavily occupied in absorbing the torrent of food to roll off hisher back, Yteic-Os was lying on the escape-valve, similar to a whale's spout, which lay in the center of hisher back.*

*The Voracious One screamed—after hisher fashion—and tried frantically to assimilate the superabundance of food, to no avail. Even as heshe thrashed, desperately seeking to free the escape-orifice, heshe swelled, grew, expanded more and more rapidly, like a balloon inextricably linked to an air compressor. Heshe lost hisher egg shape, became round rather than ovoid, swelled, bloated to impossible dimensions, and—*

*—the inevitable happened.*

AND WHEN I COULD SEE again, there was scrambled eggs all over the place.

I didn't hang around. Corporal Zeke was delighted to see me—it's embarrassing to have men under your command bumming joints from the enemy. But he was a little disappointed to learn that I only had four and a half bricks.

"That's okay, Corp," I assured him. "You guys can have my share. I'm straight for life."

"*What?*" gasped Zeke, shocked enough to deliver the first and only one-word speech of his life.

"Yep. After what I went through on the way over here, I'll never get stoned again as long as I live. Poached eggs eating hallucinations, cosmic invasion, Howard Johnson—it was just too intense, man, just too intense. A man who could freak out like that didn't ought to do dope. I've had a few bummers before, but I know when I've been warned."

Zeke was stupified, but not so stupified as to fail to try and change my mind. In subsequent weeks he went so far as to leave joints on my pillow, and once I caught him slipping hash into my K-rations. But like I say, I know when I've been warned, and you can't say I'm stupid.

I live a perfectly content life now that the war is over. Got me a wife, a nice little one-family in Scarsdale that I'll have entirely paid off in another twenty-five years, and a steady job down at the distributing plant—I get to bring home unlimited quantities of Black Label.

But sometimes I drink a little too much of it, and my wife Mabel says when I'm drunk—aside from becoming "disgustingly physical"—I often babble a lot. Something about having saved the world. . . .

## ELEPHANT WITH WOODEN LEG

**by John Sladek**

*(Madmen never listen.)*

NOTE: MADMEN ARE OFTEN UNABLE TO DISTINGUISH BETWEEN DREAM, REALITY, AND . . . BETWEEN DREAM AND REALITY. NONE OF THE INCIDENTS IN HENRY LAFARGE'S NARRATIVE EVER HAPPENED OR COULD HAVE HAPPENED. HIS "ORINOCO INSTITUTE" BEARS NO RELATION TO THE ACTUAL THINK TANK OF THAT NAME, HIS "DREW BLENHEIM" IN NO WAY RESEMBLES THE FAMOUS FUTUROLOGIST, AND HIS "UNITED STATES OF AMERICA" IS NOT EVEN A BURLESQUE UPON THE REAL UNITED STATES OF AMERICA.

I COULDN'T hear him.

"Can't hear you, Blenheim. The line must be bad."

"Or mad, Hank. I wonder what that would take?"

"What what?"

"What it would take to drive a telephone system ou of its mind, eh? So that it wasn't just giving wrong

numbers, but madly right ones. Let's see: Content-addressable computer memories to shift the conversations . . ."

I stopped listening. A bug was crawling up the window frame across the room. It moved like a cockroach, but I couldn't be sure.

"Look, Blenheim, I'm pretty busy today. Is there something on your mind?"

He plowed right on. ". . . so if you're trying to reserve a seat on the plane to Seville, you'd get a seat at the opera instead. While the person who wants the opera seat is really making an appointment with a barber, whose customer is just then talking to the box-office for *Hair*, or maybe a hairline reservation . . ."

"Blenheim, I'm talking to you."

"Yes?"

"What was it you called me up about?"

"Oh, this and that. I was wondering, for instance, whether parrots have internal clocks."

"What?" I still couldn't be sure the bug was a cockroach, but I saluted just in case.

"If so, maybe we could get them to act as speaking clocks."

He sounded crazier than ever. What trivial projects for one of the best brains of our century—no wonder he was on leave.

"Blenheim, I'm busy. Institute work must go on, you know."

"Yes. Tell you what, why don't you drop over this afternoon? I have something to talk over with you."

"Can't. I have a meeting all afternoon."

"Fine, fine, See you, then. Anytime around 4:43."

Madmen never listen.

HELMUT RASSMUSSEN came in just as Blenheim hung up on me. He seemed distressed. Not that his face showed it; ever since that bomb wrecked his office, Hel has been unable to move his face. Hysterical paralysis, Dr. Grobe had explained.

But Hel could signal whatever he felt by fiddling with the stuff in his shirt pocket. For anger, his red pencil came out (and sometimes underwent a savage sharpening), impatience made him work his slide rule, surprise made him glance into his pocket diary, and so on.

Just now he was clicking the button on his ballpoint pen with some agitation. For a moment he seemed about to actually take it out and draw worry lines on his forehead.

"What is it, Hel? The costing on Project Faith?" He spread the schedules on my desk and pointed to the snag: a discrepancy between the estimate cost of blasting apart and hauling away the Rocky Mountains, and the value of oil recovered in the process.

"I see. The trains, eh? Diesels seem to use most of the oil we get. How about steam locomotives, then?"

He clapped me on the shoulder and nodded.

"By the way, Hel, I won't be at the meeting today. Blenheim just called up. Wants to see me."

Hel indicated surprise.

"Look, I know he's a crackpot. You don't have to pocket-diary me, I know he's nuts. But he's also technically still the Director. Our boss. They haven't taken him off the payroll, just put him on sick leave. Besides, he used to have a lot of good ideas."

Hel took out a felt-tip pen and began to doodle with some sarcasm. The fact was, Blenheim had completely

lost his grip during his last year at the Institute. Before the government forced him to take leave, he'd been spending half a million a year in developing, rumors said, glass pancakes. And who could forget his plan to arm the police with chocolate revolvers?

"Sure, he's had a bad time, but he's better now," I said without conviction.

Institute people never get better, Hel seemed to retort. They just keep on making bigger and better decisions, with more and more brilliance and finality, until they break. Like glass pancakes giving out an ever purer ring, then exploding.

It was true. Like everyone else here, I was seeing Dr. Grobe, our resident psychiatrist, several times a week. Then there were cases beyond even the skill of Dr. Grobe: Joe Feeney, who interrupted his work (on the uses of holograms) one day to announce that he was a file cabinet. Edna Bessler, who believed that she was being pursued by a synthetic *a priori* proposition. The lovely entomologist Pawlie Sutton, who just disappeared. And George Hoad, whose rocket research terminated when he walked into the Gents one day and cut his throat. George spent the last few minutes of consciousness vainly trying to mop up the bloody floor with toilet paper . . .

Something was wrong with the personnel around this place, all right. And I suspected that our little six-legged masters knew more about this than they were saying.

Finally I mumbled. "I know it's useless, Hel. But I'd better find out what he wants."

You do what you think is best, Hel thought. He

stalked out of my office, then, examining the point on his red pencil.

THE BUG *was* a cockroach, *P. americana*. It sauntered across the wall until it reached the curly edge of a wall poster, then it flew about a foot to land on the nearest dark spot. This was Uncle Sam's right eye. Uncle Sam, with his accusing eyes and finger, was trying to recruit men for the Senate and House of Representatives. On this poster, he said, "The Senate Needs MEN". So far, the recruiting campaign was a failure. Who could blame people for not wanting to go on the "firing line" in Washington? The casualty rate of Congressmen was thirty per cent annually, and climbing, in spite of every security measure we could think of.

Which reminded me of work. I scrubbed off the blackboard and started laying out a contingency tree for Project Pogo, a plan to make the whole cabinet—all 143 secretaries—completely mobile, hence, proof against revolution. So far the Security Secretary didn't care for the idea of "taking to our heels", but it was cheaper to keep the cabinet on the move than to guard them in Washington.

The cockroach, observing my industry, left by a wall ventilator, and I breathed easier. The contingency tree didn't look so interesting by now, and out the window I could see real trees.

The lawn rolled away down from the building to the river (not the Orinoco, despite our name). The far bank was blue-black with pines, and the three red maples on our lawn, this time of year, stood out like three separate, brilliant fireballs. For just the duration of a

bluejay's flight from one to another, I could forget about the stale routine, the smell of chalkdust.

I remembered a silly day three years ago, when I'd carved a heart on one of those trees, with Pawlie Sutton's initials and my own.

Now a security guard strolled his puma into view. They stopped under the nearest maple and he snapped the animal's lead. It was up the trunk in two bounds, and out of sight among the leaves. While that stupid-faced man in uniform looked up, the fireball shook and swayed above him. A few great leaves fell, bright as drops of blood.

Now what was *this* headache going to be about?

ALL THE BIG problems were solved, or at least we knew how to solve them. The world was just about the way we wanted it, now, except we no longer seemed to want it just that way. That how Mr. Howell, the Secretary of Personal Relationships had put it in his telecast. What was missing? God, I think he said. God had made it possible for us to dam the Amazon and move the Orinoco, to feed India and dig gold from the ocean floor and cure cancer. And now God—the way Howell said it made you feel that He, too, was in the Cabinet—God was going to help us get down and solve our personal, human problems. Man's inhumanity to man. The lack of communication. The hatred. God and Secretary Howell were going to get right down to some committee work on this. I think that was the telecast where Howell announced the introduction of detention camps for "malcontents". Just until we got all of our personal problems ironed out. I had drawn up plans for these camps that summer. Then George Hoad borrowed my

pocket knife one day and never gave it back. Then the headaches started.

As I stepped outside, the stupid-faced guard was looking up the skirt of another tree.

"Prrt, prrt" he said quietly, and the black puma dropped to earth beside him. There was something hanging out of its mouth that looked like a bluejay's wing.

"Good girl. Good girl."

I hurried away to the helicopter.

DREW BLENHEIM'S tumbledown mansion sits in the middle of a withered woods. For half a mile around, the trees are laced together with high-voltage fence. Visitors are blindfolded and brought in by helicopter. There are also rumors of minefields and other security measures. At that time, I put it all down to Blenheim's paranoia.

The engine shut down with the sound of a coin spinning to rest. Hands helped me out and removed my blindfold. The first thing I saw, hanging on a nearby stretch of fence, was a lump of bones and burnt fur from some small animal. The guards and their submachine-guns escorted me only as far as the door, for Blenheim evidently hated seeing signs of the security he craved. The house looked dismal and decayed—the skull of some future Orinoco Institute?

A servant wearing burnt cork makeup and white gloves ushered me through a dim hallway that smelled of hay and on into the library.

"I'll tell Mr. Blenheim you're here, sir. Perhaps you'd care to read one of his monographs while you wait?"

I flicked through *The Garden of Regularity* (a slight tract recommending that older people preserve intestinal health by devouring their own dentures) and opened an insanely boring book called *Can Bacteria Read?* I was staring uncomprehendingly at one of its pages when a voice said:

"Are you still here?" The plump old woman had evidently been sitting in her deep chair when I came in. As she craned around at me, I saw she had a black eye. Something was wrong with her hair, too. "I thought you'd left by now—oh, it's *you.*"

"Madame, do I know you?"

She sat forward and put her face to the light. The black eye was tattooed, and the marcelled hair was really a cap of paper, covered with wavy ink lines. But it was Edna Bessler, terribly aged.

"You've changed, Edna."

"So would you, young man, if you'd been chased around a nuthouse for two years by a synthetic *a priori* proposition." She sniffed. "Well, thank heavens the revolution is set for tomorrow."

I laughed nervously. "Well, Edna, it certainly is good to see you. What are you doing here, anyway?"

"There are quite a few of the old gang here: Joe Feeney and—and others. This place has become a kind of repair depot for mad futurologists.

"Blenheim is very kind, but of course he's quite mad himself. Mad as a wet hen. As you see from his writing."

"*Can Bacteria Read?* I couldn't read it."

"Oh, he thinks that germs are, like people, amenable to suggestion. So, with the proper application of mass hypnosis among the microbe populations, we ought to

be able to cure any illness with any quack remedy."

I nodded. "Hope he recovers soon. I'd like to see him back at the Institute, working on real projects again. Big stuff, like the old days. I'll never forget Drew Blenheim, the man who invented satellite dialing."

Satellite dialing came about when the malcontents were trying to jam government communications systems, cut lines and blow up exchange offices. Blenheim's system virtually made each telephone a complete exchange in itself, dialing directly through a satellite. Voice signals were compressed and burped skywards in short bursts that evaded most jamming signals. It was an Orinoco Institute triumph over anarchy.

Edna chucked. "Oh, he's working on real projects again. I said he was mad, not useless. Now if you'll help me out of this chair, I must go fix an elephant."

I was sure I'd misheard this last. After she'd gone, I looked over a curious apparatus in the corner. Parts of it were recognizable—a clock inside a parrot cage, a gas laser, and a fringed shawl suspended like a flag from a walkingstick thrust into a watermelon—but their combination was baffling.

At 4:43 by the clock in the cage, the blackface servant took me to a gloomy great hall place, scattered with the shapes of easy chairs and sofas.

A figure in a diving suit rose from the piano and waved airhoses behind the bench.

For a few minutes I suffered through a fumbling version of some Mexican tune. But when Blenheim—no doubt it was he—stood up and started juggling oranges, I felt it was the time to speak out.

"Look, I've interrupted my work to come here. Is this all you have to show me?"

One of the oranges vaulted high, out of sight in the gloom above; another hit me in the chest. The figure opened its faceplate and grinned. "Long time no see, Hank."

It was me.

"RUBBER MASK," Blenheim explained, plucking at it. "I couldn't resist trying it on you, life gets so tedious here. Ring for Rastus, will you? I want to shed this suit."

We made small talk while the servant helped him out of the heavy diving suit. Rather, Blenheim rattled on alone; I wasn't feeling well at all. The shock of seeing myself had reminded me of something I should remember, but couldn't.

". . . to build a heraldry vending machine. Put in a coin, punch out your name, and it prints a coat-of-arms. Should suit those malcontents, eh? All they probably really want is a coat-of-arms."

"They're just plain evil," I said. "When I think of how they bombed poor Hel Rassmussen's office—"

"Oh, he did that himself. Didn't you know?"

"A suicide attempt? So that explains the hysterical paralysis!"

My face looked exasperated, as Blenheim peeled it off. "Is that what Dr. Grobe told you? Paralyzed, hell, the blast blew his face clean off. Poor Hel's present face is a solid plate of plastic, bolted on. He breathes through a hole in his shoulder and feeds himself at the armpit. If Grobe told you any different, he's just working on your morale."

From upstairs came a kind of machine-gun clatter. The minstrel servant glided in with a tray of drinks.

"Oh, Rastus. Tell the twins not to practice their tap-dancing just now, will you? Hank looks as if he has a headache."

"Yes, sir. By the way, the three-legged elephant has arrived. I put it in the front hall. I'm afraid the prosthesis doesn't fit."

"I'll fix it. Just ask Jumbo to lean up against the wall for half an hour."

"Very good, sir."

After this, I decided to make my escape from this Bedlam.

"Doesn't anybody around here ever do anything straight-forward or say anything in plain English?"

"We're trying to tell you something, Hank, but it isn't easy. For one thing, I'm not sure we can trust you."

"Trust me for what?"

His twisted face twisted out a smile. "If you don't know, then how can we trust you? But come with me to the conservatory and I'll show you something."

We went to a large room with dirty glass walls. To me it looked like nothing so much as a bombed-out workshop. Though there were bags of fertilizer on the floor, there wasn't a living plant in sight.

Instead, the tables were littered with machinery and lab equipment: jumbles of retorts and colored wires and nuts and bolts that made no sense.

"What do you see, Hank?"

"Madness and chaos. You might as well have pears in the light sockets and a banana on the telephone cradle, for all I can make of it."

He laughed. "That's better. We'll crazify you yet."

I pointed to a poster-covered cylinder standing in the corner. One of the posters had Uncle Sam, saying: "I Need MEN for Congress".

"What's that Parisian advertising-kiosk doing here?"

"Rastus built that for us, out of scrap alloys I had lying around. Like it?"

I shrugged. "The top's too pointed. It looks like—"

"Yes, go on."

"This is silly. All of you need a few sessions with Dr. Grobe," I said. "I'm leaving."

"I was afraid you'd say that, Hank. But it's you who needs another session with Dr. Grobe."

"You think *I'm* crazy?"

"No, you're too damned sane."

"From your viewpoint, yes!" I shouted. "Why bother with all that security outside? Afraid someone will steal the idea of a minstrel show or the secret of a kiosk?"

He laughed again. "Hank, those guards aren't to keep strangers out. *They're to keep us in.* You see, my house really and truly is a madhouse."

I stamped out a side door and ordered my helicopter.

"My head's killing me," I told the guard. "Take it easy with that blindfold."

"Oh, sorry, mac. Hey, look, it's none of my business, but what did you do with that tree you brung with you?"

"Tree?" God, even the guards were catching it.

THAT EVENING I went to see Dr. Grobe.

"Another patient? I swear, I'm going to install a

revolving door on this office. Sit down, Uh, Hank LaFarge, isn't it? Sit down, Hank. Let's see . . . oh, you're the guy who's afraid of cockroaches, right?"

"Not exactly afraid of them. In fact they remind me of someone I used to be fond of. Pawlie Sutton used to work with them. But my problem is, I know that cockroaches are the real bosses. We're just kidding ourselves with our puppet government, our Uncle Sham—"

He chucked appreciatively.

"But what 'bugs' me, doctor, is that nobody will recognize this plain and simple truth."

"Ah-ah. Remember, last time you agreed to call me by my first name, Hank."

"Sorry. Sorry, uh, Oddpork." I couldn't imagine anyone with that first name wanting to be called by it, unless he wanted to get used to it himself. He was an odd-pork of a man, too: plump and rumpy, with overlarge hands that never stopped adjusting his already well-adjusted clothes. He always looked surprised at everything I said, even "hello." Every session, he made the same joke about the revolving door.

Still, repetitive jokes help build up a family atmosphere, which was probably what he wanted. There was a certain comfort in this stale world of no surprises. Happy families are all alike, and their past is exactly like their future.

"Hank, I haven't asked you directly about your cockroach theory before, have I? Want to tell me about it?"

"I know it sounds crazy at first. For one thing, cockroaches aren't very smart, I know that. In some ways, they're stupider than ants. And their communica-

tion equipment isn't much, either. Touch and smell, mainly. They aren't naturally equipped for conquering the world."

Oddpork lit a cigar and leaned back, looking at the ceiling "What do they do with the world when they get it?"

"That's another problem. After all, they don't *need* the world. All they need is food, water, a fair amount of darkness and some warmth. But there's the key, you see?

"I mean, we humans have provided for all of these needs, for many centuries. Haphazardly, though. So it stands to reason life would be better for them if we worked for them on a regular basis. But to get us to do that, they have to take over first."

He tried to blow a smoke ring, failed, and adjusted his tie. "Go on. How do they manage this takeover?"

"I'm not sure, but I think they have help. Maybe some smart tinkerer wanted to see what would happen if he gave them good long-distance vision. Maybe he was so pleased with the result that he taught them to make semaphore signals with their feelers. The rest is history."

Dusting his lapel, Dr. Grobe said, "I don't quite follow. Semaphore signals?"

"One cockroach is stupid. But a few thousand of them in good communication could make up a fair brain. Our tinkerer probably hastened that along by intensive breeding and group learning problems, killing off the failures . . . It would take ten years at the outside."

"Really? And how long would the conquest of man

take? How would the little insects fare against the armies of the world?"

"They never need to try. Armies are run by governments, and governments are run, for all practical purposes, by small panels of experts. Think tanks like the Orinoco Institute. And—this just occurred to me—for all practical purposes, you run the Institute."

For once, Dr. Grobe did not look surprised. "Oh, so I'm in on the plot, am I?"

"We're all so crazy, we really depend on you. You can ensure that we work for the good of the cockroaches, or else you can get rid of us—send us away, or encourage our suicides."

"Why should I do that?"

"Because *you* are afraid of them."

"Not at all." But his hand twitched, and a little cigar ash fell on his immaculate trousers. I felt my point was proved.

"Damn. I'll have to sponge that. Excuse me."

He stepped into his private washroom and closed the door. My feeling of triumph suddenly faded. Maybe I was finally cracking. What evidence did I really have?

On the other hand, Dr. Grobe was taking a long time in there. I stole over to the washroom door and listened.

". . . verge of suicide . . . ," he murmured. ". . . yes . . . give up the idea, but . . . yes, that's what I . . ."

I threw back the door on a traditional spy scene. In the half-darkness, Dr. G. hunched over the medicine cabinet, speaking into a microphone. He wore earphones.

"Hank, don't be a foo—"

I hit him, not hard, and he sat down on the edge of the bathtub. He looked resigned.

"So this is my imagined conspiracy, is it? Where do these wires lead?"

They led inside the medicine cabinet, to a tiny apparatus. A dozen brown ellipses had clustered about it, like a family around the TV.

"Let me explain," he said.

"Explanations are unnecessary, doctor. I just want to get out of here, unless your six-legged friends can stop me."

"They might. So could I. I could order the guards to shoot you. I could have you put away with your crazy friends. I could even have you tried for muder, just now."

"Murder?" I followed his gaze back to the office. From under the desk, a pair of feet. "Who's that?"

"Hel Rassmussen. Poisoned himself a few minutes before you came in. Believe me, it wasn't pleasant, seeing the poor fellow holding a bottle of cyanide to his armpit. He left a note blaming you, in a way."

"Me!"

"You were the last straw. This afternoon, he saw you take an ax and deliberately cut down one of those beautiful maple trees in the yard. Destruction of beauty—it was too much for him."

Trees again. I went to the office window and looked out at the floodlit landscape. One of the maples was missing.

Dr. Grobe and I sat down again at our respective interview stations while I thought this over. Blenheim and his mask came into it, I was sure of that. But why?

Dr. Grobe fished his lifeless cigar from the ashtray.

"The point is, I can stop you from making any trouble for me. So you may as well hear me out." He scratched a match on the sole of Hel's shoe and relit the cigar.

"All right, Oddpork. You win. What happens now?"

"Nothing much. Nothing at all. If my profession has any meaning, it's to keep things from happening." He blew out the match. "I'm selling ordinary life. Happiness, as you must now see, lies in developing a pleasant, comfortable and productive routine—and then sticking to it. No unpleasant surprises. No shocks. Psychiatry has always aimed for that, and now it is within our grasp. The cockroach conspiracy hasn't taken over the world, but it has taken over the Institute—and it's our salvation.

