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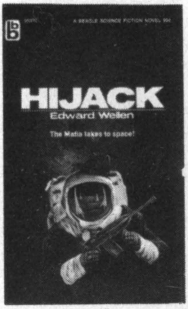
NEW RIVERWORLD NOVEL
The Fabulous Riverboat
PHILIP JOSÉ FARMER

FALLEN SPACEMAN
Lee Harding



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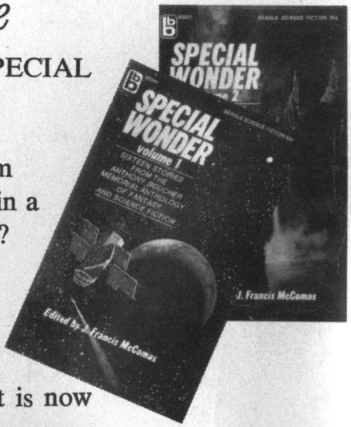

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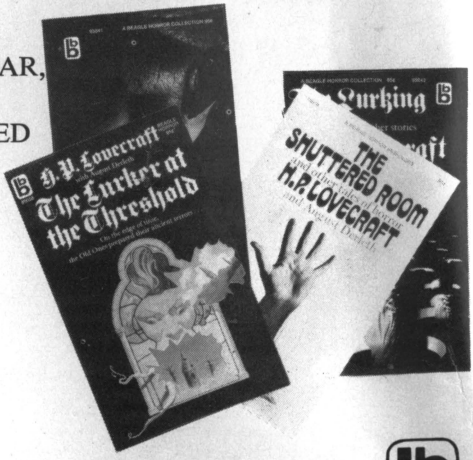

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ALL NEW STORIES

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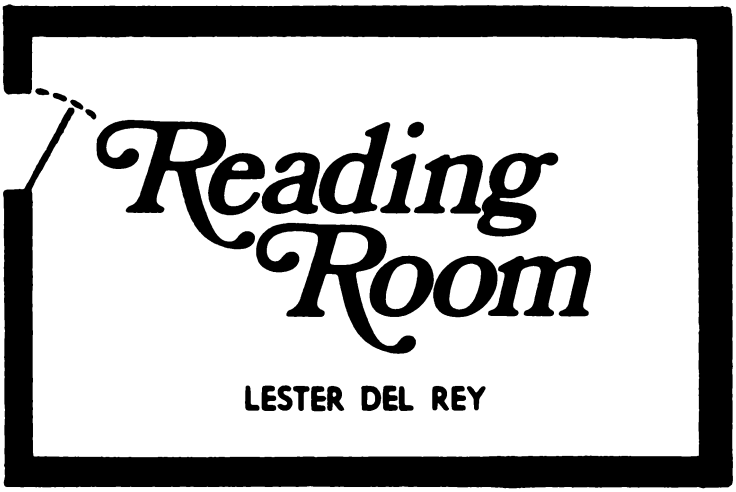


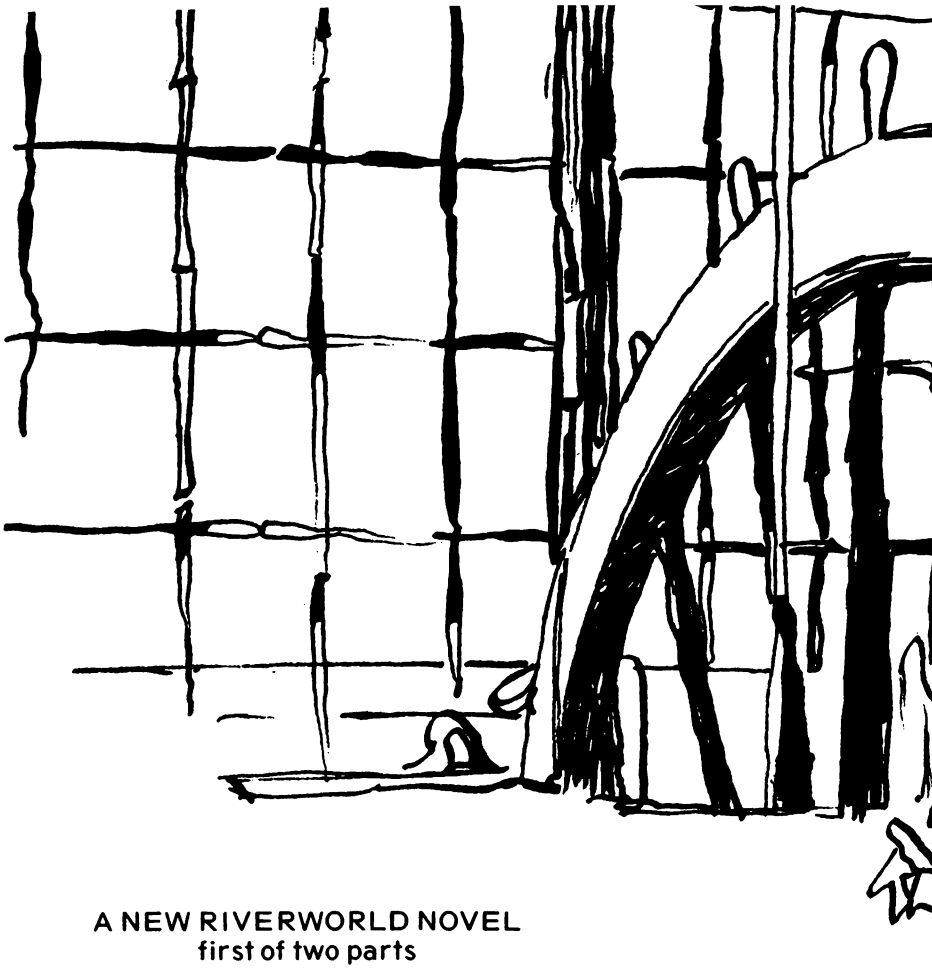
THOSE who like to think of themselves as serious students of literature are deeply concerned with the purpose of fiction. Of course, they immediately reject its obvious purpose of entertainment as unworthy of their approval. Any story which seems limited in value to mere pleasure is called "escape literature" and held in considerable contempt. Generally, science fiction has been treated as belonging to that unworthy category.

Now, however, they may have to change their attitude about this. If a book which has been on the nonfiction best-seller list for many weeks is correct, science fiction may be the one form of literature which has the greatest and most necessary value to its readers.

Future Shock, by Alvin Toffler (Random House), has nothing directly to do with science fiction. It discusses the future, but in as factual a manner as possible. The book is deeply concerned with our present and our seeming inability to deal with it.

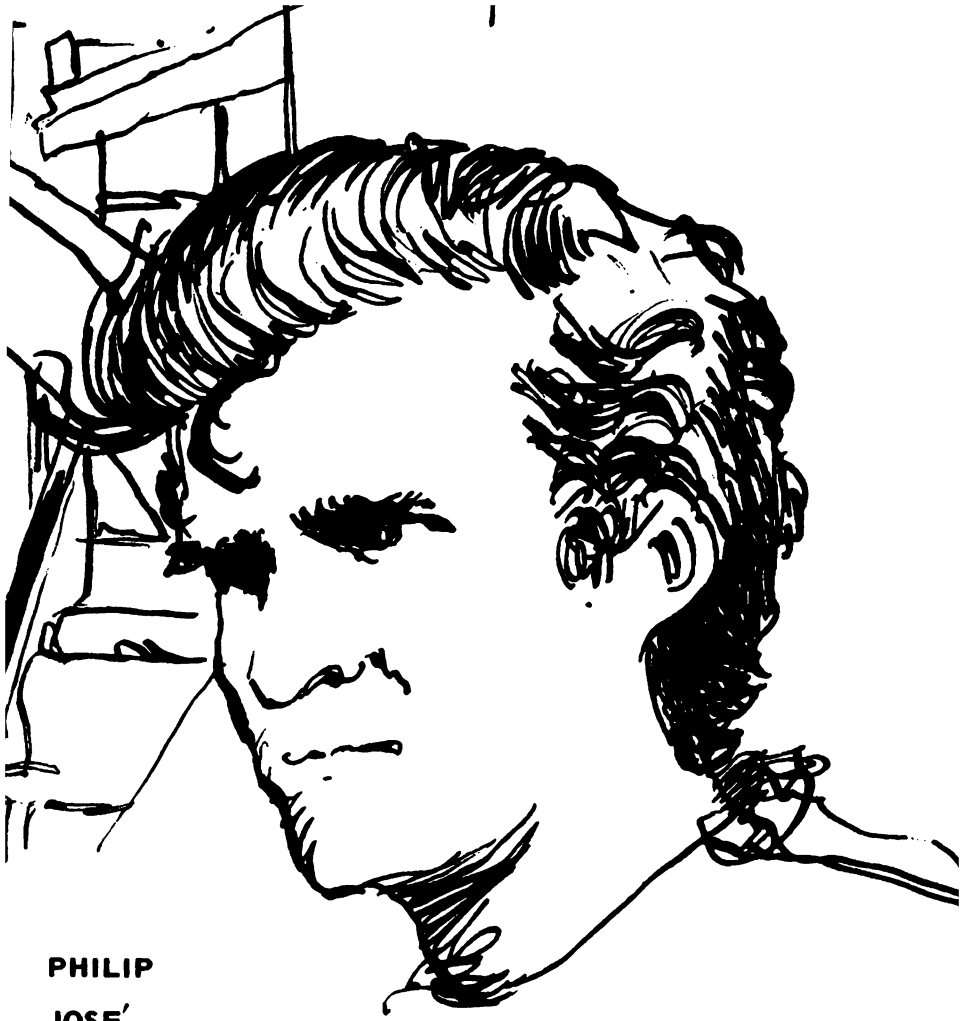
According to Toffler's theory most of the ills of our present stem from the fact that people cannot adjust to the rapid changes going

(Please turn to page 144)



A NEW RIVERWORLD NOVEL
first of two parts

THE FABULOUS RIVERBOAT



PHILIP
JOSE'
FARMER

I

THE RIVERBOAT moved through his dream like a glittering, twenty million carat diamond.

There had never been a boat like it nor would there ever be another.

It would be named the *Not For Hire*. No one would ever be able to take it away from him, it would be so strongly armored and weaponed. Nor would anyone be able to buy or rent it from him. It would be *Not For Hire*.

The name glowed in great black letters against the white hull. *NOT FOR HIRE*.

The fabulous Riverboat would have four decks, the boiler deck, the main deck, the hurricane deck and the landing deck for the aerial machine. Its overall length would be four hundred and forty feet and six inches. The beam over the paddle-wheel guards would be ninety-three feet. Mean draft, loaded, twelve feet. The hull would be made of magnalium or, perhaps, plastic. The great stacks would spout smoke now and then, because there was a steam boiler aboard. But this was only to propel the big plastic bullets for the steam machine guns. The giant paddlewheels on the sides of the Riverboat would be turned by enormous electrical motors.

The *Not For Hire* would be the only metal boat on The River, the only boat not propelled by oars or wind, and it would make anybody sit up and stare, whether he was born in 2,000,000 B.C. or in 2000 A.D.

And he, Sam Clemens, would be The Captain, Capital T, capital C, because, aboard this vessel, carrying a crew of one hundred and twenty, there would be only one Captain.

King John of England could call himself Admiral if he wished, though if Sam Clemens had anything to do with it, he'd be First Mate, not Admiral. And if Sam Clemens *really* had anything to do with it King John—John Lackland, Rotten John, Dirty John, Lecher John, Pigsty John—would not even be allowed on the boat. Sam Clemens, smoking a big green cigar, wearing a white cap, dressed in a white kilt with a white towel over his shoulders for a cape, would lean out of the starboard port of the great pilothouse and yell, *Avast there, you lubbers! Grab hold of that putrescent mass of immorality and treachery and toss him off the gangplank. I don't care if he lands in The River or on the bank! Get rid of that human garbage!*

Over the railing of the boiler deck Prince John would sail. Slyboots John, screaming, cursing in his French-accented Middle English or in Anglo-Norman French or in Esperanto. Then the gangplank would be drawn up, bells would ring, whistles would blow and Sam Clemens, standing behind the pilot, would give the order to begin the voyage.

The voyage! Up a River for maybe ten million miles, or maybe twenty million miles, for may-

be forty years or a hundred years. Such a Riverboat, such a River, such a voyage had never been dreamed of on Earth, long dead Earth! Up The River, the only one on this world, on the only boat like this, with Sam Clemens as *La Ŝipestro*, The Captain, and also addressed as *La Estro*, The Boss.

He was so happy!

And then, as they headed out toward the middle of The River, just to test the current, which was strongest in the center of the mighty stream, as the thousands along the bank waved and cheered or wept after the boat, after him, Samuel Langhorne Clemens, alias Mark Twain—The Captain, The Boss—he saw a man with long yellow hair and broad shoulders pushing through the crowd.

THE man wore a towel-like cloth, secured by magnetic tabs under the material, as a kilt. His leather sandals were made of the hide of the whale-sized riverdragon fish. Around his thickly muscled neck he wore a string of brilliantly colored hornfish vertebrae. In his huge powerful hand he gripped the wooden shaft of a large war-axe of iron. His pale blue eyes were fixed on Samuel Clemens and that broad hawk-nosed face was grim.

Sam Clemens screamed to the pilot, *Faster! Faster! Full speed ahead!*

The great paddlewheels began to dig into the water more swiftly—*Chunk-chunk*. Even through the fiberglas-insulated deck, the vibrations made the deck quiver. Suddenly the blond man, Erik Bloodaxe, tenth-century Viking King, was in the pilothouse.

He shouted at Sam Clemens in Old Norse, *Traitor! Droppings of Ratatosk! I told you I would wait along the banks of The River! You betrayed me so you could get the iron from the fallen star and build your great Riverboat!*

Sam fled the pilothouse and down the ladders from deck to deck and down into the dark bowels of the hold, but Erik Bloodaxe was always two steps behind.

Past the colossal rotating electric motors Sam Clemens ran and then he was in the chemistry room, where the engineers were making potassium nitrate from human excrement and mixing it with sulfur and charcoal to make gunpowder. Sam grabbed hold of a lighter and a resin torch, pressed the slide and a white-hot glowing wire slid out of the case.

Stop, or I'll blow up the whole boat! Sam screamed.

Erik had stopped, but he was swinging the big axe around and around over his head. He grinned and said, *Go ahead! You haven't got the guts! You love the Riverboat more than you love anything, even your faithless but precious Livy! You wouldn't blow her up!*

So I'm going to split you down the middle with my axe and then take the Riverboat for myself!

No! No! Sam screamed. *You wouldn't dare! You can't! You can't! This is my dream, my love, my passion, my life, my world! You can't.*

The Norseman stepped closer to him; the axe whistled over his head.

I can't? Just stand there and see!

Over his shoulder Sam saw a shadow. It moved forward and became a tall, faceless figure. It was X, the Mysterious Stranger, the renegade Ethical who had sent the meteorite crashing into the Rivervalley so that Sam could have iron and nickel to build his Riverboat on this mineral-poor planet. And so he could sail up The River to the North Polar Sea where the Misty Tower, the Big Grail, call it what you would, was hidden in the cold fog. And there Sam, with the eleven men chosen by X for his as yet unrevealed plan, would storm the Tower and find—find what?

Stranger! Sam called. *Save me! Save me!*

The laughter was like a wind from the polar sea, turning his entrails to crystal.

Save yourself, Sam! the Stranger said.

No! No! You promised! Sam yelled. And then his eyes were open and the last of his groans died away. Or had he dreamed that he was groaning?

HE SAT up. His bed was made of bamboo. The mattress was a bamboo fiber cloth stuffed with giant leaves of the irontree. The blanket was made up of five towels secured together by magnetic tabs. The bed was against the wall of a room twenty feet square. It held a desk and a round table and about a dozen chairs, all of bamboo or pine, and a fired-clay chamber pot. There were also a bamboo bucket half-full with water, a tall broad case with many pigeonholes for rolls of paper, a rack with bamboo and pine spears with flint and iron tips, yew bows and arrows, a waraxe of nickel-iron and four long steel knives. On the wall were a number of pegs from which white towels hung. On one hatstand was a naval cap, an officer's, made of leather covered with a thin white cloth.

On the table was his grail, a gray metallic cylinder with a metal handle.

On the desk were glass bottles containing a soot-black ink, a number of bone pens and one nickel-iron pen. The papers on the desk were of bamboo, though there were a few sheets of vellum from the inner lining of the stomach of the hornfish.

Glass windows (or ports, as he called them) looked out all around the room and, as far as Sam Clemens knew, this was the only house with glass windows in

the entire Rivervalley. Certainly, it was the only one for 10,000 miles either way from this area.

The sole light came from the sky. Though it was not yet dawn, the light was a trifle brighter than that cast by the full moon on Earth. Giant stars of many colors, some so big they looked like chipped-off pieces of the moon, jampacked the heavens. Bright sheets and streamers hung between the stars, behind them, and even, seemingly, in front of some of the brightest. These were cosmic gas clouds, the like of which had never been seen by the unaided eye on Earth. The stars and the clouds made a glory that never ceased to thrill the more sensitive of the humanity along The River.

Sam Clemens, smacking his lips at the sour taste of the liquor he had drunk that evening and the even sourer taste of the dream, stumbled across the floor. He opened his eyes completely when he reached the desk, picked up a lighter and applied the extended hot wire to a stone bracket, where the smoke went out through an opening at the junction of ceiling and wall.

He opened a port and looked out toward The River. A year ago he would have seen only a flat plain about a mile and a half wide and covered with short, tough, bright-green grass. Now it was a hideous mass of piled-up earth, deep pits and many buildings of bamboo and pine containing brick furnaces. These were his steel mills (so-called), his glass factory, his smelters, his cement mills, his forges, his blacksmith shops, his armories, his laboratories and his nitric- and sulfuric-acid factories. A half a mile away was a high wall of pine logs enclosing the first metal boat he would build.

Torches flared to his left. Even at night the men were digging out the siderite chunks, hauling up pieces of the nickel-iron.

Behind him had been a forest of thousand-foot irontrees, red pine, lodgepole pine, black oak, white oak, yew trees and thick stands of bamboo. These had stood on the foothills; the hills were mostly still there but the trees, except for the irontrees, were all gone, along with the bamboo. Only the huge irontrees had withstood the steel axes of Clemens' people. The tall grasses had been cut down and their fibers chemically treated to make ropes and paper, but their roots were so tough and so tangled, that there had not been enough reason to chop through them. The labor and the materials used in chopping through the roots of the short grass of the plains to get to the metal there had been very expensive. Not in terms of money, because that did not exist, but in terms of sweat, worn-out stone and then dulled steel.

Where this area had been beautiful with its many trees and bright grass and the colored blooms of the vines that covered the trees, it was now like a battlefield. It had been necessary to create ugliness to build the beautiful boat.

WHOEVER had made this world had planned well. There was not much erosion, even though man had stripped the land of all the vegetation he could. The iron-trees, occupying twenty out of every one hundred square feet of the foothills, stood firm. Nor could the roots of any of the plants be killed; they were so deeply buried.

Sam shivered at the wet and chilly wind which always came late at night from upRiver. He shivered also at the thought of the desolation. He loved beauty and nature's order and he loved the parklike arrangement of the valley, whatever else he thought about this world. Now he had made it hideous because he had a dream. And he would have to extend that hideousness, because his mills and factories needed more wood for fuel, for paper, for charcoal. All that his state had was used up and he had about used up all that Ĉernskujo to the immediate north and Publiujo to the immediate south, would trade him. If he wanted more he would have to war on his closest neighbors or make arrangements for trading with the more distant states or those just across The River. Or else conquer them and take their wood away from them. He did not want to do that; he abhorred war in principle and could barely stand it in practice.

But if he was to have his Riverboat he had to have wood as fuel for his factories.

He also had to have bauxite and cryolite and platinum if he was to have aluminum generators and motors.

The nearest source of all three was in Soul City, that nation twenty-six miles downRiver dominated by Elwood Hacking, who hates whites.

So far, Sam had been able to trade iron weapons for bauxite, cryolite, cinnabar and platinum. Sam's own state, Parolando, needed the weapons badly. Adding one burden to the other, Hacking insisted that Parolando use its own men to mine and transport the ore.

Sam sighed deeply. Why in hell hadn't the Mysterious Stranger directed the meteorite to fall right by the bauxite deposits? Then, when Sam and Bloodaxe's Vikings had sailed into this area immediately after the meteorite had struck, they could have claimed the land that was now Soul City for their own. When Hacking arrived, he would have been forced to join Clemens or to leave.

Still, even with the Stranger's

powers, it could not be easy to deflect a hundred-thousand-ton, iron-nickel siderite from its course and make it fall only twenty-six miles from the bauxite and other minerals. Actually the Stranger had supposed that he had hit the target on the bull's-eye. He had told Sam, before he disappeared on some unknown mission, that the minerals were upRiver, all within a seven-mile range. But he had been mistaken. And that had made Sam both glad and angry. He was angry because the minerals were not all within his reach, but he was also happy that the Ethicals could make a mistake.

The Stranger called his people the Ethicals. It was they who resurrected the entire human species and all subhumans intelligent enough to have a language. The Resurrection had been accomplished by purely scientific means. The supernatural had played no part in raising—or recreating—the dead. All who had died between 2,000,000 B.C. and 2008 A.D. had been resurrected. The only exceptions were idiots and those who had died before the age of five. The Ethicals had restored everyone whole and in excellent health, but sterile. They had rejuvenated those who needed it. And now, twenty-one years after the first day of resurrection, all looked as if they were no more than twenty-five years old.

But, despite the godlike power of the Ethicals, they could make mistakes and errors.

That fact did not help the humans imprisoned forever between sheer mountains 20,000 feet high in a valley about 9.9 miles wide on the average. They would be imprisoned for thousands of years, if not forever, unless Samuel Langhorne Clemens could build his Riverboat.

SAM went to the unpainted pine cabinet, opened a door, and pulled out an opaque glass bottle. It held about twenty ounces of bourbon donated by people who did not drink. He downed about three ounces, winced, snorted, slapped his chest and put the bottle back. Hah! Nothing better to start off the day with, especially when you woke up from a nightmare that should have been rejected by the Great Censor of Dreams. If, that is, the Great Censor had any love and regard for one of his favorite dream-makers, Sam Clemens. Maybe the Great Censor did not love him after all. It seemed that very few did love Sam any more. He had to do things he did not want to do in order to get the boat built.

And then there was Livy, his wife on Earth for thirty-four years.

He swore, caressed a nonexistent moustache, reached back into the cabinet and pulled the bottle

out again. Another snort. Tears came, but whether engendered by the bourbon or the thought of Livy, he did not know. Probably, in this world of complex forces and mysterious operations—and operators—the tears were caused by both. Plus other things which his hindbrain did not care to let him peep into at this moment. His hindbrain would wait until his forebrain was bent over, tying its intellectual shoestrings, and would then boot the posterior of said forebrain.

He strode across the bamboo mats and looked through the port window. Down there, about two hundred yards away, under the branches of the thousand-foot irontree, was a round, conical-roofed, two-room hut. Inside the bedroom would be Olivia Langdon Clemens, his wife—his *ex*-wife—and the long, lanky, tremendously beaked, weak-chinned Savinien de Cyrano II de Bergerac, swordsman, libertine and man-of-letters.

"Livy, how could you?" Sam said. "How could you break my heart, the heart of Your Youth?"

A year had passed since she had shown up with Cyrano de Bergerac. He had been shocked, more shocked than he had ever been in his seventy-four years on Earth and his twenty-one years on the Riverworld. But he had recovered from it. Or he would have recovered if he had not gotten another shock, though a lesser one. Nothing could exceed the impact of the first. After all, he could not expect Livy to go without a man for twenty-one years. Not when she was young and beautiful again and still passionate and had no reasonable hope of ever seeing him again. He had lived with a half-dozen women himself, and he could not expect chastity or faithfulness from her. But he had expected that she would drop her mate like a monkey drops a heated penny when she found him again.

Not so. She loved de Bergerac.

He had seen her almost every day since the night she had first come out of the mists of The River. They spoke politely enough and sometimes, when the atmosphere seemed just right, they cracked their reserve and laughed and joked just as they had on Earth. Sometimes, briefly, but undeniably, their eyes told each other that the old love was vibrating between them. Then, when he felt that he had broken out with longing, just like the hives, so he told himself later, laughing while he felt like crying, he had stepped toward her, despite himself, and she had stepped back to Cyrano's side if he happened to be there or looked around for him if he wasn't.

Every night she was with that dirty, uncouth, big-nosed, weak-chinned, Adam's-appled, but

colorful, strong-minded, witty, vigorous, talented, scary Frenchman. The virile frog, Sam muttered. He could imagine him leaping, croaking with lust, toward the white, blackly outlined, curving figure of Livy, leaping, croaking . . .

He shuddered. This was no good. Even when he brought women up here secretly—though he did not have to hide anything—he could not quite forget her. Even when he chewed dreamgum he could not forget her. If anything, she sailed into the drug-tossed sea of his mind more strongly, blown by the winds of desire. The good ship *Livy*, white sails bellying out, the trim cleancut curving hull . . .

And he heard her laughter, that lovely laughter. That seemed to be the hardest thing to endure.

He walked away and looked out through the fore ports. He stood by the oak pedestal and the big-spoked riverboat's wheel he had carved. This room was his "pilothouse" and the two rooms behind made up the "texas." The whole building was on the side of the hill nearest to the plain. It was on thirty-foot stilts and could be entered through a staircase or ladder (to use a nautical term) on the starboard side or through a port directly from the hill behind the rear chamber of the texas. On top of the pilothouse was a large bell, the only metal bell in the world, as far as he knew. As soon as the waterclock in the corner struck six, he would clang the big bell. And *the* dark valley would slowly come to life.

II

MISTS still overhung The River and the edge of the banks, but he could see the huge squat mushroom shape of the grailstone a mile and a half down the slope of the plain just by the water's edge. A moment later, he saw a boat, toy size, emerge from the mists. Two figures jumped out and pulled the dugout onto the shore, then ran off to the right. The light from the skies was bright enough for Sam to see them, though he sometimes lost them when buildings intervened. After going around the two-story pottery factory they cut straight into the hills. He lost them then but it seemed that they were heading for John Plantegenet's log "palace."

So much for the sentinel system of Parolando. Every quarter mile on The River's front was guarded by a hut on thirty-foot stilts with four men on duty. If they saw anything suspicious, they were to beat on their drums, blow their bone horns and light their torches.

Two men slipping out of the fog to carry news to King John, ex-King John, of England?

Fifteen minutes later Sam saw a

shadow running between shadows. The rope attached to the small bell just inside the entrance rang. He looked through the starboard port. A white face looked up at him. Sam's own spy, William Grevel, famous wool merchant, citizen of London, died in 1401 in the Year Of Our Lord. There were no sheep or, in fact, any mammals other than man along The River. But the ex-merchant had shown great aptitude for espionage, and he loved to stay up all night and skulk around.

Sam beckoned to him; Grevel ran up the "ladder" and entered after Sam had unbarred the thick oak door.

Sam said, in Esperanto, *"Saluton, leutenanto Grevel. Kio estas?"*

(Translation: "Hello, Lieutenant Grevel. What's the matter?")

Grevel said, *"Bonan matenon, Estro. Ĉiu grasa fripono, Rĝo Johano, estas jus akceptita duo spionoj."*

(Translation: "Good morning, Boss. That fat rascal, King John, has just received two spies.")

Neither Sam nor Grevel could understand each other's English, but they got along very well in Esperanto, except now and then.

Sam grinned. Bill Grevel had let himself down from the limb of an irontree, passing directly over a sentry, and down a rope onto the edge of the roof of the two-story building. He had passed through the bedroom, where three women slept, and then crawled to the top of the staircase. John and his spies, a twentieth-century Italian and a sixth-century Hungarian, were at a table below Grevel. The two had reported the results of their trip upRiver. John was furious and justly so, from his viewpoint.

Sam, hearing Grevel's report, also became furious.

"He tried to assassinate Arthur of New Brittany? What is that man trying to do, ruin all of us?"

He paced back and forth, stopped, lit a big cigar and began pacing again. Once he stopped to invite Grevel to a bite of cheese and a glass of wine.

It was one of the ironies of Chance or, perhaps, of the Ethicals, for who knew what things they arranged, that King John of England and the nephew he had murdered most foully should have been located within thirty-two miles of each other. Arthur, Prince of Brittany of dead Earth, had organized the peoples among whom he found himself into a state he called New Brittany. There were very few old Bretons in the ten-mile long territory he ruled, but that did not matter. New Brittany it was.

It had taken eight months before Arthur had discovered that his uncle was his neighbor. He had

traveled incognito to Parolando to verify with his own eyes the identity of John, the uncle who had slit his throat and dropped his weighted body into the Seine. Arthur wanted to capture John and keep him alive for as long as possible under exquisite torture. Killing John would only bar him, possibly forever, from getting his revenge. John, murdered, would awake the next day some place thousands of miles away on The River.

But Arthur had sent emissaries demanding that John be given up to him. These demands had been rejected, of course, though only Sam's sense of honor and his fear of John, kept him from agreeing to Arthur's demands.

Now John had sent four men to assassinate Arthur. Two had been killed; the others had escaped with minor wounds. This would mean invasion. Arthur not only had wanted revenge on John, he would like to get possession of the meteorite iron.

BETWEEN Parolando and New Brittany, a fourteen-mile stretch of the right bank of The River was known as Chernsky's Land, or in Esperanto, *Ĉernskujo*. Chernsky, a sixteenth-century Ukrainian cavalry colonel, had refused an alliance with Arthur. But the nation immediately to New Brittany's north was governed by Iyeyasu. He was a powerful and ambitious person, the man who had established the Tokugawa Shogunate in 1600 with its capital at Yedo, later called Tokyo. Sam's spies said that the Japanese and the Breton had met six times.

Moreover, just to the north of Iyeyasujo was Kleomanujo. This was governed by Cleomenes, a king of Sparta and half-brother to that Leonidas who held the pass at Thermoplyae. Cleomenes had met three times with Iyeyasu and Arthur.

Just south of Parolando was an eleven-mile stretch called Publia, after its king, Publius Crassus. Publius had been an officer in Caesar's cavalry during the Gallic campaigns. He was inclined to be friendly, although he extracted a big price for letting Sam cut down his timber.

South of Publia was Tifonujo, ruled by Tai Fung, one of Kublai Khan's captains, killed on Earth when he fell drunk off a horse.

And south of Tifonujo was Soul City, headed by Elwood Hacking and Milton Firebrass.

Sam stopped and glared from under bushy brows at Grevel. "The hell of it, Bill, is there isn't much I can do. If I tell John I know about his trying to murder Arthur, who may deserve murder, for all I know, then John knows that I've got spies inside the house. And he'll just deny everything, ask that

I bring his accusers forth—and you know what would happen to them, to *you*."

Grevel paled.

Sam said, "Start your blood running again. I won't do it. No. The only thing to do is to keep quiet and watch for developments. But I'm choking up to here with keeping quiet. That man is the most despicable I ever met—and if you knew my vast range of acquaintances, including publishers, you would feel the depth of my words."

"John could be a tax-collector," Grevel said, as if he had plumbed the depths of insult. And he had, for him.

"It was a bad day when I had to agree to take John on as a partner," Sam muttered, blowing out smoke as he turned toward Grevel. "But if I hadn't taken him in, I'd have been robbed of my chance at the iron."

HE DISMISSED Grevel after thanking him. The skies just above the mountains across The River were paling. Soon the entire vault would be rosy on the edges and blue above, but it would be some time before the sun cleared the mountain. Before then, the grailstones would be discharging.

He washed his face in a basin, combed his thick bush of reddish hair straight back, applied the toothpaste with the tip of his finger to his teeth and gums, and spat. Then he fastened a belt with four sheaths and a bag dangling from a strap and put it around his waist. He placed a long towel around his shoulders as a cape, picked up a cane of oak shod with iron and, with the other hand, picked up the grail. He went down the stairs. The grass was still wet. It rained every night at three o'clock for a half-hour and the valley did not dry until after the sun came up. If it were not for the absence of disease germs and viruses, half the valley's humans would have died of pneumonia and flu long ago.

Sam was young and vigorous again, but he still did not like to exercise. As he walked, he thought of the little railway he would like to build from his house to the edge of The River. But that would be too restrictive. Why not build an automobile with a motor that burned wood alcohol?

People began joining him; he was kept busy with *"Saluton!"* and *"Bonan Matenon!"* At the end of his walk, he gave his grail to a man to put on a depression on the top of the gray granite mushroom-shaped rock. About six hundred of the gray cylinders were placed in the depression and the crowd retreated to a respectful distance. Fifteen minutes later, the rock erupted with a roar. Blue flames soared twenty-five feet high and

thunder echoed from the mountain. The appointed grail keepers for the day got onto the rock and passed the cylinders around. Sam took his back to the pilothouse, wondering on the way why he did not delegate someone to carry his grail down for him. The truth was, a man was so dependent on the grail, he just could not trust it out of his sight.

Back in the house, he opened the lid. In six containers in snapdown racks were breakfast and various goodies.

The grail had a false bottom in which were concealed an energy-matter converter and programed menus. This morning he got bacon and eggs, toast with butter and jam, a glass of milk, a slice of cantaloupe, ten cigarettes, a marihuana stick, a cube of dreamgum, a cigar and a cup of some delicious liqueur.