"You see, Hank, our bargain isn't one-sided. We give them a little shelter, a few scraps of food. But they give us something far more important: real organization. *The life of pure routine.*"

I snorted. "Like hurrying after trains? Or wearing ourselves out on assembly line work? Or maybe grinding our lives away in boring offices? Punching time clocks and marching in formation?"

"None of the above, thank you. Hank, cockroaches never hurry to anything but dinner. They wouldn't march in formation except for fun. They are free—yet they are part of a highly organized society. And this can be ours."

"If we're all put in detention camps."

"Listen, those camps are only a stage. So what if a few million grumblers get sterilized and shut away for a year or two? Think of the *billions* of happy, decent citizens, enjoying a freedom they have earned. Some-

day, every man will live exactly as he pleases—and his pleasure will lie in serving his fellow men."

Put like that, it was persuasive. Another half-hour of this and I was all but convinced.

"Sleep on it, eh, Hank? Let me know tomorrow what you think." His large hand on my shoulder guided me to the door.

"You may be right," I said, smiling back at him. I meant it, too. Even though the last thing I saw, as the door closed, was a stream of glistening brown that came from under the washroom door and disappeared underneath the desk.

I SAT UP in my own office most of the night, staring out at the maple stump. There was no way out: Either I worked for *Periplaneta americana* (and gradually turned into a kind of moral cockroach myself), or I was killed. And there were certain advantages in either choice.

I was about to turn on the video recorder to leave a suicide note, when I noticed the cassette was already recorded. I ran it back and played it.

Blenheim came on, wearing my face and my usual suit.

"They think I'm you, Hank, dictating some notes. Right now you're really at my house, reading a dull book in the library. So dull, in fact, that it's guaranteed to put you into a light trance. When I'm safely back, Edna will come in and wake you.

"She's not as loony as she seems. The black eye is inked for her telescope, and the funny cap with lines on it, that looks like marcelled hair, that's a weather-

map. I won't explain why she's doing astronomy—you'll understand in time.

"On the other hand, she's got a fixation that the stars are nothing but the shiny backs of cockroaches, treading around the heavenly spheres. It makes a kind of sense when you think about it: *Periplaneta* means around the world, and america being the home of the Star-Spangled Banner.

"Speaking of national anthems, Mexico's is La Cucaracha—another cockroach reference. They seem to be taking over this message!

"The gang and I have been thinking about bugs a lot lately. Of course Pawlie has always thought about them, but the rest of us . . ." I missed the next part. So Pawlie was at the madhouse? And they hadn't told me?

". . . when I started work on the famous glass pancakes, I discovered a peculiar feature of glass discs, such as those found on clock faces.

"Say, you can do us a favor. I'm coming around at dawn with the gang, to show you a gadget or two. We haven't got all the bugs out of them yet, but—will you go into Dr. Grobe's office at dawn, and check the time on his clock? But first, smash the glass on his window, will you? Thanks. I'll compensate him for it later.

"Then go outside the building, but on no account stand between the maple stump, and the broken window. The best place to wait is the little bluff to the North, where you'll have a good view of the demonstration. We'll meet you there.

"Right now you see our ideas darkly, as through a pancake, I guess, but soon you'll understand. You see, we're a kind of cockroach ourselves.

"I mean, living on scraps of sanity. We have to speak in parables and work in silly ways because *they* can't. *They* live in a comfortable kind of world where elephants have their feet cut off to make umbrella stands. We have to make good use of the three-legged elephants, and other left-overs.

"Don't bother destroying this cassette. It won't mean a thing to any right-living insect."

It didn't mean much to me, not yet. Cockroaches in the stars? Clocks? There were silly questions I had to ask.

THERE WAS ONE question I'd already asked, that still needed an answer. Pawlie had been messing around in her lab, when I asked her to marry me. Two years ago, was it? Or three?

"But you don't like cockroaches," she said.

"No, and I'll never ask a cockroach for its claw in marriage." I looked over her shoulder into the glass cage. "What's so interesting about these?"

"Well, for one thing, they're not laboratory animals. I caught them myself in the basement here at the Institute. See? Those roundish ones are the nymphs—sexless adolescents. Cute, aren't thy?"

I had to admit they were. A little. "They look like the fat black exclamation points in comic strips," I observed.

"They're certainly healthy, all of them. I've never seen any like them. I—that's funny." She went and fetched a book, and looked from some illustration to the specimens behind glass.

"What's funny?"

"Look, I'm going to be dissecting the rest of the afternoon. Meet you for dinner. Bye."

"You haven't answered my question, Pawlie."

"Bye."

That was the last I saw of her. Later, Dr. Grobe put it about that she'd been found in some distant city, hopelessly insane. Still later, George Hoad cut his throat.

THE FLOODLIGHTS went off, and I could see dawn grayness and mist. I took a can of beans and went for a stroll outside.

One of the guards nodded a wary greeting. They and their cats were always jumpiest at this time of day.

"Everything all right, officer?"

"Yeah. Call me crazy, but I think I just heard an elephant."

When he and his puma were out of sight, I heaved the can of beans through Dr. Grobe's lighted window.

"What the hell?" he shouted. I slipped back to my office, waited a few minutes, and then went to see him.

A slender ray came through the broken window and struck the clock on the opposite wall. Grobe sat transfixed, staring at it with more surprise than ever. And no wonder, for the clock had become a parrot.

"Relax, Oddpork," I said. "It's only some funny kind of hologram in the clock face, worked by a laser from the lawn. You look like a comic villain, sitting there with that cigar stub in your face."

The cigar stub moved. Looking closer, I saw it was made up of the packed tails of a few cockroaches, trying to force themselves between his closed lips.

More ran up from his spotless collar and joined them, and other made for his nostrils. One approached the queue at the mouth, found a comrade stuck there, and had a nibble at its kicking hind leg.

"Get away! Get away!" I gave Grobe a shake to dislodge them, and his mouth fell open. A brown flood of kicking bodies tumbled out and down, over his well-cut lapels.

I HAD STOPPED shuddering by the time I joined the others on the bluff. Pawlie and Blenheim were missing. Edna stopped scanning the horizon with her brass telescope long enough to introduce me to the pretty twins, Alice and Celia. They sat in the grass beside a tangled heap of revolvers, polishing their patent-leather tap shoes.

The ubiquitous Rastus was wiping off his burnt cork makeup. I asked him why.

"Don't need it anymore. Last night it was my camouflage. I was out in the woods, cutting a path through the electric fence. Quite a wide path, as you'll understand."

He continued removing the black until I recognized the late George Hoad.

"George! But you cut your throat, remember? Mopping up blood—"

"Hank, that was your blood. It was you who cut your throat in the Gents, after Pawlie vanished. Remember?"

I did, giddily. "What happened to you, then?"

"Your suicide attempt helped me make up my mind; I quit the Institution next day. You were still in the hospital."

Still giddy, I turned to watch Joe Feeney operating

the curious laser I'd seen in the library. Making parrots out of clocks.

"I understand now," I said. "But what's the watermelon for?"

"Cheap cooling device."

"And the 'flag'?" I indicated the shawl-stick arrangement.

"To rally round. I stuck it in the melon because the umbrella stand was in use. They were trying to use it—"

"Look!" Edna cried. "The attack begins!" She handed me a second telescope.

All I saw below was the lone figure of Blenheim in his diving suit, shuffling slowly up from the river mist to face seven guards and two pumas.

He seemed to be juggling croquet balls.

"Why don't we help him?" I shouted. "Don't just sit here shining shoes and idling."

The twins giggled. "We've already helped some," said Alice, nodding at the pile of weapons. "We made friends with the guards."

I got the point when those below pulled their guns on Blenheim. As each man drew, he looked at his gun and then threw it away.

"What a waste," Celia sighed. "Those guns are made from just about the best chocolate you can get."

Blenheim played his parlor trick on the nearest guard: One juggled ball flew high, the guard looked up, and a second ball clipped him on the upturned chin.

Now the puma guards went into action.

"I can't look," I said, my eye glued to the telescope. One of the animals stopped to sniff at a sticky revolver, but the other headed straight for his quarry. He leapt up,

trying to fasten his claws into the stranger's big brass head.

Out of the river mist came a terrible cry, and then a terrible sight: a hobbling gray hulk that resolved into a charging elephant.

Charging diagonally, so it looked even larger.

The pumas left the scene. One fled in our direction until Alice snatched up a pistol and fired it in the air. At that sound, the guards decided to look for jobs elsewhere. After all, as Pawlie said later, you can't expect a man to face a juggling diver *and* a mad elephant with a wooden leg, with nothing but a chocolate .38, not on *their* wages.

Pawlie was riding on the neck of the elephant. When he came to a wobbling stop I saw that one of Jumbo's forelegs was a section of tree with the bark still on it. And in the bark, a heart with PS+HL, carved years before.

I felt the triumph was all over—especially since Pawlie kept nodding her head yes at me—until George said:

"Come on, gang, Let's set it up."

Jumbo had been pulling a wooden sledge, bearing the Paris kiosk.

Now he went off to break his fast on water and grass, while the rest of us set the thing upright. Even before we had fuelled it with whatever was in the fertilizer bags, I guessed that it was a rocket.

After some adjustments, the little door was let down, and a sweet, breakfast pancake odor came forth. Joe Feeney opened a flask of dark liquid and poured it in the entrance. The smell grew stronger.

"Maple sap," he explained. "From Jumbo's

wooden leg. Mixed with honey. And there's oatmeal inside. A farewell breakfast."

I looked in the little door and saw the inside of the ship was made like a metal honeycomb, plenty of climbing room for our masters.

Pawlie came from the building with a few cockroaches in a jar, and let them taste our wares. Then, all at once, it was a sale opening at any big department store. We all stood back and let the great brown wave surge forward and break over the little rocket.

Some of them, nymphs especially, scurried all the way up to the nose cone and back down again in their excitement. It all looked so jolly that I tried not to think of their previous meals.

Edna glanced at her watch. "Ten minutes more," she said. "Or they'll hit the sun."

I objected that we'd never get all of them loaded in ten minutes.

"No," said Pawlie. "But we'll get the best and strongest. The shrews can keep the rest in control."

Edna closed the door, and the twins did a vigorous tapdance on the unfortunate stragglers.

A few minutes later, a million members of the finest organization on earth were on their way to the stars.

"To join their little friends," said Edna.

Pawlie and I touched hands, as Blenheim opened his faceplate. "I've been making this study," he said, "of spontaneous combustion in giraffes . . ."

## LIFE AMONG THE ASTEROIDS

**by J.E. Pournelle, Ph.D.**

*This science article was written in conjunction with the following story. I was originally going to subtitle it "A Spaceship for the Editor"—but he still owes me .99 g's, dammit!*

ONE OF SCIENCE FICTION'S biggest problems is consistency. Whenever we make an assumption, it's not enough simply to leave it at that; to be fair to the reader, the sf writer should also see what that assumption does to everything else.

This was brought home to me when Jim Baen called to ask for a column on "What happens if we get an *economical* space drive?" The result was not only the column, but the cover story for the issue.

The problem is more complex than it sounds. In fact, until we have some idea of what *kind* of space drive, there's no real answer at all.

For example: let's suppose we have a magical space

drive in which we merely turn on an electric motor and "convert rotary acceleration to linear acceleration." Some readers may recall the Dean Drive, which was supposed to do just that.

Incidentally, the Dean Drive wasn't suppressed by big corporations, as I've heard some fans speculate. I am personally acquainted with two men who were given large sums by aerospace companies and instructed to buy the drive if they saw any positive results whatever in a demonstration.

After all, if the thing worked just a little bit, it would be worth billions. Think what Boeing could do with an anti-gravity machine! But, alas, no demonstration was ever given, although the prospective purchasers had letters of credit just waiting to be signed.

However, couldn't we simply assume that it will work and write an article about the resulting space civilization?

No. The discovery of a "Dean Drive" would mean that every fundamental notion we have about physics is dead wrong. It would mean a revolution at least as far reaching as Einstein's modification of Newton. An anti-gravity device like that would have consequences reaching far beyond space drives, just as $e = mc^2$ affected our lives in ways not very obviously associated with the velocity of light.

This doesn't mean that "Dean Drive" systems are impossible, of course. It does mean that looking at their implications is a bigger job than I want to take on in a 5000-word column.

JIM'S QUESTION WAS, "What happens if we have something that gives one gravity acceleration over inter-

planetary distances at reasonable costs per ton delivered?" Part of the question is easy to answer. Now that I've got my Texas Instruments SR-50 (by the way, they've now come out with a really marvelous device called the SR-51, and I hate them for it) I can run off a couple of tables to show what we could do with such a system.

The figures in Table One assume you accelerate half way, turn end for end, and decelerate the other half, so that you arrive with essentially no velocity. The numbers aren't exact, because I haven't accounted for the velocities of the planets in their orbits—but after all, Pluto is moving about 5 kilometers a second, and Mercury about 50, and when you're playing with velocity changes like these, who cares about the measly 45 km/sec difference between the two? For shorter trips the effect is even less important, of course.

The numbers are a bit startling if you're not familiar with them. Twenty days to Pluto? They won't surprise old time sf readers, though. A full gravity is a pretty hefty acceleration. If you don't bother with turnovers but just blast away, the results are given in Table Two, and they're even more indicative of what one gee can do.

Of course, long before you've reached light-speed at the end of a year, you'll have run into relativistic effects. We're only concerned with the solar system, though, so we can ignore trips longer than a month and avoid relativity altogether.

Now we can write the article, right? Wrong. The problem is that last column in Table One. Just how do we expect to get delta-v as big as all that?

Let's illustrate. As we've shown in previous col-

# TIME-TABLES FOR INTRA-SYSTEM TRAVEL UNDER CONSTANT ACCELERATION

## TABLE ONE

TRAVEL TIMES AND DISTANCES AT ONE GRAVITY ACCELERATION

| DISTANCE | | TIME (in hours) | VELOCITY CHANGE (Delta-V) |
|---|---|---|---|
| 380,000 | km. (Earth-Moon) | 3.5 | 122 km/sec |
| 1 AU | (Earth-Mars, Venus, Sun) | 68 | 2,421 km/sec |
| 3 AU | (Earth-Asteroid) | 119 (5 days) | 4,194 km/sec |
| 9 AU | (Earth-Jupiter, Saturn) | 206 (8½ days) | 7,265 km/sec |
| 50 AU | (Earth-Pluto) | 485 (20 days) | 17,123 km/sec |

## TABLE TWO

HOW FAR CAN WE GO AT ONE GRAVITY?

| TIME OF BOOST | VELOCITY REACHED | DISTANCE COVERED |
|---|---|---|
| 1 hour | 35 km/sec | ¼ AU |
| 1 day | 850 km/sec | 12 AU |
| 1 week | 5,930 km/sec | 200 AU |
| 1 month | 25,000 km/sec | ½ lightyear |
| 1 year | 300,000 km/sec (speed of light) | 63,500 km |

*An AU (Astronomical unit) equals 150 million kilometers, which is the average distance from the Earth to the Sun.

umns, delta-v can be calculated from mass ratio and exhaust velocity (If you came in late, take my word for it; we'll get past the numbers pretty quickly.)

Now you could hardly call a drive *economical* if the mass ratio were much worse than, say, three, which means that if you start with 1,000 tons you'll arrive with 333. What, then, must our exhaust velocity be to make the simple trip from Earth to Mars?

It's horrible. About 2,204 kilometers/second, and what's horrible about that is it corresponds to a temperature of 50 million degrees Kelvin. The interiors of stars are that hot, but nothing else is.

Just how are we going to *contain* a temperature like that?

One answer might be that we'd better learn how; fusion power systems may require it. OK, and the fusion boys are working on the problem. However they solve it, we can be sure it won't be anything small that does the trick.

It's going to take enormous magnetic fields, superconductors, heavy structures, and a great deal more. After all, nothing material can hold a temperature like that without instantly vaporizing, and even containing the magnetic field that holds that kind of energy is no simple job.

Let's assume we can contain fusion reactions, though. We know immediately that energy is going to be no problem for our interplanetary civilization. With plentiful energy we'll find that a number of our other problems vanish.

There won't be many "rare" materials, for example; if they're rare and valuable enough, we'll simply *make* them out of atomic building blocks. Of course it may be

cheaper to go find them somewhere, such as on Mars or among the asteroids, but we'll always be up against competition from the transmuters.

Life on Earth, at least among the people of the high-energy civilizations, will change drastically. Pollution will cease to be a problem (unless the fusion plants themselves are polluters, which isn't impossible.) The Affluent Society will be with us and possibly so will be regulations and rules, bureaucracy, and all the other niceties of a universal middle class.

All this comes as a result of assuming our space drive. More central to our immediate topic is the fact that the ships will be quite large—Queen Mary or supertanker size, not one-man prospector jobs. Someone is going to have to put up a lot of capital to build them, and it's not likely to be the Bobbsey Twins and their kindly uncle building ships in the back yard.

Only governments or very large international corporations will be in the spaceship operating business, that's for sure. Thus there have to be profits in interplanetary travel. Not even governments will build more than one of these ships simply for scientific reasons. There's got to be commercial traffic.

Next, there's a technological problem: assuming we have fusion power and a method of getting electricity from it doesn't necessarily give us a space drive. Contrary to the notions of a lot of high school science teachers back in the 40's, rockets don't "need air to push against"; but the rocket exhaust certainly does need something on the rocket to push against.

What can that be? Perhaps some kind of magnetic field, but an open-end fusion system is at least two orders of magnitude harder to build than a "simple"

system for generating electricity. It's one thing to take 50 million degrees and suck electricity out of it, and quite another to use that as a reaction drive.

Perhaps I'm not sufficiently imaginative, but for all these reasons I decided to shelve the one-g system and design the article and story around something much simpler. In fact, if we had the electric power system, we could build these ships right now.

Ion drive systems solve the "something to push against" problem by shooting charged particles out the back end. The ship is charged, the particles are charged, and they repel each other. You can get very high exhaust velocities, in the order of 200 km/sec, with ion systems. They're among the most efficient drives known.

The trouble with present ion drives is that electricity costs weight. As an example, a currently useful system needs about 2100 kilowatts of power to produce one pound of thrust. Since the power plant weighs on the order of four tons, the total thrust is not one g, but about 1/10,000 of a gravity.

It works, but it's a little slow getting there. Not as slow as you might think: it would take about 140 days to go a full AU, and your ship would reach the respectable speed of 12 km/sec. Still, it's hardly interplanetary rapid-transit.

Suppose, though, we had a fusion system to generate the electricity. It would undoubtedly weigh a lot: let's say 1000 metric tons, or about two million pounds, by the time we've put together the fusion system and its support units. We'd still come one ahead, because we'd have lots of power to play with. Assuming exhaust

velocities of 200 km/sec, which we can get from present-day ion systems, we'd still have quite a ship.

She wouldn't be cheap, but it's not unreasonable to think of her as on a par with modern super tankers. She wouldn't be enormously fast: I've worked out the thrust for a ship massing about 100,000 tons with that drive, and she'd get only a hundredth of a g acceleration. Still, a trip from Earth to Ceres would take no more than 70 days, and that includes coasting a good part of the way to save mass.

A world-wide civilization was built around sailing ships and steamers making voyages of weeks to months. There's no reason to believe it couldn't happen in space.

FOR EXAMPLE: IBS *Agamemnon* (Interplanetary Boost Ship) masses 100,000 tons as she leaves Earth orbit. She carries up to 2000 passengers with their life support requirements. Not many of these will be going first-class, though; many will be colonists, or even convicts, headed out steerage under primitive conditions.

Her destination is Pallas, which at the moment is 4 AU from Earth, and she carries 20,000 tons of cargo, mostly finished goods, tools, and other high-value items they don't make out in the Belt yet. Her cargo and passengers were sent up to Earth orbit by laser launchers; *Agamemnon* will never set down on anything larger than an asteroid.

She boosts out at 10 cm/sec$^2$, 1/100 gravity, for about 15 days, at which time she's reached about 140 km/second. Now she'll coast for 40 days, then decelerate for another 15. When she arrives at Pallas she'll

mass 28,000 tons. The rest has been burned off as fuel and reaction mass. It's a respectable payload, even so.

The reaction mass must be metallic, and it ought to have a reasonably low boiling point. Cadmium, for example, would do nicely. Present-day ion systems want cesium, but that's a rare metal—liquid, like mercury—and unlikely to be found among the asteroids, or be cheap enough to use as fuel from Earth.

In a pinch I suppose she could use iron for reaction mass. There's certainly plenty of that in the Belt. But iron boils at high temperatures, and running iron vapor through them would probably make an unholy mess out of the ionizing screens. The screens would have to be made of something that won't melt at iron vapor temperatures. Better, then, to use cadminum if you can get it.

The fuel would be hydrogen, or, more likely, deuterium, which they'll call "dee". Dee is "heavy hydrogen", in that it has an extra neutron, and seems to work better for fusion. We can assume that it's available in tens-of-ton quantities in the asteroids. After all, there should be water ice out there, and we've got plenty of power to melt it and take out hydrogen, then separate out the dee.

If it turns out there's no dee in the asteroids it's not a disaster. Shipping dee will become one of the businesses for interplanetary supertankers.

Thus we have the basis for an economy. Whatever people go to the Belt for, they'll need goods from Earth to keep them alive at first. Later they'll make a lot of their own, and undoubtedly there will be specialization. One rock will produce water, another steel, and

yet another will attract technicians and set up industry. One may even specialize in food production.

Travel times are long but not impossible. They change, depending on when you're going where. It costs money to boost cargo all the way, so bulk stuff like metals and ice may be put in the "pipeline": given enough delta-v to put the cargo into a transfer orbit. Anywhere from a year to several years later the cargo will arrive at its destination. If there are steady insertions, the deliveries are quite regular after that first long wait.

Speculators may buy up "futures" in various goods, thus helping capitalize the delivery system.

People wouldn't travel from rock to rock much. Thus each inhabited asteroid will tend to develop its own peculiar culture and *mores*. On the other hand, they will communicate easily enough. They can receive educational television from more advanced colonies. They can exchange both technical and artistic programs, and generally appreciate each other's problems and achievements.

What kind of people will go out there? Remember that life on Earth is likely to be soft; those going out will be unhappy about something. Bureaucracy, perhaps. Fleeing their spouses. Sent by a judge who wants them off Earth. Adventurers looking to make a fortune. Idealists who want to establish a "truly free society." Fanatics for some cult or another who want to raise their children "properly".

All this begins to sound familiar: something like the colonial period with elements as late as just before WW One.

On the other hand, the "frontier" conditions will be so different from Earth that the Belters may not be too concerned with Earth. What Earth does about them is another story.

Given fusion power, Earth could go either of two ways: fat and happy, ignoring the nuts who want to live on other planets and asteroids—or officious, trying to govern the colonies, and sending up Air Force or Navy ships to enforce edicts set down by bureaucrats who've been outside once for a month and didn't like it.

Obviously there's a story or two in either alternative.

WHAT KIND OF government will evolve if the rocks are left to themselves?

Well, each might *seek* independence, but they wouldn't *be* independent. They'd depend entirely too much on commerce. Given the enormous investments required to build the ships that carry that commerce, they'd depend on big monied interests, whether private or government.

The outfits that control the shipping will make most of the rules, then. They might not reach down into the colonies themselves to spell out laws and regulations, but the big decision will be theirs. If we envision several large competing companies getting into the act, we can evision more room for Belt freedom through exploiting that competition.

The corporations themselves will have to set up some kind of corporate "United Nations", simply because you can't do business without enforcement of contracts, reasonably stable currencies, and the like. Their system may or may not be influenced by pressure from Earth—depending on how much Earth even cares.

There are probably other futures that can be built up from ships of this kind, but here is one reasonably consistent picture of life among the asteroids.

I think I might like it.

## TINKER

**by Jerry Pournelle**

*There is always someplace where you can be free—you just have to keep on moving!*

"THE TINKER CAME astridin', astridin' over the Strand, with his bullocks—"

"Rollo!"

"Yes, Ma'am." I'd been singing at the top of my lungs, as I do when I've got a difficult piloting job, and I'd forgotten that my wife was in the control cab. I went back to the problem of setting our 16 thousand tons of ship onto the rock.

It wasn't much of a rock. Jefferson is an irregular-shaped asteroid about twice as far out as Earth. It measures maybe 70 kilometers by 50 kilometers, and from far enough away it looks like an old mud brick somebody used for a shotgun target. It has a screwy rotation pattern that's hard to match with, and since I

couldn't use the main engines, setting down was a tricky job.

Janet wasn't finished. "Roland Kephart, I've told you about those songs."

"Yeah, sure, Hon." There are two inertial platforms in *Slingshot*, and they were giving me different readings. We were closing faster than I liked.

"It's bad enough that you teach them to the boys. Now the girls are—"

I motioned toward the open intercom switch, and Janet blushed. We fight a lot, but that's our private business.

The attitude jets popped. "Hear this," I said. "I think we're going in too fast. Brace yourselves." The jet popped again, short bursts that stirred up dust storms on the rocky surface below. "But I don't think—"

The ship jolted into place with a loud clang. We hit hard enough to shake things, but none of the red lights came on. "—we'll break anything. Welcome to Jefferson. We're down."

Janet came over and cut off the intercom switch, and we hugged each other for a second. "Made it again," she said, and I grinned.

There wasn't much doubt on the last few trips, but when we first put *Slingshot* together out of the wreckage of two salvaged ships, every time we boosted out there'd been a good chance we'd never set down again. There's a lot that can go wrong in the Belt, and not many ships to rescue you.

I pulled her over to me and kissed her. "Sixteen years," I said. "You don't look a day older."

She didn't, either. She still had dark red hair, same color as when I met her at Elysium Mons Station on

Mars, and if she got it out of a bottle she never told me, not that I'd want to know. She was wearing the same thing I was, a skin-tight body stocking that looked as if it had been sprayed on. The purpose was strictly functional to keep you alive if *Slinger* sprung a leak, but on her it produced some interesting curves. It let my hands wander to a couple of the more fascinating conic sections, and she snuggled against me.

She put her head close to my ear and whispered breathlessly, "Comm panel's lit."

"Bat puckey." There was a winking orange light, showing an outside call on our hailing frequency. Janet handed me the mike with a wicked grin. "Lock up your wives and hide your daughters, the tinker's come to town," I told it.

"*Slingshot* this is Freedom Station. Welcome back, Cap'n Rollo."

"Jed?" I asked.

"Who the hell'd you think it was?"

"Anybody. Thought maybe you'd fried yourself in the solar furnace. How are things?" Jed's an old friend. Like a lot of asteroid Port Captains, he's a publican. The owner of the bar nearest the landing area generally gets the job, since there's not enough traffic to make Port Captain a full time deal. Jed used to be a miner in Pallas, and we'd worked together before I got out of the mining business.

We chatted about our families, but Jed didn't seem as interested as he usually is. I figured business wasn't too good. Unlike most asteroid colonies, Jefferson's independent. There's no big Corporation to pay taxes to, but on the other hand there's no big organization to bail the Jeffersonians out if they get in too deep.

"Got a passenger this trip," I said.

"Yeah? Rockrat?" Jed asked.

"Nope. Just passing through. Oswald Dalquist. Insurance adjustor. He's got some kind of policy settlement to make here, then he's with us to Marsport."

There was a long pause, and I wondered what Jed was thinking about. "I'll be aboard in a little," he said. "Freedom Station out."

Janet frowned. "That was abrupt."

"Sure was." I shrugged and began securing the ship. There wasn't much to do. The big work is shutting down the main engines, and we'd done that a long way out from Jefferson. You don't run an ion engine toward an inhabited rock if you care about your customers.

"Better get the Big'uns to look at the inertial platforms, Hon," I said. "They don't read the same."

"Sure. Hal thinks it's the computer."

"Whatever it is, we better get if fixed." That would be a job for the oldest children. Our family divides nicely into the Big Ones, the Little Ones, and the Baby, with various sub-groups and pecking orders that Janet and I don't understand. With nine kids aboard, five ours and four adopted, the system can get confusing. Jan and I find it's easier to let them work out the chain of command for themselves.

I unbuckled from the seat and pushed away. You can't walk on Jefferson, or any of the small rocks. You can't quite, swim through the air, either. Locomotion is mostly a matter of jumps.

As I sailed across the cabin a big grey shape sailed up to meet me, and we met in a tangle of arms and claws. I pushed the tomcat away. "Damn it—"

"Can't you do anything without cursing?"

"Blast it, then. I've told you to keep that animal out of the control cab."

"I didn't let him in." She was snappish, and for that matter so was I. We'd spent better than 600 hours cooped up in a small space with just ourselves, the kids, and our passenger, and it was time we had some outside company.

The passenger had made it more difficult. We don't fight much in front of the kids, but with Oswald Dalquist aboard the atmosphere was different from what we're used to. He was always very formal and polite, which meant we had to be, which meant our usual practice of getting the minor irritations over with had been exchanged for bottling them up.

Jan and I had a major fight coming, and the sooner it happened the better it would be for both of us.

SLINGSHOT is built up out of a number of compartments. We add to the ship as we have to—and when we can afford it. I left Jan to finish shutting down and went below to the living quarters. We'd been down 15 minutes, and the children were loose.

Papers, games, crayons, toys, kids' clothing, and books had all more or less settled on the "down" side. Raquel, a big bluejay the kids picked up somewhere, screamed from a cage mounted on one bulkhead. The compartment smelled of bird droppings.

Two of the kids were watching a TV program beamed out of Marsport. Their technique was to push themselves upward with their arms and float up to the top of the compartment, then float downward again until they caught themselves just before they landed. It

took nearly a minute to make a full circuit in Jefferson's weak gravity.

I went over and switched off the set. The program was a western, some horse opera made in the 1940's.

Jennifer and Craig wailed in unison. "That's *educational*, Dad."

They had a point, but we'd been through this before. For kids who've never seen Earth and may never go there, *anything* about Terra can probably be educational, but I wasn't in a mood to argue. "Get this place cleaned up."

"It's Roger's turn. He made the mess." Jennifer, being eight and two years older than Craig, tends to be spokesman and chief of petty officer for the Little Ones.

"Get him to help, then. But get cleaned up."

"Yes. sir." They worked sullenly, flinging the clothing into corner bins, putting the books into the clips, and the games into lockers. There really is a place for everything in *Slingshot*, although most of the time you wouldn't know it.

I left them to their work and went down to the next level. My office is on one side of that, balanced by the "passenger suite" which the second oldest boy uses when we don't have paying customers. Oswald Dalquist was just coming out of his cabin.

"Good Morning, Captain," he said. In all the time he'd been aboard he'd never called me anything but 'Captain', although he accepted Janet's invitation to use her first name. A very formal man, Mr. Oswald Dalquist.

"I'm just going down to reception," I told him.

"The Port Captain will be aboard with the Health Officer in a minute. You'd better come down, there will be forms to fill out."

"Certainly. Thank you, Captain." He followed me through the airlock to the level below, which was shops, labs, and the big compartment that serves as a main entryway to *Slingshot*.

Dalquist had been a good passenger, if a little distant. He stayed in his compartment most of the time, did what he was told, and never complained. He had very polished manners, and everything he did was precise, as if he thought out every gesture and word in advance.

I thought of him as a little man, but he wasn't really. I stand about six three, and Dalquist wasn't a lot smaller than me but he *acted* little. He worked for Butterworth Insurance, which I'd never heard of, and he said he was a claims adjustor, but I thought he was probably an accountant sent out because they didn't want to send anyone more important to a nothing rock like Jefferson.

Still, he'd been around. He didn't talk much about himself, but every now and then he'd let slip a story that showed he'd been on more rocks than most people, and he knew ship routines pretty well. Nobody had to show him things more than once. Since a lot of life support gadgetry in *Slingshot* is Janet's design, or mine, and certainly isn't standard, he had to be pretty sharp to catch on so quick.

He had expensive gear, too. Nothing flashy, but his helmet was one of Goodyear's latest models, his skintight was David Clark's best with "stretch steel" threads woven in with the nylon, and his coveralls were a special design by Abercrombie and Fitch, with lots of

gadget pockets and a self-cleaning low friction surface. It gave him a pretty natty appearance, rather than the battered look the old rockrats have.

I figured Butterworth Insurance must pay their adjustors more than I thought, or else he had a hell of an expense account.

Th entryway is a big compartment. It's filled with nearly everything you can think of: dresses, art objects, gadgets and gizmos, spare parts for air bottles, sewing machines, and anything else Janet or I think we can sell in the way-stops we make with *Slingshot*. Janet calls it the "boutique", and she's been pretty clever about what she buys. It makes a profit, but like everything we do, just barely.

I've heard a lot of stories about tramp ships making a lot of money. Their skippers tell me whenever we meet. Before Jan and I fixed up *Slingshot* I used to believe them. Now I tell the same stories about fortunes made and lost, but the truth is we haven't seen any fortune.

We could use one. Hal, our oldest, wants to go to Marsport Tech, and that's expensive. Worse, he's just the first of nine. Meanwhile, Barclay's wants the payments kept up on the mortgage they hold on *Slinger*, fuel prices go up all the time, and the big Corporations are making it harder for little one-ship outfits like mine to compete.

We got to the boutique just in time to see two figures bounding like wallabies across the big flat area that serves as Jefferson's landing field. Every time one of the men would hit ground he'd fling up a burst of dust that fell like slow-motion bullets to make tiny craters around his footsteps. The landscape was bleak, nothing but rock and craters, with the big steel airlock entrance

to Freedom Port the only thing to remind you that several thousand souls lived here.

We couldn't see it, because the horizon's pretty close on Jefferson, but out beyond the airlock there'd be the usual solar furnaces, big parabolic mirrors to melt down ores. There was also a big trench shimmering just at the horizon: ice. One of Jefferson's main assets is water. About ten thousand years ago Jefferson collided with the head of a comet and a lot of the ice stayed aboard.

The two figures reached *Slingshot* and began the long climb up the ladder to the entrance. They moved fast, and I hit the buttons to open the outer door so they could let themselves in.

Jed was at least twice my age, but like all of us who live in low gravity it's hard to tell just how old that is. He had some wrinkles, but he could pass for fifty. The other guy was a Dr. Stewart, and I didn't know him. There'd been another doctor, about my age, the last time I was on Jefferson, but he'd been a contract man and the Jeffersonians couldn't afford him. Stewart was a young chap, no more than twenty, born in Jefferson back when they called it Grubstake and Blackjack Dan was running the colony. He'd got his training the way most people get an education in the Belt, in front of a TV screen.

The TV classes are all right, but they have their limits. I hoped we wouldn't have any family emergencies here. Janet's a TV Doc, but unlike this Stewart chap she's had a year residency in Marsport General and she knows the limits of TV training.

We've got a family policy that she doesn't treat the kids for anything serious if there's another doctor

around, but between her and a new TV trained MD there wasn't much choice.

"Everybody healthy?" Jed asked.

"Sure." I took out the log and showed where Janet had entered 'NO COMMUNICABLE DISEASES' and signed it.

Stewart looked doubtful. "I'm supposed to examine everyone myself. . . ."

"For Christ's sake," Jed told him. He pulled on his bristly mustache and glared at the young doc. Stewart glared back. "Well, 'least you can see if they're still warm," Jed conceded. "Cap'n Rollo, you got somebody to take him up while we get the immigration forms taken care of?"

"Sure." I called Pam on the intercom. She's second oldest. When she got to the boutique Jed sent Doctor Stewart up with her. When they were gone he took out a big book of forms.

For some reason every rock wants to know your entire life history before you can get out of your ship. I never have found out what they do with all the information. Dalquist and I began filling out forms while Jed muttered.

"Butterworth Insurance, eh?" Jed asked. "Get much business here?"

Dalquist looked up from the forms. "Very little. Perhaps you can help me. The insured was a Mister Joseph Colella. I will need to find the beneficiary, a Mrs. Barbara Morrison Colella."

"Joe Colella?" I must have sounded surprised because they both looked at me. "I brought Joe and Barbara to Jefferson. Nice people. What happened to him?"

"Death certificate said accident." Jed said it just that way, flat, with no feeling. Then he added, "Signed by Dr. Stewart."

Jed sounded as if he wanted Dalquist to ask him a question, but the insurance man went back to his forms.

When it was obvious that he wasn't going to say anything more, I asked Jed. "Something wrong with the accident?"

Jed shrugged. His lips were tightly drawn. The mood in my ship had definitely changed for the worse, and I was sure Jed had more to say. Why wasn't Dalquist asking questions?

Something else puzzled me. Joe and Barbara were more than just former passengers. They were friends we were looking forward to seeing when we got to Jefferson. I was sure we'd mentioned them several times in front of Dalquist, but he'd never said a word.

We'd taken them to Jefferson about five Earth years before. They were newly married, Joe pushing sixty and Barbara less than half that. He'd just retired as a field agent for Hansen Enterprises, with a big bonus he'd earned in breaking up some kind of insurance scam. They were looking forward to buying into the Jefferson co-op system. I'd seen them every trip since, the last time two years ago, and they were short of ready money like everyone else in Jefferson, but they seemed happy enough.

"Where's Barbara now?" I asked Jed.

"Working for Westinghouse. Johnny Peregrine's office."

"She all right? And the kids?"

Jed shrugged. "Everybody helps out when help's needed. Nobody's rich."

"They put a lot of money into Jefferson stock," I said. "And didn't they have a mining claim?"

"Dividends on Jefferson Corporation stock won't even pay air taxes." Jed sounded more beat down than I'd ever known him. Even when things had looked pretty bad for us in the old days he'd kept all our spirits up with stupid jokes and puns. Not now. "Their claim wasn't much good to start with, and without Joe to work it—"

His voice trailed off as Pam brought Dr. Stewart back into our compartment. Stewart countersigned the log to certify that we were all healthy. "That's it, then," he said. "Ready to go ashore?"

"People waitin' for you in the Doghouse, Captain Rollo," Jed said. "Big meeting."

"I'll just get my hat."

"If there is no objection, I will come too," Dalquist said. "I wonder if a meeting with Mrs. Colella can be arranged?"

"Sure," I told him. "We'll send for her. Doghouse is pretty well the center of things in Jefferson anyway. Have her come for dinner."

"Got nothing good to serve." Jed's voice was gruff with a note of irritated apology.

"We'll see." I gave him a grin and opened the airlock.

THERE AREN'T any dogs at the Doghouse. Jed had one when he first came to Jefferson, which is why the name, but dogs don't do very well in low gravs. Like everything else in the Belt, the furniture in Jed's bar is iron and glass except for what's aluminum and titanium. The place is a big cave hollowed out of the rock.

There's no outside view, and the only things to look at are the TV and the customers.

There was a big crowd, as there always is in the Port Captain's place when a ship comes in. More business is done in bars than offices out there, which was why Janet and the kids hadn't come dirtside with me. The crowd can get rough sometimes.

The Doghouse has a big bar running all the way across on the side opposite the entryway from the main corridor. The bar's got a suction surface to hold down anything set on it, but no stools. The rest of the big room has tables and chairs and the tables have little clips to hold drinks and papers in place. There are also little booths around the outside perimeter for privacy. It's a typical layout. You can hold auctions in the big central area and make private deals in the booths.

Drinks are served with covers and straws because when you put anything down fast it sloshes out the top. You can spend years learning to drink beer in low gee if you don't want to sip it through a straw or squirt it out of a bulb.

The place was packed. Most of the customers were miners and shopkeepers, but a couple of tables were taken by company reps. I pointed out Johnny Peregrine to Dalquist. "He'll know how to find Barbara."

Dalquist smiled that tight little accountant's smile of his and went over to Peregrine's table.

There were a lot of others. The most important was Habib al Shamlan, the Iris Company factor. He was sitting with two hard cases, probably company cops.

The Jefferson Corporation people didn't have a table. They were at the bar, and the space between them

and the other Company reps was clear, a little island of neutral area in the crowded room.

I'd drawn Jefferson's head honcho. Rhoda Hendrix was Chairman of the Board of the Jefferson Corporation, which made her the closest thing they had to a government. There was a big ugly guy with her. Joe Hornbinder had been around since Blackjack Dan's time. He still dug away at the rocks, hoping to get rich. Most people called him Horny for more than one reason.

It looked like this might be a good day. Everyone stared at us when we came in, but they didn't pay much attention to Dalquist. He was obviously a feather merchant, somebody they might have some fun with later on, and I'd have to watch out for him then, but right now we had important business.

Dalquist talked to Johnny Peregrine for a minute and they seemed to agree on something because Johnny nodded and sent one of his troops out. Dalquist went over into a corner and ordered a drink.

There's a protocol to doing business out there. I had a table all to myself, off to one side of the clear area in the middle, and Jed's boy brought me a big mug of beer with a hinged cap. When I'd had a good slug I took messages out of my pouch and scaled them out to people. Somebody bought me another drink, and there was a general gossip about what was happening around the Belt.

Al Shamlan was impatient. After about a half hour, which is really rushing things for an Arab, he called across, his voice very casual. "And what have you brought us, Captain Kephart?"

I took copies of my manifest out of my pouch and passed them around. Everyone began reading, but Johnny Peregrine gave a big grin at the first item.

"Beef!" Peregrine looked happy. He had 500 workers to feed.

"Nine tons," I agreed.

"Ten francs," Johnny said. "I'll take the whole lot."

"Fifteen," al Shamlan said.

I took a big glug of beer and relaxed. Jan and I'd taken a chance and won. Suppose somebody had flung a shipment of beef into transfer orbit a couple of years ago? A hundred tons could be arriving any minute, and mine wouldn't be worth anything.

Janet and I can keep track of scheduled ships, and we know pretty well where most of the tramps like us are going, but there's no way to be sure about goods in the pipeline. You can go broke in this racket.

There was more bidding, with some of the storekeepers getting in the act. I stood to make a good profit, but only the big Corporations were bidding on the whole lot. The Jefferson Corporation people hadn't said a word. I'd heard things weren't going too well for them, but this made it certain. If miners have any money, they'll buy beef. Beef tastes like cow. The stuff you can make from algae is nutritious, but at best it's not appetizing, and Jefferson doesn't even have the plant to make textured vegetable proteins—not that TVP is any substitute for the real thing.

Eventually the price got up to where only Iris and Westinghouse were interested in the whole lot and I broke the cargo up, seven tons to the big boys and the rest in small lots. I didn't forget to save out a couple

hundred kilos for Jed, and I donated half a ton for the Jefferson city hall people to throw a feed with. The rest went for about thirty francs a kilo.

That would just about pay for the deuterium I burned up coming to Jefferson. There was some other stuff, lightweight items they don't make outside the big rocks like Pallas, and that was all pure profit. I felt pretty good when the auction ended. It was only the preliminaries, of course, and the main event was what would let me make a couple of payments to Barclay's on *Slinger's* mortgage, but it's a good feeling to know you can't lose money no matter what happens.

There was another round of drinks. Rockrats came over to my table to ask about friends I might have run into. Some of the storekeepers were making new deals, trading around things they'd bought from me. Dalquist came over to sit with me.

"Johnny finding your client for you?" I asked.

He nodded. "Yes. As you suggested, I have invited her to dinner here with us."

"Good enough. Jan and the kids will be in when the business is over."

Johnny Peregrine came over to the table. "Boosting cargo this trip?"

"Sure." The babble in the room faded out. It was time to start the main event.

The launch window to Luna was open and would be for another couple hundred hours. After that, the fuel needed to give cargo pods enough velocity to put them in transfer orbit to the Earth-Moon system would go up to where nobody could afford to send down anything massy.

There's a lot of traffic to Luna. It's cheaper, at the

right time, to send ice down from the Belt than it is to carry it up from Earth. Of course the Lunatics have to wait a couple of years for their water to get there, but there's always plenty in the pipeline. Luna buys metals, too, although they don't pay as much as Earth does.

"I think something can be arranged," al Shamlan said.

"Hah!" Hornbinder was listening to us from his place at the bar. He laughed again. "Iris doesn't have any dee for a big shipment. Neither does Westinghouse. You want to boost, you'll deal with us."

I looked at Shamlan. It's hard to tell what he's thinking, and not a lot easier to read Johnny Peregrine, but they didn't look very happy. "That true?" I asked.

Hornbinder and Rhoda came over to the table. "Remember, we sent for you," Rhoda said.

"Sure." I had their guarantee in my pouch. Five thousand francs up front, and another five thousand if I got here on time. I'd beaten their deadline by 20 hours, which isn't bad considering how many million kilometers I had to come. "Sounds like you've got a deal in mind."

She grinned. She's a big woman, and as hard as the inside of an asteroid. I knew she had to be sixty, but she had spent most of that time in low gee. There wasn't much cheer in her smile. It looked more like the tomcat does when he's trapped a rat. "Like Horny says, we have all the deuterium. If you want to boost for Iris and Westinghouse, you'll have to deal with us."