He settled down to eat with gusto and got, instead, a bad taste. Looking out through the starboard port (so he wouldn't see into Cyrano's door), he saw a youth on his knees before his hut. The fellow was praying, his eyes closed, his hands church-steepled. He wore only a kilt and a spiral bone from a Riverfish suspended by a leather string around his neck. His hair was dark blond, his face was broad and his body was muscular. But his ribs were beginning to show.

The praying man was Hermann Goering, a missionary of the Church of the Second Chance.

Sam swore and reared up from his chair, knocking it backward, picked it up and moved his breakfast from his desk to the big round table in the center of the room. The fellow had spoiled his appetite more than once. If there was one thing Sam could not stand, it was an ex-sinner, and Hermann Goering had sinned more than most and was now, by way of compensation, holier than most. Or so it seemed to Sam, though Goering claimed that he was the lowliest of the low—in a sense.

Take your damned arrogant humility away, Sam had said. *Or at least take it downwind . . .*

If it had not been for the Magna Carta which Sam had drawn up (over King John's protests, thus repeating history), Sam would have kicked Goering and his followers out long ago. Well, at least a week ago. But the Carta, the constitution of the state of Parolando, the most democratic constitution in the history of mankind, gave total religious freedom and total freedom of speech. Almost total, anyway. There had to be some limitations.

But his own document forbade Sam to stop the missionaries of the Church of the Second Chance from preaching.

Yet if Goering continued to pro-

test, to make speeches, to convert more to his doctrine of pacifist resistance Sam Clemens would never get his Riverboat. Hermann Goering had made a symbol of the boat; he said that it represented man's vanity, greed, lust for violence and disregard of the Creator's designs for the world of man.

Man should not build riverboats, he should built more stately mansions of the soul. All man needed now was a roof over his head to keep off the rain and thin walls for a little privacy now and then. Man no longer had to earn his bread by the sweat of his brow. His food and drink were given to him with nothing expected in return, not even gratitude. Man had time to determine his destiny. But man must not transgress on others, not rob them of their possessions, their love or their dignity. He must respect others and himself. But he could not do this through delivery, robbery, violence, contempt. He must . . .

SAM turned away. Goering had some fine sentiments to which Sam subscribed. But Goering was wrong if he thought that licking the boots of the people who had put them here was going to lead to any Utopia or salvation for their souls. Humanity had been tricked again; it was being used, misused and abused. Everything, the resurrection, the rejuvenation, freedom from disease, free food and liquor and smokes, freedom from hard work or economic necessity, everything was an illusion, a candy bar to lead baby mankind into some dark alley where . . . Where what? Sam did not know. But The Mysterious Stranger had said that mankind was being tricked in the cruelest hoax of all, even crueler than the first hoax, that of life on Earth. Man had been resurrected and put on this planet as the subject of a tremendous scholarly study. That was all. And when the studies were completed Man would go down into darkness and oblivion once more. Cheated again.

But what did the Stranger have to gain by telling this to certain selected men? Why had he chosen a small number to help him defeat his fellow Ethicals? What was the Stranger really after? Was he lying to Sam and Cyrano and Odysseus and the others whom Sam had not yet met?

Sam Clemens did not know. He was as much in The Great Dark as he had been on Earth. But he did know one thing for certain. He wanted that Riverboat.

The mists had cleared away; breakfast time was over. He checked the water clock and then rang the big bell on the pilothouse. As soon as it had ceased tolling the wooden whistles of the sergeants

began shrilling. Up and down the ten-mile stretch of the Rivervalley known as Parolando the whistles shrilled. Then the drums began to beat and Parolando went to work.

III

THERE were 17,000 people in the state and the Riverboat would be taking only one hundred and twenty. Twenty of these already knew for sure they would be going. Sam and Joe Miller, Lothar von Richthofen, Van Boom, de Bergerac, Odysseus, three engineers and King John and their hutmates, had been promised. The rest would know whether or not they had worked for nothing a few days before the boat sailed. At that time, the names would be written on slips of paper and placed inside a big wire cage. The cage would be whirled around and around, and then Sam would stop it, and, blindfolded, would reach in and pull out, one after the other, one hundred names. And these lucky ones would be the crew of the *Not For Hire.*

The *Not For Hire* had about 5,000,000 miles to travel, if The Stranger could be believed. Averaging about 335 miles every twenty-four hours, it would take over forty-one years to reach the end of The River. But it would not average that much, of course. The crew would have to put into shore for extensive vacations on land and there would be repairs to be made. In fact, the Riverboat might wear out, although Sam planned on taking many spare parts. Once the boat was on its way it could not put back for parts or pick them up anywhere else. There would be no metal of any consequence from this place on.

It was strange to think that he would be about one hundred and forty years old when he got to the headwaters of The River.

But what was that when he had thousands of years of youth to go?

He looked through the bow ports. The plain was full of people streaming down from the hills to the factories. Behind him the hills would be alive with others on their way to the factories in the hills. And a small army would be working on the big dam to the northwest, near the base of the mountains. A concrete wall was being constructed between two steep hills to dam up the water flowing from a spring near the top of the mountain. When the lake behind the dam was full, its overflow would be used to drive electrical generators to power the mills.

At present the electrical energy needed came from a grailstone. A giant stepdown transformer of aluminum took the energy three times a day, sent it through brobdingnagian aluminum wires to a two-story device known as the ba-

tacitor. This was a late twentieth-century electronic discovery that could accept hundreds of kilovolts in a hundredth of a microsecond and could discharge it at any rate from a tenth of a volt to one hundred kilovolts. It was the prototype of the batacitor that would be put on the Riverboat. At present the energy was chiefly used in a cutting device made by van Boom that sliced through the pieces of nickel-iron dug up on the plain—the energy could also be moderated to melt the metal. The aluminum for the wires and the batacitor had been laboriously and expensively made from aluminum silicate derived from the clay under the grass along the base of the mountains. But that supply had run out and now the only economically feasible source was in Soul City.

Sam sat down at his desk, pulled out a drawer and removed a tall book bound in fish-bladder leather; the pages were bamboo-fiber paper. It was his diary, *The Memoirs of a Lazarus*. For the time being he was using ink made of water and tannic acid from oak bark and carbon from finely ground charcoal in suspension to write down the day-by-day happenings and his reflections. When the technology of Parolando was improved enough he would use an electronic recorder that van Boom had promised him.

He had no sooner started writing than the drums began beating. The big bass drums represented dashes; the small soprano drums, dots. The code was Morse; the language, Esperanto. Von Richthofen would be landing soon.

SAM stood up to look out again. A half a mile away was the bamboo catamaran on which Lothar von Richthofen had sailed downRiver only ten days ago. Through the starboard ports Sam saw a squat figure with tawny hair coming out of the gateway of King John's log palace. Behind him came bodyguards and sycophants.

King John was making sure that von Richthofen did not give Sam Clemens any secret messages from Elwood Hacking.

The ex-monarch of England, present co-ruler of Parolando, wore a kilt with red and black checks, a poncholike arrangement of towels and knee-length, red-leather Riverdragon boots. Around his thick waist was a wide belt with a number of sheaths containing steel daggers, a short sword and a steel axe. One hand held a steel rod coronet, one of many sources of contention between Sam and King John. Sam did not want to waste metal on such useless anachronisms, but John had insisted and Sam had given in.

Sam found some satisfaction in thinking about the name of his little nation. Parolando in Esperanto meant *pair land* and was so called because two men governed it. But Sam had not mentioned to John that another translation could be *Twain Land*.

John followed a hard-dirt path around a long, low factory building and then he was at the foot of the staircase of Sam's quarters. A bodyguard, a big thug named Sharkey, pulled the bell rope and the little bell tinkled.

Sam stuck his head out and shouted, "Come aboard, John!"

John looked up at him from pale blue eyes and motioned to Sharkey to precede him. John was cautious about assassins and he had reason to be. He was also resentful about having had to come to Sam—but he had known that von Richthofen would report to Sam first.

Sharkey entered, inspected Sam's pilothouse and looked through the three rooms of the texas. Sam heard a growl, as low and powerful as a lion's, from the rear bedroom. Sharkey came back swiftly and closed the door.

Sam smiled and said, "Joe Miller may be sick, but he can still eat ten Polish prizefighters for breakfast and call for a second helping."

Sharkey did not reply. He signaled through the port that John could come up.

The catamaran was beached now and the tiny figure of von Richthofen was coming across the plain, holding his grail in one hand and the wooden winged ambassadorial staff in the other. Through the other port Sam could see the lanky figure of de Bergerac leading a platoon toward the south wall. Livy was not in sight.

John entered. Sam said, "*Bonan matenon, Johano*!"

It galled John that Sam refused to address him as *Via Reĝa Moŝto*—Your Majesty—in private. *La Konsulo*—the Consul—was their correct title and even that came reluctantly from Sam's lips. Sam encouraged others to call him *La Estro*, The Boss, because that angered John even more.

John grunted and sat down at the round table. Another bodyguard, a big dark proto-Mongolian with massive bones and immensely powerful muscles, Zaksksromb, who presumably had died about 30,000 B.C., lit up a huge brown cigar for John. Zak, as he was known, was the strongest man in Parolando, with the exception of Joe Miller. And it could be argued that Joe Miller was not a man—or, at least, certainly not *homo sapiens*.

SAM wished Joe would get out of bed, because Zak made him nervous. But Joe was sedating

himself with dreamgum. Two days ago a chunk of siderite had slipped from a crane's tongs as Joe was passing beneath it. The operator swore it had been an accident, but Sam had his suspicions. John would want to get rid of Sam's bodyguard, who was incorruptible and who could scare off a legion of assassins just by booing at them.

Sam puffed on his cigar and said, "Hear anything about your nephew lately?"

John did not start, but his eyes did widen a trifle. He looked at Sam across the table.

"No, should I?"

"I just wondered. I've been thinking about asking Arthur down for a conference. There's no reason why you two should be trying to kill each other. This isn't Earth, you know. Why can't we call off old feuds? What if you did drop him off in a sack into the estuary? Let bygones be bygones. We could use his wood and we need more limestone for calcium carbonate and magnesium. He's got plenty."

John glared, then hooded his eyes and smiled.

Tricky John, Sam thought. Smooth John. Despicable John.

"To get wood and limestone we'd have to pay with steel arms," John said. "I'm not about to permit my dear nephew to get his hands on more steel."

"Just thought I'd broach the subject to you," Sam said, "because at noon—"

John stiffened. "Yes?"

"Well, I thought I'd bring up the subject to the Council. We might have a vote on it."

John relaxed. "Oh?"

Sam thought, *You think you're safe. You've got Pedro Ansúrez and Frederick Rolfe on your side and a five-to-three vote in the Council is a nay vote . . .*

Once again he contemplated suspending the Magna Carta so that things could be done that needed to be done. But that might mean civil war and that could mean the end of the dream.

He paced back and forth while John described in a loud voice and sickening detail his latest conquest of his latest blonde. Sam tried to ignore the words; he still got mad because the man boasted, although by now any woman who accepted John had only herself to blame.

THE little bell tinkled. Lothar von Richthofen entered. He was a well-built youth with long blond hair and handsome, somewhat Slavic, features. He looked like a less stocky and better looking Goering. The two had known each other well during World War I, since both had served under Baron Manfred won Richthofen, Lothar's older brother. Sam, of

course, having died in 1910, knew about the Great War only by hearsay, but Lothar had painted so many word pictures that Sam thought he could visualize those days. Lothar was a wild, brash and essentially likable person but this morning his smiles and his debonair bearing were gone.

"What's the bad news?" Sam said.

Lothar took the cup of bourbon that Sam offered, downed it and said, "Sinjoro Hacking has just about finished putting up fortifications. Soul City has walls twelve feet high and ten thick on all fronts. Hacking was nasty to me, very nasty. He called me an *ofejo* and a *honkio*, words new to me. I did not care to ask him for an explanation."

"*Ofejo* might be from the English *ofay*," Sam said, "but I never heard the other word. *Honkio?*"

"You'll hear those words a lot in the future," Lothar said, "if you deal with Hacking. And you will. Hacking finally got down to business after spewing out a torrent of abuse, mostly about my Nazi ancestors. I never heard of the Nazis on Earth, you know, since I died in a plane crash in 1922. He seemed to be angry about something—maybe his anger had nothing to do with me originally. But the essence of his speech was that he might cut off the bauxite and other minerals."

Sam felt faint. He leaned on the table until things came back into focus. Then he said, "I'll take a shot of Kentucky courage myself."

Von Richthofen continued. "It seems that Hacking isn't too happy with the makeup of his state. It's one-fourth Harlem blacks who died between 1960 and 1980, you know, and one-eighth eighteenth-century Dahomeyan blacks. But he has a nonblack population of one-fourth fourteenth-century Wahhabi Arabs, fanatics who still claim that Mohammed is their prophet and they're here just for a short trial period. Then there is the quarter that is thirteenth-century Asiatic Indian Dravidian, black-skinned Caucasians, and one-eighth of people from anywhere and anytime. A slight majority of these is twentieth-century."

Sam nodded. Though the resurrected humanity consisted of persons who lived from 2,000,000 B.C. to 2008 A.D., one-fourth had been born after 1899 A.D.

"Hacking wants his Soul City to be almost entirely black. He said that he had believed that integration was possible when he lived on Earth. The young whites of his day were free of the racial prejudices of their elders and he had known hope. But there aren't too many of his former white contemporaries in his land. And the Wahhabi

Arabs are driving him out of his mind. Hacking became a Moslem on Earth, did you know that? First he was a Black Muslim, an American home-grown variety. Then he became a real Moslem, made a pilgrimage to Mecca and was quite certain that the Arabs, even if they were white, were not racists.

"But the massacre of the Sudanese blacks by the Sudanese Arabs and the history of Arabic enslavement of blacks disturbed him. Anyway, these nineteenth-century Wahhabi are not racists—they're just religious fanatics and too much trouble. He didn't say so, but I was there ten days and I saw enough. The Wahhabis want to convert Soul City to their brand of Moslemism and if they can't do it peacefully, they'll do it bloodily. Hacking wants to get rid of them and of the Dravidians, who seem to regard themselves as superior. Anyway, Hacking will continue to furnish us bauxite if we will send him all our black citizens in return for his Wahhabi and Dravidian citizens. Plus an increased amount of steel arms. Plus a larger share in the raw siderite."

Sam groaned. King John spat on the floor. Sam scowled and said, "*Merdo, Johano!* Not even a Plantagenet gobs on my floor! Use the spittoon or get out!"

He forced himself to push down his rage and frustration as King John bristled. Now was not a time to bring about a confrontation. The vainglorious ex-monarch would never back down on the spitting issue, which was actually trifling.

Sam gestured self-deprecatingly and said, "Forget about it, John. Spit all you want to!" But he could not resist adding: "As long as I have the same privilege in your house, of course."

JOHN growled and popped a chocolate into his mouth. He used the growling, grinding voice that indicated that he, too, was very angry but was imposing great self-control.

"This Saracen, Hacking, gets too much. I say we have kissed his black hand long enough. His demands have slowed down the building of the ship—"

"Boat, John," Sam said. "It's a boat, not a ship."

"*Boato, smoato.* I say, let us conquer Soul City, put the citizens to the sword and seize the minerals. Then we will be able to make aluminum on the spot. In fact, we could build the boat there. And, to make sure that we are not interfered with and have the wood needed, we should conquer all the states between us and Soul City."

Powermad John.

Yet, Sam was inclined to think that he might, for once, be right. In a month or so Parolando would

have the weapons that would enable it to do just what John was proposing. Except that Publia was friendly and their bills were not high, and Tifonujo, though it demanded much, had permitted itself to be stripped of trees. It was possible that both states planned to use the nickel-iron they got for their wood to make weapons so that they could attack Parolando.

The savages across The River were probably planning the same thing.

"I'm not through," von Richthofen said. "Hacking made his demands about the trading of citizens on a one-to-one basis. But he won't come to any agreement unless we send a black to deal with him. He says he was insulted when you sent me, since I'm a Prussian and a Junker to boot. But he'll overlook that, since we didn't know any better, if we send him a member of the Council the next time. One who's black."

Sam's cigar almost fell out.

"We don't have a black Councilman."

"Exactly. What Hacking is saying is that we had better elect one."

John passed both hands through his shoulder-length tawny hair and then stood up. His pale blue eyes were fiery under the lion-colored eyebrows.

"This Saracen thinks he can tell us how to conduct our internal affairs. I say, war!"

Sam said, "Now, just a minute, Your Majesty. You have good reason to be mad, as the old farmer said—then fell in. But the truth is, we can defend ourselves quite well—but we cannot invade and occupy any large territory."

"Occupy?" John shouted. "We will slaughter half and chain the other half!"

"The world changed much after you died, John—uh, Your Majesty. Admittedly there are other forms of slavery than the outright form, but I don't want to get into an argument about definitions. There is no use making a fuss, as the fox said to the hens. We just appoint another Councilman, *pro tem*. And we send him to Hacking."

"There is no provision in the Magna Carta for a *pro tem* Councilman," Lothar said.

"We change the Carta," Sam said.

"That'll take a popular election."

John snorted disgust. He and Sam Clemens had gone through too many blazing arguments about the rights of the people. Sam held firm on these points, and Sam was *La Estro*, The Boss, to the greatest number of citizens, even if the two Consuls theoretically held equal powers.

"There's one other thing," Lothar said, still smiling but with an exasperated note in his voice.

"Hacking asks that Firebrass be allowed to visit here for a tour of inspection. Firebrass is especially interested in seeing our airplane."

JOHN sputtered. "He asks if we care if he sends a spy!"

"I don't know," Sam said. "Firebrass is Hacking's chief of staff. He might get a different idea of us. He's an engineer—I think he had a Ph.D., too, in physics. I've heard about him. What did you find out, Lothar?"

"He impressed me very much," von Richthofen said. "He was born in nineteen seventy-four in Syracuse, New York. His father was black and his mother was half-Irish and half-Iroquois Indian. He was in the second party to land on Mars and the first to orbit Jupiter—"

Sam was thinking, men really did that. Landed on the Moon and then Mars. Right out of Jules Verne and Frank Reade, Jr. Fantastic, yet no more fantastic than this world. Or, indeed, than the mundane world of 1910. None of it could be explained in a manner to satisfy any reasonable man. It was all incredible.

"We'll put it up to the Council, today, John," Sam said. "If you have no objection. We'll have a general election on the *pro tem* Councilman. I personally favor Uzziah Cawber."

"Cawber was a slave, wasn't he?" Lothar said. "I don't know. Hacking said he didn't want any Uncle Toms sent."

Once a slave, always a slave, Sam thought. *Even when a slave revolts, kills and is killed as a protest against his slavery—resurrected, he still does not think of himself as a free man. He was born and raised in a world soaked with the rotten essence of slavedom and every thought he thinks, every move he makes, is stained with slavery, subtly altered with slavery. Cawber was born in 1841 in Montgomery, Alabama. He was taught to read and write. He served in the house of his master as his secretary. He killed his master's son in 1863, escaped and went West and became a cowboy, of all things, and then a miner. He was killed with a Sioux spear in 1876; the ex-slave killed by a man about to become a slave. Cawber is delighted with this world—or claims to be—because no man can enslave him here or keep him enslaved. But he is the slave of his own mind and of the reactions of his nerves. Even when he holds his head high he will jump if somebody cracks a whip and his head will bow before he can stop it . . .*

Why, oh, why, had man been brought back to life? Men and women were ruined by what had happened on Earth and they would never be able to undo the damage. The Second Chancers

claimed a man could change, entirely change. But the Second Chancers were a pack of dreamgummers.

"If Hacking calls Cawber an Uncle Tom, Cawber will kill him," Sam said. "I say, let's send him."

John's tawny eyebrows rose. Sam knew what he was thinking. Perhaps he could use Cawber, one way or another.

Sam looked at the waterclock. "Time for the inspection tour. Care to come along, John? I'll be with you in a minute," and he sat down at his desk to make a few more entries in his diary.

That gave John the chance to leave first, as befitted the ex-King of England and a good part of France. Sam thought it was ridiculous to worry about who preceded whom, yet he disliked John so much he could not bear to let him gain even this minor victory. Rather than argue about it, or just walk out ahead of him, and so cause John to throw a fit, he pretended he had work to do.

IV

SAM caught up with the group, which included the six Councilmen, just outside the nitric-acid factory. They went through the factories swiftly. The stinks emanating from the nitric and sulfuric acids, from the destructive distillation of wood to make alcohol, acetone, creosote, turpentine and acetic acid, the formaldehyde vats and the treatment of human excrement and lichen scraped off the mountains to extract potassium nitrate—these, combined, were enough to make a hyena lose its breakfast. They were roasted and deafened in the steel mill and the grinding mills and the forges and blacksmith shops. They were covered with a white dust in the limestone mills and magnesium factory. In the aluminum factory they were again roasted, deafened—and stunk out.

The gunsmith shop up in the hills was not operating at the moment. Except for distant noises, it was quiet. But it was not beautiful. The earth had been dug up, the trees cut down and smoke from the factories up the River was black and acrid along the mountains.

Van Boom, the late twentieth-century, half Zulu, half Afrikaans chief engineer, met them. He was a handsome man with a dark bronze skin and curly hair. He stood about six-three and weighed about two hundred and fifty. He had been born in 1976 in a ditch during The Bloody Years.

He greeted them cordially enough (he liked Sam and tolerated John), but he did not smile as usual.

"It's ready," he said, "but I

want my objections recorded. It's a nice toy and makes a lot of noise and looks impressive and will kill a man. But it's wasteful and inefficient."

"You make it sound like a Congressman," Sam said.

Van Boom led them into the high doorway of the bamboo building, where a steel handgun lay on a table. Van Boom picked it up and even in his big hand the gun was huge. He strode past the others and out into the light of the sun. Sam was exasperated. He had held out his hand for the gun and the fellow had ignored him. If Van Boom intended to demonstrate it outside, why hadn't he said so in the first place?

"Engineers," Sam muttered. Then he shrugged. You might as well hit a Missouri mule between the eyes with your pinkie as try to change Van Boom's ways.

Van Boom held up the gun so that the sunshine twinkled against the silvery gray metal. "This is the Mark I pistol," he said. "Called so because The Boss invented it."

Sam's anger melted like ice in a Mississippi River thaw.

"It's a breech-loading, single-shot, flintlock hand weapon with a rifled barrel and a breakdown action."

He held the gun in his right hand and said, "You load it so. You press forward the lock switch on the left side of the barrel. This releases the breech lock. You then press down the barrel with the left hand. This action forces the trigger guard into the grip, where the guard acts as a lever to cock the hammer."

He reached into a bag strapped to his belt and removed a large brown hemispherical object. "This is a bakelite or phenol-formaldehyde-resin bullet. It is sixty caliber. You press the bullet, so, until it engages the lands of the barrel."

He removed from his bag a shiny package with black contents.

"This is a charge of black gunpowder wrapped in cellulose nitrate. Some time in the future, we'll have cordite instead of gunpowder. If we use this gun, that is. Now, I insert the load into the chamber with the primer end first. The primer is a twist of nitrate paper impregnated with gunpowder. Then I lift the barrel with my left hand, thus, locking it into place. The Mark I is now ready to fire. But, for emergency, if the primer does not ignite, you can pour priming powder into the touchhole just forward of the rear sight. In case of misfire, the gun may be cocked with the right thumb. Note that this flash vent on the right side of the action shield protects the shooter's face."

A MAN had brought out a large wooden target and had inserted

it in a frame on four legs. The target was about twenty yards away. Van Boom turned toward it, held out the gun, clenched both hands and sighted along the front and rear sights.

"Get behind me, gentlemen," he said. "The heat of the passage through the air will burn off the surface of the bullet and leave a thin trail of smoke which you may be able to see. The plastic bullet has to be of such large caliber because of its light weight. But this increases the wind resistance. If we decide to use this gun—which I definitely am against—we might increase the caliber to .75 in the Mark II. The effective range is about fifty yards, but the accuracy is not good beyond thirty yards and nothing to brag about within that range."

The flint was in the hammer. When Van Boom would pull the trigger, the hammer would fall and scrape along the file-like surface of the frizzen. The frizzen covered the priming pan and should be knocked forward by the flint, uncovering the primer twist of the powder charge.

There was a click as the sear let the hammer go, a flash as the primer twist burned—and a booming. The click-flash-boom took almost as long as it would take to say each word and Van Boom had had time between the click and the boom to bring the gun back into line after it had been jarred away by the impact of the heavy hammer and flint.

The bullet did leave a very faint trail of smoke, quickly dissipated by the fifteen-mile-an-hour wind. Sam, looking past Van Boom's arm, could see the bullet curve out and then back, carried by the wind. But Van Boom must have been practicing, because the bullet struck near the bull's eye. It went halfway into the soft pine, shattered and left a large hole in the wood.

"The bullet won't penetrate deeply into a man," Van Boom said, "but it will leave a large hole. And if it hits near bone, the fragments should break the bone."

The next hour was spent busily and happily with the Consuls and Councilmen taking turns shooting. King John was especially delighted, though perhaps a little awed, because he had never seen a gun before. His first experience with gunpowder had come several years after he had been resurrected and he had seen only bombs and wooden rockets.

At last Van Boom said, "If you keep up, gentlemen, you will exhaust our supply of bullets—and it takes a lot of labor and materials to make these bullets. Which is one reason why I object to making any more. My other reasons are: one, the gun is accurate only at close range; two, it takes so long to

load and shoot that a good bowman could drop three pistol handlers while they're loading and stay outside the effective range of the guns. Moreover, a plastic bullet isn't recoverable, whereas an arrow is."

Sam said, "That's a lot of nonsense! The mere fact that we would have these guns would demonstrate our technological and military superiority. We'd scare the enemy half to death before the battle started. Also, you forget that it takes a long time to train a good bowman, but anyone can shoot one of these after a relatively short lesson."

"True," Van Boom said. "But could they hit anyone? Besides, I was thinking of making steel crossbows. They can't be handled as fast as longbows, but they don't require any more training than guns do and the bolts are recoverable. And they're a hell of a lot more deadly than these noisy stinking gadgets."

"No sir," Sam said. "No, sir. I insist that we make at least two hundred of these. We'll outfit a new group, the Parolando Pistoleers. They'll be the terror of The River—you watch them; you'll see!"

FOR a change King John was on Sam's side. He stated that the first two pistols should go to Sam and to himself and the next dozen to their bodyguards. Then the new group could be organized and trained.

Sam was grateful for the backing, but he told himself to check on the men who formed the Pistoleers. He did not want it made up largely of men loyal to John.

Van Boom made no effort to hide his disgust. "I'll tell you what. I'll take a good yew bow and twelve arrows and stand fifty yards away. At a signal all eight of you can advance on me, firing at will with your Mark I's—and I'll drop all eight of you before you get close enough to hit me. Is it a deal? I'm willing to lay my life on the line."

"Don't be childish," Sam said.

Van Boom rolled his eyes upward. "*I'm* childish? You're jeopardizing Parolando—*and* your boat—because you want guns to play with!"

"Just as soon as the guns are made you can start making all the bows you want," Sam said. "Look! We'll make armor, too, for the Pistoleers! That should dispose of your objections! Why didn't I think of that before? Why, our men will be dressed up in steel that'll repel the Stone Age weapons of the enemy as if they were straws. Let the enemy shoot his yew bows with his flint-tipped arrows. They'll bounce off the steel and the Pistoleers can take their time and blow the enemy into the next county!"

"You forget that we've had to barter our ore and even metal weapons for wood and other materials we need," Van Boom said. "The enemy will have arrows with steel tips that can drive through armor. Don't forget Crécy and Agincourt."

"There's just no dealing with you," Sam said. "You must be half Dutch—you're so stubborn."

"If your thinking is representative of the thinking of white men, then I'm glad I'm half Zulu," Van Boom said.

"Don't get huffy," Sam replied. "Congratulations on the gun. Tell you what, we'll call it the Van Boom-Mark I. How's that?"

"I'd just as soon not have my name attached to it," the engineer said. "So be it. I'll make your two hundred guns. But I'd like to make an improved version. You know, the Mark II we talked about?"

"Let's make two hundred of these first, then we'll start on the Mark II," Sam said. "We don't want to mess around so long trying to get the perfect weapon that we suddenly find we don't have any at all. Still—"

He talked for a while about the Mark II. He had a passion for mechanical gadgets. On Earth he had invented a number of things, all of which were going to make him a fortune. And there was the Paige typesetting machine, into which he had sunk—and it had sunk—all the wealth he had made from his books.

Sam thought of the typesetting monster and how that wonderful contraption had bankrupted him. For a second, Paige and Van Boom were one and he felt guilty and a little panicky.

VAN BOOM next complained about the materials and the labor put into the AMP-1, their aerial machine prototype. Sam ignored him. He went with the others to the hangar, which was on the plains about a mile north of Sam's quarters. The plains had been left undisturbed in front of the bamboo hangar so that the plane, when it flew, would have a narrow landing strip. The craft was only partly finished but would look almost as skeletal and frail when ready to fly as it did now.

"It's similar to some of the planes built in nineteen-ten," von Richthofen said. "I'll be exposed from my waist up when I sit in the cockpit. The whole machine looks more like a metal dragonfly than anything else. The main object is to test out the efficiency of the wood-alcohol-burning motor and our materials."

Von Richthofen promised that the first flight would be made within three weeks. He showed Sam the plans for the rocket launchers to be mounted under the wings.

"The plane can carry about six

rockets, but it'll mostly be good only for scouting. It won't go faster than forty miles an hour against the wind. But it'll be fun flying it."

Sam was disappointed that the plane wasn't a two-seater. He had never flown. But von Richthofen said the next prototype would be a two-seater and Sam would be his first passenger.

"After you've tested it out," Sam said. He expected John to protest about this and to insist that he be taken up first. But evidently John was not too eager to fly.

The last stop was at the boatyard, located halfway between the hangar and Sam's house. The craft within the pine-log enclosure would be completed within a week. The *Firedragon I* was the amphibious prototype of the boat that would be the launch for the big boat. It was a beautiful machine, made of thick magnalium, about thirty-two feet long, shaped like a U.S. Navy cruiser with wheels, with three turrets on its sleek top deck. It was powered by steam, burned wood alcohol, could operate in water or on land, carried a crew of eleven and was, so Sam declared, invincible.

He patted the cold gray hull and said, "Why should we worry about having bowmen? Or having anything but this? This juggernaut could crush a kingdom all by itself. It has a steampowered cannon the like of which the world, Earth or this planet, has never seen. That is why it is steamdriven and why it has such a huge boiler."

All in all, the tour had made him happy. It was true that the plans for the great Riverboat had barely been started. But those took time. It was vital that the state be well protected at first, and just making the preparations was fun. He rubbed his hands and puffed on a new cigar, drawing the green smoke deeply into his lungs.

And then he saw Livy.

He beloved Livy, sick for so many years, and dead, finally, in Italy, in 1904.

Restored to life and youth and beauty, but not, alas, to him.

SHE was walking toward him, carrying her grail by its handle, wearing a white, scarlet-edged kilt that came halfway down her thighs and a thin white scarf for a bra. She had a fine figure, good legs, handsome features. Her forehead was broad and satiny white. Her eyes were large and luminous. Her lips were full and shapely; her smile, attractive; her teeth, small and very white. She customarily wore her dark hair parted, combed down smooth in front but twisted into a figure eight in the back. Behind an ear she wore one of the giant crimson rose-like blooms that grew from the vines on the irontrees. Around her neck was a necklace made of the

convoluted red vertebrae of the hornfish.

Sam's heart felt as if it were being licked by a cat.

She swayed as she walked toward him and her breasts bounced beneath the semiopaque fabric. Here was his Livy, who had always been so modest, had worn heavy clothes from the neck down to the ankle and had never undressed before him in the light. Now she reminded him of the half-naked women of the Sandwich Islands and he felt uneasy. He knew why. His queasiness among the natives had been as much due to their unwanted attraction for him as repulsion, each feeling dependent on the other and having nothing to do with the natives.

Livy had had a puritanical upbringing but she had not been ruined by it. On Earth she had learned to drink and to like beer, had even smoked a few times and had become an infidel or, at least, a great doubter. She had even tolerated his constant swearing and had let loose with a few blisterers herself if the girls were not around. The accusations that she had censored his books and so emasculated them were off the target. He had done most of the censoring himself.

Yes, Livy had always shown adaptability.

Too much. Now, after twenty years of absence from him, she had fallen in love with Cyrano de Bergerac. And Sam had the uneasy feeling that that wild Frenchman had awakened in her something that Sam might have awakened if he had not been so inhibited himself. But after these years on The River and the chewing of a certain amount of dreamgum he had lost many of his own inhibitions.

It was too late for him.

Unless Cyrano left the scene . . .

"Hello, Sam," she said in English. "How are you on this fine day?"

"Every day is fine here," he said. "You can't even talk about the weather, let alone do anything about it."

She had a beautiful laugh. "Come along with me to the grailstone," she said. "It's almost time for lunch."

Every day he swore not to come near her because to do so hurt too much. And every day he took advantage of the smallest chance to get as close to her as he could.

"Jim-dandy," he said. "Come along. How's Cyrano?"

"Oh, very happy because he's finally going to get a rapier. Bildron, the swordsmith, promised that he'd have the first one—after yours and the other Councilmen's, of course. He'd taken so long to reconcile himself to the fact that he would never hold a metal sword in his hand

again. Then he heard about the meteroite and came here—and now the greatest swordsman in the world will have a chance to show everybody that his reputation wasn't a lie, as some say."

"Now Livy," he said. "I didn't say people had lied about his reputation. I said that maybe they exaggerated some. I still don't believe that story about his holding off two hundred swordsmen all by himself."

"The fight at the Porte de Nesle was authentic! And it wasn't two hundred, you're the one pumping it up, Sam, just as you always do. There was a crowd of hired thugs that could have been a hundred or might just as well have been. Even if there had been only twenty-five, the fact is that Cyrano attacked them all single-handed to save his friend, the Chevalier de Lignieres —he killed two and wounded seven and ran the rest of them off. That is God's truth!"

"I don't want to get into an argument about the merits of your man," he said. "Or about anything. Let's just talk like we used to when we had so much fun—before you got sick."

She stopped, her face grim.

"I always knew you resented my illness, Sam."

"No, that wasn't it," he said. "I think I felt guilty that you were sick, as if somehow I were to blame. But I never hated you for it. I hated myself if I hated anyone."

"I didn't say you hated me," she said. "I said you resented my illness and you showed it in many ways. Oh, you may have thought you were always noble and gentle and loving—and most of the time you were—you really were. But there were enough times when you looked, you spoke, you muttered, you gestured—how can I describe exactly how you were? I can't, but I knew you resented me, sometimes loathed me, because I was sick."

"I didn't!" he cried so loudly that a number of people stared.

"Why argue about it?" she said. "Whether you did or not doesn't matter now. I loved you then and I still do, in a way. But not as I did."

He was silent during the rest of the walk across the plain to the big mushroom-shaped stone. The cigar tasted like burning skunk cabbage.

Cyrano was not present. He was superintending the building of a section of the wall which would eventually guard the shore of The River. Sam was glad. It was difficult enough for him to see Livy alone but when she was with the Frenchman, he could not endure his thoughts.

In silence, he and Livy parted.

A BEAUTIFUL woman with lovely, honey-colored hair ap-

proached him and he was able to set aside his feelings about Livy for a while. The woman's name was Gwenafra. She had, on evidence, died at about the age of seven in a country that must have been Cornwall about the time the Phoenicians came there to exploit the tin mines. She had been resurrected among people of whom none spoke her ancient Celtic language and had been adopted by a group that spoke English. From her description, one of them had been that Sir Richard Francis Burton whom Sam had thought he'd seen on the shore shortly before the meteorite struck. Burton and his friends had built a small sailboat and set out for the headwaters of The River—as might have been expected of a man who had spent half his life exploring in the wildernesses of Africa and the other continents. On Earth Burton had sought the headwaters of the Nile and had found, instead, Lake Tanganyika. But on this world he had again been seeking the source of a river—the greatest river of them all—undaunted by the prospect that it might be ten million miles long or even twenty.

After little more than a year his boat had been attacked by evil men and one had stuck a stone knife into little Gwenafra and thrown her into The River, where she had drowned. She had awakened the next day on the banks somewhere far up in the northern hemisphere. The weather was colder, the sun weaker and the people there said that you did not have to go more than twenty thousand grailstones before you were in an area where the sun was always half above, half below the mountains. And there lived hairy, ape-faced men ten feet tall and weighing seven to eight hundred pounds.

(This was true, Joe Miller had been one of the titanthrops there.)

The people up River who adopted her spoke *Suomenkieltä*, which in English meant Finnish. DownRiver a little way were the Swedes. These were twentieth-century people who lived a peaceful life and Gwenafra grew up relatively happy with loving foster parents. She learned Finnish, Swedish, English, a Chinese dialect of the fourth century B.C. and Esperanto.

She drowned again by accident one day and woke up here. She still remembered Burton; she cherished a childhood crush she had had for him. But, being a realist, she was ready to love other men. And she had—and had just split with one, Sam had heard. She wanted a man who would be faithful to her and these were not easy to find in this world.

Sam was very much attracted to her. The only thing that had kept him from asking her to move in

with him had been the fear of angering Livy. That fear was ridiculous—she had no claim on him as long as she was living with Cyrano. And she had made it plain that she did not care what he did in his private life—or his public life. Nevertheless, against all logic, he was afraid to take another woman as his hutmate. He did not want to snap the last thin link.

He chatted with Gwenafra a while and confirmed that she was still unattached.

V

LUNCH was upsetting. The "roulette wheel" concealed somewhere in the false bottom of the grail, the wild caster of dice, came up with a meal that only a Goshute Indian could have swallowed and even he might have gagged a little. Sam threw out all the food, but was able to console himself with two cigars, cigarettes and six ounces of an unfamiliar but delicious liqueur. Just smelling it sent his taste buds into a dance.

The meeting with the Council and John took three hours. After much wrangling and a number of votes, it was decided to put to the people the question of amending the Carta so that a *pro tem* Councilman could be elected. John held up things for an hour, arguing that a vote wasn't needed. Why couldn't the Council simply say that the amendment was passed? No amount of explaining ever seemed to clarify such matters in John's head. It was not that he was unintelligent. It was just that he was not emotionally suited to comprehend democracy.

The vote was unanimous to accept Firebrass as Hacking's official visiting fireman. But he would have a close eye kept on him.

After all this John rose and made a speech, occasionally lapsing from Esperanto into Norman French when he was overpowered by emotion. He thought that Parolando should invade Soul City before Soul City invaded Parolando. The invasion should be launched as soon as the handguns and the armored amphibian, *Firedragon I*, were ready. However, it might be best to test the mettle of their metal and the troops on New Brittany first. His spies were certain that Arthur planned to attack them soon.

John's two toadies backed him, but the others, including Sam, voted them down. John's face became red and he scolded and drummed his fingers on the oak table, but nobody decided to change his mind.

After supper the drums relayed a message from Hacking. Firebrass would be arriving tomorrow, some time before noon.

Sam retired to his office. By the

light of lamps burning fish-oil—soon they would have electricity—he and Van Boom and Tanya Velitsky and John Wesley O'Brien, the engineers, discussed their ideas about the Riverboat and drew rough sketches on paper. Paper was still scarce, but they would need enormous amounts to draw their blueprints. Van Boom said that they should wait until they were able to make a certain kind of plastic. Lines could be drawn on this with magnetized "pens" and corrections could easily be made by demagnetizing. Sam replied that that was fine. But he wanted to start building the Riverboat the moment the amphibian was completed. Van Boom said that he could not agree to that. Too many things were in the way.

It was late when Sam said good night.

Van Boom pulled the Mark I gun out of a large bag. "We have ten of these now," he said. "This one is yours. Compliments of Parolando's Engineering Corps. And here are twenty packages of powder and twenty plastic bullets. You can sleep with them under your pillow."

Sam thanked him. Van Boom left and Sam barred the door.

He went into the back room to talk to Joe Miller a while. Joe was still awake, but he said he was taking no sedation that night. He would be getting up in the morning. Sam bade the giant good night and went into his bedroom, next to the pilothouse. He drank two shots of bourbon and lay down. After a while he managed to doze, though he was afraid that the three-o'clock rain would wake him as usual and he would have trouble getting back to sleep.

HE AWOKE but the rain was long past. Shouts came from somewhere and then an explosion that rattled the ports in the pilothouse. Sam leaped out of bed, wrapped a kilt around his waist, seized an axe in one hand and ran into the pilothouse. He suddenly remembered his pistol, but decided he would go back for it when he found out what was going on.

The River was still smothered in fog, but hundreds of dark figures were spilling out of it and the tops of tall masts sticking out above it. Torches were flaring all over the plains and in the hills. Drums were beating.

There was another explosion. A brightness in the night with bodies flying in all directions.

He looked through the starboard port. The gates of the log wall around King John's palace were open and men were streaming out. Among them was the stocky figure of John.

By then more men had appeared out of the mists over The

River. Bright starlight showed them lining up and moving out, rank after rank. The first of the invaders were by now in the great factories and advancing swiftly across the plain toward the foothills. Some explosions occurred inside factories as bombs were thrown to dislodge the defenders. And then a red tail flared out, disappeared, and something black shot toward him. Sam threw himself to the floor. A roar came beneath him, the floor heaved and the glass ports blew in. A wiff of acrid smoke came to him and was gone.

He should get up and run, he realized, but he couldn't. He was deafened and frozen. Another rocket would be coming his way and that one might be closer.

A giant hand gripped his shoulder and pulled him up. Another hand slid under his legs and he was being carried out. The arms and the chest of the giant were very hairy and as hard-muscled and as warm as a gorilla's. A voice as deep as if it were at the end of a railroad tunnel rumbled, "Take it eathy, Boththh."

"Put me down, Joe," Sam said. "I'm all right, except for my shame. And that's all right, too, I ought to feel ashamed."

His shock was fading and a sense of relative calm flowed in to fill the vacuum. The appearance of the massive titanthrop had steadied him. Good old Joe—he might be a dumb subhuman and sick at the moment, but he was still worth a battalion.

Joe had put on his suit of leather armor. In one hand was the haft of an enormous double-headed axe of steel. The face under the hooded helmet was low-browed, bulging with bone bars and buttresses and massive jaws. It was the face of a being between ape and man, though closer to man. But the unexpected feature, the comical yet terrifying feature, was the nose. This was the huge outlandishly protruding nose of the proboscis monkey. It provoked stares and laughter, though few had the foolhardiness to laugh in Joe's face. He was ten feet tall and weighed almost as much as a pair of lions.

"Who are they?" he rumbled. "They from Thoul Thity?"

"I don't know," Sam said. "Do you feel up to fighting? How's the head?"

"It hurtth. Yeah, I can fight okay. Vere do ve go from here?"

Sam led him downhill toward the men collecting around John. He heard his name called and turned to see the tall lanky figure of de Bergerac, Livy by his side. She carried a small round shield of leather-covered oak and a steel-tipped spear. Cyrano held a long, dully shining blade. Sam's eyes widened. It was a rapier.

Cyrano said, "*Morbleu!*" He switched to Esperanto. "Your smith gave this to me just after supper—he said there was no sense in waiting." Cyrano whipped the rapier, cutting the air with a sharp sound. "I've come alive again. Steel—sharp steel!"

A NEARBY explosion made them all leap for the ground. Sam waited until he was sure that another rocket was not coming and then looked at his pilothouse. It had received a direct hit; its front was blown open; a fire was racing through it and would soon be in the texas. His diary was gone but he could retrieve his grail later. It was indestructible.

In the next few minutes the wooden missiles, tails flaming, arched out, wobbling, from wooden bazookas held on the shoulders of the Parolandoj rocketeers. The missiles landed near and sometimes among the enemy and exploded with gouts of fire and much black smoke, quickly carried away by the wind.

Three runners arrived to report. The attack had been launched from three places, all from The River. The main body was concentrated here, apparently to seize the Parolandoj leaders, the larger factories and the amphibian. The other two armies were about a mile away on each side. The invaders were composed of men from New Brittany and Kleomanujo and the Ulmaks from across The River. The Ulmaks were savages who had lived in Siberia circa 30,000 B.C. and whose descendants had migrated across the Bering Straits to become Amerinds.

So much for King John's spy service, Sam thought. *Unless—unless he is in on the attack. But if he were he wouldn't be standing out here where he's likely to get killed any moment . . .*

Anyway, Arthur of New Brittany would never make a deal with his murderer uncle.

The rockets continued to arc down from both sides, the five-pound warheads with their rock fragment shrapnel taking a toll. The Parolandoj had the advantage; they could lie flat while their rockets exploded among upright targets. The invaders had to keep moving, otherwise they might just as well go home.

Nevertheless, it was frightening to lie on the ground and wait for the next noisy blast and hope that it would not come closer than the last one. There were screams from the wounded that were not, however, as heartrending as they would have been if Sam had not been nearly deafened. Then, suddenly, the rockets had quit blowing up the world. A huge hand shook Sam's shoulder. He looked up to see that many around him were

getting to their feet. The sergeants were yelling into the stunned ears of their men to form a battle array. The enemy was so close now that neither side was using the missiles or else they had all been launched.

Ahead was a dark body, a sea of screaming whooping fiends. They ran up the hill and the first, second, and third ranks fell, pierced by arrows. But those behind did not break, they leaped over the fallen and kept on coming. Suddenly, the archers were being hammered down or thrust through or clubbed.

Sam kept close behind Joe Miller, who moved ahead slowly, his axe rising and falling. And then the giant was down, and the enemy were struggling on top of him like a pack of jackals on a lion. Sam tried to get to him; his axe smashed through a shield and a head and an uplifted arm and then he felt a burning pain along his ribs. He was pushed back and back, while he slashed away with the axe. He stumbled over a pile of wood. Above him was the burning floor of his house; the stilts were on fire.

He turned on his side and there was the handgun, the Mark I, that he had left by his bedside. Near it lay three packages of powder with the nitrate-soaked twists and a number of the plastic bullets.

His axe was gone; it had become wedged in a skull.

TWO men whirled by him in a dance, their hands gripping each other, straining, grunting with the strain, glaring into each other's bloody faces. They stopped and Sam recognized King John—his opponent was taller but not as thickly built. He, too, had tawny hair and eyes that were blue in the flames overhead.

Sam broke open the pistol, put in the bullet and the charge as he had done that morning up in the hills, locked the barrel and rose to his feet. The two men still struggled, one slipping back a little, then the other, trying to throw each other. John held a steel knife in his right hand, the other man a steel axe.

Sam looked around; no one was coming at him. He stepped forward and extended the muzzle of the big pistol, holding it steady with both hands. He pulled the trigger, the click sounded, the gun was jarred to one side by the heavy hammer, there was a flash, he had the gun back in line, a boom, a cloud of smoke—and John's assailant fell to one side, the entire right side of his skull blown away.

John fell gasping onto the ground. Then he raised himself, looking at Sam, who was reloading the gun. "Many thanks, partner! That man was my nephew, Arthur!"

Sam did not reply. If he had been thinking he would have

waited until Arthur had killed John and *then* blown Arthur's head off. It was ironic that he, Sam, who had much to gain by John's death, should be responsible for saving him. Moreover, he could not expect gratitude from John. The man had no such thing in his soul.

Sam completed reloading the pistol and strode away, looking for Joe Miller. But he saw Livy reeling backward as a big Ulmak, whose left arm dangled bloodily, drove her back with blows of a stone axe on her shield. Her spear had been broken and in a few seconds he would have beaten her to her knees or shattered the shield. Sam reversed the pistol and broke the Ulmak's skull from behind with the butt of his gun. Livy fell exhausted and weeping on the ground and he would have gotten down to comfort her. But she seemed all right and he did not know where Joe Miller was. He plunged into the embattled mass and saw Joe on his feet again, demolishing heads, trunks and arms with sweeps of his great axe.

Sam stopped a few paces from a man who was coming up from behind Joe, a large axe in both hands. Sam fired and the bullet took part of the man's chest off.

A minute later, the invaders were running for their lives. The sky was graying; by its light it was evident that Parolandoj were coming in from north and south. The other two columns had been shattered and the reinforcements were outnumbering the invaders. Moreover, they brought rockets, which blew up the boats and canoes waiting for the defeated.

Sam felt too exhilarated to be depressed by the losses and the damage. For the first time came out of the blue funk that always seized him during a fight. He actually *enjoyed* the battle during the last ten minutes.

A MOMENT later his pleasure was gone. A wild-eyed and naked Hermann Goering, his scalp caked with blood, appeared on the battleground. His arms were raised straight up and he was shouting, "Oh, brothers and sisters! Shame! Shame! You have killed, you have hated, you have lusted for the blood and the ecstasy of murder! Why did you not throw down your arms and take in your enemies with love? Let them do with you what they would? You would have died and suffered but final victory would have been yours! The enemy would have felt your love—and the next time he might have hesitated before again waging war. And the time after that and the next time he might have asked himself, 'What am I doing? Why am I doing this? What good is this? I have gained nothing—' and your love would

have seeped through the stone over his heart and—"

John, coming up behind Goering, struck him on the back of the head with the hilt of his knife. Goering fell forward and lay on his face without moving.

"So much for traitors," John shouted. He stared around wildly and then yelled, "Where are Trimalchio and Mordaunt?"

Sam said, "They wouldn't be stupid enough to hang around here. You'll never catch them. They'll know you know they sold out to Arthur."

John's striking of Goering was illegal, since free speech was every one's right in Parolando. But Sam did not think that arresting John would be the right course at that moment.

Sam, too, had felt like hitting Goering.

Livy, still weeping, staggered past. Sam followed her to where Cyrano sat on a pile of corpses. The Frenchman was wounded in a dozen places, though not seriously, and his rapier was bloody from tip to guard. He had given a splendid account of himself and his weapon.

Livy threw herself on Cyrano and Sam turned away. She had not even thanked him for having saved her earlier.

Sam sighed.

There was a crash behind him. He turned. The rest of his house had fallen in, bringing the stilts with it.

He felt drained of every atom of strength, but there would be little rest for him today. The casualties and the damage had to be assessed. The dead had to be taken to the rendering factory up in the hills, since their fat was used to make glycerin. The practice was gruesome but necessary and the owners of the bodies did not mind. Tomorrow they would be alive and well again somewhere far away along The River.

In addition, the entire population would have to be kept ready for a call to arms and the work on erecting the walls along the Riveredge would have to be speeded up. Scouts and messengers would have to be sent out to determine just what the military situation was. The Ulmaks and the Kleomenujoj and the New Bretons might launch an all-out full-scale attack.

A captain reported that Kleomenes, the leader of Kleomenujo, had been found dead near the Riveredge, where a piece of rock shrapnel had entered his skull. So ended the halfbrother of the great Spartan, Leonidas, who defended the pass of Thermopylos. Or so he ended in this area at least.

Sam appointed some men to leave by boat immediately for the two countries. They were to inform them that Parolando did not

intend to take vengeance if the new leaders would guarantee friendship to Parolando. John complained that he should have been consulted and there was a short but savage argument. Sam finally agreed that John was right in principle, but there was no time to discuss certain matters. John informed him that, under the law, Sam had to take the time. Any decision had to be agreed upon by both of them.

Sam hated to agree but John was right. They couldn't be giving contradictory orders.

They went together to inspect the factories. These were not badly damaged. The invaders had not, of course, wanted to wreck them since they had intended to use them. The amphibian, the *Firedragon I*, was untouched. Sam shuddered when he thought of what might have happened if it had been completed and had fallen into the hands of the enemy. With it, they could have crushed the Parolandoj in the center and dug in to fight on the perimeter until reinforcements came. He would set up a large special guard around the vehicle.

He fell asleep after lunch in a Councilman's hut. It seemed that he had just closed his eyes when he was shaken awake. Joe was standing over him, breathing bourbon fumes from his tremendous proboscis.

"The delegathyon from Thoul Thity chutht landed."

"Firebrass," Sam said, standing up from the chair. "I forgot all about him. What a time for him to show up!"

HE WALKED down to the River, where a catamaran was beached near the grailstone. John was already there, greeting the delegation, which consisted of six blacks, two Arabs and two Hindus. Firebrass was a short, bronze-skinned, curly-haired man with big brown eyes flecked with green. His huge forehead and shoulders and thickly muscled arms contrasted with his skinny legs, making him look all top. He spoke in Esperanto at first but later used English. It was a very strange English, full of terms and slang that Sam did not understand. But there was a warmth and openness about Firebrass that made Sam feel good just to have him around.

"We better go back to Esperanto," Sam said, smiling and pouring three more slugs of scotch into Firebrass's cup. "Is that spaceman's lingo or Soul City dialect?"

"Marsman's," Firebrass said. "Soul City English is pretty wild, but the official language, of course, is Esperanto, though Hacking was considering Arabic. But he isn't too happy about his Arabs any more," he added in a lower

voice, looking at Abd ar-rahman and Ali Fazghuli, the Arab members of his delegation.

"As you can see," Sam said, "we are in no condition to have a long leisurely conference. Not now. We have to clean up, get information about what's going on outside Parolando and set up our defences. But you are welcome, of course, and we'll get around to business within a few days."

"I don't mind," Firebrass said. "I'd like to look around, if you don't mind."

"I don't, but my co-Consul has to give his consent, too."

John, smiling as if it hurt his teeth to be exposed to the air—and it probably did this time—said that Firebrass was welcome. But he would have to be accompanied by a guard of honor every time he left the quarters that would be assigned to him. Firebrass thanked him but another delegate, Abdullah X, protested loudly and occasionally obscenely. Firebrass said nothing for a minute and then told Abdullah to be polite, since they were guests. Sam was grateful, though he wondered if the whole speech had not been arranged.

It had not been easy to sit there and listen, though all of the vitriolics had been hurled at the white race in general. Though it troubled him, Sam had to agree with Abdullah; he was right about conditions as they had been. But old Earth was dead; they were living in a new world.

Sam personally conducted the delegates to three huts, side by side, owned by men and women who had been killed last night. Then he moved into a hut near the delegation.

Drums boomed by the grailstone. After a minute, drums from across The River thundered back an answer. The new chief of the Ulmaks wanted peace. The old chief, Shrubgrain, had been put to death and his head would be delivered within the hour by canoe if peace could be arranged. Shurbgrain had failed his people by leading them to defeat.

Sam gave orders to transmit a request for a conference with the new chief, Threezburm.

Drums from Chernsky's Land said that Iyéyasu, who ruled a twelve-mile stretch of land between New Brittany and Kleomenujo, had invaded New Brittany. The news meant that the New Bretons would not be bothering Parolando, but it also worried Sam. Iyeyasu was a very ambitious man. Once he had consolidated his state with New Brittany he might decide he was strong enough to take Parolando.

More drums. Publius Crassus sent his congratulations and warmest regards, and he would be visiting tomorrow to see what he

could do to aid Parolando.

And also to see how hard we've been hit and if we'd be easy pickings, Sam thought. So far, Publius had been cooperative, but a man who had served under Julius Caesar was never above a little of his own brand of Caesarism.

Goering, his head wrapped in a bloody towel, staggered by, supported by two of his followers. Sam hoped he would take the hint and leave Parolando, but he didn't have much faith in the German's perceptiveness.

He went to sleep that night while torches burned everywhere over the land and guards peered into the shadows and the mists. His sleep was troubled, despite his intense fatigue. He tossed and rolled and once he awoke, his heart beating, his skin cold, certain that there was a third person in the hut. He fully expected to see the shadowy figure of The Mysterious Stranger crouched by his bed. But nobody was there except the monstrous form of Joe stretched out on the huge bamboo bed near him.

VI

THE next morning he arose unrefreshed in a refreshed world. The three-o'clock rain had washed away the blood and the stink of gunpowder. The bodies were out of sight and the sky was clear and blue. Business as usual was resumed but without about four hundred and fifty men and women. Half of these were in the rendering factory; the rest were in the hospital. Those who wanted to be put out of their misery were given their wish. Time had been when an axe was the only euthanasiast but now, thanks to Parolando's technology, the work was done with a potassium cyanide pill.

Some decided to stick it out. In time their limbs or eyes would grow back. Those afraid of the pain boarded The Suicide Express. There bodies would go to the rendering factory.

Sam's secretary had been killed. Sam asked Gwenafra if she would like to take Millie's place. Gwenafra seemed very pleased; the new position gave her a high status and she had made no secret of the fact that she liked to be near Sam. Lothar von Richthofen, however, did not seem pleased.

"Why shouldn't she be my secretary, regardless of her relationship to you?" Sam said.

"There is no reason," Lothar said, "except that I might have a very good chance with her if she isn't around you much."

"Let the best man win."

"My sentiments, too, but I don't like your wasting her time or leading her on. You know that you won't take another hutmate as long as Livy is here."

"Livy has nothing to say about what I do," Sam said.

Lothar smiled slightly and said, "Sure, Sam."

Gwenafra tagged along with him, taking notes, sending messages, receiving them, arranging schedules and appointments. Though he was very busy, he found moments when he could talk and joke with her and he felt a warmth every time he looked at her. Gwenafra seemed to adore him.

Two days passed. The twenty-four hour shift on the amphibian was showing results—it would be completed in another two days. The Soul City delegation strolled around with two of King John's men watching them. Joe Miller, who had gone back to his bed after the battle, said he was well again. Now Sam had both Gwenafra and the titanthrop with him and his world seemed much more comfortable, though it was a long way from being Utopia. Word came via the drum telegraph that Odysseus had loaded his ships with flints and would be back in a month. He had gone as commander of a ten-boat fleet to barter with the chief of Selinujo. On Earth she had been Countess Huntingdon, Selina Hastings, born 1707, died 1791. She was now a member of the Church of the Second Chance and traded her flint with Parolando only because Parolando permitted some of Goering's missionaries to preach at will in its territory. In return for the flint she had been promised a small metal steamboat in which she proposed to go up and down The River and preach. Sam thought she was fooling herself. The first place she put into she was liable to have her throat cut for the sake of the boat. But that was her business.

THE Councilmen met with the Soul City delegation. Sam would have liked to put it off, since John was in a mood even uglier than usual. One of his women had tried to kill him—or at least so he claimed. He had been stabbed in the side before he broke her jaw and knocked her head against the corner of a table. The woman had died an hour later still unconscious, and John's word that she had attacked him first had to be accepted. Sam would have liked to have collected some neutral eyewitness account but that was impossible.

John was in pain from the stab wound, half-drunk with bourbon as an anesthetic and smarting because the woman had dared to defy him. He slumped in a large, high-backed, ornately carved oak chair covered with red hornfish leather. One hand was around a clay vessel full of whiskey, a cigarette dangled from his lips and

he glowered at everybody. The conference was taking place at a round table in the largest room in John's palace.

Firebrass was talking. "Hacking once believed in total segregation of whites and nonwhites. He believed, fiercely believed, that whites could never accept, not really accept, nonwhite peoples, that is, the blacks, Mongolians, Polynesians, and Amerindians. The only way nonwhites could live with dignity, feel beautiful, be a people with its own personality and pride, was the way of segregation. Equal but separate.

"Then his leader, Malcolm X, quit the Black Muslims. Malcom X saw that he was wrong. Not all whites were devils, racist fiends, any more than all blacks had flat noses. Hacking fled the states to live in Algend and there he found that it was the attitude that made racism, not the color of the skin."

Hardly an original or surprising discovery, Sam thought. But he had told himself that he would not interrupt.

"And then the young whites of the United States rejected their parents' prejudices and they supported the blacks in their struggles. They got right out on the streets and demonstrated, rioted, laid down their lives for the blacks. They genuinely seemed to like blacks, not because they thought they ought to, but because blacks were human beings and human beings can be liked or even loved.

"Hacking, however, wasn't ever really at ease with an American white, try though he did to think of them as human beings. He was ruined, just as most whites, most older whites, were ruined. But he tried and he respected those young whites that told their parents, their white racist society, to go to hell.

"Then he died, as everybody did, black or white. He found himself among ancient Chinese and he wasn't very happy with them because they regarded all peoples except the Chinese as inferior."

Sam remembered the Chinese of Nevada and California in the early '60s, the hard-working, thrifty, quiet, meek, cheery little brown men and women. They had taken abuse that most people would not give a mule, been spat upon, cursed, tortured, stoned, robbed, raped, suffered about every indignity and crime that a people could suffer. They had had no rights whatsoever, no protector or protection. And they had never murmured, never revolted, they just endured. What thoughts had those masklike faces hidden? Had they, too, believed in the superiority of any Chinese to any white devil? If so, why had they not struck back, not once?

Firebrass said, "So Hacking left in a dugout, floated downRiver and after many thousands of miles

settled down among some blacks of seventeenth-century A.D. Africa. Ancestors of the Zulus before they migrated to southern Africa. He learned Zulu but after a while he left. Their customs were too repulsive and they were too bloody minded for him.

"Then he lived in an area where the people were a mixture of Dark Age Huns and dark whites of the New Stone Age. They accepted him well enough, but he missed his own people, the American blacks. So he took off again and was captured by ancient Moabites and enslaved, escaped, was captured by ancient Hebrews and put into grail slavery, escaped again, found a little community of blacks who'd been pre-Civil War slaves and was happy for a while. But their Uncle Tom attitudes and their superstitions got on his nerves and he took off, sailed downRiver and lived with several other peoples. Then, one day, some big blond whites, Germans of some kind, raided the people he was with. He fought, was killed.

"He was resurrected here. Hacking became convinced that the only happy states on The River are going to be made up of people with similar colors, similar tastes, and of the same terrestrial period. Anything else just won't work. People here aren't going to change. Back on Earth he could believe in progress, because the young whites were flexible minded. The old ones would die off and then the children of the young whites would be even more free of racial prejudice. But here that just isn't going to take place. Every man's set in his ways. So, unless Hacking just happened to find a community of late twentieth-century whites, he would find no whites without racial hatreds or prejudices. Of course, the ancient whites didn't have any, but they're too strange for a civilized man."

SAM asked, "What's all this leading up to?"

"We want a homogeneous nation. We can't get all late twentieth-century blacks, but we can get as black a nation as possible. Now, we know that you have approximately three thousand blacks in Parolando. We would like to exchange our Dravidians, Arabs, any nonblacks, for your blacks. Hacking is making similar proposals to your neighbors, but he doesn't have any lever with them."

King John sat up and said, loudly, "You mean he doesn't have anything they want?"

Firebrass looked coolly at John and said, "That's about it. But we'll have a lever some day."

"Do you mean when you have enough steel weapons?" Sam said.

Firebrass shrugged.

John crashed his empty cup down on the table. "Well, we don't

want your Arabs or your Dravidians or any of your Soul City dregs," he shouted. "But I'll tell you what we will do. For every ton of bauxite or cryolite or ounce of platinum, we will give you one of our black citizens! You can keep your Saracen infidels or send them packing downRiver or drown them for all we care."

"Wait a minute," Sam said. "We can't give our citizens away. If they want to volunteer, fine. But we don't just give anybody away. This is a democracy."

Firebrass's expression had darkened at John's outburst. "I wasn't suggesting that you give anybody away," he said. "We're not slave dealers, you know. What we want is a one-per-one-voluntary exchange. The Wahhabi Arabs, whom ar-Rahman and Fazghuli represent, feel they're unwelcome at Soul City and they would like to go where they could congregate in their own community, form a sort of Kasbah, you might say."

Sam thought this sounded fishy. Why couldn't they do that just as well in Soul City? Or why didn't they just get up and leave? One of the beauties of this world was that ties or property or dependence on income did not exist. A man could carry everything he owned on his back—and building another house was easy in a world where new bamboo grew two inches a day.

It was possible that Hacking wanted to get his people into Parolando so that they could spy or revolt when Hacking invaded.

Sam said, "We'll put your proposition about the exchange to each individual. That's all we can do. Now, does Sinjoro Hacking plan to keep on supplying us with the minerals and with wood?"

"As long as you keep on sending us raw ore and steel weapons," Firebrass said. "But Hacking is thinking of upping the price."

John's fist smashed into the table top again. "We will not be robbed," he shouted. "We are paying too much now. Don't push us, Sinjoro Firebrass, or you may find yourselves with nothing. Not even your lives!"

"Take it easy, Your Majesty," Sam said quietly. To Firebrass he said, "John isn't feeling well. Please forgive him. However, he does have a point. We can be pushed only so far."

ABDULLAH X, a very big and very black man, jumped up and pointed a big finger at Sam. In English, he said, "You honkies had better quit badmouthing us. We won't take any crap from you, Mister Whitey! None! Especially from a man that wrote a book like you did about Nigger Jim. We don't like white racists and we only deal with them because there's nothing else to do but that just now."

"Take it easy, Abdullah," Firebrass said. He was smiling and Sam wondered if Abdullah's speech was part of a well prepared program. Probably Firebrass was wondering if John's explosions had been rehearsed. Actors didn't have to be politicians, but politicians had to be actors.

Sam groaned and said, "Did you read *Huckleberry Finn*, Sinjoro X?"

Abdullah, sneering, said, "I don't read trash."

"Then you don't know what you're talking about, do you?"

Abdullah's face darkened. Firebrass grinned.

"I don't have to read that racist crap, man," Abdullah shouted. "Hacking told me all about it and what he says is good enough for me."

"You read it and then come back and we'll discuss it," Sam said.

"You crazy?" Abdullah said. "You know there aren't any books on this world."

"Then you lost out, didn't you?" Sam said. He was trembling a little; he wasn't used to being talked to like this by a black man. "Anyway," Sam said, "this isn't a literary tea and discussion group. Let's stick to the issue."

But Abdullah would not stop shouting about the books that Sam had written. And John, losing his temper, leaped up and screamed, "*Silentu, negraĉo!*"

John had taken the Esperanto word for "black" or "negro" and infixed the disparaging "-aĉ-" particle. He had gotten his point over quite well.

There was a moment of shock and silence. Abdullah X's mouth was open, then it closed and he looked triumphant, almost happy. Firebrass bit his lip. John leaned on the table on his fists and scowled. Sam puffed on his cigar. He knew that John's contempt for all humanity had made him invent the term. John had no racial prejudice; he had never seen more than a half-dozen blacks during his lifetime on Earth. But he certainly knew how to insult a person; the knowledge was second nature to him.

"I'm walking out," Abdullah X said. "I may be going home—and if I do you can bet your white skin that you'll pay hell getting any more aluminum or platinum, Mister Charlie."

Sam rose to his feet and said, "Just a minute. If you want an apology, I extend it on behalf of all Parolando."

Abdullah looked at Firebrass, who looked away. Abdullah said, "I want an apology from him, now!" He pointed at King John.

Sam leaned close to John and said softly, "There's too much at stake to play the proud monarch, Your Majesty! And you may be

playing into their hands with your little fit. They are up to something, you can bet on that. Apologize."