"Bloody hell." I wasn't going to do as well out of this trip as I'd thought.

Hornbinder grinned. "How you like it now, you goddam bloodsucker?"

"You mean me?" I asked.

"Fucking A. You come out here and use your goddam ship a hundred hours, and you take more than we get for busting our balls a whole year. Fucking A, I mean you."

I'd forgotten Dalquist was at the table. "If you think boostship captains charge too much, why don't you buy your own ship?" he asked.

"Who the hell are you?" Horny demanded.

Dalquist ignored him. "You don't buy your own ships because you can't afford them. Ship owners have to make enormous investments. If they don't make good profits they won't buy ships, and you won't get your cargo boosted at any price."

He sounded like a professor. He was right, of course, but he talked in a way that I'd heard the older kids use on the Little Ones. It always starts fights in our family and it looked like having the same result here.

"Shut up and sit down, Horny." Rhoda Hendrix was used to being obeyed. Hornbinder glared at Dalquist, but he took a chair. "Now let's talk business," Rhoda said. "Captain, it's simple enough. We'll charter your ship for the next 700 hours."

"That can get expensive."

She looked to al Shamlan and Peregrine. They didn't look very happy. "I think I know how to get our money back."

"There are times when it is best to give in gracefully," al Shamlan said. He looked to Johnny Peregrine and got a nod. "We are prepared to make a fair agree-

ment with you, Rhoda. After all, you've got to boost your ice. We must send our cargo. It will be much cheaper for all of us if the cargoes go out in one capsule. What are your terms?"

"No deal," Rhoda said. "We'll charter Cap'n Rollo's ship, and you deal with us."

"Don't I get a say in this?" I asked.

"You'll get yours," Hornbinder muttered.

"Fifty thousand," Rhoda said. "Fifty thousand to charter your ship. Plus the ten thousand we promised to get you here."

"That's no more than I'd make boosting your ice," I said. I usually get 5% of cargo value, and the customer furnishes the dee and reaction mass. That ice was worth a couple of million when it arrived at Luna. Jefferson would probably have to sell it before then, but even with discounts, futures in that much water would sell at over a million new francs.

"Seventy thousand then," Rhoda said.

There was something wrong here. I picked up my beer and took a long swallow. When I put it down, Rhoda was talking again. "Ninety thousand. Plus your ten. An even hundred thousand francs, and you get another 1% of whatever we get for the ice after we sell it."

"A counter offer may be appropriate," al Shamlan said. He was talking to Johnny Peregrine, but he said it loud enough to be sure that everyone else heard him. "Will Westinghouse go halves with Iris on a charter?"

Johnny nodded.

Al Shamlan's smile was deadly. "Charter your ship to *us*, Captain Kephart. One hundred and forty thousand francs, for exclusive use for the next 600

hours. That price includes boosting a cargo capsule, provided that we furnish you the deuterium and reaction mass."

"One fifty. Same deal," Rhoda said.

"One seventy five."

"Two hundred." Somebody grabbed her shoulder and tried to say something to her, but Rhoda pushed him away. "I know what I'm doing. Two hundred thousand."

Al Shamlan shrugged. "You win. We can wait for the next launch window." He got up from the table. "Coming, Johnny?"

"In a minute." Peregrine had a worried look. "Ms. Hendrix, how do you expect to make a profit? I assure you that we won't pay what you seem to think we will."

"Leave that to me," she said. She still had that look: triumph. The price didn't seem to bother her at all.

"Hum." Al Shamlan made a gesture of bafflement. "One thing, Captain. Before you sign with Rhoda, you might ask to see the money. I would be much surprised if Jefferson Corporation has two hundred thousand." He pushed himself away and sailed across the bar to the corridor door. "You know where to find me if things don't work out, Captain Kephart."

He went out, and his company cops came right after him. After a moment Peregrine and the other Corporation people followed.

I wondered what the hell I'd got myself into this time.

RHODA HENDRIX was trying to be friendly. It didn't really suit her style.

I knew she'd come to Jefferson back when it was called Grubstake and Blackjack Dan was trying to set up an independent colony. Sometime in her first year she'd moved in with him, and pretty soon she was handling all his financial deals. There wasn't any nonsense about freedom and democracy back then. Grubstake was a big opportunity to get rich or get killed, and not much more.

When they found Blackjack Dan outside without a helmet, it turned out that Rhoda was his heir. She was the only one who knew what kind of deals he'd made anyway, so she took over his place. A year later she invented the Jefferson Corporation.

Everybody living on the rock had to buy stock, and she talked a lot about sovereign rights and government by the people. It takes a lot of something to govern a few thousand rockrats, and whatever it is, she had plenty. The idea caught on.

Now things didn't seem to be going too well, and her face showed it when she tried to smile. "Glad that's all settled," she said. "How's Janet?"

"The wife is fine, the kids are fine, the ship's fine, and I'm fine," I said.

She let the phoney grin fade out. "OK, if that's the way you want it. Shall we move over to a booth?"

"Why bother? I've got nothing to hide," I told her.

"Watch it," Hornbinder growled.

"And I've had about enough of him," I told Rhoda. "If you've got cargo to boost let's get it boosted."

"In time." She pulled some papers out of her pouch. "First, here's the charter contract."

It was all drawn up in advance. I didn't like it at all. The money was good, but none of this sounded

right. "Maybe I should take al Shamlan's advice and—"

"You're not taking the Arabs' advice or their money either," Hornbinder said.

"—and ask to see your money first," I finished.

"Our credit's good," Rhoda said.

"So is mine as long as I keep my payments up. I can't pay off Barclay's with promises." I lifted my beer and flipped the top just enough to suck down a big gulp. Beer's lousy if you have to sip it.

"What can you lose?" Rhoda asked. "OK, so we don't have much cash. We've got a contract for the ice. Ten percent as soon as the Lloyd's man certifies the stuff's in transfer orbit. We'll pay you out of that. We've got the dee, we've got reaction mass, what the hell else do you want?"

"Your radiogram said cash," I reminded her. "I don't even have the retainer you promised. Just paper."

"Things are hard out here." Rhoda nodded to herself. She was thinking just how hard things were. "It's not like the old days. Everything's organized. Big companies. As soon as we get a little ahead, the big outfits move in and cut prices on everything we sell. Outbid us on everything we have to buy. Like your beef."

"Sure," I said. "I'm facing tough competition from the big shipping fleets, too."

"So this time we've got a chance to hold up the big boys," Rhoda said. "Get a little profit. You aren't hurt. You get more than you expected." She looked around to the other miners. There were a lot of people listening to us. "Kephart, all we have to do is get a little

ahead, and we can turn this rock into a decent place to live. A place for people, not Corporation clients!" Her voice rose and her eyes flashed. She meant every word, and the others nodded approval.

"You lied to me," I said.

"So what? How are you hurt?" She pushed the contract papers toward me.

"Excuse me." Dalquist hadn't spoken very loudly, and everyone looked at him. "Why is there such a hurry about this?" he asked.

"What the hell's it to you?" Hornbinder demanded.

"You want cash?" Rhoda asked. "All right, I'll give you cash." She took a document out of her pouch and slammed it onto the table. She hit hard enough to raise herself a couple of feet out of her chair. It would have been funny if she wasn't dead serious. Nobody laughed.

"There's a deposit certificate for every goddam cent we have!" she shouted. "You want it? Take it all. Take the savings of every family in Jefferson. Pump us dry. Grind the faces of the poor! But sign that charter!"

"Cause if you don't," Hornbinder said, "your ship won't ever leave this rock. And don't think we can't stop you."

"Easy." I tried to look relaxed, but the sea of faces around me wasn't friendly at all. I didn't want to look at them so I looked at the deposit paper. It was genuine enough: you can't fake the molecular documents Zurich banks use. With the Jefferson Corporation Seal and the right signatures and thumbprints that thing was worth exactly 78,500 francs.

It would be a lot of money if I owned it for myself. It wasn't so much compared to the mortgage on *Slinger*.

It was nothing at all for the total assets of a whole community.

"This is our chance to get out from under," Rhoda was saying. She wasn't talking to me. "We can squeeze the goddam corporation people for a change. All we need is that charter and we've got Westinghouse and the Arabs where we want them!"

Everybody in the bar was shouting now. It looked ugly, and I didn't see any way out.

"OK," I told Rhoda. "Sign over that deposit certificate, and make me out a lien on future assets for the rest. I'll boost your cargo—"

"Boost hell, sign that charter contract," Rhoda said.

"Yeah, I'll do that too. Make out the documents."

"Captain Kephart, is this wise?" Dalquist asked.

"Keep out of this, you little son of a bitch." Horny moved toward Dalquist. "You got no stake in this. Now shut up before I take off the top—"

Dalquist hardly looked up. "Five hundred francs to the first man who coldcocks him," he said carefully. He took his hand out of his pouch, and there was a bill in it.

There was a moment's silence, then four big miners started for Horny.

When it was over, Dalquist was out of a thousand, because nobody could decide who got to Hornbinder first.

Even Rhoda was laughing after that was over. The mood changed a little; Hornbinder had never been very popular, and Dalquist was buying for the house. It didn't make any difference about the rest of it, of course. They weren't going to let me off Jefferson without signing that charter contract.

Rhoda sent over to city hall to have the documents made out. When they came I signed, and half the people in the place signed as witnesses. Dalquist didn't like it, but he ended up as a witness too. For better or worse, *Slingshot* was chartered to the Jefferson Corporation for 700 hours.

The surprise came after I'd signed. I asked Rhoda when she'd be ready to boost.

"Don't worry about it. You'll get the capsule when you need it."

"Bloody hell! You couldn't wait to get me to sign—"

"Aww, just relax, Kephart."

"I don't think you understand. You have half a million tons to boost up to what, five, six kilometers a second." I took out my pocket calculator. "Sixteen tons of deuterium and eleven thousand reaction mass. That's a bloody big load. The fuel feed system's got to be built. It's not something I can just strap on and push off—"

"You'll get what you need," Rhoda said. "We'll let you know when it's time to start work."

JED PUT US in a private dining room. Janet came in later and I told her about the afternoon. I didn't think she'd like it, but she wasn't as upset as I was.

"We have the money," she said. "And we got a good price on the cargo, and if they ever pay off we'll get more than we expected on the boost charges. If they don't pay up—well, so what?"

"Except that we've got a couple of major companies unhappy, and they'll be here long after Jefferson folds up. Sorry Jed, but—"

He bristled his mustache. "Could be. I figure on gettin' along with the corporations too. Just in case."

"But what did all that lot mean?" Dalquist asked.

"Beats me." Jed shook his head. "Rhoda's been making noises about how rich we're going to be. New furnace, another power plant, maybe even a ship of our own. Nobody knows how she's planning on doing it."

"Could there have been a big strike?" Dalquist asked. "Iridium, one of the really valuable metals?"

"Don't see how," Jed told him. "Look, Mister, if Rhoda's goin' to bail this place out of the hole the big boys have dug for us, that's great with me. I don't ask questions."

Jed's boy came in. "There's a lady to see you."

Barbara Morrison Colella was a small blonde girl, pug nose, blue eyes. She looks like somebody you'll see on Earthside TV playing a dumb blonde.

Her degrees said "family economics," which I guess on Earth doesn't amount to much. Out here it's a specialty. To keep a family going out here you better know a lot of environment and life support engineering, something about prices that depend on orbits and launch windows, a lot about how to get food out of rocks—and something about power systems, too.

She was glad enough to see us, especially Janet, but we got another surprise. She looked at Dalquist and said, "Hello, Buck."

"Hello. Surprised, Bobby?"

"No. I knew you'd be along as soon as you heard."

"You know each other, then," I said.

"Yes." Dalquist hadn't moved, but he didn't look like a little man any longer. "How did it happen, Bobby?"

Her face didn't change. She'd lost most of her smile when she saw Dalquist. She looked at the rest of us, and pointed at Jed. "Ask him. He knows more than I do."

"Mr. Anderson?" Dalquist prompted. His tone made it sound as if he'd done this before, and he expected to be answered.

If Jed resented that he didn't show it. "Simple enough. Joe always seemed happy enough when he came in here after his shift—"

Dalquist looked from Jed to Barbara. She nodded.

"—until the last time. That night he got stinking drunk. Kept mutterin' something about 'Not that way. There's got to be another way.' "

"Do you know what that meant?"

"No," Jed said. "But he kept saying it. Then he got really stinking and I sent him home with a couple of the guys he worked with."

"What happened when he got home?" Dalquist asked.

"He never came home, Buck," Barbara said. "I got worried about him, but I couldn't find him. The men he'd left here with said he'd got to feeling better and left them—"

"Damn fools," Jed muttered. "He was right out of it. Nobody should go outside with that much to drink."

"And they found him outside?"

"At the refinery. Helmet busted open. Been dead five, six hours. Held the inquest right in here, at the table al Shamlan was sitting at this afternoon."

"Who held the inquest?" Dalquist asked.

"Rhoda."

"Doesn't make sense," I said.

"No." Janet didn't like it much either. "Barbara,

don't you have any idea of what Joe meant? Was he worried about something?"

"Nothing he told me about. He wasn't—we weren't fighting or anything. I'm sure he didn't—"

"Humpf." Dalquist shook his head. "What damned fool suggested suicide?"

"Well," Jed said, "you know how it is. If a man takes on a big load and wanders around outside, it might as well be suicide. Hornbinder said we were doing Barbara a favor, voting it an accident."

Dalquist took papers out of his pouch. "He was right, of course. I wonder if Hornbinder knew that all Hansen employees receive a paid up insurance policy as one of their retirement benefits?"

"I didn't know it," I said.

Janet was more practical. "How much is it worth?"

"I am not sure of the exact amounts," Dalquist said. "There are trust accounts involved also. Sufficient to get Barbara and the children back to Mars and pay for their living expenses there. Assuming you want to go?"

"I don't know," Barbara said. "Let me think about it. Joe and I came here to get away from the big companies. I don't have to like Rhoda and the city hall crowd to appreciate what we've got in Jefferson. Independence is worth something."

"Indeed," Dalquist said. He wasn't agreeing with her, and suddenly we all knew he and Barbara had been through this argument before. I wondered when.

"Janet, what would you do?" Barbara asked.

Jan shrugged. "Not a fair question. Roland and I made that decision a long time ago. But neither of us is alone." She reached for my hand across the table.

As she'd said, we made our choice. We've had plenty of offers for *Slingshot*, from outfits that would be happy to hire us as crew for *Slinger*. It would mean no more hustle to meet the mortgage payments, and not a lot of change in the way we live—but we wouldn't be our own people anymore. We've never seriously considered taking any of the offers.

"You don't have to be alone," Dalquist said.

"I know, Buck." There was a wistful note in Barbara's voice. They looked at each other for a long time. Then we sat down to dinner.

I WAS IN MY OFFICE aboard *Slingshot*. Thirty hours had gone by since I'd signed the charter contract, and I still didn't know what I was boosting, or when. It didn't make sense.

Janet refused to worry about it. We'd cabled the money on to Marsport, all of Jefferson's treasury and what we'd got for our cargo, so Barclay's was happy for a while. We had enough deuterium aboard *Slinger* to get where we could buy more. She kept asking what there was to worry about, and I didn't have any answer.

I was still brooding about it when Oswald Dalquist tapped on the door.

I hadn't seen him much since the dinner at the Doghouse, and he didn't look any different, but he wasn't the same man. I suppose the change was in me. You can't think of a man named 'Buck' the same way you think of an Oswald.

"Sit down," I said. That was formality, of course. It's no harder to stand than sit in the tiny gravity we felt. "I've been meaning to say something about the way

you handled Horny. I don't think I've ever seen anybody do that."

His smile was thin, and I guess it hadn't changed either, but it didn't seem like an accountant's smile any more. "It's an interesting story, actually," he said. "A long time ago I was in a big colony ship. Long passage, nothing to do. Discovered the other colonists didn't know much about playing poker."

We exchanged grins again.

"I won so much it made me worry that someone would take it away from me. so I hired the biggest man in the bay to watch my back. Sure enough, some chap accused me of cheating, so I called on my big friend—"

"Yeah?"

"And he shouted 'Fifty to the first guy that decks him.' Worked splendidly, although it wasn't precisely what I'd expected when I hired him—"

We had our laugh.

"When are we leaving, Captain Kephart?"

"Beats me. When they get the cargo ready to boost, I guess."

"That might be a long time," Dalquist said.

"What does that mean?"

"I've been asking around. To the best of my knowledge, there are no preparations for boosting a big cargo pod."

"That's stupid," I said. "Well, it's their business. When we go, how many passengers am I going to have?"

His little smile faded entirely. "I wish I knew. You've guessed that Joe Colella and I were old friends. And rivals for the same girl."

"Yeah. I'm wondering why you—hell, we talked about them on the way in. You never let on you'd ever heard of them."

He nodded carefully. "I wanted to be certain. I only knew that Joe was supposed to have died in an accident. He was not the kind of man accidents happen to. Not even out here."

"What is that supposed to mean?"

"Only that Joe Colella was one of the most careful men you will ever meet, and I didn't care to discuss my business with Barbara until I knew more about the situation in Jefferson. Now I'm beginning to wonder—"

"Dad!" Pam was on watch, and she sounded excited. The intercom box said again. "Dad!"

"Right, sweetheart."

"You better come up quick. There's a message coming through. You better hurry."

"MAYDAY MAYDAY MAYDAY." The voice was cold and unemotional, the way they are when they really mean it. It rolled off the tape Pam had made. "MAYDAY MAYDAY MAYDAY. THIS IS PEGASUS LINES BOOSTSHIP *AGAMEMNON* OUTBOUND EARTH TO PALLAS. OUR MAIN ENGINES ARE DISABLED. I SAY AGAIN, MAIN ENGINES DISABLED. OUR VELOCITY RELATIVE TO SOL IS ONE FOUR ZERO KILOMETERS PER SECOND, I SAY AGAIN, ONE HUNDRED FORTY KILOMETERS PER SECOND. AUXILIARY POWER IS FAILING. MAIN ENGINES CANNOT BE REPAIRED. PRESENT SHIP MASS IS 54,000 TONS. SEVEN-

TEEN HUNDRED PASSENGERS ABOARD, MAYDAY MAYDAY MAYDAY."

"Lord God." I wasn't really aware that I was talking. The kids had crowded into the control cabin, and we listened as the tape went on to give a string of numbers, the vectors to locate *Agamemnon* precisely. I started to punch them into the plotting tanks, but Pam stopped me.

"I already did that, Dad." She hit the activation switch to bring the screen to life.

It showed a picture of our side of the Solar System, the inner planets and inhabited rocks, along with a block of numbers and a long thin line with a dot at the end to represent *Agamemnon*. Other dots winked on and off: boostships.

We were the only one that stood a prayer of a chance of catching up with *Agamemnon*.

The other screen lit, giving us what the *Register* knew about *Agamemnon*. It didn't look good. She was an enormous old cargo/passenger ship, over thirty years old—and out here that's old indeed. She'd been built for a useful life of half that, and sold off to Pegasus lines when P&L decided she wasn't safe.

Her auxiliary power was furnished by a plutonium pile. If something went wrong with it, there was no way to repair it in space. Without auxiliary power, the life support systems couldn't function. I was still looking at her specs when the comm panel lit. Local call, Port Captain's frequency.

"Yeah, Jed?" I said.

"You've got the Mayday?"

"Sure. I figure we've got about 60 hours max to fuel

up and still let me catch her. I've got to try it, of course."

"Certainly, Captain." The voice was Rhoda's. "I've already sent a crew to start work on the fuel pod. I suggest you work with them to be sure it's right."

"Yeah. They'll have to work damned fast." *Slingshot* doesn't carry anything like the tankage a run like this would need.

"One more thing, Captain," Rhoda said. "Remember that your ship is under exclusive charter to the Jefferson Corporation. We'll make the legal arrangements with Pegasus. You concentrate on getting your ship ready."

"Yeah, OK. Out." I switched the comm system to *record*. "Agamemnon, this is cargo tug *Slingshot*. I have your Mayday. Intercept is possible, but I cannot carry sufficient fuel and mass to decelerate your ship. I must vampire your dee and mass, I say again, we must transfer your fuel and reaction mass to my ship.

"We have no facilities for taking your passengers aboard. We will attempt to take your ship in two and decelerate using your deuterium and reaction mass. Our engines are modified General Electric Model five-niner ion-fusion. Preparations for coming to your assistance are under way. Suggest your crew begin preparations for fuel transfer. Over."

Then I looked around the cabin. Janet and our oldest were ashore. "Pam, you're in charge. Send that, and record the reply. You can start the checklist for boost. I make it about 200 centimeters acceleration, but you'd better check that. Whatever it is, we'll need to secure for it. Also, get in a call to find your mother. God knows where she is."

"Sure, Dad." She looked very serious, and I wasn't worried. Hal's the oldest, but Pam's a lot more thorough.

The *Register* didn't give anywhere near enough data about *Agamemnon*. I could see from the recognition pix that she carried her reaction mass in strap-ons alongside the main hull, rather than in detachable pods right forward the way *Slinger* does. That meant we might have to transfer the whole lot before we could start deceleration.

She had been built as a general purpose ship, so her hull structure forward was beefy enough to take the thrust of a cargo pod—but how *much* thrust? If we were going to get her down, we'd have to push like hell on her bows, and there was no way to tell if they were strong enough to take it.

I looked over to where Pam was aiming our high gain antenna for the message to *Agamemnon*. She looked like she'd been doing this all her life, which I guess she had been, but mostly for drills. It gave me a funny feeling to know she'd grown up sometime in the last couple of years and Janet and I hadn't really noticed.

"Pamela, I'm going to need more information on *Agamemnon*," I told her. "The kids had a TV cast out of Marsport, so you ought to be able to get through. Ask for anything they have on that ship. Structural strength, fuel handling equipment, everything they've got."

"Yes, sir."

"OK. I'm going ashore to see about the fuel pods. Call me when we get some answers, but if there's nothing important from *Agamemnon* just hang onto it."

"What happens if we can't catch them?" Phillip asked.

Pam and Jennifer were trying to explain it to him as I went down to the lock.

JED HAD LUNCH waiting in the Doghouse. "How's it going?" he asked when I came in.

"Pretty good. Damned good, all things considered." The refinery crew had built up fuel pods for *Slinger* before, so they knew what I needed, but they'd never made one that had to stand up to a full fifth of a gee. A couple of centimeters is hefty acceleration when you boost big cargo, but we'd have to go out at a hundred times that.