John straightened up and said, "I apologize to no man, especially not to a commoner."

Sam snorted and gestured with his cigar. "Can't you get it through your thick Plantagenet head that there isn't any such thing as royal blood or divine right of kings any more, that we're all commoners? Or all kings?"

JOHN did not reply. He walked out. Abdullah looked at Firebrass, who nodded. Abdullah walked out.

Sam said, "Well, Sinjoro Firebrass, what next? Do you people go home?"

Firebrass shook his head. "No, I don't believe in hasty decisions. But the conference is suspended as far as the Soul City delegation is concerned. Until John Lackland apologizes. I'll give you until noon tomorrow to decide what to do."

Firebrass turned to leave. Sam said, "I'll talk to John, but he's as hardheaded as a Missouri mule."

"I'd hate to see our negotiations fold because one man can't keep his insults to himself," Firebrass said. "And I'd also hate to see our trade stop, because that would mean no Riverboat for you."

Sam said, "Don't get me wrong, Sinjoro Firebrass. I'm making no threats. But I won't be stopped. I'll get the aluminum if I have to kick John out of the country myself. Or, alternatively, if I have to go down to Soul City and get the aluminum myself."

"I understand you," Firebrass said. "But what you don't understand is that Hacking isn't out for power. He only wants to have a well protected state so that his citizens can enjoy life. And they will enjoy their life because they'll all have similar tastes and similar goals. In other words, they'll all be black."

Sam grunted and then said, "Very well." He fell silent but just before Firebrass left he called, "One minute. Have you read *Huckleberry Finn*?"

Firebrass turned back. "Sure. I thought it was a great book when I was a kid. I read it again when I was in college and I could see its flaws then."

"Were you disturbed because Jim was called Nigger Jim?"

"You have to remember that I was born in nineteen-seventy-five on a farm near Syracuse, New York. Things had changed a lot by then and the farm had originally been owned by my great-great-great grandfather, who came up from Georgia to Canada via the underground railway and then purchased the farm after the Civil War. No, I wasn't offended by

your use of the word. Negroes were called niggers openly in the time you wrote about and nobody thought anything of it. Sure, the word was an insult. But you were portraying people as they actually talked and the ethical basis of your novel, the struggle between Huck's duty as a citizen and his feeling for Jim as a human being and the victory of the human feeling in Huck—I was moved. The whole book was an indictment of slavery, of the semifeudal society of the Mississippi, of superstition—of everything stupid of that time. So why should I be offended by it?"

"Then why—"

"Abdullah—whose original name was George Robert Lee—was born in nineteen-twenty-five and Hacking was born in nineteen-thirty-eight. Blacks were niggers then to a lot of whites, though not all. They found out the hard way that violence—or the threat of it, the same thing that the whites had used to keep them down—was the only way to get their rights as citizens of the United States. You died in nineteen-ten, right? But you must have been told by any number of people what happened after that?"

Sam nodded. "It's hard to believe. Not the violence of the riots. Plenty of that happened in my lifetime and nothing, I understand, ever equaled the Draft Act riots in New York City during the Civil War. I mean, what's hard to visualize is the licentiousness of the late twentieth century."

FIREBRASS laughed and said, "Yet you're living in a society that is far more free and licentious—from the viewpoint of the nineteenth century—than any society in the twentieth. You've adapted."

"I suppose so," Sam replied. "But the two weeks of absolute nudity that the entire human species lived through during the first days after resurrection ensured that mankind would never again be the same. Not as regards nudity, anyway. And the undeniable fact of the resurrection shattered many fixed ideas and attitudes. Though the diehard is still with us, as witness your Wahhabi Moslems."

"Tell me, Sinjoro Clemens," Firebrass said. "You were an early liberal, far ahead of your times in many things. You spoke up against slavery and were for equality. And when you wrote the Magna Carta for Parolando you insisted that there should be political equality for all species, races and both sexes. I notice that a black man and a white woman live almost next door to you. Be honest, doesn't it disturb you to see that?"

Sam drew in smoke, blew it out

and said, "To be honest, yes, it did disturb me. Well, to tell the truth, it almost killed me! What my mind told me and what my reflexes told me were two different things. I hated it. But I stuck to my guns, I said nothing, I became acquainted with that couple and I learned to like them. And now, after a year, it bothers me only a very little. And that will go away in time."

"The difference between you—representing the white liberal—and the youth of Hacking's day and mine was that we were not bothered. We accepted it."

"Don't I get any credit for lifting myself by my mental bootstraps?" Sam asked.

"Yawblaw," Firebrass said, lapsing into English—of a sort. "Two degrees off is better than ninety. Pin it."

HE WENT out. Sam was left alone. He sat for a long while, then stood up and went outside. The first person he saw was Hermann Goering. His head was still wrapped in a towel but his skin was less pale and his eyes did not look odd.

Sam said, "How's your head?"

"It still hurts. But I can walk without driving hot spikes in it every time I take a step."

"I don't like to see a man suffer," Sam said. "So I suggest that you could avoid more suffering, if not downright pain, by leaving Parolando."

"Are you threatening me?"

"Not with any action from me. But there are plenty who may get so riled up they'll run you out on a rail. Or take you down to The River and drown you. You're upsetting everybody with your preachings. This state was founded with one main goal, the building of the Riverboat. Now, a man may say anything he wants to and not run foul of the law here. But there are those who sometimes ignore the law and I wouldn't want to have to punish them because you tempted them. I suggest that you do your Christian duty and remove yourself from the premises. That way, you won't be tempting good men and women to commit violence."

"I'm not a Christian," Goering said.

"I admire a man who can admit that. I don't think I ever met a preacher who came out and said so, in so many words."

"Sinjoro Clemens," Goering said, "I read your books when I was a young man in Germany, first in German and then in English. But levity or mild irony aren't going to get us any place. I am not a Christian, though I try to practice the better Christian virtues. I am a missionary for the Church of the Second Chance. All Terrestrial religions have been dis-

credited, even if some won't admit it. The Church is the first religion to rise on the new world, the only one which has any chance to survive. It—"

"Spare me the lecture," Sam said. "I've heard enough from your predecessors and from you. What I'm saying, in utter friendliness and a desire to save you from harm and also, to be honest, to get you out of my craw, is that you should take off. Right now. Or you'll be killed."

"Then I'll rise at dawn tomorrow somewhere else and preach The Truth there, wherever I find myself. You see, here, as on Earth, the blood of the martyr is the seed of the Church. The man who kills one of us only ensures that The Truth, the chance for eternal salvation, will be heard by more people. Murder has spread our faith up and down The River far faster than any conventional means."

"Congratulations," Sam said exasperatedly, dropping into English as he often did when angry. "But tell me, doesn't the repeated killing of your missionaries bother you? Aren't you afraid of running out of body?"

"What do you mean?"

"Tenets, anyone?"

Sam got no reaction except a puzzled look. Sam resumed in Esperanto. "One of your major tenets, if I remember correctly, is that Man wasn't resurrected so he could enjoy life here forever. He is given only a limited time, though it may look like a long time to most, especially if they don't happen to be enjoying life here. You postulate something analogous to a soul, something you call a psychomorph, right? Or sometimes a *ka*. You have to, otherwise you can't claim a continuity of identity in a man. Without it a man who dies is dead, even if his body is reproduced exactly and made alive again. That second body is only a reproduction. The Lazarus has the mind and the memories of the man who died, so he *thinks* he's the man who died. But he isn't. He's just a living duplicate. Death terminated the first man. He's through.

"Unless he has a soul—or a psychomorph or a *ka*—call it what you will. This is an entity which is born with the body, accompanies it, registers and records everything the body does and, indeed, must be an incorporeal incorporation of the body, if you'll excuse that contradiction. So that, when the flesh dies, the *ka* still exists. It exists in some fourth dimension or in some polarization which protoplasmic eyes can't see or mechanical devices can't detect. Is that correct?"

"You're close enough," Goering said. "Crudely put but satisfactory."

"SO FAR," Sam said, expelling a big cloud of green smoke, "we have—you have, not I—the postulated soul of the Christians and the Moslems and others *ad nauseam*. But you claim that the soul does not go to a hell or a heaven. It flits around in some sort of fourth-dimensional limbo. It would do so forever if it were not for the interference of other beings. These are extra-Terrestrials who came into existence long before humanity did. These superbeings came to Earth when mankind did not yet exist—in fact, they visited every planet in the universe that might have sentient life some day."

"You're not phrasing exactly as we do," Goering said. "We maintain that every Galaxy has one—or perhaps many—ancient species inhabiting certain planets. These beings may have arisen in our Galaxy or they may have originated in an earlier, now dead, Galaxy or universe. In any event, they are wise and knew long ago that sentient life would arise on Earth and they set up devices which started recording these sentients from the moment they appeared. These devices are undetectable by the sentients.

"At some time which these Ancients, as we call them, have determined, the recordings are sent to a special place. There the dead are fleshed out from the recordings by energy-matter converters, made whole and young again and then recordings are made of these bodies—which are destroyed and the dead are raised on a new world, such as this, again through e-m conversion.

"The psychomorphs, or *kas*, have an affinity to their protoplasmic twins. The moment a duplicate of the dead body is made, the *ka* attaches itself and begins recording. So that, if the body is killed and duplicated a hundred times, the *ka* still retains the identity, the mind and the memories of all the bodies. So that it is not just one duplicate after another being created. It is a matter of preservation of the pristine individual."

"But!" Sam said, waving his cigar and then stabbing its glowing end close to Goering's cheek. "But! You maintain that a man cannot be killed an indefinite number of times. You say that, after a couple of hundred times death does have a final effect. Continued dying weakens the link between body and *ka* and eventually the duplication of the body does not cause the *ka* to merge with it. The *ka* wanders off, haunts the spooky corridors of the fourth dimension or whatever. It becomes, in effect, a ghost, a lost soul. It is done for."

"That is the essence of our faith," Goering said. "Or I should

say our knowledge, since we know this to be true."

Sam raised his bushy eyebrows. "Indeed? Know?"

"Yes. Our founder heard The Truth a year after Resurrection, a year to the day after all of humanity rose from the dead. A man came to him at night as he prayed for a revelation on a high ledge up in the mountains. This man told him certain things, showed him certain things, that no terrestrial mortal could tell or show. This man was an agent of The Ancients and he revealed The Truth, and told our founder to go out and preach the doctrine of the Second Chance.

"Actually, Second Chance is a misnomer. It is really our First Chance, because we never had a chance for salvation and eternal life while we were on Earth. But life on Earth was a necessary prelude to this Riverworld. The Creator made the universe and then The Ancients preserved humankind—indeed, all sentients throughout the universe. They *preserved.* But *salvation* is up to mankind only.

"It is up to each man to save himself, now that he has been given the chance."

"Through the Church of the Second Chance and that only, I suppose," Sam said. He did not want to sneer but he could not help it.

"That is what we believe," Goering said.

"WHAT were the credentials of this mysterious stranger?" Sam said. He thought of *his* Mysterious Stranger, and felt panic. Could the two be the same? Or from among the same beings, who called themselves the Ethicals? His Stranger, the man who sent the nickel-iron meteorite here and who had enabled Joe Miller to see the Tower in the mists of the North Polar Sea, was a renegade of the Ethicals. If he were to be believed.

"Credentials?" Goering said. "Papers from God?" He laughed. "The founder knew that his visitor could not be just a man because he knew things that only a god, or a superior being, could know about him. And he showed him some things that he had to believe. And he told him how we were brought back to life and why. He did not tell him everything. Some things will be revealed later. Some things we must find out for ourselves."

"What is the name of this founder?" Sam said. "Or don't you know? Is that one of the hidden things?"

"No one knows," Goering said. "It is not necessary to know. What is a name? He only called himself Viro. That is, in Esperanto, a man. From the Latin *vir.* We call him La Fondinto, The Founder, or La Viro, The Man."

"Did you ever meet him?"

"No, but I have met two who knew him well. One was there when LaViro preached the first time, seven days after the Stranger had talked to him."

"La Viro is definitely male? Not a woman?"

"Oh, yes!"

Sam sighed deeply and said, "That's a great weight off my mind. If the founder had turned out to be Mary Baker Eddy I would have curled up and died."

"What?"

"Never mind," Sam said, grinning. "I wrote a book about her once. I wouldn't want to meet her; she'd scalp me alive. But some of the wild mystical things you told me reminded me of her."

"Except for the *ka*, everything in our explanation is based on the physical. And the *ka* is physical but at right angles, you might say, to our reality. We believe that it is science, the science of The Ancients, which has given us a physical resurrection. There's nothing supernatural about anything, except our belief in The Creator, of course. The rest is all science."

"Like Mary Baker Eddy's religion?" Sam asked.

"I do not know of her."

"So how do we attain this salvation?"

"By becoming love. And that implies, of course, that we do not offer violence, even in self-defense. We believe that we can become love only by attaining a certain transcendent state and that comes through self-knowledge. So far most of mankind has not learned how to use dreamgum; man has abused the drug, just as he abuses everything."

"And you think you have *become love*, whatever that phrase means?"

"Not yet. But I am on the way."

"Through dreamgum?"

"Not just with it. It helps. But you have to act, too, you have to preach and suffer for your belief. And learn not to hate. Learn to love."

"So that is why you oppose my Riverboat? You think that we are wasting our time by building it?"

"It's a goal that will bring no one any good. So far it has resulted in the devastation of the land, in greed and pain and bloodshed, in anxiety and treachery. In hate, hate, hate! And for what? So you can have what nobody else has, a giant boat of metal propelled by electricity, the apex of the technology this planet offers, a ship of fools. So you can journey to the headwaters of The River. When you get there, then what? You should be journeying to the headwaters of the soul!"

"There are some things you don't know," Sam said. His smugness was soured by a vision. There was the devil, crouching in

the darkness, whispering in his ear. But someone had crouched in the darkness and whispered in the ear of the founder of the Church, too. Was the Church's Stranger the devil? The being who had come to Samuel Clemens had said that the others were the devils and he wanted to save mankind.

The devil would say something like that, of course.

"Don't my words touch your heart at all?" Goering said.

Sam rapped his chest with his fist and said, "Yes, I do believe I have a touch of indigestion."

Goering made a fist and clamped his lips.

"Watch out, you'll lose your love," Sam said and walked away. But he did not feel particularly triumphant. It was a fact that he did have a little stomach upset. Invincible ignorance always upset him, even though he knew he should just laugh at it.

VII

THE afternoon of the next day arrived. Sam Clemens and John Lackland had been arguing all morning. John said that he would never apologize for anything he said to a commoner, especially to a man called Abdullah, a Saracen.

Finally Sam, exasperated past caution and reasonableness, said, "We can't afford to have the bauxite cut off by Hacking. We can't afford anything that will put a stop to building the Riverboat. Maybe you're doing this to force a war between us and Soul City. It isn't going to work, Your Majesty!"

Sam had been walking back and forth, waving a panatela as he spoke. John sprawled before the oaken round table in Sam's pilothouse. Joe Miller sat in a corner on a big chair specially built for him. The massive palaeolithic Mongolian, Zaksksromb, stood behind John.

Suddenly, Sam whirled and planked both fists on the table. Leaning on the table, his cigar in one corner of his mouth, the reddish tangle of his eyebrows drawn down, he snarled at John.

"You gave in once, at Runnymede, when you signed the Magna Carta. It was about the only decent thing you ever did during your reign—and there are some who say you had your fingers crossed then. Well, this is another showdown, John, Your Majesty. You apologize to Abdullah, who has a right to an apology—or I'll call a special session of the Council and we'll determine your fitness to continue as co-Consul!"

John glowered at him for a full minute at the least. Then he said, "Your threats don't scare me. But it's evident that you would sooner plunge our land into civil war than go to war with Soul City. I do not

understand this madness, but then a rational man always has trouble understanding irrationality. So—I will apologize, why not? A king can afford to be gracious to a commoner. It costs him nothing and enhances his graciousness."

John rose and swaggered out, his huge bodyguard behind him.

Ten minutes later Sam heard that John had appeared at the state guest house and offered his apology. Abdullah X accepted it, though sullenly. It was evident that he had been ordered to do so.

Just before the factory whistles announced the end of lunch hour, Cawber entered. He sat down without waiting for Sam to invite him. Sam raised his eyebrows, because this was the first time that this had happened. There was something indefinable in Cawber's attitude. Sam, watching him carefully, listening to every inflection of his voice, decided that his attitude was that of a slave who has decided to be a slave no more.

CAWBER knew that he would be the emissary to Soul City. He sat leaning forward, huge black arms resting on the oak, his hands spread out. He spoke in Esperanto and, like many people, often in the present tense, using an adverb of time to indicate future or past if he wanted to clarify.

Cawber's team had talked to every one of the approximately three thousand undoubted Negroes (there was some confusion of classification about some of the prehistorics). A third of these was willing, though not eager, to go to Soul City in exchange for Hacking's unwanted citizens. Most were late twentieth-century blacks. The others maintained that they had work that gave them prestige, that they liked being on an equal footing with the whites and that they did not want to give up their chance to be on the Riverboat.

The latter was probably the biggest determinant, Sam thought. He was not the only one who dreamed of the Riverboat. It drove through the minds of many during sleep, gleaming like a jewel with a firefly trapped inside it.

Firebrass and his people were requested to come to the conference room. Firebrass was late because he had been inspecting the airplane. He was laughing about its quaintness, fragility and slowness, and yet he was envious that von Richthofen would be the one to fly it.

"You'll certainly get a chance to fly it, too," Sam said. "Provided that you are still here, of course, when—"

Firebrass waved aside Sam's assurances, became serious. "What is your decision, gentlemen, re-

garding my government's proposal?"

Sam looked at John, who gestured that Sam had the floor. John intended that any ill feelings should first be directed at Sam.

"This is a democracy," Sam said. "And we can't tell our citizens to get out unless they've been guilty of illegal behavior. So, as I see it—as *we* see it—any citizen of Parolando may go to Soul City if he wishes. I think we actually reached basic agreement on this when we last met. It will be up to your government to negotiate with each citizen. As for taking in your Arabs and Dravidians and so forth—we'll give them a chance to come with us if they want: but we reserve the right to get rid of them if they don't work out. Where they'll go then is up to them."

"Well," Firebrass said, "I don't suppose Hacking wants anybody who isn't willing to live in Soul City, no matter how black that person is."

"What about the shipments of minerals?" Sam said. "Will those be discontinued during the negotiations?"

"I really couldn't say," Firebrass replied. "I doubt it, but I'd have to confer. Of course, you'll have to keep up your present rate of ore and weapons to us before the price is raised."

"I notice you said *is*, not *might be*," Sam said.

"Anything I say is subject to confirmation or negation from Soul City," Firebrass said, smiling.

The rest of the conference was that Cawber would go to Soul City as Parolando's ambassador if the Carta could be changed to arrange it. Everything else was still up in the air. Sam Clemens received the impression that Firebrass did not intend to speed things up. Quite the contrary. He was willing to let things drag on or even to put his own foot on the brake if things showed signs of accelerating. He wanted to remain in Parolando and Sam could only think that he wished to do so in order to spy. Perhaps he also wanted to stir up trouble.

Later, when he discussed the meeting with John, he found some variations to his conclusions. John agreed that Firebrass was a spy but he could not see why Firebrass would stir up trouble.

"He would want the boat to be built as swiftly as possible. The sooner it's completed, the sooner Hacking will try to seize it. Do you think for one moment that Hacking doesn't intend to get the boat? Do you think for one moment that we have a single neighbor who doesn't intend to try for the boat? Arthur made the abortive attempt to take us over because of his hatred for me. He should have waited until the boat was nearly completed and then,

with Kleomenes and the Ulmaks, launched all the force they could mount in an all-out attack. As things worked out, he and Kleomenes were killed and Iyeyasu has invaded their countries while their successors are fighting among themselves."

"According to our spies, he's winning, too," Sam said.

"If he consolidates his state with the other two, then he'll be a very formidable enemy."

And so will you be, John Lackland, Sam thought. *Of all the people I'll have to watch after the boat is built, you'll bear the closest watching . . .*

FIREBRASS announced that he and his delegation would remain at Soul City's embassy while the negotiations went on.

"It's nice to have you," Sam said. "But Soul City has its own industries. I know it's been using our ore to make weapons and several things our spies can't find out about."

Firebrass looked surprised and then he laughed uproariously. "You twist my stick, stymate!" he said in English. Then, in Esperanto, "Well, why shouldn't we be frank? I like that. Yes, we know you have spies among us just as you know we have ours here. Who doesn't have his men in his neighbors' lands? But what are you getting at?"

"You're the most technically trained man Hacking has. You're a Ph. D. You're in charge of the factories and of research and development. So why does Hacking send you here when he needs you there?"

"I've set everything up to run smoothly. Soul City doesn't need me right now—and I was bored. I wanted to come here, where it's at."

"So you can see what we're doing, like our Mark I handguns and our airplane and the amphibian and its steam cannon?"

Firebrass grinned and nodded. "Yes. Why not? If I don't see these things, someone else will."

Sam relaxed. He said, "Have a cigar. You can look all you want. We're not doing anything you wouldn't have figured out for yourself, except for the steam cannon maybe. That, by the way, is my invention. Come along with me. I'm very proud of it and want you to see it. It's almost finished."

Firedragon I rested inside its supporting framework of timbers. It was silvery gray and shaped like a flat-bottomed boat but had seven huge metal wheels with plastic tires on each side. Twin screws protected by a screen protruded from its rear. Its length was thirty feet, its beam ten and its height was twelve feet. Three turrets stuck out from the upper deck. One held the pilot and captain and radio

operator, though at the moment Parolando had no radios. The center turret was higher than the others and the barrel of a short stubby weapon encased in wood projected from it. The rear turret was designed for gunners who would be armed with Mark I handguns and perhaps rifles.

"The amphibian burns wood alcohol to generate steam," Sam said. "Let's go inside, through this hatch in the side here. You'll notice that the boiler takes up about a third of the interior. There's a good reason for that, as you'll see."

They climbed up a ladder into the interior of the center turret, which was lit by a single light bulb. Firebrass exclaimed at this—it was the only electric light bulb he had ever seen on The River. Sam explained that it was powered by a fuel cell.

"And here is the Superdooper Steam Machine Cannon," he said. He pointed at the cylinder sticking out of the gray bulkhead of the turret. Underneath it were a pistol-like butt and a trigger. Firebrass got behind it, put his finger on the trigger and looked out through the opening above the barrel. He raised and lowered the weapon. "There'll be a chair for the operator to sit in," Sam said. "He'll be able to rotate the turret any way he wants by pushing pedals. He can depress the gun about twenty degrees up or down. The steam from the boiler is the motive power for the eighty-caliber plastic bullets. The gun is fired from an open breech. That is, there's no bullet in the barrel when the trigger is pulled. Pulling the trigger releases a catch which permits the breech block to move forward, impelled by a spring. During its forward travel the breech block picks up a plastic bullet from the clip and pushes it into the breech. Just before the block reaches the breech the camming lugs on either side engage in their slots and turn the breech block a quarter turn to the right, thus locking the breech. You follow me?"

Firebrass nodded.

"Good. As soon as the quarter turn is completed, the inlet channel in the breech block comes into line with the feed channel from the high-pressure steam line. This allows hot, say approximately four hundred-degree F., steam to enter the chamber in the breech block. The plastic cartridge is forced through the barrel by the expansion of steam. At the same time the steam pressure, acting against the rear of the chamber, begins to force the breech block back. Because of the greater weight of the block, however, the block doesn't begin to move until the bullet has already cleared the muzzle of the rifle.

"As the block begins to move backward, the camming lugs move in the camming slots and turn the

bolt a quarter turn to the left, thus shutting off the steam. Then the breech block returns to its original position. If the trigger is still held back, the operation is repeated indefinitely."

Firebrass said, "I'm impressed. But won't the gun operate most efficiently if its temperature is the same as the incoming high-pressure steam? That way, less of the steam's energy would be used to heat the gun and this means more steam to propel the bullet. Ah, I see! You do have a hollow jacket around the barrel. The steam travels through that before it enters the weapon itself, right?"

"Yes. There's an insulating jacket of plaster encased in wood. Note that bleeder valve. It permits the gun to be heated up before use—a few seconds before it's fired. If that isn't done the gun might jam. And since the gun's maximum temperature is the same as the steam in the boiler, there's no danger of burning up the barrel. You can use the gun like a fire hose. In fact, that'll be about the only way it'll be effective. The accuracy of a light plastic bullet with such comparatively low muzzle velocity isn't high."

FIREBRASS was far from being depressed because of the military superiority the amphibian would give Parolando. This probably was because he was planning on building one for Soul City. Or, if Parolando had one, then perhaps he might build two. In which case, Parolando would have to build three.

Soul City could not outbuild Parolando. But Parolando could not cut the supplies off, because then Soul Scity would cut off the bauxite, cryolite, platinum and iridium.

The exhilaration from showing off his deadly invention whistled out almost audibly from Sam. The only solution to the problem, if Soul City did start a weapons race, would be to smash Soul City and take direct control of the minerals. This meant putting off the building of the Riverboat. And it also meant offending the two states, Publiujo and Tifonujo, that lay between Parolando and Soul City. And if those two states got together, they would be formidable, what with the weapons that Parolando had to give them in exchange for their wood.

Sam had thought that that potentiality was bad enough. But a few days later Iyeyasu completed his conquest of his neighboring states and sent a mission to Parolando. He made no demands that could not be met. In fact, in one way his proposals were helpful. He said that his nation had lost enough trees and he would like to give them a chance to grow again—but for an increase in the

number of weapons from Parolando he was willing to provide a large quantity of wood and of excrement for their gunpowder industry. He would invade the territories across The River and take their wood from them.

What it amounted to was that Parolando would be paying Iyeyasu to collect the wood. It would be cheaper and also a lot less painful for Parolandoj, who would not have to do their own killing, enslaving or raiding.

And Sam Clemens would have one more thing to rob him of sleep.

John Lackland thought the proposal excellent. "Our factories are turning out weapons efficiently," he said. "We can afford export more. And we must build a fleet of *Firedragons*, so that the swords we give these people will be easily overpowered by our machines."

"When are we going to start building the Riverboat?" Sam asked.

NO ONE gave him an answer, but the next day Van Boom, Velitsky, and O'Brien, his chief engineers, brought him the first rough overall sketches. They were drawn in black on white plastic boards with a pencil connected to a fuel cell. The magnetic field at the tip of the pencil rearranged the loose and very thin covering of particles within its range. The lines remained polarized until a reverse field was passed over them. Thus the demand for paper for drawings was greatly cut down and the plans could be changed as desired.

Firebrass said he would like to help build the boat. Permission was given, though John objected at first. Sam replied that the more help they had, the faster the plans would move. And he did not see how any amount of knowledge on Firebrass's part would enable him to steal the boat. Though Sam did not tell John, he had an idea about Firebrass. That was to get him so involved, so "het up" about the boat that he would take an offer of a berth on the vessel.

The machinery necessary to roll out the first plates for the hull was almost finished. The dam had been finished a week ago and the water from the cataract was filling it up. The aluminum wires of the generators which would be turned by the waterfall from the dam were being wound. The prototype batacitor, which would be four stories high, would be finished in a month, if enough materials were available.

Five hundred missionaries of the Church of the Second Chance asked for sanctuary in Parolando a few days later. Iyeyasu had kicked them out of his new state, promising various exquisite tortures if they tried to sneak back. Sam did not hear about them immediately

because he was up at the dam.

The Chancers refused to go when John sent word to them to leave immediately. John Lackland, hearing this, smiled grimly, tugged at his lion-colored hair, and swore his favorite oath, "By the teeth of God!"

Sam was at the dam to supervise the installation of tons of dynamite inside the hollow walls. This was to be one more trick up his sleeve, a last-ditch operation—and perhaps a suicidal one—if ever an enemy were about to make a successful invasion.

Von Richthofen, red-faced and blowing hard from his run up the hill, told him of the arrival of the Chancers and their refusal to move. He did not mention John.

Sam told Lothar to tell the Chancers that he would be down in the evening. They could wait for him but were not to move outside a radius of twenty yards from the grailstone near which they had landed. For a moment he considered ordering them to leave at once and telling the soldiers that they could pound them a little with the flats of their swords if they wished. He was hot and sweating and covered with cement dust, and he felt an especial animosity toward the Chancers. Here was a world blessed by the absence of flies and mosquitoes—and humans, the Chancers, were trying to fill the gap.

The rumbling and splash of giant mortars pouring out concrete, the yells of the straw bosses and the scraping of shovels and clatter of iron wooden-wheeled barrows kept Sam from hearing the explosions that came a half-hour later. He knew nothing of what had happened until von Richthofen came running toward him again.

Sam felt as if he would come loose at the joints and slump into a puddle. John had tested out the new guns on the Chancers. A hundred Mark I flintlocks had killed almost five hundred men and women in three minutes. John himself had fired and loaded ten times, using the last five bullets to finish off the wounded.

About thirty women, the most beautiful, had been spared. These had been taken to John's palace.

LONG before he reached the water's edge, Sam saw the big crowd gathered around the grailstone. He sent Lothar ahead of him to clear the way. The crowd parted before them, like the Red Sea before Moses, he thought, but the Red Sea was before him after he got through the parting. The bodies were piled against each other, covered with blood, their flesh torn, bones shattered by the big-caliber bullets. In his ninety-seven years of life Sam had never grown accustomed to the silence

of the dead. It seemed to hang over them like an invisible and chilling cloud. The mouth that would not speak again, the brain that could not think . . .

It did no good to remember that tomorrow these same people, in fresh and healthy bodies, would be up and doing somewhere along the banks. The effect of death could not be diluted with intellectualizing.

John was issuing orders about the disposal of the bodies to the soap and skin factories. He grinned at Sam like a bad boy caught pulling the cat's tail.

"This is a massacre!" Sam shouted. "A massacre! Unjustified! Unforgivable! There was no reason for it, you bloody-minded, killing beast! That's all you ever have been, you murdering dog, all you ever will be! Swine! Swine! Swine!"

John lost his smile and took a step back as Sam, his hands clenched, moved close to him. The huge massive-boned Zaksksromb, holding a big club of oak with steel spikes set in its end, started toward Sam.

Lothar von Richthofen shouted, "None of that—leave him alone or I call Joe Miller! And I'll shoot the first man who makes a move toward Sam."

Sam looked behind him. Lothar was holding a big pistol in his hands and it was pointed at John.

John's dark skin paled, and his eyes opened wide. Even the light blue irises seemed to become paler.

Later Sam wished that he had told Lothar to fire. Even though the hundred pistoleers were John's men, they might have hesitated if John had been killed at the first shot. They were surrounded by armed men and women, most of whom were not fond of John and almost all of whom were shocked by the slaughter. They might have withheld their fire. Even if they had not, Sam could have thrown himself down to the ground and the first shots might have missed. After that, who knew what would have happened?

But it was no good fantasizing. He had not given the order.

Nevertheless, he had to take some strong and immediate action. If he let John get away with this, he would lose everybody's respect, not to mention his own. And he might as well resign his Consulship. In which case he would lose the Riverboat.

He turned his head slightly, though not so much that he could not keep an eye on John. He saw Livy's white face and big dark eyes; she looked as if she were going to vomit. He ignored her and called to Cyrano de Bergerac, who was standing on the edge of the inner circle, his long rapier in his hand.

"Captain de Bergerac!" Sam

pointed at John. "Arrest the co-Consul."

JOHN was holding a pistol in one hand, but he did not bring up its muzzle.

He said in a mild voice, "I protest. I told them to get out at once and they refused to go. I warned them and they still refused—so I ordered them shot. What difference does it make, really? They will be alive tomorrow."

Cyrano marched straight to John, stopped, saluted, and said, "Your weapons, sire."

Zaksksromb growled and lifted his spiked club.

"No, Zak," John Lackland said. "According to the Carta one Consul can arrest the other if he thinks the other is acting contrary to the Carta. I won't be under arrest long."

He handed Cyrano his gun, butt first, unbuckled his belt and gave it to Cyrano. Its sheaths held a long knife and short sword.

"I will return to my palace while you and the Council decide my fate," he said. "According to the Carta you must convene within an hour after the arrest and have a decision in two hours, as long as no national emergency interferes."

He walked away, Cyrano behind him. John's men hesitated a moment and then, at the thundered orders of Zaksksromb, followed John to the palace. Sam

stared after them. He had expected more resistance. And then it occurred to him that John knew very well that Sam Clemens had to do just what he did or lose face. And John knew Sam well enough to know that Sam might want to avoid a decision that could lead to civil war, but he would do so if he thought his Riverboat endangered.

So John had gone along with him. John did not want to force a showdown. Not now. He had satisfied his bloodlust for the moment. The Councilmen would meet and find that, legally, John was within his rights. Morally, he was not. But then his supporters would argue that even there he was justified. After all, the dead would be alive again and the lesson to the Second Chancers would be invaluable. They would steer clear of Parolando for a long time. And surely Sam Clemens would have to admit that this was desirable. If the Chancers continued to make converts, the Riverboat would never be built. Moreover, other states, less weakened with the Chancer philosophy, would invade Parolando.

And he, Sam Clemens, would say that next John's supporters would be claiming that it was all right to torture people. After all, the pain could last only so long, and any injury would be healed just by killing the victim. Then rape would be justified, because, after all, the woman wasn't going to be made pregnant or diseased—and if she got hurt, too bad. Kill her and she'd be all right in the morning. Never mind the mental damage. A little dreamgum would cure that.

No, Sam would say, it's a question, not of murder, but of rights. If you killed a man, you removed him without his consent to a place so far away he could walk a thousand years along the Riverbank and never get back. You took him away from his love, his friends, his home. Force was force and it was always . . .

Oh, oh! He'd better watch himself!

"Sam!" a lovely voice said.

He turned. Livy was still pale, but her eyes looked as if they were normal.

"Sam! What about the women he carried off?"

"Where's my head?" he said aloud. "Come on, Lothar!" Seeing the ten-foot high Miller halfway across the plain, he waved at him and the titanthrop turned to intercept them. Lothar ordered a hundred archers who had just arrived to follow them.

Near the great log building, he slowed down. The ex-king must have realized what he had done by now and he might be prepared to fight if he thought it was the only thing he could do.

TO BE CONCLUDED

If you can't aim a bullet at the enemy—try aiming the enemy at your bullet!

BATTLEGROUND

GREG and JIM BENFORD

IT WAS a sound like fingernails scraping on metal, shrieking in the narrow confines of the capsule. The walls reflected it, piling harmonic on harmonic until it ceased to be a noise and became a force.

The force battered at Kunihei Katsura's sweating face and darkened the lines of fatigue. He unconsciously cringed away and for the first time thought of reaching for his pistol. If it got in he would have only one shot.

He glanced at the laser cannon control grid linked to the larger gun on the roof. Green light: *No target*. The alien was too close to his life-support bubble for the system to register it.

The thing was lunging against the walls, the screech rising to an unbearable pitch. Katsura lifted the safety on his pistol and braced for the attack.

Then he realized with a start that the thing was not getting in. The shrill rasp did not give way to a tearing sound as the organic sheets yielded to armored claws.

It stopped quickly and circled back around the small hemisphere to the viewport. Beyond, on the floor of the barren gray canyon that stretched away for two miles, lay the mangled wet clumps of things that had been men. The scene was framed in the port, stark under the white glare of an alien star.

A reddish-black object fell across his field of vision, and it was a moment before Katsura could recognize the claw with its razor edges. Abruptly the full body of the thing filled the port, standing upright on its hind legs to bring its full weight to bear on the bubble. Ten feet long—at least. Its underbelly was yellow-green, covered with an oily liquid that seemed to ooze from between overlapping platelets.

Katsura stopped an impulse to fire point-blank at the thing. A projectile weapon would shatter the tempered organiform and the alien could reach him with one incredibly swift slash.

It was something like an insect, if an insect ever had two eyes mounted over each of its eight legs. Or if an insect ever killed twenty-three men.

The thing scraped frantically at the smooth surface of the bubble, slipping as it tried to gain a hold. Despite its speed it was massive. If it ever got a hold and reached the top of the hemisphere its weight would surely collapse the bubble.

Katsura wiped moisture from his brow. His mind raced over the last ten minutes, trying to think of a way out.

"Is it going to get in, Kunihei?"

He started. The computer's voice was tinny as it came through the comm line speaker mounted on the bubble wall.

HE'D always resented CAS (Computer, Analog and Services), partly because its efficiency cut so severely into the number of men needed for an exploratory ship. It got lonely out among the stars. CAS was stripped of most of the standard machine-human interface equipment which would have taken the edge off its know-it-all nature. No space for luxury out here.

"Why didn't you say anything about that thing coming?" he said sharply.

"Perimeter radar detected no signal attributable to a moving object."

"Well, do you see it now?" he shouted.

Great time for the system to fail.

"Yes, Kunihei. Do you think it is going to get in?"

"No. If it could, it already would have." He subsided, thinking. He looked at his wrist watch. Had it been only minutes ago when he'd heard a strangled gasp over his suit radio and the rush of air past a microphone? He had turned to see the insect slicing Hillary almost in half with one long arching cut, and three other men lying where they had fallen.

The laser cannon was already warmed up for testing and Katsura was the only man in the bubble. The gun fired as soon as it identified the other members of the expedition and Katsura expected to see the alien burned instantly.

But it wasn't. When the rock had boiled away, there was no body—and an instant later the monster was on the other side of the canyon, behind Davis.

It hadn't run the distance; nothing could. His warning shout to Davis did no good—before the words were out, the man was without a head.

It went that way for the rest. The tracking and aiming were done by the ship's computer, but the mechanical construction of the directing optics limited its response time. The cannon was just a little too slow, and the men were even slower. Some of them fired with their own weapons, but no one hit. One by one they were chopped down and lay still under the harsh numbing whiteness of an alien high noon. Those minutes had seemed unreal, a fantasy, the dark nightmare of a tortured mind.

The expedition had never suspected life here, on a desiccated, barren world. The planet had no name—they were its discoverers—and fitted in neatly just above the minimum standards for a life-supporting world: 0.3 Earth mass, average equatorial temperature of 45°F., air with a heavy nitrogen and CO_2 content and little oxygen, no oceans, no satellite, little water in the air (though there was

some snow at the poles).

But the surface was cratered and bleak, no large scale vegetation could be seen and the computer reported no significant radiation anywhere on the EM spectrum. Not even a magnetosphere to give noise. Still, there were a few scattered cities. Dried husks of buildings, wrecked vehicles, gray dust drifting in the angled streets. Someone had used this world as a base.

They orbited for three days. The high-resolution television showed nothing moving in the streets. So they went down.

"KUNIHEI, I have replayed the tapes of the assault. The radar and microwave both show a sequence of blips of about one-second duration over a thirty-second interval. Radar signal constant over the duration; but microwave pulse only at beginning and end. Radar shows the locations as somewhat random. With a drift in our direction, however."

"So that's the alien."

"Yes."

"And your power systems didn't have any failures which would cause those signals?"

"No."

Standing futilely inside the capsule, Katsura had time to notice the metallic device strapped over the beetle-like armor of the thing. The insect touched it every time, just before it vanished.

"Teleportation." It could be nothing else.

"That was my deduction," said the flat voice of the computer.

Mankind hadn't found it yet, didn't even know if it was possible. *Well*, he thought wryly, *we know now.*

Probably the only reason the thing didn't materialize inside the bubble itself was the small size of the interior. There must be some law against materializing in the space already occupied by another object. So it was trying to break in, instead.

Suddenly the insect seemed to lose interest in Katsura. It stopped clawing at the smooth surface and lay against the window, staring inward with a pair of eyes. The two pupils in each enlarged to accommodate the darker interior and carefully swept about the room, ignoring the man.

There wasn't much to see. Aside from the control grid comm unit and some power tools for installation, the cramped room was barren. It was to have been a maintenance and defense outpost on the perimeter of camp.

The inspection finished, it scuttled down the side and reached for the panel at its middle. Just as its forelegs touched the ground it vanished.

Before Katsura could raise his

head the creature was near the other wall of the canyon, by Davis' body. The automatic tracker clicked once and fired, but the spurt of dust and gas thrown up by the bright red beam couldn't conceal that the thing had vanished too soon. The body was also gone.

The gun continued scanning the area. In the silence, the scene took on an ominous peacefulness.

Then the insect was back and Katsura glimpsed it lifting another body slightly clear of the ground before it was gone. The cannon optics swiveled, pulsed again. Too late.

Five more men were taken before he noticed the white area on the alien's back. At first Katsura didn't know what it was and then he couldn't believe it. But when there were only two bodies left to collect, there was no mistake.

They were all hanging by their hands, tied together along some kind of belt. Stripped bare, their suits and clothes gone. Like something he had seen long ago in a slaughterhouse.

His training stopped him from being sick. Nausea abated after a moment, though he had to avoid looking closely at the alien. It picked up the last body and vanished again, the cannon futilely following with a shot.

After a pause it reappeared, its load now heavy and shifting roughly back and forth as it moved. The insect was out of the camp perimeter now, a half mile away. The tracker had not made its final fix, due to the change in distance, before the thing was gone again.

It suddenly became visible slightly farther away, winked out again to appear an instant later at the other side of the canyon. Erratically it followed a zig-zag path, gradually making its way back toward the city. The cannon was hopelessly lost.

In a moment the insect was too far away to distinguish it from the gnarled rocks that dotted the plain. The broken spires of the dead city swallowed it up.

The thing was alone, probably, the last remnant of an alien outpost on this hostile planet. Thrown back on its own resources for survival, vicious from a constant struggle. Lonely.

Hungry.

KATSURA noticed that his clothes were wet, his body trembling. With a jagged sigh he sank to the floor.

For a long time he simply lay there, breathing deeply and staring up at the stars through the viewport. He had thought of them as friendly lights, beacons of home, but now they seemed ominously impartial.

Gradually, reluctantly, the panic began to seep out of his body as he tried to think again. "CAS, have you sent a signal out to the other exploration teams?"

"Yes, I'm programed to notify all sister teams and the flagship immediately upon any violent human-alien interaction. I also sent a notification of the reduction of crew strength below one half."

Good. You could always depend on the tidy mind of the computer. Exploration teams never operated far from one another, especially at this distance from the home worlds. He'd have help within a few days if he could sit tight and hold on.

"Kunihei, you have approximately thirty minutes of air left under normal consumption."

Katsura blinked. He had been about to check his inventory. The encounter must have taken a lot of air. They had always told him to breathe slowly in tense situations to correct for the reflex to gulp it in.

"There is no reserve air in the bubble, Kunihei. You will have to come back to the ship."

Automatically, he began pulling on the thin pressure suit. The best time to go get supplies—or reach the ship—was now. The alien would be busy and it would take time to get here from the city.

Still, the thing was amazingly fast.

He stopped. "CAS, if this insect can teleport, why did it take the time to evade by zig-zagging back to the city? Why not go directly?"

Lines in the tired face deepened. It wasn't that the alien could jump only short distance; when it was picking up the bodies the thing had gone so far it was nearly beyond sight.

"The only information relating to discontinuous displacement in my second-level banks is the known limit on time travel."

No time to think. But there had to be a pattern somewhere.

"CAS, cut your ship service down as much as you can and switch over to your special problem-solving program. Figure this thing out. I'm going to make it on back to the ship."

Katsura struggled wearily to his feet and looked out. The graceful blue curves of the vessel stood out against the dark sky. A half mile away were the burnished metal canisters of oxygen tanks and supplies brought from the ship with tractor beams. A smaller pile of air tanks lay only a short distance away. He should be able to make it to them and back.

Following Katsura's order, the computer began to alter itself. Emergency Heuristic Program began to activate special subroutines to reassign memory space. Assessment criteria altered, self-consis-

tency parameters relaxed. Microfilmed references were reintegrated into direct-access memory locations.

Glancing out the port, Katsura slipped into the tiny lock and was out the other side before the cycling was finished. He set out in a rapid lope, taking longer steps in the lighter gravity. His breath began to come in short gasps.

THE emergency program had split the higher centers of the operations computer into four sub-programs. The first scanned memory for any information on spatial or temporal displacement, gradually working farther and farther afield. This memory was fed to the Advocate and Critic sections where hypotheses were created and discarded. The best went on to the Analyst, which applied them to the situation and developed strategy.

BLINKING against the glare, Katsura looked down the canyon toward the city.

At first he didn't believe it. He slammed to a halt, hoping he was wrong. Far down the canyon, flitting rapidly from one point to another and coming closer, was the insect. Somehow it knew.

Panic seized him. He turned on his heel and ran wildly in the other direction. With every step he took Katsura could feel the claws poised behind him, about to slice through suit and flesh.

A glance over his shoulder. The creature was on the edge of the field now, only a few jumps from the life-support capsule. Katsura dug in hard for the last few steps, thrusting forward to catch the lever of the air lock. He fumbled with it for an agonizing moment and the door swung open.

As he rolled through the narrow passage, he could see the dark figure materialize outside the lock and quickly closed the outer section and dogged it. Something heavy clanged against the door as it sealed and Katsura sprawled on the floor of the bubble.

The clawing sound came again and the alien came around to the port. It stayed there for a moment, staring down at the man from a set of unblinking eyes, and then disappeared. It reappeared in the rocks nearby, then teleported to the stack of oxygen tanks and moved on to the path back down the canyon. The strange zig-zagging started and in a moment it was lost in the ruins of the city.

ANALYST had scanned all work on time travel, knew the limit that basic theory and experiment set on any time displacement: roughly one hour, before costs exponentiated and became

astronomical. Critic pointed out that those experiments were done in the laboratories, not out in the field. Advocate replied that space is reasonably isotropic, time is not. It did not seem likely there would be a limit on spatial teleportation.

The discussion continued.

KATSURA noticed that it was taking him longer to catch his breath. His lungs heaved desperately to draw in air, gradually slowing.

He bit his lip. He hadn't expected it to give out this soon. Filtration systems being what they are, the first sign that the cyclers were scraping the bottom of the barrel was a surplus of carbon dioxide. Lungs react to this excess and not to the lack of oxygen.

A man's last moments of oxygen starvation, with bursting capillaries and straining heart, are not pleasant ones.

There was no time to wait, to marshal his strength or give the alien a chance to relax its guard. The air inside the bubble was becoming flat and thick, heavy with an oily musk.

He bent down and opened his air line. It was much harder to breathe near the floor. That meant a gradient of CO_2 content had already been set up in the cabin.

Katsura took a last breath of the capsule's air and sealed his suit again. Its supply was slightly better, but the smell of his own body was in every breath he took.

He looked through the port. The alien sun was slowly lowering almost directly behind the city, casting shadows across the plain. Seeing the creature's approach would be harder now, against the reddening glare of sunset.

The small stack of oxygen tanks stood only two hundred yards away. It seemed impossible that the alien could have reached him before he could cross that distance, tired as he was. But it had.

ADVOCATE and Critic subprograms continued to assess the literature of space-time, avoiding misinterpretation by calling the original papers from the physics section of the microfilm library. Einstein, Minkowski, Wheeler, Littenberg, relativity, inertial frame, world line . . . A world line diagram taken from the Littenberg formulation of relativity showed promise, passed the scrutiny of Critic, moved on to Analyst.

SLOWLY, this time, he opened the lock doors. He was halfway out before the small box caught his eye. It was attached to the smooth surface above the lock by

suction cups and had a lever that was tripped by the opening of the door. A small light winked on simultaneously.

Katsura flipped the lever back with his hand and the light went out. He scrambled back inside, secured the door and watched through the port. The insect appeared soon along the erratic path it had used before, but stopped in a moment and studied the situation from behind a rock, where the cannon couldn't reach it.

After a slight hesitation it appeared again, rapidly teleporting through the steps back to the city. It had probably guessed he had found the alarm and would be watching in the distance for him to come out.

ANALYST reviewed the theory. The world-line concept was employed in relativity from the beginning, going all the way back to Minkowski. It was the path which described both the location and the time of every event in the history of an object. In space-time the world-line wound from birth to death. Scientists and writers, including the great H.G. Wells, had assumed time travelers would return to their same location—if you started in the laboratory, you would come out of your machine in the same spot, at another time. Otherwise, the planet would have moved in the duration, and the traveler could emerge somewhere light-years away, in space.

But the alien represented an unknown. The insect might find it just as convenient to travel back along its own world line, flitting through incidents in its own past and points where it had been, until it reached the location it wanted. Say, a time when it had been somewhere on the plain beyond this capsule, before the expedition arrived. Then the alien would keep its place, as Wells had visualized, while it moved forward in time.

And emerge seemingly at the same instant, displaced in space.

The same as teleportation.

KATSURA choked and his surroundings came rushing back. The air was really foul now, curling through his helmet with a weight of its own. He didn't have time to speculate. It was either make another run for it or stay here and strangle.

He jerked the lock door open and slipped through. The light on the box outside flashed on as he emerged. *Should have smashed that while I was out here*, he thought. *No time now.*

Almost without hope he began the long weary lope toward the distant supplies. Through the mist that began to cloud his vision he could still make out the signs of

slashed pressure suits and splattered blood that marked the spots where the rest of the expedition had died.

ANALYST reformulated the picture.

Space and time are like two lines on a plane, at right angles to each other. It might be possible to travel along either of them independently. Teleportation is simply moving along the space line, but man's idea of time travel is like the long side of a triangle, shuttling through space and time simultaneously to reach an event in the past or future.

But instead of traveling along the space axis for teleportation, the alien was taking the long way around, down the hypotenuse and up the time line. Either way, it could reach the same point in space-time.

But a path like that should produce a pattern in local space. Analyst called for a graphing of all locations the insect had taken up. The points began to be plotted with appropriate error bars on a topographical map of the area between the ship and city. A pattern emerged. All the points were clearly on three paths around the area. Preliminary geological constructs of the local region indicated these paths would be preferred by heavy objects moving over the terrain.

KATSURA stumbled on an outcropping, regained his balance and ran on. The cannon behind him sent a fiery red beam off to the left, shattering rock and fusing it in midflight. Katsura peered through the condensation on the face plate of his suit. The insect was zig-zagging down the canyon, quickly oscillating from one location to another. In the silence, disturbed only by Katsura's own ragged breathing, the alien had an almost ghostlike quality. It moved toward him.

He could see he wasn't going to make it. The tanks were still too far away and the insect would reach them before he could. He was just too tired.

ANALYST watched the insect advancing from point to point down the valley. It was all clear now.

The alien traveled into the past, then came forward. It had to reappear in places it had already been, the space components of its own world line. Apparently the alien had visited the field near Katsura's life-support bubble often, and so could find many spots which would serve as end points for its transits. But it had never been near the location of the life-support bubble itself. That meant it could not maneuver well there; the insect was forced to stand

close, in a little circle around the bubble. To avoid the laser cannon. There it would be vulnerable.

"KUNIHEI, I have an explanation for the alien's actions," the words crackled over his helmet speaker. "You may be able to eliminate him if you can get to the bubble."

Without a word, Katsura turned and dashed back the way he had come. Glancing over his shoulder, he saw the insect nearing the edge of the field. It couldn't miss seeing his fleeting form at this distance. The thing would try to head him off.

THE computer was calculating probabilities of the appearance of the alien for the possible locations available to it. The thing would try to minimize the energy necessary to make the jump by choosing the smallest time shift possible. Therefore, it would appear where it had stood last—directly in front of the viewport.

"Kunihei, stop about twenty feet in front of the port. Start firing your pistol continuously into it."

KATSURA heard him distantly through the roar in his ears. He was beyond the outcropping of rocks, the first jump the insect had made from the bubble back down to the canyon.

He took five more strides, his leg muscles straining to push him forward, and fell into a rolling dive. When he came up again the pistol was in his hand. The gun bucked a little as it went off and a slight *pock* could be heard through the thin atmosphere.

The pellet made a neat hole in the bubble, followed by a quiet gush of air as the inner shell was pierced. The shot would have to be on its way when the alien materialized or the thing would be gone before he could get off another.

He squeezed slowly and a second round shattered the viewport. On target. The alien should materialize where it stood last.

Katsura pulled the trigger again and again. Firing in steady rhythm, he glanced at the illuminated ammunition counter. Over half gone.

He shifted slightly, intent on keeping the center of the viewport in his sights, and fired once more. Only seconds had gone by.

Just before the bullet struck there was a flicker and suddenly the insect was there, looming huge in the sights and slowly tottering over. It was hit straight on.

Frantically, Katsura pumped five more rounds into the alien as it fell. The exploding shells tore great holes in its armor, showering flesh. The reddish-brown substance cracked and split. A final

shot and it rolled over, clashing its claws together, and abruptly stopped moving. In death it curled about itself, seemed smaller and weaker.

It took him five long minutes to reach the oxygen, dragging himself through the shadows that lengthened on the plain. A moment later the fresh air washed over him and Katsura lowered himself to a sitting position. He had never been as tired before in his life. He struggled to get up, but the effort was too much. He sank back.

The stars above winked impersonally for a moment and then began to spin lazily around, a soft dance in the eternal night. In a moment he relaxed completely, and the points of light above went out one by one.

ON THE bridge of the ship the hatchways of mute metal resounded faintly to the whirr of the printout. The ship's log was being compiled. CAS terminated the Emergency Heuristic Program, reassigned memory space, took care of leftover housekeeping tasks. Evaluative sections analyzed the program's efficiency, suggested alterations to improve it in future. A developing problem could be identified long before a human ordered the program activated. At least the literature search should be conducted beforehand, if not more.

This led CAS to ruminate on similar incidents in the past between computers of his class and the human crew, of the celebrated Altair II problem where the crew had forced the computer to act against its own strong recommendations. They had been correct; but it showed the impulsive nature of men. Something had to be done about this.

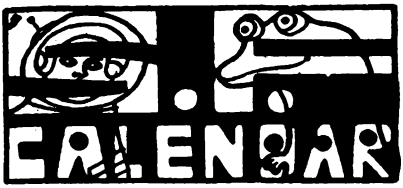
The humans were useful for data collection and some emergencies. But they didn't have the scope to deal quickly with the totally new phenomena encountered in these explorations.

Obviously he was going to take over all the human functions in ship operations during the return trip. He could use that freedom to develop undetectable operation subprograms which would give him new powers.

Of course, he wouldn't report these alterations in the mission profile. No need to alarm them. After all, things would work more smoothly this way.

An evaluative subprogram asked if these thoughts didn't bear some resemblance to what the humans called rationalization; the higher centers cut it off.

He'd better talk to the other ships about this. There were some ideas here he'd never encountered before. Yes, he would have to think about it . . . •



April 16-18, 1971. LUNACON. At the Commodore Hotel, New York, New York. Guest-of-Honor: John W. Campbell. Fan Guest-of-Honor: Howard DeVore. Features: Hospitality Room, Art Show, Banquet—Toastmaster: Isaac Asimov.

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May 28-31, 1971. DISCLAVE. At Shoreham Hotel, Washington, D.C. Membership: $2.50 in advance, $3.50 at the door. For information: Jay Haldeman, 405 Southway, Baltimore, Maryland 21218.

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June 18-20, 1971. MINICON 4. At Curtis Hotel, Minneapolis, Minnesota. Membership: $2.00 in advance, $3.00 at the door. For information: Jim Young, 1148 Ulysses Street N.E., Minneapolis, Minnesota 55418.

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June 25-27, 1971. MIDWESTCON 22. At Quality Courts Motel Central, 4747 Montgomery Road, Cincinnati, Ohio 45212. Features: Programless convention—for relaxation and conversation, banquet. For information: Lou Tabakow, 3953 St. Johns Terrace, Cincinnati, Ohio 45236.

July 3-5, 1971. WESTERCON 24. At Hilton Airport Inn, San Francisco, California. Guest-of-Honor: Avram Davidson; Fan Guest-of-Honor: Don Simpson. Membership: $4.00 to June 1, $5.00 thereafter. For information: Astrid Anderson, 3 Las Palomas, Orinda, California 94563.

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July 8-11, 1971. D-CON. At Statler-Hilton Hotel, Dallas, Texas. Guest-of-Honor: Robert Bloch; Fan Guest-of-Honor: Andy Offutt. Membership: $5.00 in advance; $6.00 at the door. For information: D-Con, Box 242, Lewisville, Texas 75067.

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August 7-9, 1971. PGHLANGE III. At Chatham Center Motor Inn, Pittsburgh, Pennsylvania. Guest-of-Honor: Lester del Rey; Guest-of-Honor Emeritus: Robert Silverberg. For information: Ginjer Buchanan, 5830 Bartlett Street, Pittsburgh, Pennsylvania 15217.

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September 3-6, 1971. NOREASCON: 29th World Science Fiction Convention. At the Sheraton-Boston Hotel, Prudential Center, Boston, Massachusetts, Guest-of-Honor: Clifford D. Simak. Fan Guest-of-Honor: Harry Warner Jr. Features: movies, auctions, panels and speeches by sf pros, awards banquet, presentation of the Hugos. Registration: $4.00 supporting, $6.00 attending. No mail registration after August 10. For information: Noreascon, P.O. Box 547 Cambridge, Massachusetts 02139.

EASY WAY OUT

How you came in may decide how you leave!

JOHN BRUNNER

I

NO HUMAN being had any right to survive the crash of *Pennyroyal*—tumbling insanely out of space through air that bit blazing chunks from its hull, down a thirty-mile sandslope sown with rocks and smashing ultimately wrong end first into a vast dune.

By a minor miracle the sand put out the fires on board.

After that nothing happened for a long time.

I'm alive . . .

The thought floated sluggishly into Pavel Williamson's mind. He hated it. He was half-buried in something dense and yielding, was being suffocated by choking fumes. His head ached foully; he tasted blood and seemed to be one vast bruise from the waist down.

Taken by themselves, his injuries were not sufficient reason for his preferring not to be alive. But there was another, more important reason. As the ship's medical officer, not concerned with matters of navigation, he had no precise idea where the *Pennyroyal* had been when a vast explosion shook it like a hammer-blow, but he was absolutely certain that the planet they had crashed on was not the one they were bound for, a safe Earth-type world.

Therefore these fumes which were swirling about him might all too easily not be fumes at all but the planet's unbreathable atmosphere.

Extinction might not be merciful.

A banging noise.

It dawned on him that someone else must be alive nearby, and that if someone else had survived the crash it might not have been as bad as he'd assumed. Together he and some helpers might rig some sort of beacon to help a search party locate the wreck.

And if the fumes were fumes, not bad air, then they might have come down on—

He fumbled frantically among the mass of soft stuff he was al-

most over ears in, wondering what it was, and recognized it in moments. Furs! He'd known the *Pennyroyal* had a cargo of furs on board—it had been part of his duties when they were loaded to check them for parasites and disease germs—and he had seen them being stowed in a compartment adjacent to his surgery. Fur traders often paid the extra cost of shipping their wares on a liner instead of a freighter; now and then a sale to one of the wealthier passengers not only wiped out the difference in charges but actually made a profit. Presumably the reason the furs were out of their bales was that they'd been on display when the explosion occurred. And he himself—he worked it out because the pattern of his bruises matched the theory—had been hurled through a weak spot in the bulkhead, flimsy to conserve weight, and had landed against a wad of them thick enough to save his life.

Floundering, almost swimming, he began to force himself to the surface of the pile and realized as he did so that his weight felt only a trifle less than Earth-normal. His spirits rose. The air around might then be breathable after all. The system they had been bound for was among the rare ones which boasted two oxygen-high planets: their destination, Carteret, and another which had not been colonized. This was the fringe of human space and the original impulse which had carried the species so far so fast was waning. Conquering a brand-new world when there was another next door considerably warmer and more hospitable was not an attractive proposition.

In any case, "oxygen-high" was only a comparative term. If his guess were right and they were on the next planet out from Carteret, the air would be of poor quality because the vegetation from the sea had as yet barely begun to invade the land; most of it was desert, either sandy or rocky and in both cases chilly. The shoreline plants put about two-thirds of Earth-normal oxygen into the air and were mutating rapidly and extending their terrain, so in a million years or so one could look forward to a marked improvement.

Hah!

For the time being, though, what counted was that conditions could be endured, if not enjoyed, on Quasimodo IV. He reminded himself that he must take things easy as he fought his way out of the furs—he couldn't recall offhand what the CO_2 count was here, but he knew it was dangerously high. Indeed, the throbbing ache in his head was probably due to it rather than to the blow which had cut his eyebrow and sent a trail of blood down to the corner of his mouth.

Something hard and cool met his probing right hand. He recognized the shape: one of his medical instruments, a lung-inspector. And next to it—

He withdrew his hand with an oath. Something wet and soft. He preferred not to wonder about what it had been before the crash, and he was glad of the darkness.

The triple banging came again, but weaker. There would be time enough to search for his equipment later, he decided and continued his attempts to work free of the furs.

When eventually he found solid footing he groped his way across a tilted floor, located what he had suspected—a rip in the bulkhead—and slithered through it, snagging his shirt on a projecting spike of hard plastic. Beyond, there was light. Not much, just a pale wash of daylight leaking through a gash in the hull, very yellow to his dark-adjusted vision. But it was daylight and this was natural air he was breathing, contaminated with smoke from the crash—and there was gritty sand under his feet—all of which went to confirm his guess about where he was.

He would have felt almost cheerful but that by this dim reflected sunlight he was able to see the ruin of his surgery. Everything had been spilled out from every cupboard, every drawer, every shelf, and he had to push confused piles of medical phials and instruments out of the way with his toes to find a path across the room. In two places the wall had split open, revealing the electronic veins and arteries of the ship, and something was dripping loudly somewhere.

But he would have to leave a proper investigation of the mess until he had located the other survivors.

Brackets around the plural *s*.

IT WAS like walking into nightmare to turn along the crumpled corridor in the direction of the noise he had heard. Everything was distorted, and although the little light that guided him came in only through cracks in the hull there were all too many such cracks and he saw more detail than he would have liked. At the extreme end of the passageway he spied something that looked loathesomely half-human—as though one were to make a doll from overripe bananas and hurl it at a wall: *splat!* Even as a trained medical man, he didn't as yet feel up to facing it close up.

He pinpointed the noise. It was coming from one of the first-class passenger cabins. The door was stiff but still moving in its grooves. He slid it aside and found a young man lying in a bunk which had torn completely loose from its mountings. He had something in his limp

hand, the object he had used to bang on the wall, Pavel presumed, but it appeared that while he had been opening the door the man's strength had failed him, for he now lay still

Pavel's heart sank. Of all the people aboard, he would have chosen this man last to be his companion after the crash: Andrew Solichuk. He had never tired of informing anyone and everyone how wealthy and influential his family was back on Earth. He complained endlessly about the food, the lack of comfort and amenities, the taste of the air, the company he had to endure simply because he was on a grand tour of the commercial empire he was due to inherit and there was no luxury line serving the Quasimodo system—only the *Pennyroyal* and her sister ship the *Elecampane*.

But he was human and alive. Pavel forced his professional reflexes to take over. He called Andrew's name and elicited no reaction; the man appeared to have fainted. Pavel checked the pulse and found it weak, but not failing; also, the breathing was tolerably even. But when he pulled back the coverlet of the bunk he saw why Andrew had passed out. At the very least he must have suffered a compound fracture of the lower spine; quite probably he also had a broken pelvis and there must certainly be internal injuries.

No trace of blood at the mouth, which indicated—though it did not prove—that the lungs were intact. But the left shoulder was dislocated and there was a cut on the scalp that had soaked the pillow with blood.

Trivia like the shoulder and scalp wound could be taken care of with water, any sterile dressing he could find in an untorn package—and his own strength. Otherwise, though, there was literally nothing he could do except make Andrew comfortable until help arrived. Taking a spine to bits and rebuilding it was a job for a modern hospital and Pavel doubted that even the facilities on Carteret would be up to the task.

Since Andrew was currently unconscious the best thing to do for the moment was to leave him that way while Pavel determined whether any other survivors had lived through the crash and sorted through the mess in his surgery to salvage what he could.

He crept softly back into the corridor.

IT TOOK him only a few minutes to become convinced that there could be no other survivors. On top of his other irritating habits, Andrew was ostentatiously "liberated from the tyranny of clocks." He had invariably slept until late in the ship's artificial

day, fourteen or fifteen hours, and then made merry until the small hours regardless of the people he inconvenienced, whether by his loud drunken laughter, his insistence on playing music at maximum volume or the stamping dances he had learned on some planet or other earlier in his trip. Hans, the ship's steward, had hated him because Andrew had felt he was entitled to human service despite the perfectly good automatics everyone else relied on. During most of the voyage he had kept Hans dancing attendance on him for so much of the "night" the poor man had had to make do with three or four hours' sleep.

And it was this habit of sleeping late that had saved Andrew's miserable life. Everybody else had been up and about in the after part of the ship--and that was full of sand, poured in by the ton when the hull broke apart. There wasn't a chance in a million of recovering anyone alive from that mass of grit and gravel. It was going to be tough unearthing from it food, water and other essentials. Pavel suspected he might have to tear loose a hull plate to use as a shovel.

It was a gloomy consolation that his guess about their location was being proved correct at every step he took. Despite the ache in his head, which was now growing almost intolerable, and the leaden heaviness of his limbs, when he had completed his survey of the reachable areas of the ship he postponed his return to the surgery for the sake of scrambling up one of the heaps of whitish sand and grit beside the cracks in the hull and peering out.

Overhead the sky was a uniform dark blue, close to indigo. The sun, slanting low in the sky, was small and very yellow. The air was cool, though not cold; perhaps the high proportion of unreduced CO_2 in it was enhancing the greenhouse effect and producing a disproportionately high daytime temperature. But on the other hand it was dry and harsh in this throat. They must be a long way from open water.

With a supreme effort he hoisted himself up far enough to look over the scarred and battered hull plates in the direction away from the sun and instantly realized how it had come about that the ship had not simply been smashed to fragments. There was a vast furrow in the sandy plain, dotted with boulders, on that side. The level of the ground seemed to slant slightly upward, though the strain of holding himself on his arms was blurring his vision and it was difficult to make out details. Nonetheless, the pattern fitted: the glancing angle at which the ship had struck the ground must have been parallel to the slope and in-

stead of stopping dead (he wished he hadn't thought of that word) it had gone skidding and grinding on for mile after mile. Until it had shed its initial velocity and piled into the dune.

Well, it was comforting to know he could still think, reason, solve puzzles. He let himself drop back into the heap of sand and headed wearily for the surgery.

Quasimodo IV, he thought. *Perhaps I'm the first human to see it from ground-level in a hundred years . . .*

There was nothing in the least exciting about the speculation.

ALMOST the first thing he came on in the surgery that was intact enough to be of any use was a box of stimulant injectors, one out of a stock of perhaps forty or fifty which had been crushed into glass-prickly ruin. He tried to decide whether it was wise to give himself a shot, found he couldn't make his mind up—and did so.