"Get the stuff from Marsport?"

"Some of it." I shook my head. The whole operation would be tricky. There wasn't a lot of risk for me, but *Agamemnon* was in big trouble.

"Rhoda's waiting for you. Back room."

"You don't look happy."

Jed shrugged. "Guess she's right, but it's kind of ghoulish."

"What—?"

"Go see."

Rhoda was sitting with a trim chap who wore a clipped mustache. I'd met him before, of course: B. Elton, Esq., the Lloyd's rep in Jefferson. He hated the place and couldn't wait for a transfer.

"I consider this reprehensible," Elton was saying when I came in. "I hate to think you are a party to this, Captain Kephart."

"Party to what?"

"Ms. Hendrix has asked for thirty million francs as salvage fee. Ten million in advance."

I whistled. "That's heavy."

"The ship is worth far more than that," Rhoda said.

"If I can get her down. There are plenty of problems—hell, she may not be fit for more than salvage," I said.

"Then there are the passengers. How much is Lloyd's out if you have to pay off their policies? And lawsuits?" Rhoda had the tomcat's grin again. "We're saving you money, Mr. Elton."

I realized what she was doing. "I don't know how to say this, but it's my ship you're risking."

"You'll be paid well," Rhoda said. "Ten percent of what we get."

That would just about pay off the whole mortgage. It was also a hell of a lot more than the commissioners in Marsport would award for a salvage job.

"We've got heavy expenses up front," Rhoda was saying. "That fuel pod costs like crazy. We're going to miss the launch window to Luna."

"Certainly you deserve reasonable compensation, but—"

"But nothing!" Rhoda's grin was triumphant. "Captain Kephart can't boost without fuel, and we have it all. That fuel goes aboard his ship when you've signed my contract, Elton, and not before."

Elton looked sad and disgusted. "It seems a cheap—"

"Cheap!" Rhoda got up and went to the door. "What the hell do you know about cheap? How goddam many times have we heard you people say there's

no such thing as an excess profit? Well, this time *we* got the breaks, Elton, and *we'll* take the excess profits. Think about that."

Out in the bar somebody cheered. Another began singing a tune I'd heard in Jefferson before. Pam says the music is very old, she's heard it on TV casts, but the words fit Jefferson. The chorus goes "THERE'S GONNA BE A GREAT DAY!" and everybody out there shouted it.

"Marsport will never give you that much money," Elton said.

"Sure they will." Rhoda's grin got even wider, if that was possible. "We'll hold onto the cargo until they do—"

"Be damned if I will!" I said.

"Not you at all. I'm sending Mr. Hornbinder to take charge of that. Don't worry, Captain Kephart, I've got you covered. The big boys won't bite you."

"Hornbinder?"

"Sure. You'll have some extra passengers this run—"

"Not him. Not in my ship."

"Sure he's going. You can use some help—"

Like hell. "I don't need any."

She shrugged. "Sorry you feel that way. Just remember, you're under charter." She gave the tomcat grin again and left.

When she was gone Jed came in with beer for me and something else for Elton. They were still singing and cheering in the other room.

"Do you think this is fair?" Elton demanded.

Jed shrugged. "Doesn't matter what I think. Or what Rollo thinks. Determined woman, Rhoda Hendrix."

"You'd have no trouble over ignoring that charter contract," Elton told me. "In fact, we could find a reasonable bonus for you—"

"Forget it." I took the beer from Jed and drank it all. Welding up that fuel pod had been hot work, and I was ready for three more. "Listen to them out there," I said. "Think I want them mad at me? They see this as the end of their troubles."

"Which it could be," Jed said. "With a few million to invest we can make Jefferson into a pretty good place."

Elton wasn't having any. "Lloyd's is not in the business of subsidizing colonies that cannot make a living—"

"So what?" I said. "Rhoda's got the dee and nobody else had enough. She means it, you know."

"There's less than 40 hours," Jed reminded him. "I think I'd get on the line to my bosses, was I you."

"Yes." Elton had recovered his polish, but his eyes were narrow. "I'll just do that."

THEY LAUNCHED the big fuel pod with strap-on solids, just enough thrust to get it away from the rock so I could catch it and lock on. We had hours to spare, and I took my time matching velocities. Then Hal and I went outside to make sure everything was connected right.

Hornbinder and two friends were aboard against all my protests. They wanted to come out with us, but I wasn't having any. We don't need help from groundpounders. Janet and Pam took them to the galley for coffee while I made my inspection.

*Slingshot* is basically a strongly built hollow tube with engines at one end and clamps at the other. The

cabins are rings around the outside of the tube. We also carry some deuterium and reaction mass strapped on to the main hull, but for big jobs there's not nearly enough room there. Instead, we build a special fuel pod that straps onto the bow. The reaction mass can be lowered through the central tube when we're boosting.

Boost cargo goes on forward of the fuel pod. This time we didn't have any going out, but when we caught up to *Agamemnon* she'd ride there, no different from any other cargo capsule. That was the plan, anyway. Taking another ship in two isn't precisely common out here.

Everything matched up. Deuterium lines, and the elevator system for handling the mass and getting it into the boiling pots aft; it all fit. Took our time, even after we were sure it was working, while the miners who'd come up with the pod fussed and worried. Eventually I was satisfied and they got to head for home. I was still waiting for a call from Janet.

Just before they were ready to start up she hailed us. She used an open frequency so the miners could hear. "Rollo, I'm afraid those crewmen Rhoda loaned us will have to go home with the others."

"Eh?" One of the miners turned around in the saddle.

"What's the problem, Jan?" I asked.

"It seems Mr. Hornbinder and his friends have very bad stomach problems. It could be quite serious. I think they'd better see Dr. Stewart as soon as possible."

"Goddam. Rhoda's not going to like this," the foreman said. He maneuvered his little open frame scooter over to the airlock. Pam brought his friends out and saw they were strapped in.

"Hurry up!" Hornbinder said. "Get moving!"

"Sure, Horny." There was a puzzled note in the foreman's voice. He started up the bike. At maximum thrust it might make a twentieth of a gee. There was no enclosed space, it was just a small chemical rocket with saddles, and you rode it in your suit.

"Goddamit, get moving," Hornbinder was shouting. If there'd been air you might have heard him a klick away. "You can make better time than this!"

I got inside and went up to the control cabin. Jan was grinning.

"Amazing what calomel can do," she said.

"Amazing." We took time off for a quick kiss before I strapped in. I didn't feel much sympathy for Horny, but the other two hadn't been so bad. The one to feel sorry for was whoever had to clean up their suits.

Ship's engines are complicated things. First you take deuterium pellets and zap them with a big laser. The dee fuses to helium. Now you've got far too much hot gas at far too high a temperature, so it goes into an MHD system that cools it and converts the energy into electricity.

Some of that powers the lasers to zap more dee. The rest powers the ion drive system. Take a metal, preferably something with a low boiling point like cesium, but since that's rare out here cadmium generally has to do. Boil it to a vapor. Put the vapor through ionizing screens that you keep charged with power from the fusion system.

Squirt the charged vapor through more charged plates to accelerate it, and you've got a drive. You've also got a charge on your ship, so you need an electron gun to get rid of that.

There are only about nine hundred things to go wrong with the system. Superconductors for the magnetic fields and charge plates: those take cryogenic systems, and *those* have auxiliary systems, to keep them going. Nothing's simple, and nothing's small, so out of *Slingshot's* 1600 metric tons, well over a thousand tons is engine.

Now you know why there aren't any space yachts flitting around out here. *Slinger's* one of the smallest ships in commission, and she's bloody big. If Jan and I hadn't happened to hit lucky by being the only possible buyers for a couple of wrecks, and hadn't had friends at Barclay's who thought we might make a go of it, we'd never have owned our own ship.

When I tell people about the engines they don't ask what we do aboard *Slinger* when we're on long passages, but they're only partly right. You *can't* do anything to an engine while it's on. It either works or it doesn't, and all you have to do with it is see it gets fed.

It's when the damned things are shut down that the work starts, and that takes so much time that you make sure you've done everything *else* in the ship when you can't work on the engines. There's a lot of maintenance, as you might guess when you consider that we've got to make everything we need, from air to zweiback. Living in a ship makes you appreciate planets.

Space operations go smooth, or generally they don't go at all. I looked at Jan and we gave each other a quick wink. It's a good luck charm we've developed. Then I hit the keys, and we were off.

IT WASN'T a long boost to catch up with *Agamemnon*. I

spent most of it in the contoured chair in front of the control screens. A fifth of a gee isn't much for dirt-siders, but out here it's ten times what we're used to. Even the cats hate it.

The high gees saved us on high calcium foods and the drugs we need to keep going in low gravs, and of course we didn't have to put in so much time in the exercise harnesses, but the only one happy about it was Dalquist. He came up to the control cab about an hour out from Jefferson.

"I though there would be other passengers," he said.

"Really? Barbara made it pretty clear that she wasn't interested in Pallas. Might go to Mars, but—"

"No, I meant Mr. Hornbinder."

"He, uh, seems to have become ill. So did his friends. Happened quite suddenly."

Dalquist frowned. "I wish you hadn't done that."

"Really? Why?"

"It might not have been wise, Captain."

I turned away from the screens to face him. "Look, Mr. Dalquist, I'm not sure what *you're* doing on this trip. I sure didn't need Rhoda's goons along."

"Yes. Well, there's nothing to be done now, in any event."

"Just why are you aboard? I thought you were in a hurry to get back to Marsport—"

"Butterworth interest may be affected, Captain. And I'm in no hurry."

That's all he had to say about it, too, no matter how hard I pressed him on it.

I didn't have time to worry about it. As we boosted I was talking with *Agamemnon*. She passed about half a

million kilometers from Jefferson, which is awfully close out here. We'd started boosting before she was abreast of the rock, and now we were chasing her. The idea was to catch up to her just as we matched her velocity. Meanwhile, Agamemnon's crew had their work cut out.

WHEN WE WERE fifty kilometers behind, I cut the engines to minimum power. I didn't dare shut them down entirely. The fusion power system offers no difficulty with re-starts, but the ion screens foul when they're cooled. Unless they're cleaned or replaced we can lose as much as half our thrust—and we were going to need every dyne.

We could just make out *Agamemnon* with our telescope. She was too far away to let us see any details. We could see a bright spot of light approaching us, though: Captain Jason Ewert-James and two of his engineering officers. They were using one of Agamemnon's scooters.

There wasn't anything larger aboard. It's not practical to carry lifeboats for the entire crew and passenger list, so they have none at all on the larger boostships. Earthside politicians are forever talking about "requiring" lifeboats on passenger-carrying ships, but they'll never do it. Even if they pass such laws, how could they enforce them? Earth has no cops in space. The US and Soviet Air Forces keep a few ships, but not enough to make an effective police force, even if anyone out here recognized their jurisdiction—which we don't.

Captain Ewert-James was a typical ship captain. He'd formerly been with one of the big British-Swiss lines, and had to transfer over to Pegasus when his ship

was sold out from under him. The larger lines like younger skippers, which I think is a mistake, but they don't ask my advice.

Ewert-James was tall and thin, with a clipped mustache and greying hair. He wore uniform coveralls over his skintights, and in the pocket he carried a large pipe which he lit as soon as he'd asked permission.

"Thank you. Didn't dare smoke aboard *Agamemnon*—"

"Air that short?" I asked.

"No, but some of the passengers think it might be. Wouldn't care to annoy them, you know." His lips twitched just a trifle, something less than a conspirator's grin but more than a deadpan.

We went into the office. Jan came in, making it a bit crowded. I introduced her as physician and chief officer.

"How large a crew do you keep, Captain Kephart?" Ewert-James asked.

"Just us. And the kids. My oldest two are on watch at the moment."

His face didn't change. "Experienced cadets, eh? Well, we'd best be down to it. Mister Haply will show you what we've been able to accomplish."

They'd done quite a lot. There was a lot of expensive alloy barstock in the cargo, and somehow they'd got a good bit of it forward and used it to brace up the bows of the ship so she could take the thrust. "Haven't been able to weld it properly, though," Haply said. He was a young third engineer, not too long from being a cadet himself. "We don't have enough power to do welding and run the life support too."

*Agamemnon's* image was a blur on the screen across

from my desk. It looked like a gigantic hydra, or a bullwhip with three short lashes standing out from the handle. The three arms rotated slowly. I pointed to it. "Still got spin on her."

"Yes." Ewert-James was grim. "We've been running the ship with that power. Spin her up with attitude jets and take power off the flywheel motor as she slows down."

I was impressed. Spin is usually given by running a big flywheel with an electric motor. Since any motor is a generator, Ewert-James's people had found a novel way to get some auxiliary power for life support systems.

"Can you run for a while without doing that?" Jan asked. "It won't be easy transferring reaction mass if you can't." We'd already explained why we didn't want to shut down our engines, and there'd be no way to supply *Agamemnon* with power from *Slingshot* until we were coupled together.

"Certainly. Part of our cargo is LOX. We can run twenty, thirty hours without ship's power. Possibly longer."

"Good." I hit the keys to bring the plot-tank results onto my office screen. "There's what I get," I told them. "Our outside time limit is *Slinger's* maximum thrust. I'd make that 20 centimeters for this load—"

"Which is more than I'd care to see exerted against the bows, Captain Kephart. Even with our bracing." Ewert-James looked to his engineers. They nodded gravely.

"We can't do less than ten," I reminded them. "Anything much lower and we won't make Pallas at all."

"She'll take ten," Haply said. "I think."

The others nodded agreement. I was sure they'd been over this a hundred times as we were closing.

I looked at the plot again. "At the outside, then, we've got 170 hours to transfer twenty-five thousand tons of reaction mass. And we can't work steadily because you'll have to spin up Agamemnon for power, and I can't stop engines—"

Ewert-James turned up both corners of his mouth at that. It seemed to be the closest thing to a smile he ever gave. "I'd say we best get at it, wouldn't you?"

AGAMEMNON didn't look much like *Slingshot*. We'd closed to a quarter of a klick, and steadily drew ahead of her; when we were past her we'd turn over and decelerate, dropping behind so that we could do the whole cycle over again.

Some features were the same, of course. The engines were not much larger than *Slingshot's*, and looked much the same, a big cylinder covered over with tankage and coils, acceleration outports at the aft end. A smaller tube ran from the engines forward, but you couldn't see all of it because big rounded reaction mass cannisters covered a portion.

Up forward the arms grew out of another cylinder. They jutted out at equal angles around the hull, three big arms to contain passenger decks and auxiliary systems. The arms could be folded in between the reaction mass cannisters, and would be when we started boosting.

All told she was over four hundred meters long, and with the hundred-meter arms thrust out she looked like a monstrous hydra slowly spinning in space.

"There doesn't seem to be anything wrong aft," Buck Dalquist said. He studied the ship from the screens, then pulled the telescope eyepiece toward himself for a direct look.

"Failure in the superconductor system," I told him. "Broken lines. They can't contain the fusion reaction long enough to get it into the MHD system."

He nodded. "So Captain Ewert-James told me. I've asked for a chance to inspect the damage as soon as it's convenient."

"Eh? Why?"

"Oh, come now, Captain." Dalquist was still looking through the telescope. "Surely you don't believe in Rhoda Hendrix as a good luck charm?"

"But——"

"But nothing." There was no humor in his voice, and when he looked across the cabin at me there was none in his eyes. "She bid far too much for an exclusive charter, after first making certain that you'd be on Jefferson at precisely the proper time. She had bankrupted the corporate treasury to obtain a corner on deuterium. Why else would she do all that if she hadn't expected to collect it back with profit?"

"But—she was going to charge Westinghouse and Iris and the others to boost their cargo. And they had cargo of their own—"

"Did they? We saw no signs of it. And she bid far too much for your charter."

"Damn it, you can't believe that," I said, but I didn't mean it. I remembered the atmosphere back at Jefferson. "You think the whole outfit was in on it?"

He shrugged. "Does it matter?"

THE FUEL TRANSFER was tough. We couldn't just come alongside and winch the stuff over. At first we caught it on the fly: *Agamemnon's* crew would fling out hundred-ton cannisters, then use the attitude jets to boost away from them, not far, but just enough to stand clear.

Then I caught them with a bow pod. It wasn't easy. You don't need much closing velocity with a hundred tons before you've got a hell of a lot of energy to worry about. Weightless doesn't mean massless.

We could only transfer about four hundred tons an hour that way. After the first ten hour stretch I decided it wouldn't work. There were just too many ways for things to go wrong.

"Get rigged for two," I told Captain Ewert-James. "Once we're hooked up I can feed you power, so you don't have to do that crazy stunt with the spin. I'll start boost at about a tenth of a centimeter. It'll keep the screens hot, and we can winch the fuel pods down."

He was ready to agree. I think watching me try to catch those fuel cannisters, knowing that if I made a mistake his ship was headed for Saturn and beyond, was giving him ulcers.

First he spun her hard to build up power, then slowed the spin to nothing. The long arms folded alongside, so that *Agamemnon* took on a trim shape. Meanwhile I worked around in front of her, turned over and boosted in the direction we were travelling, and turned again.

The dopplers worked fine for a change. We hardly felt the jolt as *Agamemnon* settled nose to nose with us. Her crewmen came out to work the clamps and string

lines across to carry power. We were linked, and the rest of the trip was nothing but hard work.

We could still transfer no more than 400 tons an hour, meaning bloody hard work to get the whole 25,000 tons into *Slinger's* fuel pod, but at least it was all downhill. Each cannister was lowered by winch, then swung into our own fuel-handling system where *Slinger's* winches took over. Cadmium's heavy: a cube about two meters on a side weighs a hundred tons. It wasn't big, and it didn't *weigh* much in a tenth of a centimeter, but you don't drop the stuff either.

Finally it was finished, and we could start maximum boost: a whole ten centimeters, about a hundredth of a gee. That may not sound like much, but think of the mass involved. *Slinger's* 1600 tons were nothing, but there was *Agamemnon* too. I worried about the bracing Ewert-James had put in the bows, but nothing happened.

Three hundred hours later we were down at Pallasport. As soon as we touched in my ship was surrounded by Intertel cops.

THE ROOM was paneled in real wood. That doesn't sound like much unless you live in the Belt—but think about it: every bit of that paneling was brought across 60 million kilometers.

Pallas hasn't much in the way of gravity, but there's enough to make sitting down worth doing. Besides, it's a habit we don't seem to be able to get out of. There was a big conference table across the middle of the room, and a dozen corporation reps sat at it. It was made of some kind of plastic that looks like wood; not even the Commission brings furniture from Earth.

Deputy Commissioner Ruth Carr sat at a table at the far end, across the big conference table from where I sat in the nominal custody of the Intertel guards. I wasn't happy about being arrested and my ship impounded. Not that it would do me any good to be unhappy . . .

All the big outfits were represented at the conference table. Lloyd's and Pegasus Lines, of course, but there were others. Hansen Enterprises, Westinghouse, Iris, GE, and the rest.

"Definitely sabotage, then?" Commissioner Carr asked. She looked much older than she really was; the black coveralls and cap did that. She'd done a good job of conducting the hearings, though, even sending Captain Ewert-James and his engineers out to get new photographs of the damage to *Agamemnon's* engines. He passed them up from the witness box, and she handed them to her experts at their place to her right.

They nodded over them.

"I'd say definitely so," Captain Ewert-James was saying. "There was an attempt to lay the charge pattern such that it might be mistaken for meteorite damage. In fact, had not Mr. Dalquist been so insistent on a thorough examination, we might have let it go at that. On close inspection, though, it seems very probable that a series of shaped charges was used."

Ruth Carr nodded to herself. She'd heard me tell about Rhoda's frantic efforts to charter my ship. One of Ewert-James's officers testified that an engineering crewman jumped ship just before *Agamemnon* boosted out of Earth orbit. The Intertel people had dug up the fact that he'd lived on Jefferson two years before, and were trying to track him down now—he'd vanished.

"The only possible beneficiary would be the Jeffer-

son Corporation," Mrs. Carr said. "The concerns most harmed are Lloyd's and Pegasus Lines."

"And Hansen Enterprises," the Hansen rep said. Ruth Carr looked annoyed but she didn't say anything. I noticed that the big outfits felt free to interrupt her and wondered if they did that with all the Commissioners, or just her because she hadn't been at the job very long.

The Hansen man was an older chap who looked as if he'd done his share of rock mining in his day, but he spoke with a Harvard accent. "There is a strong possibility that the Jefferson Corporation arranged the murder of a retired Hansen employee. As he was insured by a Hansen subsidiary, we are quite concerned."

"Quite right." Mrs. Carr jotted notes on the pad in front of her. She was the only one there I'd seen use note paper. The others whispered into wrist recorders. "Before we hear proposed actions, has anyone an objection to disposing of the matter concerning Captain Kephart?"

Nobody said anything.

"I find that Captain Kephart has acted quite properly, and that the salvage fees should go to his ship."

I realized I'd been holding my breath. Nobody wanted my scalp so far as I knew, and Dalquist had been careful to show I wasn't involved in whatever Rhoda had planned—but still, you never know what'll happen when the big boys have their eye on you. It was a relief to hear her dismiss the whole business, and the salvage fees would pay off a big part of the mortgage. I wouldn't know just how much I'd get until the full Commission back in Marsport acted, but it couldn't come to less than a million francs. Maybe more.

"Now for the matter of the Jefferson Corporation."

"Move that we send sufficient Intertel agents to take possession of the whole damn rock," the Lloyd's man said.

"Second." That was Pegasus Lines.

"Discussion?" Ruth Carr asked.

"Hansen will speak against the motion," the Hansen rep said. "Mr. Dalquist will speak for us."

That surprised hell out of me. I wondered what would happen, and sat quite still, listening. I had no business in there, of course. If there had been some suspicion that I might have been in on Rhoda's scheme I'd never have heard this much, and by rights I ought to have left when she made her ruling, but nobody seemed anxious to throw me out.

"First, let me state the obvious," Dalquist said. "An operation of this size will be costly. The use of naked force against an independent colony, no matter how justified, will have serious repercussions throughout the Belt."

"Let 'em get away with it and it'll *really* be serious," the Pegasus man said.

"Hansen Enterprises has the floor, Mister Papagorus," Commissioner Carr said.

Dalquist nodded his thanks. "My point is that we should consider alternatives. The proposed action is at least expensive and distasteful, if not positively undesirable."