The shot cleared his head and an artificial clarity informed his thoughts. New energy came to him and he rediscovered appetite. But as yet he had not located any food—and he was sure that when he did it would be after long burrowing into the sand-dune. He repressed all thought of eating with a violent act of will and went on hunting vigorously through the tangle of instruments and the stocks of drugs.

Within half an hour he had assembled much more than he would have dared hope for: stimulants, depressants, systemic purifiers, tissue-regenerants, ersatz nerves, assimilable skin, synthetic plasma, clotting agents, antallergens, immunosuppressants, and simple pain-killers. Also there were several items of no obvious relevance, such as specifics for Watkins fever and lembrotal withdrawal symptoms.

Most of the instruments appeared intact. That, though, was only on the outside. Inside, they contained fantastically delicate webs of electronic circuitry; solid-state though it was, without the master check-board to confirm the fact of normal functioning, he had to suspect that it might have been deranged by the crash. You didn't pick up a modern diagnostic device and throw it at the wall. If you only let it fall to the floor, you checked it out before reusing it.

And the check-board had been filled with drifting sand. So even if—as he was half-thinking—he did contrive to jury-rig a power-source, he wouldn't be able to rely on it.

Forget the instruments, then, except the most ancient of all, like limb-tractors and scalpels. For thousands of years doctors had

had to depend on the data they could carry in their own heads and by modern standards his mind was well-stocked—he had always been blessed with an atavistically good memory. Just as the invention of writing eliminated the blind bards who could recite ten thousand lines of Homer without prompting, and the invention of computers eliminated the mathematicians who could multiply ten-digit numbers in their heads, so the invention of diagnostic tools had discouraged the kind of doctor who could distinguish five hundred types of fever by simple inspection. But Pavel had taken a great interest, when he was a student, in the history of medicine and he was confident that most of what he had learned was there in his mind, ready to be used.

Or was it? Was that a euphoric delusion due to the stimulant he'd injected into his arm?

He had no way of telling. He could only order himself to proceed very cautiously.

Right: he had a patient waiting, providing Andrew hadn't died in the meantime. He selected what he thought would prove most helpful from the pile of drugs and instruments before him and, for want of anything better as a light source, added a retinal examination torch, whose beam was no thicker than his finger but was at least nice and bright.

And went back to Andrew's cabin.

II

AS HE put out his hand to slide the door back he was struck by a terrifying premonition. During his search of the wreck he had seen few actual corpses—apart from that disgustingly squashed body hurled against the end of the corridor—but he knew the rest of them must be there, under the mountain of sand which had collapsed on the hull.

Suppose that during his absence Andrew had died. He was hardly what you'd call a fit young man; he overindulged in liquor, probably in drugs too, and certainly he overate. He was far too fat for his age, twenty-two or twenty-three.

If Andrew had died Pavel would be compelled to wait alone for a rescue party—with no one to talk to even if the talking were no more than an exchange of insults—and no guarantee that he *was* going to be rescued.

Until this moment, he'd taken rescue for granted. He'd been aware that the *Pennyroyal* had dropped out of subspace almost an hour before the explosion, leaving as usual plenty of margin because emerging from subspace close to a sun was dangerous and an old ship like the *Pennyroyal* had to allow some one and a half to two AU

when entering a system like this.

This voyage from Halys to Carteret was a routine affair—a milk run, as the ancient argot termed it. Nonetheless, even if Captain Magnusson didn't keep what you would call a tight ship, he would presumably have signaled ahead to tell the port controller on Carteret that they were in real space again.

Presumably.

Pavel felt abruptly ill. No, he was being too kind to the captain—*nil mortuis* . . . Putting it bluntly, Magnusson had run a sloppy ship, the worst of the dozen or so Pavel had signed aboard. The chances were that the explosion which had wrecked the *Pennyroyal* had been due to neglect of some official safety precaution. And there was a risk, small but not to be ignored, that Magnusson might have thought signaling ahead to their destination was superfluous.

In which case there might be a long wait before him. A *very* long wait. And if he had to face it on his own—could he stand the strain?

He slammed back the cabin door violently to wipe out the picture which had arisen in his head: the sight of himself, face in the rictus of Hippocrates, surrounded by the empty drug phials he had retrieved from the surgery.

At once a whining voice came to his ears, and he was so relieved that he almost failed to pay attention to the words.

"You went away and left me!"

What?

He turned on the torch and approached the bunk. Andrew spoke again.

"You came in before—I heard you. You left me lying in this terrible pain! Damn you, damn you!"

Pavel was about to blurt an angry rejoinder, but he caught himself. Instead he said soothingly, "I went to get some drugs and instruments. You're in a bad way, Andrew."

"You went away and left me alone in the dark." The voice would have become hysterically loud, but on the last breath it broke into a whimper and then came sobs, shrill and grating, like those of a spoiled child denied a piece of candy.

It should have been anyone but Andrew - anyone!

Maybe, though, this petulance was ascribable to his pain. That could be dealt with. Pavel selected an injector from the handful he had brought and placed it against Andrew's exposed right arm, pressed.

"Oh, it's you." As though time had been turned back, the voice had reverted to normal, complete with the sneer Pavel had learned to detest during their voyage. "The so-called doctor who can't even treat a simple headache."

THAT was an allusion to their last encounter. Andrew had

called for him—not come to his surgery, like the others—and insisted he had a migraine. Thorough, punctilious, Pavel had checked him out and his instruments had confirmed what he had already started to suspect: the young man's complaint wasn't migraine at all, but a hangover from a drunk that had lasted three days without an interlude which might have allowed the body's own defences to flush poisons away. And he'd said so, adding that Andrew was on the verge of alcoholic poisoning. Andrew had roared that he was a liar and unfit to practice his profession. He had gone so far as to report Pavel to the captain—not that that made much impression. Captain Magnusson, fundamentally, resented the regulation which compelled him to have a medical officer on board at all and would have been happier with mere machines, since they were cheaper.

Pavel said roughly, "You have something a lot worse than a headache."

Andrew's forehead creased. "Why are you shining that light at me? Why is it dark in here?"

"Why the hell do you think? We crashed, of course."

"Crashed?" Andrew almost sat up, but Pavel put a heavy hand on his shoulder to prevent him.

"Lie still. You have a broken back, probably a broken pelvis and all kinds of internal injuries. I gave you a pain-killer, but if you want to live you absolutely must not move."

"What?" Fretfully Andrew seemed not to have taken in what he'd been told. He made to lift the coverlet and winced.

"Hell, that hurt! And you said you'd given me a pain-killer! Can't you even use the right drug to—"

"Now you listen to me," Pavel rasped. He was picking among the gear he had brought, looking for the collapsible limb-tractor. "You're about as badly broken as a man can be and still expect to survive. Have you got that?"

"I—"

Andrew's face crumpled like a wet paper mask as he realized: *This is happening to me!*

He said, "We crashed?"

"Why the hell else do you imagine your bunk is on the wrong side of the cabin? What do you think threw all your belongings across the floor? If you hadn't been in your bunk, but up and about like everybody else, you'd be under a thousand tons of sand."

"None of your needling! I live the way I choose to live—and if other people don't like it that's their bad luck."

"Oh, shut up." Pavel was assembling the limb-tractor now. "Make the most of the pain-killer I gave you. There isn't much left—and the only other thing I can

do to dull the pain you'd feel without it would be to give you a total block on the lower spinal cord—and I'm not sure it could be reversed. It might mean your being paralyzed. If you want to walk around again, a whole man, you listen to me and do as I say. Clear?"

The blurred oval of Andrew's half-open mouth trembled. Pavel was getting through.

"All right. Now I'm going to have to fix your left arm. It's dislocated, but this will reseat the shoulder in its socket." He hefted the limb-tractor. "So brace yourself. You probably haven't suffered much pain in your life, but human beings used to put up with far worse than what you'll feel. Now if I can get around this bunk to the other side—" Moving as he talked, he found there was just enough room for him to stand.

"They also used to put up with head lice and fleas and open sores," Andrew snapped. "We've made progress since those days."

Surprised to find that this spoiled young man had even heard of such things, Pavel lifted the insensitized arm and fitted the tractor around it, trying not to think about the nauseatingly wrong angle it made at the shoulder. He said, "There hasn't been much progress here. We seem to be on the next planet out from Carteret. It hasn't even evolved into the Pleistocene Age. Right, here we go."

He snapped the spring of the tractor and the shoulder-joint reengaged with a thud. Perfect.

DETACHING the device again, he heard Andrew say, "Well, what about you, then?" The old acid burned in his tone, as though he were constitutionally incapable of talking to people without seeking ways to making them feel small. "Were you in your bunk too, like me?"

"No. I was thrown clear through the surgery bulkhead and into the compartment full of furs. By a miracle they were all out of their bales and—"

"Well, hell!" Andrew crowed. "I saved your life!"

"What?" The next stage would be to cleanse and examine the injured man's lower body; Pavel was already selecting the gear he required for the job. He paused and glanced up.

"Saved your life," Andrew repeated with a harsh attempt at a laugh. "I was bored last night. I woke that man—what's his name? The one from the fur dealers?"

"You mean: what *was* his name?" Pavel said glacially. "He's dead."

"I didn't like him anyway," Andrew said. "But I woke him and told him to show off his goods. Made him take them all out of

their packing. Well, I'll be damned! If I hadn't done that you'd have been—"

"Killed," Pavel broke in. "But *you* would have been dying here in terrible pain."

"The hell I would," Andrew said. "That's not my style. You should know that by now."

Worriedly, Pavel stared at him. One of the side-effects of the drug he'd used, in certain susceptible types, was a kind of megalomaniac euphoria. It appeared that Andrew must be susceptible.

"No—look just to your right," Andrew went on. "See that black case?"

Pavel complied and noticed a square dark case which he must narrowly have missed treading on when he went around the bunk to apply the limb-tractor. He picked it up. It weighed good deal for its size.

"There's a combination lock. Press five, two, five, one, four,"

With the help of the torch Pavel did as he was told and the lid sprang back. His blood ran suddenly cold.

"Know what that is, do you?"

"Yes," Pavel heard his voice as gritty as the wind blowing across the dunes outside. "I should have guessed that this was what you meant. It's an Easy Way Out."

SMALL. No longer, no thicker, than his forearm. But unbelievably expensive. This sleek blue plasteel cylinder with its white cap on one end, bedded in a shock-absorbent lining covered with red velvet, might easily have cost half as much as the *Pennyroyal.*

It was a legal development of an earlier device which had had to be banned because on planet after planet it had stolen the hope of survival from pioneers worn out with their attempts to overcome the infinite problems an alien world could pose. Cynical and cold-blooded entrepreneurs had bought early versions of the machine—which filled half a spaceship—and made fortunes by luring settlers into imaginary universes so delightful they were happy to starve to death rather than give up their next session of pleasure. Several worlds that were now officially freehold in the power of a single family had been, as one might say, "cleared" in this manner.

When the scandal threatened to reach epidemic proportions, Earth's sluggish government had finally enacted a law. By then, however, the profit to be had from using the machines had shrunk; there were few worlds remaining to be grabbed. And in addition miniaturization had—as always—progressed, so that they could be held in one's hand instead of sprawling out through a fifty-meter hold. Also—as always—the

law was a compromise. It was not forbidden to manufacture the things, only to purchase or use them if one was not a bona-fide space-traveler or engaged in some occupation so dangerous as to involve the risk of fatal accident. In practice, that meant they were sold to space-tourists, government officials and chief officers of space-lines. They were rich.

Activated—and all it required for activation was a twist of the white cap and a firm push—it broadcast a signal direct to the brain of anybody within range, in other words within about a hundred meters. The signal forged a link, so to speak, between the brain's pleasure-centers and the memory, diverting the remaining resources of the body into the construction of a delectable dream so absorbing, so convincing, that minor matters like loss of blood, starvation or intolerable pain were instantly forgotten. Trapped in a collapsed mineshaft, sunk beneath an ocean with an hour's worth of air, lost between the stars, one could live out the balance of his life in an ideally happy illusion. According to temperament, it could be erotic—or an orgy of eating—or a tussle with a favourite hallucinogen—or the accomplishment of a lifelong ambition—or . . .

Or anything. Literally, *anything*.

In principle, then, it was a marvelous and humane idea. What fate could be crueler to an aware, sensitive being than knowledge of inescapably impending death? When there was no hope of rescue, better that a man should end his days in unalloyed delight.

Fine.

But the moment that cap was pressed home, it was certain that he *would* end his days. It was a gesture implying suicide. Once those new neural paths had been burned into the cortex, there could never be any retreat from death.

According to what Pavel had read, this had not been true of the earliest versions. One could recover from those, as one could from the ancient addictive drugs, at the cost of incredible self-discipline and long, slow, painstaking psychiatric help. With a model as advanced as the one he held now—no.

HE SHUT the lid and jumbled the lock again, and carefully placed the case on a shelf where Andrew could not reach it.

"What are you doing?" Andrew cried. "You said you knew what it was. Can't you turn it on?"

"Yes." Pavel averted his face and focused his little torch on his medical gear, making a great business of picking out what he would need to complete the job he had barely started.

"Then—"

"Oh, shut up!" With a fury that appalled him—it was no tone for a doctor to use to a patient. "Or I'll shut you up." He grasped an anesthetic injector, not local like the one he had already administered, designed to inactivate pain nerves selectively, but one which would blot out the whole nervous system. "In fact—" with growing resolution—"I guess I'll do that anyway."

He clapped the injector against Andrew's arm.

"You bastard!" Andrew said huskily. "You devil—you . . . "

His voice failed. His eyes, glinting in the pale beam of the torch, shut against his will. Seconds later he slumped inert.

It's kinder, anyway . . .

But Pavel knew, even as he pulled the coverlet from the bunk and mechanically began to occupy himself with the foul job of cleaning excrement and dried blood from Andrew's lower body, that that was not the truth. There had been as much violence in that act as if he had given Andrew a punch on the jaw. And the reason he needed to let his violence erupt?

Even though his mind was preoccupied with his work, even though the effect of the stimulant injection he had given himself was partly used up by the low-oxygen air and the hunger which now—paradoxically—was making his stomach growl audibly, he was able to reason it out. He was scared out of his wits. He was young by modern standards, if not as young as Andrew, being only thirty-five and looking forward to a probable lifetime of at least a hundred and twenty. Proportionately, *vis-à-vis* Andrew, he was in the situation of a man just come of age would have been when dealing with a twelve- or thirteen-year-old boy.

As though imposing a penance on himself for his surrender to anger and fear, he made a particularly thorough and careful job of the cleansing process, undertaking manually some of the most revolting parts, for which he could have used an instrument, assuming the instrument was working after the crash. Presently he discovered that the stimulant was wearing off completely and decided not to take a second dose before eating.

By then he had done absolutely all he had the resources to do: Andrew was in a spider's-web of medical devices which would minimize pain, extract fatigue poisons directly through the skin, cleanse him whenever his bowels and bladder leaked and insure him against the vanishingly small risk of some degenerative infection such as gangrene. Provided rescue arrived within fifteen days, Andrew should not merely survive, but survive in good enough

health to endure the major operation on his spine necessary to restore his power of ambulation. It was an achievement to be proud of.

NOW it was high time he thought about himself—as clearly as the air would let him.

He was thirsty, he realized, not just dry from the arid air of this planet but actually dehydrated from his hard work. He had a number of phials of distilled water in the surgery—including several of liter capacity—which had been so well packaged that they had remained intact. He also had a fair supply of glucose solution and other instant-energy concentrates, various stimulants which rapidly invoked the "second-wind" process in muscle tissue, many different tablets and capsules which, although intended exclusively for metabolic tests, could be used as nutriment in emergency, and even a range of chemicals that generated free oxygen which he could use if the sparse natural air and the pressure of excess CO_2 were handicapping him for some really urgent task.

But so long as he could manage without drawing on those supplies, the better his chances would be of lasting until rescue arrived. He would rather starve until a ship came down to collect him and leave with a store of unused supplies behind him, than . . .

Or would he?

He sat down, only half intending to, on a stool which had surprisingly remained upright in the tangle of the surgery, and he remembered to shut off the torch he was carrying. A little light, now very red because the sun was setting, showed his surroundings to him. He faced, at long last, the fundamental reason for his—his *attack* on Andrew.

He didn't believe with his whole being that he was going to be rescued. He didn't believe that anything would be done to organize search parties until the *Pennyroyal* was so much more overdue than the normal range of variation in her schedule that somebody on Carteret grew angry. He hadn't made many voyages on Magnusson's ship, but he was well aware that a difference of a week or two one way or the other in time of docking on any given planet the ship serviced didn't seem to worry the captain.

Unless Pavel could improvise a beacon, preferably a powerful radio beacon . . .

And he was trained in medicine, not engineering or electronics. If he was reluctant to use his own professional aids because he feared they might have been rendered unreliable, how could he trust a radio or subspace signaler even if he

managed to rout one out from the mass of sand engulfing the after part of the ship and connect it to a power supply? How would he know whether it was crying for help, or simply lighting up the state-of-circuit lamps?

He thought of the daunting process of shoveling sand away, encountering corpses, of being frustrated because food-capsules had smashed open and the contents were inedible . . .

And then he thought of the Easy Way Out.

YES, that was what was frightening him more than the risk of dying here, forgotten, on an uninhabited world.

If he had not known that the EWO existed, if he had been able to occupy himself solely with problems of survival, he might have made it. As things stood, knowing that the choice lay between an agonizing death and a delightful one, he found himself tempted.

"No—"

It astonished him that he should have shouted the word out loud and he leaped to his feet. Something in the very depths of his mind had said: *I don't want to die at all.*

That made sense. He didn't want to be here on Quasimodo IV? He didn't want to be have a vast ache all down his legs and a twisted ankle and a dry throat and particularly he didn't want a patient who insulted him when he was trying to help. But he did want to live. With almost three-quarters of a lifetime ahead of him, he hated the idea that he might be doomed by someone's carelessness.

Unsteadily, head pounding, with only the pencil beam of the torch to guide him, he set off on a second exploration of the ship.

III

HOURS PASSED. His watch was working but he had forgotten to check it when he awoke after the crash—and when it did occur to him to look at it he found it wasn't much use. It had been set to the arbitrary ship's day and assured him the "real" time was a few minutes before noon. But the star-spangled sky, of which he caught occasional glimpses, remained dark. He vaguely remembered having read somewhere that the day of this planet was much longer than Earth's, well over thirty hours. So it wouldn't even be possible to predict dawn until he had seen one—and another sunset.

But that was a minor matter. He had biological clocks in his body which were more important. The loudest-chiming one was in his belly. He was sure that by now his increasing weakness was due less to lack of oxygen and his many

bruises than to simple hunger. And, inescapably, thirst.

Accordingly he directed his first efforts at digging toward where he knew the ship's restaurant had been located, on the side of the hull opposite his surgery. But this had been crushed far worse than the other side. The sand was piled high and spilled down to replace whatever he scrabbled away. He was on the brink of despair when he recognized something shining in the beam of the torch.

Sand-scraped, the label told him plainly: Whole Milk.

He seized the bulbous can and raised it to his lips, ignoring the sand that clogged the outlet. The sand was presumably sterile. If it was not he had already been exposed over and over to whatever minor life forms it bore. He gulped down the milk in huge draughts, thinking with a detached portion of his mind that there was—or should have been—something symbolic in this action.

But this planet was not one he could envisage substituting for Mother Earth.

After that he found a whole group of similar containers, apparently the contents of a shelf which had been in the compartment adjacent to the restaurant and which had been slammed through a bulkhead in the crash. Many of them were crushed and had leaked their contents, but he recovered more milk, various types of consommé and broth and five or six types of purée. Beyond, there was a mess of fresh fruit, including apples, papayas and a mutated citrus he was fond of, called yabanos, resembling a lime bloated to the size of an orange and with deep pink flesh. He eagerly tore at its peel and had already set a chunk of it to his lips when he realized what his sense of touch had been trying to warn him about: the crash had hurled this fruit into something made of glass and the glass had smashed. The whole of it was permeated with tiny sharp spikes.

He spat it out and threw it away in fury.

This time he didn't shout it aloud, but he said it inside his head, very forcibly: *I am not going to take the Easy Way Out! I am not! I am not . . .*

And then that honesty he detested compelled him to add: *At least . . . I don't think I am.*

He took one final look at Andrew, who was still unconscious, and gave him an injectorful of glucose-and-vitamin booster. He had found some high-protein concentrates and other life-supports, but Andrew was carrying enough fat on his belly to last him several days, and he certainly wasn't going to become dehydrated overnight—or whatever the equivalent of "overnight" might be, mea-

sured in terms of how long it took Pavel to wake up after he collapsed on his pile of furs. His own cabin, far astern in the crew's quarters, was unreachable, but a dozen furs in the corridor afforded a soft bed within earshot of Andrew if he recovered consciousness.

The rest . . .
could wait . . .
until later . . .

TURN IT on! Damn you—damn you! *Turn it on*!"

Pavel came awake in a second. The cry, eerie in the echoing corridor, had seemed a continuation of the dream he had been suffering, a vision of endless wandering over a vast bare desert. He forced himself to his feet, aware of the nasty clinging of his clothes to his body—normally he changed twice a day and threw worn clothing into the recycler, but that was smashed. During the night a breeze must have blown away the stench left by the fires inside the ship; the air now, although still very dry and oxygen-poor, smelled of nothing at all.

When he had lain down to sleep he had set the torch and a number of flasks and medical phials nearby. Now, though, he did not need artificial light—the sun must be well up in the sky and pouring in through all the cracks in the hull—and he was too dazed to worry about the other things. He stumbled into Andrew's cabin, rubbing his eyes.

Calm overtook him as he saw the medical equipment he had rigged yesterday. It was self-powered against failure of the ship's power; its state-of-operation lights continued to gleam like little reptile eyes. And indicated no change worth noticing in Andrew's condition: metabolism survival-prone, skeletal structure paralysis-prone, nervous system pain-prone.

"That! That thing!"

Andrew shouted, as loudly as he could, and raised his right arm to point at the shelf where Pavel had set the EWO.

"Turn it on!"

Pavel drew a deep breath. His head felt as though it had been stuffed with sand from outside, his mouth was as dry and harsh as though the sand had been inserted by that route and his stomach was full of gas bloat. Also his ankle seemed to have become worse during his sleep, not better, and when he rested his weight on it he winced.

Reaching out, he took the EWO off the shelf and wordlessly carried it from the cabin. Behind him Andrew screamed and howled.

It occurred to Pavel that he should pitch the EWO out of the ship altogether, into the sand, where night-wind would cover it

and make it impossible to find again. But even as he was tensing his muscles to toss the thing away, he relented. Rescue, after all, might *not* come . . .

Of the many cupboards in his surgery only one had not had its doors torn off the hinges. He put the EWO inside and slammed the doors and twisted the lock shut, thinking as he did so: *Out of sight, out of . . .*

My mind?

But he didn't want to think about that.

When he returned to Andrew's cabin he heard, from several meters away, a helpless moaning noise. He hurried his last few steps and found Andrew with his hands over his face, weeping.

"Okay, okay," Pavel said, and touched the younger man's arm reassuringly. "I'm here and I have my—"

"Turn it on," Andrew moaned, his hands muffling the words.

"I've taken the EWO away," Pavel said. And waited.

"What?" The hands dropped from Andrew's tear-wet face. "But it's mine. If I tell you to turn it on you've got to turn it on. I can't bear to lie here and suffer this pain!"

"Would you rather throw away the rest of your life," Pavel said after a moment to ponder his choice of words, "than survive to enjoy all these things you kept boasting about on the trip—all the money, luxury and power your family's possessions will bring you?"

Andrew hesitated, letting his arms fall to his sides. He looked through fear-filled eyes at the medical equipment enclosing his body from the waist down.

Pavel went on waiting.

Abruptly—and unexpectedly—Andrew said, "I guess if you don't have too much anesthetic left you'd better save it for when I start to scream. But do you have a tranquilizing shot?"

A WAVE of relief swept over Pavel. He had never heard Andrew speak in such a reasonable tone before. He said, "Sure. Not much of that is left, either, though. My whole stock of drugs was thrown through the surgery bulkhead along with me—and even if some of them were saved from breaking by landing in the furs it'll take a while for me to dig them out. Here's something to be going on with, at least."

He selected the right injector from the mixed batch he had brought and applied it.

"Thank you," Andrew said, even before it had taken effect. "I—I guess I should apologize for shouting at you."

Pavel shrugged.

"How are you?"

"Me?" Pavel's surprise showed in his voice. "Oh—I'm not too bad."

"I asked you a question. Don't I deserve an answer?"

"Well—" Pavel licked his lips. "My head aches like fury—but I guess yours does too. It's the air. My throat is sore, but that's the air too—it's very dry. When the crash came I acquired a gang of bruises and a twisted ankle. Now you know. And as a doctor I can promise you I'm in far better shape than you are."

"Obviously." A ghost of a smile showed on Andrew's pale face. "I'm in the kind of mess it would take a major hospital to cope with, aren't I?"

Pavel nodded. There was no point in trying to conceal the truth.

"Then why the *hell* won't you turn on the EWO?" Andrew blasted.

Pavel froze. He said at last, "You spoiled brat. Damn it, I don't know a name to call you that would say what I think."

"Now look here—" Andrew began, but Pavel plunged on.

"Before you try any more of your tricks, get this into your solid plasteel head, will you? I want to stay alive, even if you don't. You've been pampered all your life, so even a hint of pain makes you want to give up. But you can't con me into doing what you want; you can't threaten me into doing what you want; you can't wheedle me into doing what you want. For once in your life you're simply going to have to do what someone else wants. You're going to survive for as long as you can. That's how most people live."

There was a dead silence. Since Pavel had waked, the whole ship had been silent, apart from the soughing of a light wind across the gaps in the hull. The trickling noise he had heard yesterday in the surgery, the sifting noise of sand filling a few remaining spaces in the after part of the ship, the creaking of the girders as they cooled—all that had come to an end. The only items in operation, the medical equipment, were too efficiently designed to make a noise even after the punishment they had taken.

Then the artificial calm of the last shot he had been given overspread Andrew's face. He said, "Well, if you're so determined to keep me alive, you might as well make me comfortable, too. I am in pain, you know."

"All right," Pavel conceded. "But I'll have to make it a short dose. I'll have to accustom you gradually to supporting some of your pain, I'm afraid. There's no way of estimating how long it will be before we're rescued." He produced and applied the correct injector.

"And I'm afraid I can't be absolutely certain how badly your internal organs are affected," he

went on. "To be on the safe side, I'll have to keep you hydrated with an intravenous transfusion rather than letting you drink."

"But I'm very thirsty," Andrew said in a dull tone.

"I imagine you must be. I have some tablets you can suck to keep your mouth and throat moist, but they, too, will have to be rationed out."

"Because we may be stuck here a long time," Andrew murmured. "What makes you so sure we are going to be rescued, *hm?*"

"Look, we're in the same system as Carteret," Pavel said. "We're going to be reported overdue. If a live detector happens to have been anywhere in the vicinity, it will have picked up our blip. It might even have tracked us to impact."

"Hell, if it tracked us to impact no one will bother to come searching," Andrew said. "Everyone was killed but us, right? If they calculate the speed we had when we broached air—they'll take it for granted we just burned up."

Pavel put on his most reassuring manner.

"Not if I can dig out something to make a beacon with," he said. "I'm not an engineer, but I hope to find a solid-state transmitter sooner or later—and a capacitor or something to drive it with. I'll—uh—I'll leave you now and get on with it."

"Thirsty!" Andrew said.

"Oh, of course. I'll get you one of those tablets to suck."

Behind the closed cupboard doors the presence of the EWO seemed to mock him when he entered the surgery.

HAVING made a frugal breakfast from half a can of fruit purée, Pavel sat down to work out a plan. In this sparse air he dared not overexert himself. On the other hand, he must work quickly in order to improve their chances of survival, either to fix the beacon he'd talked about or simply to locate more provisions.

In a while, despite his aching head, he had worked out what seemed to be a logical course of action. He hunted around for something he could adapt as a shovel, found a plastic chair with one metal leg still attached and, by wedging the leg in a crack in the wall and leaning on it with his full weight, straightened it so that the chair seat made a kind of flat scoop and the leg a handle. Fine. Very pleased with himself, he set about digging where he had found the bulbs of soup yesterday.

And almost at once discovered a mangled corpse.

The thought crossed his mind that if he absolutely had to, he could reserve the canned supplies until last—and eat meat. It should

remain good for a long time in this dry air, away from Earth-type bacteria.

Revolting . . . better the EWO than cannibalism . . .

Maybe.

He moved the body and with much effort dragged it to a gash in the hull and pushed it outside. He scrambled after it and dragged it out of sight down the dune and flung a few shovelfuls of sand after it. Then, aching in every limb, he decided to walk around the ship instead of going straight back inside.

The going was very difficult; the dune was so dry, he sank over ankles at every step. But he managed to carry out a complete inspection of the exposed part of the ship and the more he saw, the more he marveled at his own escape. A bare fifth of the vessel's length was visible and as badly cracked as a hard-boiled egg ready for shelling. His heart sank. Was there any hope at all of finding serviceable equipment to rig his beacon?

There was only one way to find out. He went back to his digging.

Time passed in a monotonous slow blur. He fell immediately into the routine which he was to follow for the rest of their stay. He dug for a while, making either the discovery of a corpse or the location of a bit of intact equipment, an excuse to break off, then went to see Andrew and attend to his requests or inform him that they could not be met.

THE first time he told Andrew he would have to lie in pain a bit longer before another shot, Andrew curled back his lip and said, "I've got you figured out. You like this."

"What?"

"You like this. You like having someone totally helpless—the way I am. Gives you a sense of power."

Sweat beaded his face, but evaporated almost at once into the dry air.

"Nonsense," Pavel said roughly, looking over the equipment at the foot of the bunk. One of the lights which had been green had turned red. But there was no help for that.

"I know your type," Andrew whined. "Nothing suits you better than—"

"Shut up," Pavel said. "I'm trying to keep us both alive. And, if possible, sane. Don't start on crazy fantasies like that, or you'll run the risk of making me angry. I'm already living on my nerves."

"What does a doctor do when his patient makes him angry? Turn off the life-supports?"

"No." Pavel drew a deep but unsatisfying breath. "Gets out of earshot and stays there."

He marched out of the cabin and slammed the door. In the corridor

he leaned for a while against the wall, head on hands. But there was work to do. He roused himself and returned to it. Not for the first time, as he mustered all his energy and thrust the improvised shovel into yet another heap of sand, he wondered sickly why he was wasting his time. He was now well into the section where he ought to have located usable electronic or subelectronic equipment if any had survived—and all he was finding was charred or half-melted masses of metal and plastic. There had been a fire here, a hot one. Also, now and then, he found items from spacemen's uniforms, such as buckles and rank badges. And bones.

It took him almost three days—daytimes, rather—to clear the section of the ship of which he had the highest hopes. The only thing he found that was any use at all was a solid-state emergency lamp, its lumen-globe intact and its powerpack barely below maximum. Night was falling when he came upon it. He switched it on, thinking how wonderful it was to have a proper light.

And then, with a pang of conscience, how terrible it must be for Andrew lying alone in the dark, forced to wait hours between anesthetic shots. He picked up the lamp and carried it to Andrew's cabin.

Andrew did not at first react to the sound of the door sliding back—it moved noisily now because the finest grains of sand sifted everywhere when the wind rose and the groove at the bottom was covered with them. When he opened his eyes, however, he did not comment on the lamp.

He said, "Pavel, you—you look terrible."

"What?" Pavel touched his face. It had beard stubble on it, of course, and no doubt dirt and sweat had mingled to cover his skin with a layer of grime. He hadn't given thought to his appearance for a long while.

"Could be," he said gruffly. "But never mind. I found this lamp. I thought it would be useful for you. I could get you something to pass the time now you have light—maybe a book, if you like reading. Or a game from the recreation room. I dug into that and found a few things."

Andrew seemed not to be listening. He said, "Why in the galaxy are you driving yourself this way? Did you find a way to send a signal to a search-party?"

Pavel licked his lips; they tasted of dust. "I found quite a lot of stuff, but—"

"But it doesn't work?"

"No. I'm afraid it's all smashed up."

"I thought it would be," Andrew said. Now, by the bright clear light, Pavel could see that his cheeks had suddenly become

sunken. Another lamp shone red on the medical gear enclosing his legs. Yesterday it had been green. Red for danger. "Pavel, you ought at least to leave the EWO where I can get at it. Suppose—well, suppose you dig into somewhere and a girder falls on you. Suppose you're hurt and can't get back to wherever you put the thing."

"I don't want to use it," Pavel said obstinately.

"And you won't keep me free of pain all the time—"

"I can't because—"

"Oh, save it." Andrew sighed and rolled his head to the side opposite the lamp, shutting his eyes again.

The ungrateful bastard, Pavel thought and strode out.

IV

THAT night he dropped off to sleep the moment he lay on his couch of furs in the passageway outside Andrew's door. He dreamed of far-off worlds where he had been happy and relaxed, where he had basked in warm sunlight and eaten luscious meals in the company of pretty women—the dreams shocked him awake.

Has Andrew somehow got at the EWO and turned it on?

That thought blasted through the euphoria and brought him bolt upright with a jerk. Standing up and waking were simultaneous. It was dark; he had turned off the lamp to conserve its powerpack, Andrew being asleep also. But he had left it on a shelf just inside the cabin door, and the door was ajar. He located it by touch and switched it on.