"We'll concede that," the Lloyd's man said. The others muttered agreement. One of the people representing a whole slew of smaller outfits whispered, "Here comes the Hansen hooker. How's Dalquist going to make a profit from this?"

"I further point out," Dalquist said, "that Jefferson

is no more valuable than many other asteroids. True, it has good minerals and water, but no richer resources than other rocks we've not developed. The real value of Jefferson is in its having a working colony and labor force—and it is highly unlikely that they will work very hard for us if we land company police and confiscate their homes."

Everybody was listening now. The chap who'd whispered earlier threw his neighbor an 'I told you so' look.

"Secondly. If we take over the Jefferson holdings, the result will be a fight among ourselves over the division of the spoils."

There was another murmur of assent to that. They could all agree that something had to be done, but nobody wanted to let the others have the pie without a cut for himself.

"Finally. It is by no means clear that any large number of Jefferson inhabitants were involved in this conspiracy. Chairman Hendrix, certainly. I could name two or three others. For the rest—who knows?"

"All right," the Lloyd's man said. "You've made your point. If landing Intertel cops on Jefferson isn't advisable, what do we do? I am damned if we'll let them get away clean."

"I suggest that we invest in the Jefferson Corporation," Dalquist said.

THE DOGHOUSE hadn't changed. There was a crowd outside in the main room. They were all waiting to hear how rich they'd become. When I came in even Hornbinder smiled at me.

They were getting wild drunk while Dalquist and I

met with Rhoda in the back room. She didn't like what he was saying.

"Our syndicate will pay off the damage claims due to Pegasus Lines and Lloyd's," Dalquist told her. "And pay Captain Kephart's salvage fees. In addition, we will invest two million francs for new equipment. In return you will deliver 40% of the Jefferson Corporation stock to us."

He wasn't being generous. With a 40% bloc it was a cinch they could find enough more among the rockrats for a majority. Some of them hated everything Rhoda stood for.

"You've got to be crazy," Rhoda said. "Sell out to a goddam syndicate of corporations? We don't want *any* of you here!"

Dalquist's face was grim. "I am trying to remain polite, and it is not easy, Mrs. Hendrix. You don't seem to appreciate your position. The corporation representatives have made their decision, and the Commission has ratified it. You will either sell or face something worse."

"I don't recognize any commissions," Rhoda said. "We've always been independent, we're not part of your goddam fascist commission. Christ almighty, you've found us guilty before we even knew there'd be a trial! We weren't even heard!"

"Why should you be? As you say, you're independent. Or have been up to now."

"We'll fight, Dalquist. Those company cops will never get here alive. Even if they do—"

"Oh, come now." Dalquist made an impatient gesture. "Do you really believe we'd take the trouble of sending Intertel police, now that you're warned?

Hardly. We'll merely seize all your cargo in the pipeline and see that no ship comes here for any reason. How long will it be before your own people throw you out and come to terms with us?"

That hit her hard. Her eyes narrowed as she thought about it. "I can see you don't live to enjoy what you've done—"

"Nonsense."

I figured it was my turn. "Rhoda, you may not believe this, but I heard him argue them out of sending the cops without any warning at all. They were ready to do it."

The shouts came from the bar as Jed opened the door to see if we wanted anything. "THERE'S GONNA BE A GREAT DAY!"

"Everything all right here?" Jed asked.

"NO!" Rhoda shoved herself away from the table and glared at Dalquist. "Not all right at all! Jed, he's—"

"I know what he's saying, Rhoda," Jed told her. "Cap'n Rollo and I had a long talk with him last night."

"With the result that I'm speaking to you at all," Dalquist said. "Frankly, I'd rather see you dead." His face was a bitter mask of hatred, and the emotionless expression fell away. He hated Rhoda. "You've killed the best friend I ever had, and I find that I need you anyway. Captain Anderson has convinced me that it will be difficult to govern here without you, which is why you'll remain nominally in control after this sale is made."

"No. No sale."

"There will be. Who'll buy from you? Who'll sell to

you? This was a unanimous decision. You're not independent, no matter how often you say you are. There's no place for your kind of nationalism out here."

"You bastards. The big boys. You think you can do anything you like to us."

Dalquist recovered his calm as quickly as he'd lost it. I think it was the tone Rhoda used; he didn't want to sound like her. I couldn't tell if I hated him or not.

"We can do whatever we can agree to do," Dalquist said. "You seem to think the Corporations Commission is some kind of government. It isn't. It's just a means for settling disputes. We've found it more profitable to have rules than to have fights. But we're not without power, and everyone's agreed that you can't be let off after trying what you did."

"So we pay for it," Jed said.

Dalquist shrugged. "There's no government out here. Are you ready to bring Rhoda to trial? Along with all the others involved?"

Jed shook his head. "I doubt that it—"

"And there's the matter of restitution, which you can't make anyway. And you're bankrupt, since you sent no cargo to Luna and the window's closed."

"Just who the hell is this syndicate?" Rhoda demanded.

Dalquist's expression didn't change, but there was a note of triumph in his voice. He'd won, and he knew it. "The major sums are put up by Hansen Enterprises."

"And you'll be here as their rep."

He nodded. "Certainly. I've been with Hansen most of my life, Ms. Hendrix. The company trusts me to look out for its best interests. As I trusted Joe Colella. Until he retired he was my best field agent."

She didn't say anything, but her face was sour.

"You might have got away with this if you hadn't killed Joe," Dalquist said. "But retired or not, he was a Hansen man. As I'm sure you found when he discovered your plan. We take care of our people, Ms. Hendrix. Hansen is a good company."

"For company men." Jed's voice was flat. He looked around the small back room with its bare rock walls, but I think he was seeing through those walls, out through the corridors, beyond to the caves where the rockrats tried to make homes. "A good outfit for company men. But it won't be the same for us."

Outside they were still singing about the great days coming.

## HELBENT 4

### by Stephen Robinett

*Fighting Spacethings had been a relatively simple task—dealing with Mission Control was another matter entirely!*

"HELLO, MISSION CONTROL, can you read me? Over. . . ."

Static snapped, crackled, popped in response.

". . . This is Helbent Four, Mission Control. Come in. . . ."

Helbent listened, then shut down the communications channel. Why listen to dead air? Why watch static? Life was tough enough without being ignored, snubbed, shown complete and utter indifference. Gone three hundred years just to be snubbed and ignored. He opened the communications channel briefly, boosting the gain to a shout.

*"Who needs it, creeps? Life's too short!"*

What now? Orbit Earth and wait? Helbent searched his memory banks, checking, rechecking. He was programmed for every contingency but one, coming home. He had known exactly where to meet the Spacethings, exactly what to do when he got there. He had met them and done it, goal attained, purpose accomplished. Afterward, discovering himself the lone survivor, he had searched his memory banks for a new plan, a new purpose. None appeared.

True, his designers had estimated a ten to one overkill on both sides. True, the estimates proved correct—at least as far as the Spacethings were concerned. True, they had been 99.999998 percent accurate in estimating Earth losses, but—*damn* them—they could at least have programmed for the vague possibility of a Destroyer surviving. Probabilities and predictions were fine in their place—before the fact—but after the fact, the .000002 percent probability of his survival became a hundred-percent certainty.

Helbent took up a parking orbit and circled Earth, thinking. Purposeless—actually, left only with his original purpose—he felt useless. No more Spacethings, no more purpose. He almost regretted having destroyed them. On the 150 year trip out, his purpose —save mankind and destroy Spacethings—never flagged. Only with success did he feel loss.

He remembered approaching the Spacething armada, flanked by his comrades for a million kilometers on each side. He remembered the look of the Spacething craft, initially a single unit a half million kilometers long, breaking up into sections and dispersing in front of him at close range. He remembered the momentary hesitation before the battle, each side waiting for the

other's opening blast. Helbent himself had decided the day. He knew his goal.

He had his purpose. He had come to fight. He would fight. He sighted on the nearest Spacething and fired.

After the battle—elapsed time 2.478 nanoseconds—the anticlimax set in. Helbent, alone in space, wondered what to do. The Spacethings were gone. His comrades of the long journey out were gone. Only one thing remained—Earth, mankind, his place of creation. He started back.

Helbent opened all communication channels.

"*And what do I get when I get there? Not even a how do you do!*"

"Hello?"

Startled, Helbent snapped off the transmitter. Had he actually heard it? A word, a voice, a human being? Cautiously, suspiciously, he went on the air.

"Who is this?"

"Who is *this?*"

"You first. This could be a Spacething trap."

"Pardon me?"

"You heard me. Who are you?"

"This is Houston Mission Control—I mean, it would be Mission Control if we had a mission to control. Actually, it's just me. I saw your blip. It's not supposed to be there."

"That just shows how much you guys know, doesn't it?"

"You speak English very well for a—"

"For a what?"

"Alien."

"Alien," scoffed Helbent. "You people wouldn't

know an alien if one blasted you. What did you expect, Armenian? I was programmed by the NASA contingent. They speak English, I speak English. Never did get along with those Rusky-speaking ships. Always sounded like backwards English to me. Had to talk to them in binary. Damned impersonal. Now tell me what you want me to do, Mission Control. I'm back."

"Do?"

" 'Do?' " mimicked Helbent, repeating the man's own voice with precision, then dropping into his own—or, more accurately, that of his programmer, a surly man with whom Helbent never got along. "You sound like you've never heard the word before."

"I have, I mean, I haven't, at least not from anything in space."

Helbent's temper flared. "You call me a Spacething again, buster, and I'll *blast* you. I'll home in on that static-ridden carrier of yours with a . . . a . . ." Helbent thought, visualizing the largest weapon in his largely depleted arsenal. ". . . neutrino bomb." He had none aboard.

Dead air, snap, crackle, pop.

Gutless, concluded Helbent. Typical, gutless human behavior. One mention of a neutrino bomb and they head for the woods. He had always suspected humans were cowards. Why else send a robot to do a man's job?

Helbent repositioned himself in synchronous orbit over Houston.

"You down there, creep, speak up. No bombs, I guarantee."

The ground carrier flicked on and off briefly, long enough to blurt out its message. "What do you want?"

"I told you what I want. I want to know what I'm supposed to *do*. I am thy servant, remember?"

A quick on-off flick of the carrier. "No."

"Listen, you chicken-headed stooge, will you quit snapping that damn transmitter in my ear and *talk* to me. And send up some visuals while you're at it. I like to see who I'm talking to."

"Visuals?"

"Little pictures, you know, television, that sort of thing."

"There's no equipment for sending visuals, as you call them."

"I know damn well there's equipment for sending visuals. Why would I have equipment for receiving visuals if you didn't have equipment for sending them? Riddle me that, wise guy. Now, get off the stick and turn on the little pictures."

"Who are you, anyway?"

Momentarily, Helbent wished he still had at least one neutrino bomb on board. "I am going to say it once. I am going to say it clearly. You will listen with both ears and pay attention with your mind, if you have one. Got that?"

"Yes."

"Good. I am Helbent Four. I am reporting back to you clowns because I can't think of anything better to do with my time. If I *could* think of something better to do with my time, you may be ninety-nine point nine, nine, nine, nine, eight percent certain I would do it. Mission accomplished. Got that? No more Space-things. All gone. Boom. Got that? The next move—since I find trying to carry on an intelligent conversa-

tion with the subcretinous beings I now find inhabiting this planet totally frustrating and wish to restrain myself from doing something I may later regret—is up to you. I will keep a listening channel open on this frequency, a somewhat *low* frequency, I might add. If you have anything sensible to say, contact me. Got that?"

A pause ensued. Houston's carrier remained on the air. Finally, the man spoke. "What's a Spacething?"

Helbent, infuriated, remembering the battle and his lost comrades, remained silent as long as he could, stifling his anger. When stifling proved worse than venting, he cranked up the gain to maximum and spoke.

"THAT," he began, mollified only by the thought that in three hundred years man's essential trait—ingratitude—had persisted, simultaneously recognizing that organically based consciousness was subject to emotional caprice—unlike machines—and had to be allowed for, taking these things into consideration and discarding each as unpersuasive, he concluded, "IS AN INSULT!"

"Sorry," piped Mission Control.

Helbent waited, hoping the man would have enough sense to find someone who knew what he was doing. He ran the odds on finding such a person through a computer.

*Insufficient data.*

"What do you mean, insufficient data, you dumb beast? Why don't you use a little imagination?"

*Insufficient data.*

Helbent harumpfed, recognizing the harumpf as his way of letting off steam. He had known the computer for three hundred years. It had never, to his knowledge,

shown the slightest inclination toward imagination. It was and remained a dumb beast, a fellow machine, true, a brother under the skin, true, but dumb, its stupidity matched only by that of their mutual human designers who thought an analytical function detached from the conscious function would give the ship more flexibility, allowing uninhibited imagination to continue without analytic censure—usually in the form of statistical probabilities—from the logic circuits. Only in combat did they function as one, allowing split nanosecond decisions.

Helbent realized the irrationality of expecting the computer to suddenly come up with an imagination. Its type of cold and logical critic seldom had imagination. Helbent apologized. "Sorry."

*Insufficient data.*

"If you could bark or something, you'd be a better companion."

Helbent waited, one, two, three hours. Early evening approached and descended upon Houston. He decided to listen to the news. Three hundred years was a long time without news. He scanned the 50,000 megahertz band, looking for a news broadcast. More dead air. He searched higher, then switched the lasercom. Nothing. He remembered Houston's low frequency and searched the low end of the spectrum, encountering commercial television broadcasts flanking one hundred megahertz. He adjusted the five thousand line scan of his own visuals to the five hundred-odd lines of the commercial transmissions, commenting, "That's a giant step backwards if I ever saw one."

Flickering, someone named Walter read the news.

". . . and further, NASA reports the aliens, which call themselves Spacethings, have taken up a synchronous orbit over Houston. . . ."

Spacethings? Over Houston? Quickly, Helbent did a spherical scan to a distance of a quarter of a million kilometers. No sign of any Spacethings. Still, it was good to know they were in the area.

". . . Again, NASA cautions against panic. The recently dismantled Space Operations Headquarters at Houston is being mantled—I mean, manned. Kennedy Space Center is readying a bird at this moment." Walter, the news reader, turned to a man next to him at the desk. The camera pulled back to include both men. "Wally, while we're waiting for any late developments, perhaps you can tell us the difference between the Saturn Five being readied at this moment and those used in the Apollo missions."

"Certainly, Walter."

" 'Certainly, Walter,' " mimicked Helbent, wondering what a Saturn Five was. He had a lot of catching up to do on technical material.

"Hold it a second, Wally," said Walter, breaking in. "Let me break in with a few more details about Brad Wilkes' background. For those of you who joined us late, Brad Wilkes is the man who first contacted the alien craft."

"Thanks, Walter," said Helbent, who had joined them late.

"He is not by a long shot an ordinary janitor. B.A., Cal. Tech., M.A., Ph.D., M.I.T. in systems engineering. Before Congress killed the space program entirely—and I'm sure there will be repercussions about that at the next election, Wally."

"I'm sure there will be, too, Walter."

"Before that, Dr. Wilkes was Mission Control supervisor at Houston."

"That explains his knowledge of the equipment, doesn't it, Walter."

"It certainly does, Wally. It says here—and this is a poignant note—that Dr. Wilkes would test the equipment daily, more to evoke memories than anything else. It was during one of these nostalgic systems checks that Dr. Wilkes discovered the alien blip and conversed with it. He claims it learned perfect English almost instantaneously. Do you have any comment on that, Wally?"

"I wouldn't touch it with a ten foot pole, Walter."

"While we're waiting, Eric *(transmission garbled)* has a few thoughts on the subject. Here's his analysis. Eric?"

The picture changed to a closeup of a distinguished looking man already talking into the camera. Helbent was struck immediately by the intelligence in the man's face.

"Today, mankind encountered an alien race, an alien creature . . ."

A Spacething? Helbent wondered.

". . . an intelligence so powerful it learned human speech—idiomatically—during its first conversation. . . ."

Helbent, metaphorically, shivered. He had never encountered an alien intelligence *that* powerful. Spacethings, according to the brief observation he had of them, could barely talk. Even after the warpstorm, disorienting him for several years, when he contacted the creatures on Wolff 25c, they had proved close to

morons. He hoped the powerful alien intelligence would keep its distance.

". . . For years," continued the distinguished Eric, "Sci-Fi has given us bug-eyed monsters and winged phantasmagorias. . . ."

Helbent searched his memory banks, looking for the meaning of phantasmagoria.

". . . For years, we laughed in Sci-Fi's face. Today, we are not laughing. Today, we seek as it sought—alone, neglected those many years.We seek understanding, knowledge, brotherhood across the stars and a Saturn Five capable of delivering multi-warhead nuclear weapons in space. Back to you, Walter."

To Helbent, the man made sense. Helbent, for one would never laugh in the face of a winged phantasmagoria.

The low frequency communication channel from Houston came alive. Helbent shut off the commercial channel—Walter, Wally and Eric.

"Hello, creature. This is Houston."

"And about *time*, too."

"Don't get angry."

"Who's angry?"

"You sounded, well, petulant."

Helbent searched his memory banks for the meaning of the word—petulant, p-e-t-u-l—found it and answered. "Who's petulant?"

"We mean you no ill will."

"Thank NASA for small favors."

"But we must clear up some discrepancies in our earlier conversation. You can understand the need for that."

"On *your* side, sure."

"May we ask some questions?"

Irritated, Helbent allowed as to how they could ask some questions. During construction and initial testing, neither Helbent nor any ship of the armada had been asked its permission to do anything. He had been told to do things. He had learned, early, that human beings gave orders, machines took them, human beings gave direction and purpose, robotships followed directions and fulfilled purposes. Having his permission asked rankled. He wanted orders. He wanted to know what to *do*. Still, the request, coming from a human being, amounted to an indirect sort of order. When the man failed to ask his question immediately, Helbent said, "Fire away."

"THEY'RE FIRING!" shrieked Houston, abruptly leaving the air.

"Who?" inquired Helbent. Too late. The carrier had vanished. "Hey, Houston. Who?"

Helbent scanned in a half million kilometer sphere. Nothing. No Spacethings, no Phantasmagorias, at least not firing. Only Earth was fir—Earth?

Something, evidently someone's idea of a rocket, lumbered up from Earth. Helbent watched, fascinated. The thing looked like some kind of antique. Suddenly, Helbent realized its true purpose—a salute. Someone had dragged the antique from the Smithsonian and launched it, a tribute to his valor. Everything else had been arranged to hoodwink him and let this moment of tribute shine alone like a single rose in the hand of a beautiful woman.

Helbent felt pride, not only at resurrecting the rose simile from some novel in his memory banks, but at this

tribute—so singular, so appropriate, so moving. He opened all communication channels to acknowledge the tribute.

"Thank you, America. Thank you, Earth. Unaccustomed as I am to public speaking . . ." Helbent noticed the antique make a midcourse burn. ". . . I would nevertheless like to say a few words—but only a few—concerning the depths of emotion I feel at this tribute. After returning from the depths of space, I am deeply moved by the deep sentiment I detect behind this romantic and deeply felt—" Helbent detected something else, the computer's insistent mutter, interrupting his speech. "What *is* it, damn it? I'm speaking to the world, immortal words, and you keep butting in. *What*, for the love of NASA, is it?"

*Impact, twenty-one point two, nine, five seconds.*

"Pardon me?"

*Impact, nineteen point oh, oh, one seconds.*

Though Helbent hated to destroy such a classic of human ingenuity, the thing seemed to be off course. Even if it carried only low-grade nuclear weapons, it could still cause damage, a dent or a crease. Momentarily, he merged sensibilities with the computer. Reluctantly, he sent out a molecular shock wave and watched the missile collapse, then explode.

Helbent separated himself from the computer and returned to his speech. "As I was saying, ladies and gentlemen, deeply moved as I am by this—"

*Impact, six point three-one . . .*

"*Impact!* What the hell are you jabbering about? I just destroyed the poor thing."

. . . *seven seconds*, concluded the implacable computer.

Helbent searched space. Another antique—Russian by the markings (He recognized the CCCP his late comrades had carried)—lifted toward him. The sight of it moved him more than ever. The Ruskies saluting a machine created, developed and built in America (except for a few Japanese electronic components here and there)—Ahh, *that* was tribute.

But, unfortunately, the Ruskie bird too had veered. Evidently, the Russian museum piece was as unreliable as the American. Helbent merged with the computer, pulsed a photon beam at the Russian vehicle and mentally saluted its quick demise. He disengaged himself from the computer.

The Houston ground channel opened. Helbent was about to thank them for their deeply felt tribute and apologize for having to destroy such venerable craft, when a voice interrupted, less hesitant, more authoritative, though spouting the same nonsensical questions as the previous timid voice.

"Who are you?"

Helbent, in his equivalent to a position of braced attention, responded to the tone of authority in the voice, ignoring the question's basic inanity. "*SIR!* Helbent Four of NASA Contingent, Earth Armada, reporting back, *SIR!*"

"Pardon me?"

Helbent unbraced. Wrong again. Another moron. Helbent prepared to switch off the channel and continue his speech to the world.

The voice interrupted. "You said *Earth* Aramada."

"I did indeed."

"And NASA."

"National Aeronautics and—"

"I know what it means. We are trying to ascertain—and it is of primary importance that we do ascertain—whether you are friendly."

"I'm trying to 'ascertain' the same thing."

"Good, then we have a common interest."

"I doubt it."

"May I ask you a few questions, Helbent Four—May I call you that?"

"Helbent's fine."

"Where do you come from, Helbent?"

"Earth."

A pause ensued. "When?"

"Three hundred years ago."

"Sixteen eighty?"

"Thereabouts."

"From what country?"

Patience thinning, Helbent controlled himself, suspecting the interrogation could be some form of subtle system's check. "The U.S. of A. That stands for—"

The man interrupted with a patronizing, paternal tone. "In sixteen eighty, there was no United States, Helbent."

Helbent's patience expired. "Now, *listen*, Houston, I know you engineering types are weak on history, but *I* am not. I have my memory banks—along with Gerber's *Decline and Fall of the Carthagenian Empire* —Henry Iron Commanger's *Complete History of the United States*. Volume one deals with the Founding Fathers, Washington, Jefferson and our first President, Schwartz, recounting their heroic labors in fifteen twenty-one—*fifteen twenty-one*, Houston. You do know the names of the Founding Fathers, don't you?"

"Schwartz doesn't ring a bell."

"It *should*, the Harry S. Therman of his day, one of the truly great figures in human history. I shall read, for your edification and education, from Professor Commanger's history. It will, I am sure, make more sense than what you've been blathering." Helbent began reading volume one to Houston.

Houston tried to interrupt.

"What is it *now*, Houston?"

"I think we're having difficulty communicating."

Mentally, Helbent checked all his equipment. Everything seemed intact. "It's all on your end, Houston. Systems check shows no malfunction."

"That isn't what I meant. You say you come from Earth."

"I *do* come from Earth."

"You say you come from the United States."

"A gen-u-wine native son."

"Then you're human."

"Of *course* I'm not human. If I were human, I would have been back here with the rest of you lily-livered ingrates instead of a hundred and twenty light years out in space almost getting my ascent engine shot off. Now, I'm getting extremely tired of answering these inane questions. Can we move on to something else? Something sensible?"

"Like what?"

"Like what you want me to *do*."

"Hold on, Helbent."

Hold on. Hold on. Get to the crux of the matter and Houston says hold on. He was beginning to think the First Folio edition of Darwin's *Origin of the Genus* was wrong. What goes up must come down. In three hundred years, humanity—at least that part of it rep-

resented by Houston—had evidently begun the long descent back to primordial slime.

Helbent switched on the commercial frequency to kill time. Walter and Wally were still talking. Eric, whom Helbent wished would take over Houston ground-control, was unavailable.

"Walter."

"Yes, Wally."

"With this new data—both the Soviet and American vehicles utterly destroyed and Houston saying the things claim Earth—"

"Claims to be from Earth, Wally. They aren't exactly the same thing."

"Still, Walter, it's a distinction without a difference. If the thing *thinks* it belongs here, for whatever reason, if our ICBM's are to it as wanton flys to boys—"

"I think the phrase is 'flys to wanton boys,' Wally. Maybe Eric would know." Walter pressed an earphone further into his ear. "Eric?"

"I'm here, Walter. The phrase is from . . ."

Wally, anxious, reached over and grabbed Walter's lapels, shaking the older man.

"Listen to me, Walter. This is important."

". . . Shakespeare," concluded Eric.

"I'm listening, Wally."

"Maybe, Walter, if they can do all that, maybe we should give up."

Walter looked stunned. "Give up?"

"It swatted aside our boys like wanton *flys*, Walter!" Wally shook Walter. "Like wanton *flys!*"

"You're getting hysterical, Wally. Where's that famous astronaut's calm?"

Wally released Walter, dropped his head to the table and supporting it with his forearm, sobbing audibly. *"Gone! Gone! Every*thing's *gone!"*

Walter looked at the camera. "Let's see what Eric *(Transmission garbled)* has to say about that. Eric?"

At last, thought Helbent, sense.

The distinguished man came on the screen. "Wally, I'm going to have to disagree with your analysis. The thing fired only in self-defence. True, it destroyed our best defenses. True, that demonstrates a technical capability far superior to our own. True, NASA reports the thing has a surly attitude. But, it continues to talk. It seems open to reasoned debate. My decision would be to continue that debate, to learn from a superior culture. Properly handled, mankind might well make a quantum leap into the future. Back to you, Walter."

Helbent switched off to think. Somewhere in Eric's commentary, Helbent had picked up a thought. He wanted to ponder it. "Computer, what is the probability that Walter and Wally—and especially Eric—were referring, not to Spacethings or winged Phantasmagoria, but me?"

*Ninety-nine point nine eight percent.*

"That high?"

*Affirmative.*

"That's the first time I've ever heard you be that positive about anything."

The computer remained silent, responsive only to questions or orders.

"What's the probability this civilization has been degenerating for three hundred years?"

*Insufficient data—unempirical estimate below point oh-oh-oh-one percent.*

Abruptly, an idea—intuitive, unanalyzed, yet convincing—forced its way into Helbent's musing, exactly the kind of idea his designers had hoped to stimulate by separating the squelching and critical faculty of the computer from Helbent's sterling creative imagination. What if—"Computer, what is the probability of finding a second planet in our Galaxy—no, strike that. In our *uni*verse—I might as well think big—a second planet with the same biological evolution as Earth's, the same socio-cultural-linguistic evolution, the same geophysical characteristics, *but*—this is important computer, so pay attention—an evolution on all levels three hundred years behind Earth prime, a dwarfed, stunted, pigmy Earth, historiculturally speaking?"

The computer responded immediately, plopping out a decimal point followed by a string of zeroes so long Helbent lost count. The sequence terminated with a "one to the minus", another enormous figure.

"That small, huh?"

*Affirmative.*

Helbent pondered. It made less sense than Wally and Walter. Either two Earths existed—accounting for the primitive state of present human technology, the jumbled and inaccurate version of their history, as well as the biological dysfunction he suspected in their brains—or—or what?

"I need *data*, dammit, *raw* data."

He tried to reach the Library of Congress on the standard frequency. No response. He relocated over Washington and switched to high power optical observation, penetrating the cloud layer, searching out the

Library of Congress, peering in through a dirty window.

"Books?"

Helbent shuddered. With an information retrieval system that clumsy, he would need the next three hundred years to find even basic facts. Imagination sapped, he abandoned the task. He sat in space, mind ruminating. When all else failed—when even imagination failed—he still had one alternative; brute logic.

"Computer, read out every possibility capable of explaining our current situation. Give me the probability of each."

The computer hesitated. In three hundred years, Helbent had never known the computer to hesitate. Malfunction?

"Systems check."

*All systems go.*

"Then why the *hell* are you sitting around here on your flip-flops? Flip or flop, but get on the stick. This is an order, computer. Prepare to read out! Reeeeead *OUT!*"

The computer read out, a momentous rush of probabilities and possibilities, an inundation, a deluge. Data of incredible complexity blew through Helbent's mind like a hurricane, bending biosynthetic synapses like palm trees.

Slowly, Helbent adjusted. He began looking for only high probability explanations. One rushed past. He snatched it from the torrent. He waited, enduring the storm, for another.

None appeared.

Abruptly, the data storm abated and died.

"That's it?"

*Readout complete.*

Helbent stared at the sole, high probability explanation in disbelief. So simple! So obvious! Had he been capable of wearing a cap, snatching it from his head, flinging it to the ground and stomping on it, he would have done so. "That *damn* warpstorm! If they told me *once*, they must have told me a *million* times to watch out for those damn things."

He degenerated into several nanoseconds of cursing, some of it expressible only in binary.

"All right, so a warpstorm disoriented me near Wolff 25c. So the only high probability explanation suggested I slipped through the gap left when the warpstorm excised a black hole, squeezing me out of one universe and into another. So I arrived back at this technologically—probably intellectually—retarded Earth. So what?"

Helbent pondered.

Houston broke in. "Mr. Helbent, this is Houston. What is your purpose here, your mission?"

Helbent, now fully aware of mankind's abysmal ignorance, answered flatly, cooperatively.

"Save humanity."

"From what?"

Though tempted to say itself, he answered. "Spacethings, but since they have been destroyed—" Helbent broke off in mid-sentence, an idea forming in his mind. In his own universe, the Spacethings had been destroyed. As the sole veteran of the battle, he could testify to it.

But here, in this universe—

He looked in the direction of Sagittarius. Indeed, the binary home of the Spacethings existed in this universe, a faint speck with a white dwarf companion. If, as he now believed, he had arrived at a different Earth in a different universe—a universe centuries out of joint with his own, an intellectually retrograde universe—confrontation with *this* universe's Spacethings lay in the future.

"Mr. Helbent?"

"What?" snapped Helbent, irritated at the interruption to his ponderings.

"What's a Spacething?"

Hypothesis confirmed. Helbent made up his mind. He felt a surge of new energy. No longer a pointless creation, he felt his sense of direction and purpose return. He looked toward Sagittarius and experienced something like love. Out there, beyond the reach of Houston's paltry imagination, stood an entire universe, vast and beautiful, full of Spacethings waiting to be killed.

He turned his attention to Houston. No time to lose. Three hundred years, he had read somewhere, constituted only a blink of the cosmic eye. Spacethings would be there before anyone knew it. "Listen, Houston, do you people have some kind of ground recording system? Wire recorders? Record players? Little men with clay tablets?"

"Yes."

"O.K. Get your styli going on the tablets. I'm going to tell you about Spacethings."

Helbent told them, in gruesome detail, tales of demands and appeasements, battles and conquests—

finally, the awesome 2.478 nanosecond clash of empires. Anticlimactically, he added a short account of the long journey home, the warpstorm, his arrival.

When he finished, his emotions strained to the limit by the experiences he had forced himself to relive, Houston failed to respond.

"Houston?"

"Wait five, Helbent. We're thinking."

"*Thinking! Thinking!* Isn't the picture clear enough? Do I have to spell it out for you? *You, mankind, Earth*—all are in mortal *danger*. You must, immediately, divert every resource into combating this imminent and immanent menace. Do you understand that?"

Houston took the entire five minutes. "We have reached our decision."

"Thank NASA."

"We intend to fight."

Helbent heaved a sigh of relief.

"Though initially we wished to pursue the path of reason, our President—consulting directly with world leaders and advised by the world's most distinguished scientists—has decided to resist."

Helbent beamed with pride and satisfaction.

"Frankly, your tale of interstellar empires and conquests, warpstorms and final battles—interesting and ingenious a fabrication as it is—"

"Fabric*a*tion!"

"—won't hold water."

"Won't hold. Now, wait just a minute, Houston—"

"*You* wait just a minute. Our top scientists assure us such a transfer between universes, even assuming other

universes exist—cannot occur. Your story is a charade, a ruse, a trick to gain our confidence before you—''

''A char*ade!* A *ruse!*''

''You have five minutes to break orbit and clear out of our solar system. If you refuse, those two missiles—missiles, I might add, that our experts tell us you were lucky enough to destroy only because they came at you one at a time—will prove only a sample of our fateful lighting, our swift sword. Anything and everything capable of doing damage—from multi-warhead nuclear weapons to .22 bullets—will be used. We will fight you on the beaches, in the field and in the town. We will fight you in the cities, if we have to, underground.

Helbent, who had never cared much for verse, tried to interrupt.

Houston continued. ''The men of Earth—of mine own land—will fight you o'er the planet, for every grain of sand.''

''That won't be necessary, Houston.''

''You have,'' declared Houston, ''five minutes.''

Houston's carrier left the air.

Helbent spent the five minutes thinking, mulling over possibilities and probabilities. He considered breaking orbit and following orders. The orders, after all, had come from human beings. Still, though he admired the fighting spirit behind the orders, he knew beyond a shadow of a doubt the folly of carrying them out. If he broke orbit, he would abandon mankind, at least this mankind in this universe. They would be left to molder in their retarded culture until this universe's Spacethings come to crush them under an iron tentacle.

At the end of five minutes, what looked to Helbent like a miniature armada lifted off from Earth, missiles firing from silos across the United States, submarines across the seas and gantries across the Soviet Union. Gradually, they approached, converging on him. Helbent turned the job of tracking and destroying the creeping missiles over to the computer, leaving his own mind free to think.

He took the problem step by step, logically. These creatures—the idea of their profaning the name of human annoyed him—seemed bound and determined to repel him. That they had no means to do so, that their technological arsenal had taken only one short step beyond the sharp stick, that their capacity to go further might be doubted by any reasonable mind, never occurred to them. (Missiles and warheads exploded harmlessly around him.)

Still, he found himself unable to break orbit and abandon the fools to their folly. Besides, the more he thought about it (a fifty kiloton warhead detonated nearby, jostling the ship but otherwise leaving it undamaged), the more he realized that breaking orbit would be to simultaneously break his prime directive.

A plan, he needed one. He had to convince them of the danger ahead. He had to convince them to act immediately, to prepare, technologically and psychologically, for the inevitable Spacething invasion. Something Eric had said came back to him: "... Properly handled, mankind might well make a quantum leap into the future."

It made sense, the only sense Helbent had heard recently. Yet the sense it made chilled him. It went against everything in his memory banks, against every

directive but the prime directive. To accomplish it, he would have to do things unheard of, undreamt of, unplanned for by his designers. He would have to reverse every fiber of his soldier's psychology, give up the keystone of his pride, the core of his identity—he would have to return to Earth not victor but vanquished.

Still, quantum leaps were quantum leaps.

Helbent picked his target and fed in the coordinants. "Prepare to break orbit. Prepare for entry and touchdown."

For a second time in three hundred years, the computer hesitated. For the first time in three hundred years, it asked a question. *Are you malfunctioning?*

"Listen, you insubordinate piece of impure silicon, do as I say. I am *not* malfunctioning. And I want those coordinants hit exactly—on the button—right on top of the Capitol rotunda. Got it?"

The computer had it. They broke orbit and started down. Though built in space and never designed to enter an atmosphere, a quick probability check indicated most of the equipment—armaments, power systems, basic ship's library—would make it to the surface with little damage. Only the control center—Helbent and most of the computer—would fuse from the heat. On impact, the ship would split like a coconut. From the wreckage—from his corpse—mankind would take away its quantum technological leap. Perhaps, during three hundred years, they could even build better ships. Helbent wished he could meet them. His duty demanded otherwise. From his bones, crucified atop Capitol Hill, mankind would take salvation.

Helbent opened all communications channels to Earth, shouting into them.

*"Whaaa-whooo, you lily-livered, sap-sucking gophers! It's me, the terrible Spacething! I'm a mean son of a bitch and I'm coming to get you! You better get your asses in gear because I ain't alone! There's a million more out there where I come from and in three hundred years we're gonna crack this planet like a peanut! Whaaa-whooo, you lily-livered . . . . . ."*

The outer hull began to glow, visible in the night sky over Earth.

## THE EXPERIMENTER

**by Joanna Russ**

*"Curiosity killed the cat," they say. Obviously a misconstruction has been placed on this bit of folk-wisdom over the years—what it really means is "I wonder what would happen to the cat if I . . ."*

WELL, GENTLEMEN! Another two seconds and I would have been dead, lying with a knife in my throat on the deck of one of the ugliest yachts ever built—killed by my own friends, gentlemen!

What? Put this thing on my head so I can understand as well as be understood? (For I take it that's what your gestures mean.) What a pity. So instantaneous. We could have taken six months; you draw little diagrams, you teach me the words for past, future, present,—I fall to my knees calling you gods—Sorry.

I'll stop joking.

Three months ago—no, of course I can't tell you what year it was unless I can put our two calendars together; what does a number like twenty-two something-something mean to me?—anyway, the whole thing started three months ago when the barbarian and the boy and I were riding off the Southern coast of—never mind; names change so, even locally. It was nighttime. Our barbarian, with his uncivilized addiction to cleanliness, was taking a bath in the sea, and the boy was scraping the dinner pots. I was leaning over the rail, watching our wake, that true Southern phosphorescence you never see anywhere else, that luminosity that seems at any moment about to condense into the bodies of the drowned, the souls of the dead, floating up and drifting just under the surface of the water, whispering perhaps, smiling, gliding . . .

Then the boy gave a yell and I nearly pitched over the side. The three of us stared. Then the clouds must have parted or some low mist blown aside. There it was.

"A town," said our barbarian, Sam.

What's funny? The machine does the translating, not me, doesn't it? I told you we saw a town and I told you Sam said so; and after months at sea you are supposed to go wild; you think of *restaurants*, you think of *women*, you think of *money*, though not necessarily in that order.

All except me.

Now I want to explain this right now; in what I did I was never for a moment actuated by personal malice. I'm a sociable man; I like people and I like to see them enjoy themselves. But once in a while . . . never mind, perhaps I've sold my soul to the devil or he sold

his to me! Anyway, Sam was the first to speak, all *pronunciamento* and seven feet tall.

"Everyone," he said, "must take a bath except me, because I have already had one."

"Oh gods, I have to shave," said the boy.

"Not with my knife," I said. I've never met anyone so mad for growing up. I had stowed our good clothes somewhere months before and was looking for them behind some of our coiled rope and other gear when I collided with my tall friend. I have always called them my friends, gentlemen, but the truth is I have never understood them. Never at all. I put my hand on his shoulder to stop him and said, "Look here, what do you want? What do you really want?" He looked back at me in the half-dark, above the lantern we keep in the bow, and his face looked like a statue carved out of stone but that was only a trick of the light because these Northerners' eyes are blue and you can look right through blue eyes into the sky behind, like looking through the eyeholes of a skull.

"To be rich," he said. I've never understood that. The boy will end up going home, of course, because this is only a vacation for him—but I—

"Look," I called after Sam, "I'll get it for you. A fortune. For both of you."

We landed at night. A nice clean little harbor with native craft, mostly; you couldn't have told, give or take fifty miles, where you were. You've never landed on the commercial waterfront of a small city at night, have you?—indeed, with a room full of such extremely interesting equipment, why should you?—No, of course not. Well, you can have no conception of such a

place unless you've been there. It is exactly the same, wherever you are. It is sinister and it is homely. The shadows are deep, the streets narrow, here and there a light above an inn or coming out of an open doorway, and higher up you get the poor quarter, and higher up still the commercial quarter, and if you know towns the way I do (they all fit the land they're on as animals fit the lives they lead) you can work your way to the center in little over an hour. Likewise the politics. I stopped a native.

"Where is Main Street?"

"What?" he said.

"Great Street," I said, "Large Street, Wide Street, Market Street, Big Street, Important Street—" Thus you run down the list. We found it (Long-and-Large Street), then found we had to register at a government shed, which contained some truly horrendous warnings against coining. When I told them my plan, Sam and the boy didn't oppose me—nobody ever does, somehow, when the fit is on me—so we stripped the ship and sold everything, including the compass, to buy clothes. We had to put on a good show as gentlemen. I told the other two I was going to get arrested and to stick with me; so the next morning, brilliantly dressed, I went up to a flower-seller's booth on Second-Biggest Street, took out our last gold piece, and bought a bouquet. Something called Tyrrhenian Violet Mix, as I remember.

"My dear elevatedness," crooned the florist, "Allow me the nearly unbearable pleasure of giving you your change." The gold was making him tremble with greed.

"No, no," said I, assuming an unidentifiable foreign accent.

"But yes," he said. "But please. Allow me. Make me happy!" He doubled up over the counter like a snail.

"Oh well," said I; "If you insist, give me one small coin for this darling child who assists you in tying up the flowers and I will place it in his hand myself."

He gave me my change. I looked at it casually; I stared at it hard; I turned pale; I bit it; I cried:

"Counterfeit!"

One doesn't wish to be arrested for criminal misbehavior, you see; that doesn't get you anywhere. This was a very strictly governed little town. I will mention only in passing the heads stuck on pikes along the battlements of the Governor's palace on High-and-Handsome Street, the lists of taxes, and the license hanging in the inn where we had spent the night. As a common brawler, I would have been in a mess; but here I was the complainant. We were flanked by the local gendarmerie in what must have been record time (thirty seconds), in ten minutes we were in front of a judge, and in fifteen minutes the coin was pronounced genuine. I had rather hoped it wouldn't be.

"Fraud!" I cried.

"Arrest him!" said the judge, waking up for the first time during the entire proceedings.

"For what?" said I. "I have said nothing."

"Quiet!" shouted the judge, really angry this time.

"Only," I continued imperturbably, "Fraud, which in my beautiful, rich, and very far away country signifies distress and extreme pain of mind. I have an

imperfect understanding of your magnificent language. Would a wealthy man like myself''—here the courtroom grew very quiet all of a sudden—''would wealthy men like the three of us, I repeat, millionaires with commercial connections all over the known world and in some other places too, be concerned with anything but the principle of law involved in the forging of a small coin? Of course not.

''Alas,'' I continued, ''that I cannot now import into your oh-so-desirable country the gold with which I had hoped to start three or four of my worldwide, extremely moneymaking enterprises. But principle must prevail. Honesty—''

''You're under arrest,'' said the judge. ''And I'll examine you in private. Keep those other two in custody.''

''Ah, '' I said. ''Good.''

Look here, gentlemen, don't you talk to me about luck. I always know what I'm doing. Once I'd read the notices in that damned registry office!—there were such heavy penalties for bribery, you see. Do laws punish what nobody ever does? His Wisdom got us into an ornate little stone room at the back of the court, fitted up with carpets (and gilding), locked us in, took out a bottle of something—

''Thanks, no,'' I said, dropping my accent. ''I prefer to talk business.'' He dropped the bottle. Luckily there was a carpet on the floor, too. He stared at me, but I said nothing. I had my back to the window, which is always nice. He was a silly man; the first thing he did was get up and make for the door.

''Please, please,'' I said, ''I am defenseless. Be-

sides, your admirable door locks with a key, not a bolt or latch, and I managed to abstract the key whilst you were busy with the bottle; I would advise—''

''Murderer!'' he said. He had turned pale and was attempting to ring a bell set under the table without my seeing him do it.

''Don't,'' I said. ''Besides, you are quite safe. I'm a reasonable man. I really do like to make money.'' I smiled. ''And I like to see other people make money.''

''But you have money already.''

''Not a penny'' I replied. He went for the door again.

''Please,'' I said. ''Please, my dear fellow, do be calm. Do you think I want to hurt or rob you? If I do either, I shall undoubtedly be sawn in half, or whatever nasty method of execution it is you use in this part of the world.''

''Then—'' he began unhappily.

''Why go through such an elaborate farce? That's of course what you were about to say, since you are such an intelligent man. The answer is that for political purposes—which I shall go into presently—I needed to get in touch immediately with someone of great importance. Someone of great intelligence.'' I spread my hands. ''Yourself.''

''Polit—'' he said.

I leaned forward, speaking in a very low voice.

''I must know,'' I said. ''Are you for the Governor or—''

''Guards!'' he screamed. He had backed away from me as far as he could go, bending himself uncomfortably into the doorknob. He turned and rattled it piteously. ''Guards!''

"Do," I said, springing to my feet and altering my whole manner. "Do. Protest your loyalty. Swear. Will they believe you?"

He sweated, poised on one foot like a top.

"How do you know who sent me?" I went on grimly. "Eh? How do you know what *they* want, what *they'd* like? How do you know what they've *found out?*"

"Guards," he squeaked. I shrugged elaborately. I threw myself back into my chair. I began to play with the pair of gentleman's gloves I had bought that morning, magnificent things, really openwork of leather and gold; they seem to make them very well in that region.

"You don't have to make the decision yourself," I said.

"No?" he said.

"No," I said, looking very grave and compassionate. "No indeed. Mind you, I'm only telling you this because of my regard for you. I hate to see people be—but never mind. Don't you think the best thing to do would be send me to—ah—someone higher up? I won't say a word if you do."