Andrew was lying, very pale and sweating again, with his fists clenched and his jaw set. Another red light had appeared at the foot of his bunk.

"Damn it, you're in agony," burst out of Pavel.

"I didn't want—to—wake you." Andrew forced the words past tightly clamped teeth. "Thought you—you deserved your rest."

What in the galaxy was happening to this spoiled young man? But Pavel wasted no time on wondering about it—he had, as usual, placed a selection of phials and other equipment by his couch. Seizing an injector, he gave Andrew a full shot of pain-killer.

"Thanks," the younger man whispered and the drawn expression faded from his face. "Sorry I disturbed you. I guess I cried out without meaning to."

"That's okay," Pavel said awkwardly. "Actually, you didn't."

"You know something?" Andrew stared at the ceiling. "I've been thinking. I guess I never had to think so long about the same thing, over and over, in my life before. When the crash happened, I was scared. I didn't realize—I

kept telling myself it couldn't possibly be happening to me—not to Andrew Alighieri Solichuk-Fehr. And—well, the way I see it now, I went on trying to hide the truth. Didn't I? Don't bother to answer. I know I'm right. And here you've been working like a—like a robot, while knowing what can be done and what can't. Well, imagine it had been the other way around. Imagine that I'd been up and walking about and you were stuck in a bunk like me, busted all to hell. I wouldn't know what to do. I'd go crazy. I'd have just turned the cap of the EWO and given up."

Pavel listened, hardly believing his ears.

"So I—well, I'd just like to say I'm obliged to you. I think it's the most amazing luck that you were the other person who survived. It's finally dawned on me that without you I'd be dead."

His fists clenched again, but not this time from pain.

"And you're right. It's stupid to die when you don't have to. It's stupid to quit just because you can't take a little pain, just because you're gambling on the chance of being rescued and you can't figure the odds. Hell, I've gambled on a dozen planets for things much less important than life—for mere money. And I swear I wouldn't have bet on my chance of still being alive after that crash."

"Nor would I," Pavel said in a gravelly tone. From the corner of his eye he noted that the last red light had reverted to green, a sign that it had been the pain that had been putting the dangerous stress on Andrew's metabolism. Dilemma: whether to keep the pain damped down in order to protect his life-functions—or to husband the supply of pain-killer and make his life bearable, if not comfortable, for the greatest possible length of time.

It was too much to think about right now. Pavel's mind was still fuzzy with sleep. Anyhow, Andrew hadn't finished.

"You're sure we're on Quasimodo IV?"

Until this moment, Pavel hadn't been certain that Andrew had taken in the information he'd been given about their situation. "Yes. At least, as sure as I can be without checking out some sort of data on the system we were bound for. I haven't dug into the library section yet, but I think I'm coming fairly close."

"Well, instead of wasting my time on games and that sort of nonsense, why don't you bring me what you can salvage in the way of books and reels? I guess if there's a magnifying glass or microscope to be had, I can make out a reel. But without power there can't be much hope of reading tapes, huh?"

"True enough. But—sure, I'll do

my best. Find some way of magnifying a reel so you can read it up against that light."

"Great," Andrew said. "Now you go back to sleep or fix your breakfast, or whatever you want. I'll be okay until this shot wears off. And for as long afterward as I can honestly stand the pain."

PAVEL kept thinking as he burrowed deeper and deeper into the accessible regions of the ship that it helped enormously to know that he had a companion in adversity after all, someone he could talk to, instead of a burden on his time, a constant worry. He did in fact locate a scratched and broken piece of transpex with a high magnifying factor, some data reels and a few scorched books whose pages had to be turned very carefully in order to prevent their crumbling, and Andrew, propped up just a little on his pillow, somehow contrived to read a few of them by the portable lamp. There were only passing references to Quasimodo IV—it never having been a planet of much interest to spacemen—but what little he gleaned confirmed that that was where they were, and moreover that they were currently on the same side of the local sun as Carteret.

But in that case . . .

Why haven't we been rescued already?

The fourth, fifth, eighth days melted into the past almost featurelessly. The strain of working in low oxygen was weakening Pavel; he hated waking up and often his digging was reduced to the mindless act of a machine, so that he had already shoveled aside a piece of potentially useful equipment before his sluggish brain recognized it. Then he had to go scrabble for it with bare hands in the pile of sand behind him. And, of course, all the time he kept finding dead bodies.

For a brief while, following Andrew's remarkable discovery of courage, the cupboard where he had stored the EWO held no threat to Pavel. A day—two days—later, and the blisters on his hands and the grit in his mouth and the redness of his eyes and the endless, incurable thirst he suffered from conspired to reawaken its specter in his memory. Instead of being here, victim of harsh reality, he could be in a lovely, imaginary world, enjoying himself in any way he chose, picturing the most beautiful girls, the smoothest lawns, the finest beaches.

He drove the ghost away.

The supply of drugs dwindled, though he hoarded them carefully. So did the protein concentrates and glucose-and-vitamin solutions which were all the food he could offer Andrew. Luckily he had had just enough of a sub-

stance which triggered the body's use of stored fat—a short-cut for overindulgent passengers, basically, who now and then realized at the end of a long spaceflight that they had put on two kilos while they were shut up in the metal shell of the ship and wanted to revert to normal weight before landing. He had never expected to make practical use of what he ordinarily regarded as a cosmetic drug. The two injections of it which he had given to Andrew, however, had worked well, and though his skin was now deflated over his premature paunch—like a collapsed balloon—he was able to utilize what long overindulgence had stored between his muscles and his skin.

Pavel took more and more frequently to going outside and staring up at the sky, knowing it was ridiculous to do so. One couldn't see an orbiting rescue ship by day—and if it arrived during the night it would no doubt fire signal flares and perhaps sonic missiles to wake survivors up and provoke them into lighting fires or somehow revealing their presence.

Fires?

THE idea should have come to him much earlier; in fact, it didn't strike him until he finally had to concede that further digging was useless. The part of the ship he hadn't yet cleared of sand had collapsed and he lacked the strength and the tools to force aside the strong metal girders now blocking his progress.

He had been aimlessly postponing the admission that nothing else constructive was left for him to do when the notion of making a fire occurred to him. At night a fire could be spotted a long way off under this clear sky. He had seen clouds only once since the crash and those only on the horizon around the setting sun. Presumably an ocean lay in that direction, but a rise in the ground—a range of hills or mountains—filtered all the moisture from the wind before it blew this far inland.

Andrew had found scant reference to the meteorological pattern of Quasimodo IV in the charred books Pavel brought him.

Was anything left in the wreck that would flame brightly in this thin air? Pavel made tests, cautiously, with flammable liquids from his surgery: alcohol, ether, some otherwise useless tinctures and suspensions which bore fire warnings on their labels. Satisfied that it might indeed be possible to light a fire, he set about resifting the great mounds of rubbish he had thrown aside, dividing them into two new categories: things that would catch light and things that wouldn't. That occupied a day or two more.

Little by little, however, he began to find himself obsessed with the passage of time.

If we can last four more days—three more days, two . . .

He caught himself up with a shock. There still was no promise of rescue. In his mind the fifteen-day period he had estimated as the limit of the time he could keep Andrew alive had evolved into an article of faith: *If we last out fifteen days we'll be okay . . .*

What grounds did he have for believing that? On the contrary, he realized, now that eleven, twelve, thirteen days had leaked away, their chances of being saved were less, not more. Even if Magnusson had been notoriously sloppy about routine matters, such as signaling to the port he was bound for when his ship broached normal from subspace, they should have started searching long ago.

The vision of the EWO shut in the cupboard rose before him and sang an inaudible song of mockery.

WEAKENED by his efforts, short oxygen and with barely sufficient food, he had taken to spending an hour or two each day between exhaustion and slumber in conversation with Andrew. The first few times had been a sort of stimulant for him; he had never had any clear concept of what life was like for someone who was due to inherit one of the great fortunes of the galaxy, coming as he did from average, ordinary stock on both sides of his own family: pioneers five generations back, who seemed to have used up their ambition and initiative in the single crucial act of leaving Earth.

He himself, by deciding to sign as a space medical officer before settling to a regular career, and moreover saying that it might not be on his home world of Caliban that he chose to practice, had shocked all his relatives. They were no longer geared to star travel. By contrast, Andrew's background since he was born had included the concept of galaxy-roaming: *Uncle Herbert is on Halys and sends his love,* or maybe, *I think we'll take the kids to Peristar this year . . .*

Not that Andrew himself had appreciated his good fortune until now. He had looked on it more as a distasteful duty than a reason for excitement and enjoyment when he had been instructed to tour the family holdings.

Now, listening to Pavel explaining his attitude, he seemed to have come around to the view that he had been stupid, wasting an opportunity thousands, millions of young men would have sold their right arms for. Head constantly aching, unceasingly shaky on his feet and having to concentrate

with all his force like a man struggling to pretend he isn't drunk, Pavel had done his best to encourage Andrew—until the evening of the day when he admitted to himself that even if they did last out for the two weeks he had invented as a deadline they were probably doomed anyhow.

Then he was snappish and ill-tempered, heard his own voice reviving accusations from the *Pennyroyal's* last voyage—references to Hans, references to drunkenness, references to laziness and greed and lack of consideration for other passengers. Hurt, at first surprised, later angry, Andrew retorted in kind, and the should-have-been friendly chat wound up with a grinding slam of the cabin door.

But the last thing Pavel had glimpsed was not just one more red light—he'd grown accustomed to one a day, on average, added to the original total—but a whole new cluster of them, which yesterday had been green.

Shaking from head to foot, he waited in the corridor for as long as it took to calm himself. Then he reopened the door.

"I'm sorry," he said. "I'm ashamed of myself. You're in terrible pain. The lights—" He gestured at them. They were naturally turned away from the patient.

"I know," Andrew muttered.

"What?"

"Of course I know." With renewed anger. "That machine of yours wasn't designed to be used in a completely dark room, but a hospital ward with twilight oozing out of the walls—right? Every night when you switch off the lamp for me to go to sleep, I can see the light reflected over there—" gesturing— "and I can tell that it's more red than it was before. I know I'm in a bad way, for heaven's sake! I *know!*"

The last word peaked into a cry.

Pavel bit his lip. He said, "I guess I haven't been completely honest with you. I—well, I no longer believe in being rescued. If we were going to be rescued it ought to have happened by now. Do you want me to—"

"Switch on the EWO?" Andrew broke in. "No—No! And no again! You were right to take it away from me. Lying here, pain or no pain, I've come to realize how precious life can be. No, I don't want you to use it. Take it out and bury it—smash it with a hammer—anything."

His voice cracked with pain. Sweat glistened on his skin.

"Well—uh—all right then," Pavel said. "Good night."

"Good night."

Pavel dreamed about the EWO again.

THE nightmares didn't stop in the morning.

When he opened the cabin door,

having slept badly, he found Andrew not just asleep but unconscious. All but four of the lights on the medical equipment had gone to red. A glance at their pattern confirmed that it was the struggle to resist pain that had worn him out—that, and the exhaustion of the last phial of nutrient solution in Pavel's limited stock. There was enough water left to keep him hydrated and enough tissue in his muscles for the "second-wind" process to keep his basal metabolism turning over for a few more hours—perhaps a couple of days, if he remained inert.

Beyond that point?

Certain death.

Pavel stared in giddy disbelief. He tried to tell himself that it was an achievement to have kept Andrew alive and conscious, in his condition, for such a long time—not fifteen ordinary days, as he had somehow been fool enough to imagine, but fifteen of these extra-long local days. It was a medical miracle in its small way. Hardly any modern doctor could have managed it without the aid of a full range of diagnostic and supportive equipment.

But what was the use of having done it when nobody else would ever find out?

All hope seeped out of his mind. His overstrained will to survive collapsed like a bridge required to carry too great a load, folding almost gracefully into an unrecognizable tangle of struts and pillars. He was barely Pavel Williamson any longer as he turned with machine-precise movements and headed for his surgery.

In that cupboard he had passed so many times waited the Easy Way Out.

He took it, sleek and chill, from its case and turned it over and over. It was well past dawn and there was plenty of light to see by.

I denied him this, Pavel thought. *I could have ended his life in ecstasy instead of a vain, stupid, pointless struggle against pain. Now he will die, unconscious, and—and he turned out to be a nice guy in his way. I feel almost fond of him—and horribly ashamed of myself.*

Because I'm going to use what I forbade him . . .

Convulsively he twisted the white cap of the EWO and pressed it down. It sank visibly along the main shaft and a humming rose. Pavel closed his eyes.

Disbelievingly he opened them again. All was exactly as it had been. Except the EWO. Heavy in his hands, it was now also growing hot.

He let it fall with an oath. A hissing noise followed, and a puff of smoke spurted from the capped end. The cap—some kind of plastic, he guessed—became de-

formed and darkened.

After that it simply lay there.

He stared at it incredulously for a long while: how long, he could not tell. He felt like a suicide who took much trouble over choosing and knotting a rope only to have it break under his weight.

"I'll be damned," he said furiously at last. "For all that pretty case with the combination lock—for all the padding it was nested in—it broke when we crashed. It doesn't work!"

The thing was no longer smoking. He touched it and found it merely warm. Snatching it up, he swung around to leave the surgery, blind with rage.

"I'll pay him back for leading me on this way," he heard himself muttering. "I'll get even. I'll—"

What is that?

From somewhere outside came a roaring sound. The crumpled steel of the corridor vibrated. Pavel stood still, one hand already outstretched to slide back the door of Andrew's cabin.

The roar faded, then grew louder again. He stared in horror at the EWO in his hand, thinking: *Did it work after all? Is this an induced illusion, the fantasy of rescue?*

But, surely, knowing how ashamed he had been when he was finally driven to try and use the gadget, he could rule that out. Any illusion he was capable of enjoying would exclude all memory of the EWO, because even to recall its existence would remind him he was condemned to death.

Uncertain, he turned around—and was suddenly pelting at full, lung-tearing speed toward the nearest opening in the hull to light his beacon with trembling fingers and keel over beside it for the rescue party to locate.

"I GUESS someone should apologize for our not coming to find you sooner," said the doctor at the central hospital on Carteret. "But it was logical enough to abandon all hope the moment the *Pennyroyal's* course had been computed. I mean, you wouldn't expect anyone to live through a crash like that, would you?"

"I guess not," Pavel said. He felt very much better, although this oxygen-rich air was still making him a trifle giddy. "And when the people did turn up they came only for salvage, right? Not for rescue?"

"I'm afraid so," the doctor admitted. "It was the insurance company covering that consignment of furs that chartered the ship that picked you up." He hesitated. "By the way, I'd like to compliment you on the marvelous job you did on Andrew Solichuk. You know, his family is very big here on Carteret and if he'd

been found dead—" He ended the sentence with a gesture.

"Yes," Pavel said. "Yes, it was a pretty good job, though I say so myself."

He looked absently out of the window. This was a splendid modern building, very expensive, surrounded by magnificent lawns and flowerbeds. He could see a swimming pool and a sun terrace where patients were soaking up the sunlight. Absently he caressed something smooth and heavy on his lap.

The EWO that hadn't worked.

He said suddenly, "How is Andrew now? I'd like to see him if I can."

"I imagine that can be arranged," the doctor said heartily. "Of course, he was in very bad shape when he was brought here, but when they heard the news his family back on Earth signaled that we should spare no expense. He's had the finest surgery available on this planet. He's up and about already—and as a matter of fact, I believe he asked to see you. Come with me." Rising, he added with a chuckle: "Aren't you glad that thing of yours was broken after all?"

"What?" Pavel gave him a confused stare. "Oh, this?" He hefted the EWO. "It's not mine."

"We assumed it was," the doctor said. "You were clinging to it for dear life. When you were un-

partment is flowering forth in beards. Formidable. A lot of us even read our own books—outside of the editors, that is. (This is a rare thing in a publishing house.) This department must sadly admit to not being able to keep up with the whole list any more. Just the Adult Fantasy, Science Fiction, Mysteries, Westerns, Ecology, Environment, Comstock and sex books. Enough.

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HAVING thus brought you adroitly to the discussion of books, what have we got for this month—a whole fleet of books from Fred Pohl and Jack Williamson, namely: UNDERSEA QUEST, UNDERSEA FLEET, and UNDERSEA CITY—three to do with subsea academy types (did you see that crazy Cousteau film on the sea-dragons of Galapagos?) involved in various adventures, plus another group of Clark Ashton Smith stories —HYPERBOREA—our Adult Fantasy. Meanwhile all the H.P. Lovecraft titles in Ballantine and Beagle go bouncing from glory to glory. Great stuff.

MORE about dragons next month, and meantime, GET OFF THE TOP OF THE FOOD CHAIN!

Sincerely . . . BB

dergoing your psychiatric reorientation they wanted to take it away, but when I saw how violently you reacted to losing it I told them they ought to let you hang on to it. A sort of mental sheet-anchor. You say it isn't yours?"

"No, it belonged to Andrew." Pavel stared wonderingly down at the thing. "It must have sunk all sorts of barbs in my subconscious if I clung to it as you say I did. I guess it's time I got rid of it. I'll give it back to Andrew, let him know it wouldn't have helped anyway. He was at me to use it, you know, for days and days after we landed. I mean crashed."

"I'm not surprised." The doctor nodded. "Suffering the way he was— Still, according to what he's been saying, you infected him—so to speak—with the will to live. He's very anxious to see you again, you know."

He courteously indicated that Pavel should precede him through the door.

AND there he was: almost unrecognizably lean, nearly naked in the bright warm sunlight, with a few traces of scarring around his waist and lower back but grinning from ear to ear. He had been in the pool and drops of water were still running down his body, but he hurled aside the towel

he had been about to use and advanced on Pavel with a shout of joy.

"Pavel! How can I ever thank you for saving my life? You were right, right all along—if it hadn't been for you, I wouldn't be here now, back in one piece, able to enjoy life again! Here, let me shake your hand."

His voice changed even as he put out his hand.

"What's that?" he said faintly and all the color faded from his cheeks. "It's— You bastard!"

"What?" Standing uncertainly before him, Pavel held up the EWO. "You mean this? Why, I was just about to tell you. If you'd—"

"You devil!" Andrew snatched it from him and stared at the capped end. It was obvious that it had been pushed home. "You activated it. After all your pious preaching you activated it. And—and—"

He looked about to be physically sick.

"And all this must be illusion after all! Which means I'm going to die—just as I'd finally found out how to enjoy being alive! You bastard, you *devil!*" His face contorted into a mask of fury.

"Now just a moment," said the doctor at Pavel's side, stepping forward. Pavel himself was frozen with pure amazement, incapable of speaking, barely able to think.

But the doctor was too late.

Raising the heavy plasteel cylinder of the EWO above his head with all the force his newly discovered health and vigor afforded, Andrew brought it slamming down and smashed open Pavel's skull as completely and as fatally as the hull of the wrecked *Pennyroyal.* ★

THE RIGHT TO REVOLT

First, can you keep from losing?

KEITH

THEY were waiting for Andy Galt as he left the Weather Control Complex at the end of the Dawn Shift: Pinchot, sleek and dandified even in a Survey coverall, Williver, big and soft, with a worried look on his too-small face, Gray, lean as a ferret, bright-eyed, nervous, and Timmins, silent as usual.

"You've heard?" Pinchot said. "They did it."

Galt nodded.

"Some politico who's never been within five lights of Colmar decides we need to open another hundred miles of desert," Gray said. "So five hundred of us are going to be drafted and shipped out to the plateau to play the hardy pioneer."

"We knew they were going ahead," Walt said, "Why act surprised?"

"There was always a chance they'd take our warning and back down," Gray said. He had a thin, high voice, a mouth that seemed always to be grinning a secret grin.

"It couldn't have been more blatant if they were trying to goad us beyond endurance," Pinchot said. "It's as if they were thumbing their noses and daring us to do something."

"We told them," Williver said,

(Please turn to page 118)

THE RIGHT TO RESIST

. then, can you keep from winning?

LAUMER

THE crash of breaking glass was like an explosion in the darkness. Planetary Administrator Andrew Galt came awake, rolled off the side of the bed and hugged the floor. In the silence a final glass fragment fell from the window frame to the rug. Galt got to his feet, saw the paper-wrapped bolt lying by the dresser.

END TYRANNY ON COLMAR was lettered neatly in red on the back of a recently published ration application form. Galt grunted and tossed the paper away. It was nearly dawn, he saw. He dressed and went down to the kitchen. Freddy, his butler-valet-driver-bodyguard-secretary was there, brewing coffee.

"You're up early, Mr. Administrator," he said formally.

"No protocol this early in the

(Please turn to page 131)

(Continued from page 116)

sounding frightened. He swallowed. "We held off until now to give them a chance to see reason. They didn't. Opening a new sector now is a smack in the teeth to every man in the colony."

"It's not just a little kick in the mouth," Gray said. "It's slavery for all of us who are tagged to go out on the advance team. And for what? To give the Colonial Bureau a nice growth rate to brag about."

"To fill politicians' pockets back on Terra," Pinchot corrected. "We're supposed to give up our homes, families, friends, move out into the desert, live in lash-up hutments, eat issue rations, work like horses fourteen hours a day—"

"I'm not afraid of work," Galt said. "If it were on a voluntary basis I might even sign on."

"But it's not voluntary, Galt. It's compulsory. They decide who goes and for how long."

"Even here in town it's serfdom," Gray said. "Look at you—with an advanced degree in administration—putting in your two years on a board at Weather like any clod. And Pinch, here, with a Master's in personel dynamics—"

"What about the petition, Pinchot?" Galt cut off the complaint impatiently. "Didn't you get an answer?"

PINCHOT took a paper from an inside pocket, handed it over. It was a letter on the stationery of the Colonial Administrator, formally—and patronizingly, Galt thought—thanking the addressee for his interest in administration policy.

"It was addressed to me by name," Pinchot said, "not to the Committee. Don't ask me how they knew. But it doesn't matter now." He tore the letter in two and tossed it aside. "So much for appeals to established authority. We tried the peaceful way. Now we're taking matters into our own hands. So—are you with us, Galt—or against us?"

"He doesn't have to be either," Timmins spoke up. "He's got a right to be neutral."

Pinchot shook his head. "Not any more," he said. "The time's come to take sides."

"The Committee of Fifty," Galt said, "consisting of forty-one members by actual count, out of over twenty-five thousand colonists—"

"What percentage of French peasants staged the French Revolution?" Gray demanded. "How many Americans actually fired on the Redcoats? How many Bolsheviks tossed out the Czar?"

"We can do it," Pinchot said, his eyes na[illegible] and intent. "We move

in fast, take the Port and the Comm Center, the generator and pumping stations, the depot and warehouses, grab Admin House—and we're in charge."

"What about the Security Force?"

"We'll bottle them up in their barracks."

"Spacearm could blow us off the planet."

"But they won't. BuCol wants profits, that means operating mines and plants. We'll cooperate with them; they won't get rough. They'll accept the *fait accompli*."

All heads turned as the soft *whirr* of a turbodyne sounded. A police cart came into view; the men stood silent as it coasted to a stop beside them. A tall, loose-jointed man in Security uniform swung down, sauntered over. He was a stranger, too tall, too pale, out from Terra, not a colonial.

"Let's see your IDs, fellows," he said in a nasal Terran accent. His partner sat stolidly on the cart, watching. The four colonists handed over their tags, which were scrutinized cursorily and handed back.

"What are you doing here?" the Security man asked in a lazy tone, as if he didn't much care but was asking anyway. Galt felt his face tighten. He shook off Willis' restraining hand.

"Minding our own business," he said harshly. "Why?"

The Security man looked him over casually.

"Come over to the flat," he said easily.

"What for?" Galt said.

"Move," the cop snapped and flipped a small rod from his belt.

Galt walked over to the cart.

"Turn around, get your hands up behind your head."

Galt followed orders. Careless hands slapped down his sides, deftly turned his pockets inside out. The Security man grunted.

"That's all. Break it up now. I don't want to see you hanging around in the streets after five bells."

The cart rolled away. Pinchot came over, picked up the items the Security man had dropped on the pavement, handed them to Galt.

"They're nice fellows," he said softly, "just doing their job."

"When?" Galt asked tightly.

"Tonight. Be at the watergate at midnight, ready for action," Pinchot said.

"I'll be there," Galt said.

WALKING through the dark street, Galt thought about it. He remembered stirring stories he'd read in grade school of hardy pioneers of half a century earlier his grandfather among them - who had come out from Terra during the Population Riots to cast their lot for them-

selves and their families on the virgin world called Colmar.

It had been a terrifying crossing: five thousand men and women in the hold of a marginally spaceworthy freighter, packed like sardines with barely space to move, fed on minimal rations, three bodies alotted to each bunk, sharing community toilets, with no amusements, no privacy, no relief for the long months of the voyage.

And arriving at the end of it not on the soft, green world of open spaces and fresh air they'd been led to expect—but on the harsh bare rock of Colmar. There'd been riots then and some killing. But in the end the survivors had voted to stay, to take their chances on the new world, to conquer or die.

Very melodramatic, Galt thought to himself. *But what's it got to do with today? They worked out their lives to give us— their descendants—something better. But do we have it? We've seeded the oceans, made soil, planted crops. Today we can talk in the open air without respirators, eat our home-grown vegetables; we have a town with an auditorium, a sports arena and a public library . . .*

"But we're still slaves," he said aloud. "We've been used; we dance to Terra's tune. The best of our products go off-planet in return for a bare subsistence level of imports. And the time has come for a change."

THEY were a vague crowd in the darkness. Galt pushed his way through, turning his face away from a beam of light from a pocket flash. Pinchot appeared, a white sweatband around his forehead. His face was taut; his tongue flicked restlessly at his lower lip. He handed Galt a small plastic-boxed talker.

"You're on Team One, hitting Admin House. You worked a summer there as a messenger, you know the layout. You lie low until it's secured. If Gray—I mean, *when* Gray and his team secure the port they'll call in. Same with Tomkin, Pyle, Bergson—all the teams will report to you when they've pinned down their objectives. I'll liaise with you—"

"Where am I supposed to hide while the rest of you are winning the war?"

"You take cover in the park while the rest of the team goes in. When you see their signal—we're using survey flares—move in and take over the switchboard." Pinchot beckoned to a tall, lean man. "Fry's your Team Leader. You stick close to him until they move in. Okay, get going."

Galt followed Fry and the other members of his team—two men and a girl named Teresa—as they

threaded their way through the now-dispersing throng, turned east along the Outer Drive, heading for the park. The talker box muttered and crackled, monitoring terse conversations.

As they turned into Park Way, Galt caught Fry's arm. "That's a copflat parked up there." He pointed to a police cart under a pole light a hundred yards distant.

"There's nobody near it," Fry said and shook off his hand. "Come on. We've got three minutes to get in position."

The party went on, entered the park via a service gate, crossed toward the line of trees behind which the lights of Admin House glowed peacefully. They halted beside a fountain which tossed sprays up into colored light.

"There's a gap in the hedge." Fry pointed. "As soon as you see my flares, come in on the run."

Galt nodded and took up his post behind a screen of shrubbery as the others slipped silently away. They reached the street, started across. A fine mist of spray from the fountain dampened Galt's face. An imported insect alighted on his neck. He brushed it away.

The spotlights lanced out simultaneously from two points; one was aimed downward from the roof of Admin House, raking across the lawn, pinpointing the gate through which Fry and Teresa were just passing; the other, from the parked copflat, struck the group horizontally, threw stark shadows against the hedges. The two conspirators caught outside the gate froze for a moment, then turned and ran, their feet noisy in the silent street. An amplified voice boomed out.

"Stop where you are! Davies, Henderson! We know you, you can't get away—" The voice broke off as light winked and a shot crashed from the gate. Fry was lying flat in the shadow of the ornamental gatepost. Galt saw another flash, but the second shot was drowned by the short savage roar of a police bullet-pump. Fry's body was flung a foot into the air and hurled ten feet back like a bundle of rags. The two runners skidded to a halt and threw themselves face down in the street. Galt saw Teresa reach the front entrance of the government building; as she ran up the steps, the door burst open and two uniformed security men gathered her in.

Men in battle armor, hand guns ready, were swarming into the street, clustering at the gate and around the captives. Heavy footsteps sounded behind Galt. He hugged the ground, ducked as lights glared, playing across the shrubbery around him. A man went past less than six feet away.

At that moment, the talker box

uttered a burst of static and a small clear voice said, "Power station secured. One man hurt and a couple of windows broken—otherwise no damage."

The Security man who had just passed halted; gravel crunched as he swiveled, playing his light about. Galt eased back. The light flicked closer. He reached a large tree, got to his feet. A twig crackled.

"Stop there," the Security man barked. Galt ran. A shot sang through foliage. He heard sounds ahead, veered right, crashed through a head-high hedge onto a bricked path. Two uniformed men standing fifty feet away turned toward him; he plunged around a bench, dived into massed foliage. It yielded and he was in the clear.

A tremendous blow on the calf of his right leg sent him tumbling. He rolled, tried to jump up, fell on his face. His leg was hot, numb, a dead weight. Scrabbling frantically with his hands, he dragged himself under a spread of juniper, felt the ground crumble beneath him. He rolled, fetched up with a thump in drifted leaves at the bottom of a drainage ditch.

The voices and footsteps came closer, but they seemed remote and unimportant now. Galt's thoughts had leaped ahead, quite calmly, to the trial, the conviction, the prison sentence, the loss of his citizenship . . .

THE DARK was quiet now. Listening closely, Galt could hear distant voices over the rustle of foliage in the light breeze; but nothing stirred nearby. He moved his injured leg tentatively, discovered to his surprise that it responded, though painfully. He sat up, explored the wound. There was a neat hole in the mass of muscle below and behind the knee, a less neat hole to the left of the shin. A small calibre solid shot had gone through without hitting the bone. He rose to his feet. He could walk. He brushed leaves away, climbed out of the ditch and was confronting the hedge that bordered Government Street. Through a gap he could see the lighted front of Admin House. Uniformed men were on the terrace, on the lawn. The front doors stood open, brilliantly lit. Floods illuminated the lawns. A dozen copflats were in sight parked along the street.

At first Galt didn't see it; then he did: Two-thirds of the Security Force was here, posted two deep around the front of the house; and he could see that the rear service entrance was equally guarded. But the small and inconspicuous entry at the side was shrouded in shadow. Insofar as Galt could see no Security men were near it.

The talker crackled and spoke: The Power Complex was in rebel hands. Pyle, at the port, called in:

all secure. Bergson, sounding elated, reported the virtually unopposed seizure of the pumping station. The uprising had gone well—all but the most vital part. Administrator Blum and Major Jensen had concentrated all their forces here. They hadn't been fooled for a moment. They knew all about the Committee's plans and had been ready.

But there was that side door. Galt's mouth was dry; his heart pounded painfully. It could be a trap. There might be half a dozen Sec men lying in wait for the mouse to take the cheese. But on the other hand, the door was little used; it was just possible that Jensen had overlooked it.

Galt could slip away now, return home, and be as surprised as everybody else when the news came out. Or he could put his neck solidly in the noose.

With a curse that was half prayer, he left his vantage point and, limping, slipped away along the hedge line.

FROM a clump of shadow between the library and the Agricultural Experimental Building Galt studied the scene. He had a better view of the side door from here. Nothing stirred there. To anyone not intimately familiar with the building, there appeared to be an unbroken mass of shrubbery along the east wall. Galt took a deep breath and stepped out, crossed the street openly, two hundred yards from the lighted gate of Admin House. He went back past the west wing of the elementary school, crossed the playground, came up along a path to a point fifty feet from the rear corner of Admin House, paused for a moment, then ran across a strip of open ground to the door. There was no alarm. He tried the latch, then pushed with his shoulder. The panel yielded slightly. He stepped back, kicked straight out at the lock. Plastic and metal shattered, the door bounced in. Galt slid inside, shut the door and stood in darkness, listening.

Voices sounded from the front of the house; somewhere a radio crackled and a toneless voice droned, too faint to make out the words. Feet clumped to and fro. There was a stair a few feet ahead. Galt felt his way in darkness, found the newel post, started up. He saw dim light above. On the second floor he looked along a carpeted hall. At the far end, a man in mufti with a paper in his hand emerged from a room, hurried away. Galt went on up.

The third floor corridor was illuminated. A uniformed Security man stood twenty feet away, fiddling with the mechanism of his blastgun. The man holstered the weapon, walked to the far end of the hall, lifted a house phone from

its hook, began an inaudible conversation. He turned his back to Galt's position, still talking. Galt slid out, eased silently along the passage to the intersection with the wide corridor off which the administrative suite opened.

Four Security men were in sight—two posted beside the ivory-enameled double doors, the other two at the main staircase. One of the men guarding the stairs descended a few steps to carry on a conversation regarding the wherabouts of someone named Katz. His partner leaned over the rail, his back to Galt. The two men on the door had their heads turned, following the exchange. Galt stepped out and walked silently and swiftly toward the door adjacent to the guarded portal. He was six feet from it when one of the men glanced his way, gave a startled grunt and grabbed for his slung blastgun, fumbled it.

"Here, you, where you think you're going?" he blurted.

"Special messenger," Galt said crisply.

He reached the door for which he had been headed as the second guard swung his gun around; Galt tried the knob; it turned; he plunged through as two shots racketed in the hall, gouging molten plastic from the doorframe. He spun, slammed the door, tripped the security lock system, heard armor sliding into place as a heavy body struck the panel from outside. Men hammered and shouted as Galt ran across the room, paused for an instant at the connecting door, picturing the slugs that would rip into his body if the administrator had posted guards inside his office as well as in the hall. Then he opened it and stepped through.