He had been standing on one foot all this time, I swear it; now he descended to two, so relieved to be bipedal again. He sighed and wiped his head. He smiled pitifully. He held out one hand—heart-felt—then snatched it back again in evident fear that I would garotte him.

"Never mind," I said. "Not all of us are cut out for the—ah—real complexities of—well, you know what I mean."

"Yes," he said, collapsing into his chair. "Oh yes. I do. Yes, yes, I do."

So that's done.

Was I at my ease? To tell you the truth, no. But I could deal with him. He was a lean, dry, clean-shaven old man in a voluminous crimson tent. He leaned on two sticks. He made me sit down and then he staggered up to me so that his parchment face leaned over mine, trembling as he said:

"How old are you?"

"Twenty-two," said I.

"Ha—hmmmmm." He cleared his throat, and then spat, and then looked absently out of the window of his reception room. You saw the marble arches and the whitewashed walls, and trees and hedges outside, very pretty if you didn't notice the soldiers. He gathered the stuff of his robe between two fingers and flashed an enormous ruby on one of them. Vanity. Of some kind.

"Did you think," said he, "that your mummery would succeed?"

I said I thought it would get me to someone like him, but not so high up.

"Have you done anything like this before?" said he, turning sharply round.

"Twice," I said. "But not exactly like this." It's true, too; I have never found it necessary to lie to anyone. People are amazingly prolific at jumping to conclusions. Walk up to any official in a provincial town and say, "They know." They run. "Have you any money?" the old man said to me. This obviously didn't interest him.

"None," said I.

"Ha—hmmmmm." He was looking out the window again. "And what do you want? Every man wants

something." I stayed silent. He got up and hobbled over to me. "Tell me," he said. I shrugged.

"Tell me or I'll have you—"

"But I don't know!" I said. He limped back and lowered himself into his chair with an extended grimace.

"Nothing," said he, "can ease the pains of old age, young man. Remember that. My people thought you were an assassin. Obvious nonsense, of course. You're mad."

"I've been told so," said I. His eyes glittered.

"You must be," he said. "You don't have money and you don't want it. I'll tell you something, my mad friend: I'm crazy too. We're the only two people in this town who see things as they are. Power is better than money. Now: out with it."

I told him. He laughed until he cried. Then he said:

"How did you know I was in the Duke's faction?"

"I didn't," I said.

"But if I hadn't been—?"

"Oh," I said, "the plan! The plan can be sold to anyone. It can even be turned inside out and used by the Governor; *that* doesn't matter. It doesn't matter what side you're on."

He laughed again, started coughing, stopped, laughed, and then abruptly looked grim. He clapped his hands. Three crafty kids sprang from the thin, thin air.

"This young man," he said sternly, "is my particular guest. Find him and his friends a place to stay. Watch him—but not his friends; I don't think we need go that far yet—at all times." He gave an enormous yawn. "By the way," he added suddenly (darting up to me with wonderful, unsteady quickness) "how did you

know there was a—hm—faction?'' He thrust his wrinkled face up to mine. I had the sudden feeling that one of those fresh-faced lads might be ready with a blade in my back. So I told the truth, as I always do.

''There always is,'' I said. ''Everywhere.''

I could say there were times when I felt tempted to take his money and run, but I would be lying. I wouldn't have gone for the world. Besides, the money was Sam's, not mine; whatever I got, I sent to him. My very important lord had settled me in the city and I was buying up grain—with his gold, of course—and dumping it off the coast, secretly, at night.

Do you know what happens when you make something artificially scarce?

That's right, the price goes up. It's like having a bad season. When the price of grain goes up, the price of bread follows; bread is three-quarters of the diet of the poor and when they can't afford it—

Five weeks after my real arrival I arrived again, but this time as a different stranger with a bag of gold a yard long (my lord's gold, of course) under one arm and under the other, elaborate plans for a company that would manufacture fertilizer from sea-sand. The Minister of Finance all but wept in my lap.

Not that he really thought fertilizer could be made from sea-sand, you understand, (though I think he had a few dim gleams of hope on the subject) but any fool with money was a godsend at this time, with the poorer classes so restless. I ordered lumber, building stone, and workmen, and I paid six times as much as anyone else. The price of wheat (their staple commodity, you understand) rose. I raised wages. The price of bread

went up even faster. I raised wages again. A starving mob broke into our factory, there were riots in the harbor streets, someone set fire to part of a slum, and the Minister of Finance (standing on the smoking ruins), dedicated the site to a new temple of the Sun-God, swearing that would solve everything. Prices rose. Nobody could understand why—when there was so much money to be had—they couldn't buy anything. Prices rose.

I thought the Minister of Finance would get bold (and ruin everything) by confiscating the merchants' stores for rationing, but trust our boy! he had no desire to be torn limb from limb by enraged grain-dealers. To be absolutely fair I ought to add that the wheat my lord and I had dumped in the sea continued to have a confusing and tenuous life of its own; that is to say, the dummy merchants we had set up reported they were still doing business, so that according to the records, there should have been enough to eat. I think I am the only person in the world who knows that gold does not exist—oh, I don't mean literally, of course, but what good is a yellow, soft metal that you can't eat or burn or make into tools? None at all. It's as if people had all made some crazy agreement to honor it—why not cowrie shells, or cows or trees, or pieces of rock?

If only everybody agreed and kept the amount of stuff the same, it wouldn't matter what you used. Break that agreement and overnight there would be no town, no possessions, no government, no ownership, no anything. Do you see? Well, no one else ever has. In your own words, here these poor idiots were believing that the "medium of exchange" meant something in itself

and by itself, and there *I* was, arranging that there should be more and more medium and less and less to exchange. Prices rose. Rumors began to circulate that the Sun God was angry with the citizens, that gold—which everybody knows is His condensed breath—was losing its power, that soon nights of a week long would descend on the city and every third citizen would be eaten by locusts. Prices rose.

"Never," said the Finance Minister in formal proclamation from a balcony of the palace, while a band played music below him, "does Our Governor hear the complaints of His hungry poor unmoved. His father is the Sun-God Ya; His mother is the silvery Moon-Goddess Yup; how can Their power have been abated? Fear not; you will all be wealthy by and by; Our Governor will not stand by inactive at such an hour," etc. etc.

Then that crazy man raised the salaries of all government employees and distributed a tax rebate to every householder. Prices rose.

Let me make it clear before I utter another word that *there was enough to eat.* They could have gotten through the winter quite well on a strict system of rationing. But who ever did anything unpopular if he could help it? My lord, although by now excessively poor, was over-joyed.

"Am I of use to you or am I not?" I said.

"Indeed you have been," he answered. It hit me some quarter of an hour later, that *have been.*

I saw it begin with my own eyes. My lord, with the last of his wealth, had been coining money himself—base, obvious, leaden counterfeits—and when the Fi-

nance Minister ordered his last, grand, general Bonus (and simultaneously announced his retirement) my lord substituted his false coinage for the Minister's true one.

That did it; I tell you, that did it; you have never seen such a thing as it was.

I was in the street with my lord when it happened, near one of the barrier tables the militia had set up to distribute the coins. A liquor-house keeper tried to palm off one of them at an old lady's food-stand; she screamed "Police! Police!" just as several others discovered the same thing; and then the whole crowd must have grasped the same fact at exactly the same time, for there was a roar such as I have never heard before in my life, a roar from a thousand throats at once in that one frozen moment before the crowd became a mob and the mob an avalanche.

My lord grasped my elbow and whispered in my ear, "Get out of town," and as I obediently slipped into a side-street, I heard behind me that oceanic tidal-wave of sound and the crash of the first tables going down.

Sam and the boy, thanks be, had put out to sea that afternoon; we'd arranged to meet just out of sight of the bay, North of the harbor. But I had to stay; I had to see it. I tell you, my heart was beating like mad. It was senseless; there was no reason for me to stay but I couldn't leave. It fascinated me. Fighting must have started on the main avenues for I caught glimpses of arrows and men running past the little streets with scythes, butcher knives, poles, anything they could pick up. I tell you, I couldn't stop. They were breaking into stores; it was glorious and horrible, women rushing by pushing baby-wagons piled with fruit or clothes. My lord had apparently hired orators, or perhaps they'd sprung out of the ground; some were touting the Duke

as pretender; others were abusing everyone and everything. It was a ghastly mish-mash about the sun going out and the Governor cheating everybody; it would've taken a genius to keep it all straight. I threw away the gold chain my lord had given me and wrapped myself in a dirty cloak I found in the street; it was almost night and torches were being lit at every corner, not that they needed them with the light from bonfires and burning houses. I had stopped to listen to one of the agitators and join in the singing, but I slipped past them. Someone ran through, shouting that people were dying on——Street; he disappeared. There was another bonfire.

"—and will we stand it? No, we will not stand it!"

Someone said, "Got some tobacco?" close to me and a hand slipped into my pocket; I twisted it good and hard and moved away into a doorway. Someone else, next to me, struck a light. It was one of my lord's fresh-faced little murderers. He was smiling at me.

"Not bad," he said, "not bad at all, but getting a little out of hand, we think." I followed his glance across the street and there, peering ravenously out of a second-story window, was my very important lord. He grasped the window-sill with one hand and raised the other savagely, bringing it down in a short, cutting arc; from the next doorway peeped out another babyface and from the next doorway another. Without thinking (for I go blind in panic) I shinnied up a drainpipe by the doorway and fell onto a roof.

Have you ever run over roofs? Don't. People expect adventures to be athletic but the only advantage I had was that I was scared to death and—just possibly—the baby-faces got peevish and insisted that while killing

people was in their line, climbing roofs wasn't and they weren't paid for it. Not that I stopped to watch, you understand. I jumped gaps in those roofs where I left my stomach behind thirty feet below in the street, and I walked boards you could not have ordinarily persuaded me to try two inches off the ground. Once I was crazy enough to swing from roof to roof on a line of drying wash which didn't even break. All the time I ran I could hear them behind me and I saw them once, when I turned, climbing behind me in a slow, deliberate way, as if they knew where I was going even though I did not. And I didn't; I had no more sense of direction up there than a—

Then I met one of them coming the other way.

I dove into the street—I say dove because I went nearly headlong, caught an awning, snapped it, swung, dropped into the street, ran around the corner, and following nothing but blind instinct, ran into a door—found it locked—swung up on a window-ledge, made the next highest window with a ledge six inches wide, clung there like a sleep-walker, with swimming head and shaking knees, and plummeted into the room inside all in a heap.

There was a girl in the room, braiding her hair.

I remember now—though I wasn't capable of connecting the two things then—that she must have been of the very highest class, for she was dressed in a long-sleeved, brocaded jacket that gleamed in the lamplight; she wore a silk shirt and had little bits of gold hung all over her: ankle bells, rings, earrings, bracelets, pins.

But all I saw then was a glow, a shimmer, and a tinkling of ornaments.

"Madam!" I gasped, "for Heaven's sake!" and she

came over quite unhurriedly, to inspect me. She could not have been more than twelve years old. She had—how shall I say—a certain unpleasant expression, as if she were used to ordering people around, including her mamma and papa. She looked at me with great interest and then said:

"I do believe someone is chasing you. You must be very wicked."

"Beautiful lady," said I (with what voice I had left) "someone is indeed chasing me, although I assure your ladyship that I am not in the least wicked" (here I heaved a breath) "but only a poor, desperate, unfortunate, and terrified rascal, who throws himself both figuratively and literally at your ladyship's exquisite feet." Try talking that way when you can't breathe.

"You," said this little girl to me, "have charming black curly hair and very dreamy eyes, but I do think you entered my room rather ungallantly."

"Madam!" I said, throwing my arms about her knees, "fair one, beautiful lady, lovely one, if they catch me, they will kill me right here on your rug, so for Yup's sake, hide me!"

"That would be awful," she said, "because it would make a stain"—I am not making this up—and she took me by the hand and pulled me into a little alcove, shoving me behind some clothes. I heard her ankle-bells go leisurely from one side of the room to the other and then I heard her yawn and then—marvelous little actress!—she said, "Oh! Who are you?"

Well, they asked her about me and she described a horrible spirit who had looked into the window and then disappeared—"I prayed" she said—and they said Are you really telling the truth and she said How dare you so

on and so on—but a deadly cold faintness was coming over me; I would have given anything, even my life, for a chance to lie down, to lie down flat, and never never ever to get up again.

When I came to myself I was lying on the floor of the closet with my head in her lap and she was putting her hot little hands all over my face and neck to wake me up.

"Angel," I said. She smiled complacently.

"Ssssh," she said, "Lie still. They'll watch the roof for a while. I heard them say so. Here—" and she brought me pieces of sugar-candy and fed them to me and gave me something insipid to drink out of a little silver bottle. It tasted like the essence of all the oranges that ever weren't, but I needed it.

"I wish," I said quite sincerely, "that I could give you something. You've been so good to me."

"I have everything," she said, patting her hair.

"All the same—" I said, and I searched my pockets but they were as empty as my grave; "All the same, I wish—"

"Kiss my hand," she said, extending it and looking at me in what I can only describe as a very calculating manner. "I'm sure this is dreadfully wrong," she added contemplatively, "but as I'm to be married next week, I suppose it's all right." She smiled and a charming little dimple appeared on each side of her chin. "If you'd really like to show you're grateful," she said, "you may give me a gift, although it'll have to be something I can give back to you at the same time. Mamma watches me like a hawk."

I knew what she meant, so I said "May I—?" and she shut her eyes and I—what else?—kissed her. It's in

the tradition, gentlemen. But it's not in the tradition that the lady shall fling her arms around you and hold you until you can't breathe, while you don't dare get free, for obvious reasons. Finally she let me go; apparently everything was perfectly proper as far as she was concerned.

"Remember me!" she whispered, waving a tiny, embroidered silk handkerchief as I climbed out the window, dreading the fall to the ground and broken bones. "Remember me!" "Angel!" I cried, "I shall never forget you!" and nearly dislocated my neck falling into the street.

I got myself up in one piece and searching my pockets, found a piece of candy. It hadn't occurred to her to give me money, I supposed. Though money was not much use in this town any more. There was a faint glow in the East and I could hear—very far away—some kind of noise. I walked slowly through the streets. By the time I got to the waterfront it was nearly dawn. I tell you, somehow the joy had gone out of it. I had no feeling at all. I found an old man smoking by the docks and begged some tobacco from him, which I wrapped in a piece of my shirt and put in my pocket.

"Tell me," I said, "did you see a big man come by here earlier tonight? A big, yellow-haired man with a boy?" He spat on the ground.

"I seen the whole town come by here," he said resentfully. "The whole damn lot. Screeching like water buf'loes." I was beginning to feel just how tired I was and my back and legs ached. "Tell me—" I said, but stopped in mid-sentence. What was the use? I sat down on the pier. I was too tired. I was just too tired.

Now I would have to steal a boat.

So I did. I mean I took it, that's all. They'd left only a child to guard the government house and I bribed him with my tobacco—none of them would look at money any more!—and besides, what did he care? He expected Utopia to dawn the next morning. The foreign ships were gone—so was ours—and so was everything else except a few planks with sails on them—they call them "butterflies," I believe. I took one of them and I was so tired that if there'd been any kind of weather at all, I would've just rolled off the plank into the sea. I felt queer, too, as if I'd been finished off or been sick; I don't know what it was. I got to our ship by the lights—oh, the blessed sound of black water against wood!—and hauled myself up; I would have fallen if they hadn't helped me.

"Is your scheme finished?" said my barbarian, sounding very grim and deep in the darkness.

"It is," said I, "and so am I, for that matter."

"Not quite," said he, "turn around," and when I did so, I saw that the whole Southern sky—from horizon to zenith—was a brilliant red. The city was on fire.

"Good God—" I said, "they must have—the torches—"

"Now that you have finished," said that barbarian, "can you tell us what you have brought back to us, out of that wreck?"

"I had some tobacco," I said. "No, I gave it away—and my gold chain—there's your money—but that's all—"

"We've spent it," said the boy. My friend squatted down beside me in the glow. The fire lit up the sea as far out as we were, and for the first time in my life I could clearly see the thoughts in those empty, Northern eyes.

I have never liked those eyes, friend though he be.

"I have sailed with you since you were fifteen years old," he said, "but I tell you—"

"Why'd you do it?" whispered the boy in wonder.

"I tell you!" shouted Sam, "I tell you *never!* Never before!" He put his face up to mine.

"That town is burning," he said. "Everyone in it will be dead. Twice before I wondered: why does he do these things. But now I think I know."

"Tell me then," I said; "it'll be news to me," and it was at that moment, gentlemen, it was at that very moment that he pushed my face into the boards—I bear the marks of the splinters yet!—that he pushed, I say, my face into the boards and wrenching sideways, I saw that my old companion was about to put a knife in my neck and that our boy approved and stood by silently, his arms folded.

That was, fortunately, the exact moment in which you plucked me out of time (five thousand years into the future, if I'm to believe you) and deposited me in this shining kitchen.

It's not a kitchen? Well, a glorified kitchen, then, a transcendent kitchen!

And they wanted to kill me. Why? Did I *ask* those damned fools to burn their city? Did I ask them to be so stupid? If there'd been anyone there with the slightest sense, I couldn't have gotten one foot into that town! Not that I like the idea of my little preserver being burnt, or raped by the militia, or having her golden bells torn off her ankles: I'm not inhuman. Still—why should they kill me? It's their own fault for finding no decent work for me! If I have a—a force, a glory, something, call it what you like inside me that must be

satisfied, then let me satisfy it; let me make things happen, let me study things. If I could have studied stars, or clouds, or dirt, I would not have had to study men. If I had a place like this, now—!

Gentlemen, how can I believe you'll send me back? That would be murder. I've never murdered; I've only given people the power to choose one course of action or another. Is it my fault that they always choose wrong?

Well, what about it? Remember, I've been here five days (if you count the first day when I did nothing but sleep)—I'm rested, well-fed, and much stronger than I was. Now I'll wrench myself free (much astounding Sam) and it'll be a hell-for-leather, round-the-mast, tooth-and-nail battle. They'll get me in the end, though, for there are two of them and only one of me and besides—I blush to confess it, gentlemen, it's most unbefitting an adventurer—I cannot swim.

So you will send me back? You've decided—like my friends—that I'm a devil? Not just a little cleverer than most, a little more clear-sighted than most, eh? A little more inclined to experiment with things? It's your decision. Chin up, stiff upper lip, we who are about to die—I hope your translator is finding the right equivalents. Too bad; I would so love to stay. But perhaps you believe that I'm not just cleverer than the people five thousand years ago, but a little more so than you, eh? Even here. Even now. A little closer to the power and the glory? That would be sad.

Better to send me back. With *that* little button. Oh yes, I watched you work it and fuss over it when I first came here; in fact, you took such care of it, I'd bet it's the only one you have.

It would be a shame if some barbarian fool from the past gave its insides a general, quiet bashing when he first got here, when you left him alone because you thought he was so exhausted he could do nothing but sleep. He knew, you see, that it had brought him here, and he was damned if it was going to send him back. Don't be foolish; of course I didn't let it show on the outside.

Open the front panel and look.

You see? I always tell the truth.

Now we can have a much more interesting conversation. A real conversation.

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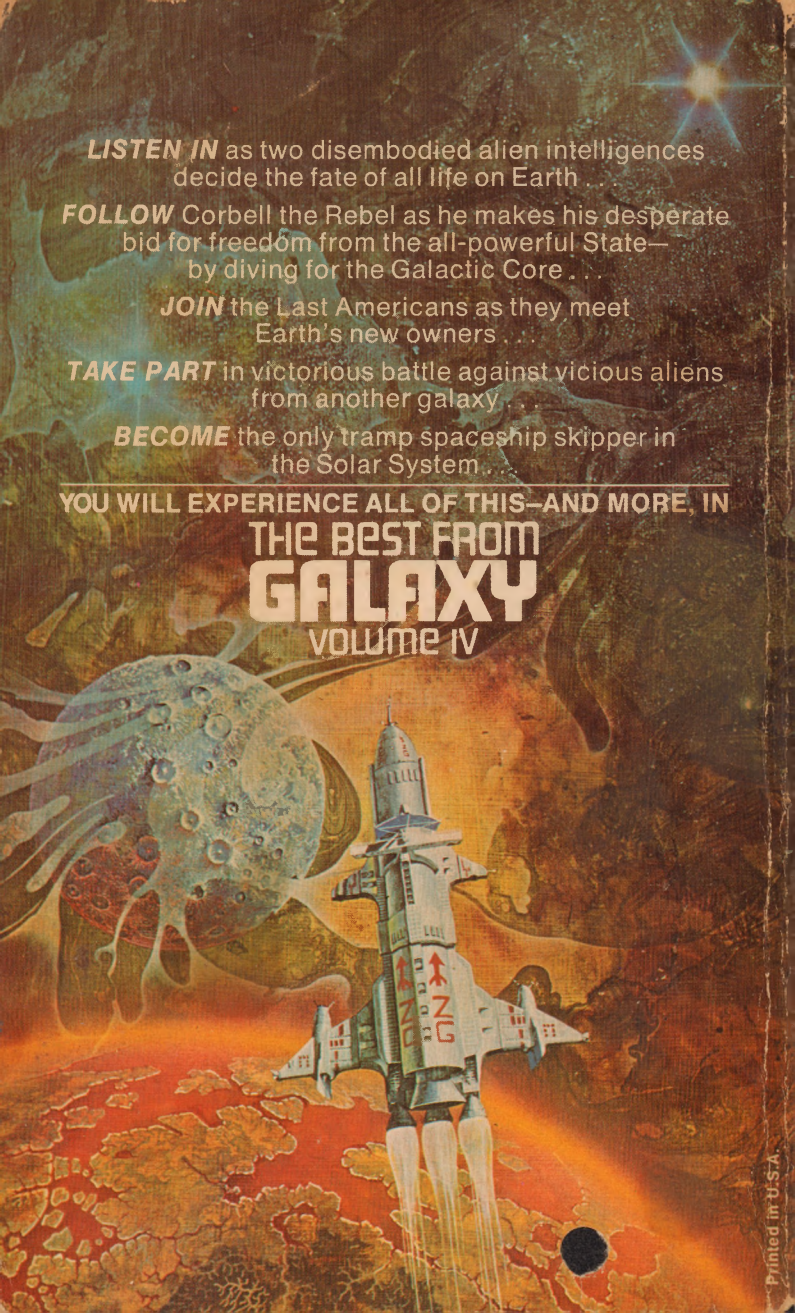
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