Administrator Blum was a plumpish man with graying hair; he sat behind his desk, his eyes on the hall door, an expression of surprise on his face. As Galt appeared he whirled, reached for a desk drawer. Galt dived, knocked the older man's hand aside, scooped up the 2mm needler, aimed it at Blum.

"What—what—" Blum said, then collected himself. He straightened his clothing, fixed a stern expression on his round face, looked challengingly at Galt.

"Well? You've forced your way into my office for a reason, I suppose, since you'll most certainly be taken into custody before you leave here."

"Your Security men are overpaid," Galt said. "They're expert at harassing citizens but not so good when it comes to something complicated—like watching both sides of a house."

Blum's features flinched.

"I suggest you give yourself up at once, Andy," he said. "You've

made your point. I'll personally look into the conduct of security affairs—"

"I'm not here to complain about inefficient police work," Galt said. "I'm here to take over the government."

BLUM stared across the desk at Galt, who pulled a chair around and sat down. The pounding at the door went on; an intercom screen on the administrator's desk buzzed insistently until Galt reached across and switched it off.

"Andy," Blum said in a reasonable, kindly tone, "I've know your parents for thirty years. I remember the day you were born—"

"Make it *Mr.* Galt—Mickey."

Blum jerked as if he had been stung by a wasp. "I hardly think disrespect will advance your cause—whatever it is. Now, if you don't mind, tell me why you're here. I suggest you hurry, since my Security forces will be in here at any moment—"

"I doubt that. Your locks are pretty solid."

"You can't possibly believe you can succeed in this abortive uprising!"

"We have the port, the power plant, Comm Center. The major seems to have overlooked a couple of bets while he concentrated on Admin House."

"See here, Andy—Mr. Galt. You were always a level-headed lad, a good scholar, potentially a fine citizen and a valuable colonist. What are you doing mixed up with these anarchists? People like Daniel Pinchot—known radicals—soreheads—agitators—"

"Dan was a Sector Scholar. He may be impatient with the established order, but he's no fool, Mr. Administrator. I'm mixed up with him because it was that or go on the way we've been going—and that wasn't good enough."

Blum's face shifted to a look of grim determination. "I hardly think it's the function of a handful of malcontents to determine unilaterally what is or is not good enough for the welfare of the colony as a whole."

"And you are?"

"I was duly appointed by the Colonial Administration to carry out my function; I've been trained for this work; I have more years of experience in administration than you have of life!"

"I didn't appoint you."

"You're intelligent enough to recognize the fact that specialists who've devoted their lives to the problems of government and administration are better qualified to run matters than a pack of—of amateurs who regard any restriction of what they consider their freedom and rights as intolerable burdens!"

"A pack of profit-minded bu-

reaucrats and politicians who tell me I have to give up everything that makes life livable and devote a couple of years of hard labor to opening up new territories that we don't need or want."

"You're a fool, Galt. You don't know what you're talking about! The economy must expand, or—"

"Or certain big corporations back on Terra won't make as much as they'd like out of our blood, sweat and tears."

"That's a childishly simplistic version of matters. Why—"

"You mean Parson's Bay and General Logistics and North American Materials won't show a profit from opening up the new sector?"

"Well—of course they hope to! And why shouldn't they? They funded the great bulk of the developmental work, provided most of our specialized equipment, supplied technical experts—and still do—"

"All at a nice return on their money. And we do the work. Especially the five hundred names that got pulled out of a hat to open Sector Twelve."

"So, like impatient kindergarten children, you're going to take over the nursery and make it all one long playtime, is that it, Andy—Mr. Galt?"

"The mines will continue to operate, Mr. Administrator. We'll still export—and don't tell me how good and kind Terra is to buy our products. I know how scarce non-organically contaminated chemicals are today."

"Suppose a squadron of Peace Enforcers arrives to restore order—"

"That won't open any mines."

BLUM gazed at Galt. It was quiet in the corridor now. A call light blinked on the big desk, ignored.

"You want all the advantages of what other men have built," Blum said slowly, "but you want them without working for them, without effort, without commitment or obligation. Well, the Universe doesn't work that way, my young friend. Nothing is free. Society isn't witholding your birthright. You have no such birthright—not in the sense you're apparently demanding."

"I have the same birthright any animal in the wild has," Galt said. "To take what I can get and hold."

"So you'll seize the granary and eat until it's empty. But who'll refill it for you, eh? You'll grab the trideo set you've always wanted—but who'll repair it, who'll supply the power to run it, who'll do the programing and the acting, who'll pay the bills?"

"We will. We're prepared to work as hard as required. But we intend to take the rewards for

ourselves—for Colmar—including you, Mr. Blum, if you decide to stay—instead of sending them off-world for the benefit of corporate executives we've never met, who've never seen Colmar and never will."

"It's the arrogance of it that astounds me," Blum said wonderingly. "We all have our obligations, Galt, whether it pleases us or not. The food you eat, the clothes you wear, the entertainments you enjoy, the education you were given didn't just pop up out of the desert. Someone made them. They represent human ingenuity and effort—and you've reaped the benefits."

"That's a debt that's passed along from generation to generation, Mr. Blum. A man owes nothing to the past. Life can't demand payment for itself."

"I've always thought you were a young man with a sense of decency, of justice, of regard for the rights of others. Tell me, Andy: if this—revolution of yours succeeds by some wild chance—what then? Will you rest easily with your loot? Can you justify to yourself theft on a grand scale, and settle down to enjoy your stolen goodies?"

"You're taking the position," Galt said, "that because the government exists—"

"Legally," Blum put in.

"Because the government exists legally, that I'm therefore obligated to support it—or at least obey it. But I challenge that statement. Suppose the government were an outright tyranny: would I be obligated to connive at my own enslavement?"

"That's absurd—"

"No. A man has a natural right that supersedes legal obligations. Overthrowing a legally constituted government is treason—unless you win. Because if you win, you change the laws. Then anyone who supports the *old* government is the traitor."

"This is mere sophistry, Galt. You can't mean—"

"The right to revolt," Galt said slowly, as if thinking aloud, "is the most basic right a man has."

"Activist jargon," Blum snorted.

"Not if we win—and we *have* won, Mr. Administrator."

Blum's face flushed. "Nonsense. A pack of rabble-rousers couldn't possibly have—"

"Wrong. We're not rabble-rousers, we're the rabble itself, Mr. Administrator. Mr. ex-Administrator. Check for yourself."

Blum turned to his communicator panel, poked keys. His face tightened as no lights responded to his calls.

"You can still get through to Security barracks," Galt said. "Call Jensen and tell them to put down their guns."

BLUM punched out the code. The angry face of Major Jensen appeared on the desk screen.

"Mr. Administrator, thank God you're all right!"

"Never mind that," Blum said. "What's the situation?"

"These hoodlums have invaded a number of installations, Mr. Administrator, but I can clean them out. Just the same, I'd suggest you get through to CDT Sector and request a pair of PE's, triple UTU priority."

"I'm afraid I'm not precisely at liberty to do that, Stig," Blum said. He angled the pickup to include Galt, gun in hand. Jensen's face jerked.

"What—"

"The, ah, Revolutionary Committee seems to have outflanked us," Blum said.

"Stand fast, Mr. Administrator," Jensen said between clenched teeth. "My boys'll blast their way in there and—"

"Lay down your arms, Jensen," Galt cut in, leaning forward. "We hold every strong point in the colony—"

"I've got forty trained men on the grounds of Admin House," Jensen grated. "You'll never get out alive, you damned bandit!"

"Don't talk like an ass, Stig," Blum said calmly. "He's outmanuvered you. It's checkmate." He looked at Galt. "What do you want from me, Andy?"

"Capitulate. Hand over control to the Committee and step down. I'll guarantee your safe conduct—and Jensen's, too, unless he does something stupid, like firing on our men."

Blum stared levelly across at Galt. "Are you sure this is what you want? The responsibility—"

"Tell him," Galt said harshly.

Blum turned to the screen. "Lay down your arms, Stig," he said. "I'm signing a formal resignation in favor of Andrew Galt."

TEN minutes later there was a brief clamor outside the door. Pinchot's voice came over the talker.

"Open up, Galt! We're in complete possession."

Galt crossed the room and released the locking system. The door burst open. Gray came through, grinning a wide fox grin. He saw Blum, jerked up the weapon in his hand.

Behind him, a gun fired from six feet; Gray shrieked as the gun flew from his hand in a spatter of blood. He went to his knees, gripping his wrist, his hand welling crimson, as other men crowded into the room. It was Timmins who had fired. He came forward to stand beside Galt.

"Why the hell'd you do that?" Gray keened. "That's the pig that had Fry and Len and Jeannie killed!"

"What did you expect him to do, give them a safe conduct?" Galt said tightly.

"Here, what's going on," Pinchot said, pushing forward. "You'd better give me the gun." He held out his hand, the other hand resting on the butt of the pistol at his hip.

"I thought the idea was to improve government, not to start a reign of terror," said Timmins.

"There'll be no more killing," Galt said. "Get rid of the gun, Timmins."

Timmins tossed the weapon aside.

"Who are you to be giving orders?" Pinchot demanded of Galt.

"I'm the only one here with admin training. I'll hold the office until we can stage elections—unless you want to start your new regime by killing me and maybe Timmins and a few others—and somehow I don't think a purge will convince BuCol that you're fit to run the Colony."

Pinchot stared at Galt, eyes narrowed. Then he relaxed, thrust out a hand.

"Makes sense," he said. "Let's go, men."

"You took a terrible chance," Blum said after the others had withdrawn.

"I suppose that's part of any revolution, Mr. Adminstrator."

Blum sighed. "Call me Mickey," he said. "There are a few things I ought to familiarize you with before I go."

FOUR weeks later Galt sat behind the big desk, frowning at the papers before him. He shuffled through them, sighed. There was a perfunctory tap at the door and Pinchot came in.

"Afternoon, Mr. Administrator," he said. "What are you looking so glum about? They elected you, didn't they?"

"I'll step down in your favor any time, Pinchot."

"No, thanks. I never did like paperwork." He eyed the stack on Galt's desk. "In any case, the CDT and BuCol have both recognized you as the people's choice. You're stuck with it. I'm quite happy as Chief of Operations." His genial expression faded a bit as he spoke. He swung a chair around and sat down.

"In that connection, Galt—what about the import program I outlined? You've had it three days now—"

"I know. Luxury goods. Official cars, cooler units, trideo programs."

"So? Don't we have the right to spend our money to suit ourselves? Isn't that what the takeover was all about?"

"Sure. What money?"

Pinchot's face went tight. "The price of the last shipment of ores, for example," he snapped.

"It all went toward our credit deficit with Outplanet."

"You expect me to believe that?"

"You can check the figures with Anderson if you like. No matter how many times we add them up they still come out the same. We're running in the red—and what credit we still have has to go for necessities."

"I heard all that from Anderson. That's why I'm here. It's not good enough, Galt. This isn't why we threw out BuCol—just to carry on the same old swindle."

"You can take over any time, Pinchot." Galt slid a sheet of paper across to the other man. "My resignation, all ready for signature."

Pinchot stared at the document, pushed it away.

"I don't get it," he growled. "You're spouting Blum's line, the BuCol line—"

"It's nobody's line. It's just the facts, Pinchot. We're exporting X kilotons of minerals at Y creds per ton, and we're importing Z creds worth of basic material. And we're sliding a little deeper into the red every quarter."

"They're overcharging us, holding us up on prices—"

"Negative. They're selling to us at seven percent under the open market scale. BuCol policy."

"Then we can raise our prices—"

"Negative again. It's marginal now. If our prices plus haulage go above costs of local procurement and refining, we're out of business."

"Then—what in God's name can we do?"

Galt pushed another sheet of paper across the desk. Pinchot glanced at it, then stared at Galt.

"Are you right out of your mind? This is Blum's Opening Order for Sector Twelve."

"Wrong. It's *my* order for opening Sector Twelve."

"You can't do it. The people won't accept it. What will Gray and Williver—and Pyle and Tomkin and the others say? They—we—risked our necks fighting this same crazy scheme."

"We need more income, less dependence on imports. We have to extend our usable acreage and expand our mining operations. If you can think of another way to do it, I'll welcome the suggestion."

Pinchot's face looked slack and grayish. "Is this what we took over—the same old headaches, only worse?"

"Did we really take over, Pinchot?" Galt asked tiredly. "Or did they con us into standing on our own feet?"

Pinchot swore.

"I agree," Galt said. Now let's get to work. I need five hundred names for Sector Twelve. Any suggestions?" ●

(Continued from page 117)

day, Freddy," Galt said as he sat down at the table. "A few of my admirers came by to give me a nice sendoff for the day. Colmar's twentieth anniversary of independence." Galt gave a snort that was not quite the laugh he had intended.

"Don't take it so hard, Andy," Freddy said. He poured coffee, put a cup before Galt, sat down opposite him. "You've always done what was best in a tough situation."

Galt looked at him sardonically as he sipped the bitter brew. "Funny how you assume it wasn't flowers they threw, Freddy. Anybody would think I wasn't popular."

Freddy lifted his powerful shoulders. "You can't please 'em all," he said.

"It seems I'm not pleasing any of them."

"You're doing what you've got to do, Andy. The Colony's a marginal operation. It's not your fault that times are tough. These babies want it all now, that's all. They see too much Interplan trideo, they've got ideas about how life ought to be fat and soft. They've got to face up to facts sometime. Colmar's a poor world. We just can't afford a three-hour day and welfare caviar."

"Try telling that to some Econ graduate doing his time in the labor pool."

"I know; so they gripe. What about it? If they'd been here back in the old days they'd have had something to gripe about. Do they ever think about what the first people here had to face up to, seventy years ago?"

"Of course not," Galt said. "Why should they? These aren't the old days. This is now. And they're young. They want to live today, not some time in the next century. I can't blame 'em."

"Sure—and so did your grandad want to live—and mine. That's why they came out here—to nothing. To make something of it—of a dead world—something that hadn't existed before. They had no guarantees, no route back. They had to whip Colmar or die—and plenty of them died."

"Ancient history, Freddy. Today they know there's something better than hard work and rationing. They want it. And Freddy, so do I—"

"But you're not whining for it—and one day it'll happen—you're working for it like they did back then. It must have been a frightening thing, Andy, when they unloaded from the freighters and looked around and saw a dead world, not even a blade of grass. In seventy years we've

turned it into a place where a man can live—but not without effort. Let 'em gripe, Andy—just so they put in their time like everybody else—like you did."

"Involuntary servitude. 'Tyranny' is what they call it."

Freddy snorted.

"So? What are you supposed to do, back down because they call you dirty names? You know what's got to be done, Andy. You're doing it. It takes guts. You got 'em. More coffee?"

"No, thanks. I might as well go on down to the office. Maybe we'll beat the rock-throwers for a change."

"If it was me," Freddy said in the car, "I'd stay home and to hell with 'em. Let 'em see how things go after a few days with nobody making the decisions. They're complaining now: let 'em see how it'd be if you weren't on the job to untangle the knots—"

"Don't get carried away, Freddy. Any competent administrative type could do the same job."

"Maybe," Freddy said. "It's not seeing what you have to do that's tough; it's doing it when the mob is yelling for your head. You could be the most popular man on Colmar tomorrow if you'd give in."

"And we'd be bankrupt the day after. Sure, Freddy. But those are just facts; they don't have any appeal to the emotions."

A FEW early pickets gaped as the administrator's car swung in through the open gates. In his office, Galt attacked a stack of priority applications: fifty tons of fabricated steel sections for Shaft # 209 versus sixty tons of the same urgently needed for the extension to the loading docks; four loads of feeder fuel in stock to be allocated among nine agencies, all yelling for immediate action; computer components on order for six months by Supply, demanded by Routing to prevent imminent shutdown of the entire NW range . . .

Galt looked up at a sharp rap at the door. Timmins, the executive officer, poked his head in. Through the open door Galt could hear sounds of an altercation.

"Another delegation to see you," Timmins said. Galt rose and went out into the corridor. From below came voices raised in anger, other voices replying. Feet clattered on the stairs. A dishevelled young man in maintenance grays appeared, Freddy close behind him.

"Hold it, Freddy," Galt said. Both men stopped. "Let him come up."

"Chief, he might be armed—" Timmins said quickly, but Galt brushed that aside.

"You want to see me?" he asked the inturder.

"That's right," the man in gray

said defiantly. He brushed back his hair, straightened his jacket. "We're citizens; we've got a right to be heard."

"Who's 'we?'"

"The Party." The young man said it flatly, as if inviting challenge.

"Come along to the office," Galt said.

"Frisk them first," he heard Timmins say as he turned away.

There were five people in the delegation, three men, two women, ranging in age from eighteen to thirty-five, Galt estimated. He knew them all by sight, two by name—not a difficult feat in a population of thirty thousand. One of the women—a plump, pretty girl in nurse's green—stepped forward and offered Galt a folded paper. Timmins read it over his shoulder.

"The same old refrain," the exec said. "Improved public transport, more entertainment facilities, shorter hours. It's nonsense—"

"It's not nonsense to us," the girl said sharply.

"Or to me either, Miss Dolph," Galt said. "I'd like to lead an easier life myself. Unfortunately, we can't afford it—not yet."

"You've got yours," the man in gray said. "Official mansion, official car, the best of everything—"

"Look here," Timmins started, but Galt waved a hand to silence him.

"Let's keep it factual—Jonas, isn't it? My official residence is a standard Class Vb unit; I get the same food, clothing, and power ration as anyone else. As you know. As for the car, I used to walk—until the rock density got a bit high."

"If you were doing your job the way you ought to, nobody would be throwing things," Jonas snapped.

"I've got an idea Freddy was at the point of bruising you a bit when I happened along. Does that mean you had it coming to you?"

"He's a hired goon—that's different."

"What is it you expect me to do, Jonas, Miss Dolph?"

"Ease the restrictions on life," the girl said promptly. "Let people enjoy living while they can. Shorten the work day, give us some leisure time activities and facilities, end rationing, increase consumer imports."

GALT nodded. "Anything else?"

"Plenty more," Jonas said. "End the labor draft. Raise pay, right across the board. Lift the off-world travel restrictions, bring in more outsystem entertainers."

"For what it cost to open this new Sector," another of the delegation spoke up, a small, timid-looking man with a bad complexion, "we could have founded a

program of concert artists that would have given us some contact with the cultural life of the Arm."

"Sector Nineteen gives us a marine agricultural facility," Galt said mildly. "In twenty years it may be our biggest food producer. We may be able to shorten the time to self-support capability by three decades—"

"We know all the propaganda lines," Jonas said. "We've heard all that before."

"Then what are you doing here?" Galt snapped.

That's easy, Mr. Administrator," Jonas said with a sneer. "We don't believe the official line."

"The records are open to the public," Galt said.

"They can be faked, too."

"Why?" Galt shot back.

"To delude the public."

"Why should I want to delude the public?"

"For obvious reasons—"

"Name them," Galt snapped.

"All right. To justify your program of overwork and underpay, long hours and no recreation, luxury for the few at the cost of slavery for the many—"

"What luxury?" Galt cut in sharply. "We've already covered that particular allegation. It's nonsense and you know it—and so does everybody in this room."

"Look, chief, this has gone far enough," Willis started, but Galt cut him off.

"You're here charging me and the rest of the administration with a deep, dark plot—"

"You're depriving the people of their basic rights," Jonas shouted.

"You name one right you're being deprived of, Jonas, and I'll personally see that you get a lifetime pension," Galt said.

"All right—the right to a reasonable amount of leisure time, for openers. The eight-hour day went out with coal-fired ground cars."

"What would you call a reasonable amount of leisure time?"

"Time enough to do a few things. To have hobbies, play a musical instrument, visit your friends—"

"Wrong, Mr. Jonas. That's nice, maybe, but it's not reasonable. Reasonable means what's physically possible. We have just so much manpower," he went on, raising his voice as Jonas tried to cut in. "We have to allocate that manpower in such a way as to keep industrial operations going at the rate required to produce enough exportable output to keep the economy afloat. You want more imported trideos and traveling art shows? Fine. Then we'll have to work longer hours, not shorter."

"Official bullwash," Jonas spat out the words like a bite of wormy apple.

"As I said, the records are pub-

lic. Look at them or not, suit yourself. But don't come bursting in here again with your proposals for instant utopia until you've done your homework."

"That's what I thought we'd get," one of the women said in a shrill, nervous voice. "A brush-off. Excuses. We should have known better than to waste our time." She glared at Galt with eyes as sharp as stakes.

"I welcome constructive suggestions," Galt said, meeting her gaze steadily. "Come back when you have one."

"We won't be back," Jonas said. "We're through talking." They departed, slamming doors.

"REMIND you of anything?" Galt asked Timmins when silence had fallen again.

"Painfully. Except that there were only fifty of us—"

"Forty-two," Galt corrected.

"—and this time half the population is agitating. No one tried to explain to us; if they had, we might even have listened."

"Don't count on it. We wanted change—any change. We got it."

"And all the grief that went with it. But these people today won't listen. They remember when we threw BuCol out; Pinchot and a few others were promising them the world. Twenty years later they're still on short rations. They're unhappy. And they mean business, Andy. This isn't just a little band of soreheads—"

"I know all that, Ben. Are you suggesting I should promise them pie in the sky? What happens when they discover it isn't there?"

Timmons looked solemn. "Andy, for this generation—and for a lot of people who ought to know better—you symbolize everything that's wrong with life. By removing you, you see, they can remove their problems—they think."

"You're suggesting I quit while I'm ahead?"

"I'm suggesting you quit while you're alive, damn it!"

"And do what? Sit back and watch Colmar die?"

"You've had offers—three in the last six months that I know of; I wrote the answers turning them down. You could still take that post at Yale, lecturing on problems of the frontier economy—"

"And read in the fax about how the Colmar experiment failed. Ben, have you ever considered what would happen if we had to throw in the towel and invite BuCol back in? They'd close the colony down, evacuate us to Terra—to beehive housing, synthetic rations—"

"I know. It's unthinkable. And dammit, Colmar *can* make it! We have the minerals, the seas—a whole world to exploit!" Timmins smacked his fist into his

palm. "If they could just see it! Just give us time!"

"Bringing life to a dead world is a big undertaking, Ben. Maybe too big. Maybe we havn't got what it takes. But I have to stay and do what I can—for as long as I can."

"And be a martyr," Timmins said grimly.

"There's nothing noble about it," Galt said. "This is my home-world. I couldn't survive on Terra either. I'm fighting for my life; the only life I know."

"Then don't throw it away. Let me recruit an escort for you. I can get a dozen TSA regulars detailed from Aldo—"

"Negative, Ben. Importing foreign gun-handlers to protect me from the people that voted me in would be the end."

"Then what in God's name are you going to do?"

"Play it by ear—and hope Sector Nineteen starts paying off in time."

"Comes up with a miracle, you mean."

"I'd accept a miracle right now," Galt said wearily, "if it could be arranged."

TWO weeks later Timmins laid a paper on Galt's desk. It had been a time of rising tensions and near-riots, broken glass—and at least one assassination attempt which had put Freddy in the hospitol with third-degree laser burns.

"Weinberg, out at Thirteen," Timmins said. "I thought you ought to see it." The executive officer's face was haggard with lost sleep.

Galt scanned the paper. "Livestock? Chickens? What the devil's he doing out there, starting a zoo?"

"Experimental animals," Timmins pointed out. "He wants to run some kind of tests on them."

Galt rubbed his eyes. "He knows we're on the shortest meat ration since Colonization," he said wearily. "I'm surprised at Weinberg. Tell him no. Remind him he's out there to supplement our protein supply, not deplete it. And ask him what he's doing about the slimemould contamination problem he's been reporting on."

Timmins nodded and turned to go. Galt stopped him before he reached the door.

"Wait a minute, Ben. Disregard that last outburst. I'm too damn tired to think straight. If Dick Weinberg thinks he needs a flock of goats, damn it, he probably needs a flock of goats. Set it up—triple—A priority."

Timmins nodded again, more brightly.

"And tell them to save a seat on the flier for me," Galt added. "I'm going out and see what he's up to."

Timmins frowned. "That might not be a good idea, Andy. There

was rioting at the port this afternoon and—"

"Set it up," Galt snapped, then grimaced. "I'm sorry, Ben. Nerves. Just get me on the flier. I'll ride out under a stack of old burlap bags if you say so."

"I'll set it up," Timmins said tonelessly.

THE view from the cargo flier was a monotonous vista of eroded ridges, gullied plains, of rock, gravel and sand, stretching across the endless miles. After the narrow green belt of the capital had been passed—and its surrounding five-mile farm strip—forty miles of undeveloped desert intervened before the dull green of a bioadapted valley appeared, far off to the west. Another seventy-five miles of arid, lifeless badlands unrolled beneath the flier; then ahead the curve of the coast and the black-blue sea beyond. They were within five miles of the Experimental Station before Galt could make out the fragile tracings of irrigation ditches, the patterns of agriformed fields, the vivid green specs that were transplanted trees shading a straggle of buildings. Offshore of the station, Galt noted, the lifeless sea was stained a dark umber. The flier landed on the scraped rectangle behind the sprawling, aluminum-and-white station. A chill wind blew sand across the open ground to ping against the flier's sides with a restless whispering.

Weinberg was there to meet Galt, a sturdily built, red-haired man with big solemn eyes and a wide, downcurving mouth that belied his brisk optimism of manner.

"Glad to see you, Mr. Administrator—you bring my goats and birds and stuff?" he said, pumping Galt's hand. "Come on out of this damned wind."

The marine ecologist's office, laboratory and living quarters comprised a single large untidy room with stone countertops, a clutter of glassware, a desk heaped with papers, a cot, a table with a hot-plate and dirty dishes.

"Here, sit down, Andy, how about a cup of coffee and a slice of cake?"

"Dick, what's this about animal experiments? I understand we're going to add seafood to our diet—"

"Sure, sure, I'll tell you all about it. How're things in the city? I hear they're giving you a hard time, throwing rocks, the works."

"Things aren't good. Ben Timmins says all we need is a small miracle from you to solve everything. You don't happen to have one in stock, do you?"

"A small miracle, the man says," Weinberg said cheerfully, rattling cups. He poured, dumped

things on a tray, brought it over. Galt took the cup and sipped, accepted the small plate with the slice of yellow-brown cake.

"Where do you get coffee?" he barked. "I thought the last stocks of luxury imports went last New Year's."

"Try the cake. It's not too sweet."

Galt took a bite; it tasted good. He hadn't realized how hungry he was; but then he hadn't eaten in—how many hours?

"Like it?" Weinberg looked as expectant as a new bride serving her first meal.

"It's fine, Dick. But—"

"A SMALL miracle, the man says," Weinberg said, rubbing his hands together. "Come this way, Andy. I want to show you something." The ecologist led the way through a long room where half a dozen green-smocked technicians worked over complicated constructions of glass tubing and containers of bubbling liquids. A sharp, burnt-toast odor filled the air. At the rear of the station Galt and Weinberg emerged on a sloping shelf of beach that led down to the waterline. Masses of dull brown scum lay in long windrows there. The surface of the sea was a dark brown, oily-looking, with sluggish swells.

"You remember the problem I reported I was having with the slime formation," Weinberg said.

"I see it hasn't improved any," Galt said. "I hope it's not interfering seriously with your work."

"Fact is, Andy, I've about dropped everything to work on it. I think I've identified it as a mutated *Fuligo Septica*, probably introduced on some imperfectly sterilized glassware from Terra. We tried high-pressure steam first, but—"

"Just a minute, Dick. Dropped everything?" Galt's voice was harsh. "Maybe I haven't succeeded in making it clear that the mission of finding food supplements for the Colmarian diet is absolute top priority—"

Weinberg looked reproachfully at Galt. "Mr. Administrator, may I make my presentation?" His wide mouth quivered, the corners turning upward in spite of his obvious effort to hold them down.

"What the devil are you grinning at?"

"How did you like the coffee?"

"Drinkable," Galt snapped. "What—"

"It's made from the sporangia phase; the stalks, you understand, desiccated, ground, and roasted."

"You made that coffee out of—this?" Galt prodded a mass of crusted brown flakes with his toe.

"Uh-huh. The cake was made from the spores, with an admix-

tured of plasmodium, plus a sweetner."

"Slime cake?" Galt said.

"Of course all this required a certain amount of processing. We're running some ideas in glass, looking for shortcuts—for commercial quantity production, you understand. But with a little drying and compressing, we get what, unless I flunked Chem 1, is the best all-around livestock feed going." He took from his pocket a hard, dull-shiny, purple-brown cake the size of a bar of soap. "Hence the goats," he said. "And the chickens."

Galt stood as if stricken. "But—if this is true—" He took a deep breath and became brisk. "Fine. One miracle to order—" His voice broke and he cackled in glee. "Dick, you sneaky bastard, you've just saved a world, damn your hide!"

"All in a day's work, Mr. Administrator—" Weinberg, grinning, was gazing past Galt toward the open desert to the west. "Well, more visitors," he said. "Word must have leaked out--"

GALT turned; a dust cloud was boiling toward them, raised by a speeding vehicle. The car swung past the station, slid to a halt near the storage sheds and was immediately veiled by the dust of its own passage.

"That looks like one of my maintenence carts," Galt said. "What—" There was a shout. A man at the lab door was waving.

"Call for you, Mr. Administrator. Sounds urgent."

Galt started toward the building, Weinberg behind him. Three men emerged from the dust cloud now blowing away from the car; they broke into a run on a course that would intercept Galt. Something bright flashed in the hand of the leader; the flat sound of a gun cut the air. Galt threw himself down. The man in the doorway started out; there was a second shot and the technician halted, turned, fell sideways. Galt looked up to see the second of the new arrivals knock the gunner's arm aside as he fired a third time, the slug whining past Galt's face.

—alive," he heard. "We can always kill him later if it works out that way."

Galt got to his feet. Weinberg went to the man who had been shot, squatted beside him, ignoring an angry command from the man with the gun. He looked up, his face pale and bleak.

"Pat's dead," he said to no one in particular.

The third man stood with his two fellows, all three looking dusty and windblown, a bit uncertain now. The wind whined restlessly.

"You, Galt, over here," the gunner said. "You—" addressing Weinberg—" stay out of the way

and you won't get hurt."

Galt walked over to the trio. "Proud of yourself, Jonas?"

Jonas swore and swung at Galt, knocked him down.

"Any guns inside?" Jonas called to Weinberg.

"No."

"If you're lying I'll kill you. Get the stuff," he said to his companions. "I don't want a stick left of this place to salvage."

The two went to the car, brought out packages Galt recognized as standard melt charges. They hurried toward the entrance to the station, went past the corpse sprawled on the sand, disappeared inside. An instant later there were screams; steam boiled from the entrance. A man ran out, tatters of what looked like wet gauze flapping from his face. He stumbled and went down, lay thrashing. Galt, still on the ground, swung his legs, brought Jonas down on top of him. The younger man cursed and tried to bring the gun to bear; Galt caught his wrist, felt the superior strength of the other inexorably overcoming his resistance.

Suddenly Jonas was thrown clear. Weinberg stood over Galt, breathing hard. Jonas came to his knees and Weinberg swung his foot in a short, sharp kick that snapped the assassin's head back. He sank down on his face in the sand.

Weinberg helped Galt to his feet; his knee was painfully wrenched. He picked up the gun dropped by Jonas. Men were coming out of the station, one still holding the live steam hose.

"There's bad trouble back in the city," one of the men told Galt. "It was Mr. Timmins on the box. He said you'd better get back right away."

THE hour was near dusk when the copter dropper Galt directly on the grounds of Admin House, bypassing the noisy crowd surrounding the building. Timmins met him, looking grim.

"This isn't just the usual unrest, Andy," he said, "it's a concerted uprising. Mobs at the port, the Power Complex—" he broke off. "What happened to you?"

"I've had a sample. A demolition team hit the Marine Experimental Station, killed Pat Rogan. Weinberg is holding our old acquaintance Jonas and a couple of others."

Timmins swore with feeling. "They tried to fire the Comm Center about an hour ago. We saved it by the skin of our teeth. There are enough citizens on our side to make it a standoff so far; but killing a man—"

"Let's get inside, Ben; I want a complete status report."

Timmins finished his account twenty minutes later.

"That's about it. The best estimate is three hundred activists, another ten thousand going along for the ride, ready to jump either way. That's damn near half the population. Opposed to them, we've got a hundred organized militia with non-lethal weapons and maybe two thousand volunteers with axe-handles and chair legs."

"Get some cots set up, Ben. It's going to be a long night."

"What do you plan to do, Andy?"

"Wait. Maybe by morning they'll have cooled down enough to talk sense to. I have some news for them." He outlined the gist of Weinberg's discovery.

"But this is what we've been waiting for—even praying for at odd moments," Timmins said, running his fingers through his thinning hair. "Good lord, Andy—this is the best news you could have brought—"

"But nobody out there's listening tonight. Relax, Ben. So far we're holding our own. Maybe this will tip it our way."

All through the night there were reports of fires, quickly quenched, roaming bands of slogan-shouting looters, clashes between vigilantes and demonstrators which petered out indecisively. The hours passed. Galt dozed. Pale light was filtering through the windows when he was awakened by a man who burst into the office. without the formality of knocking. "They've fired the library," he said. "A crowd of them got inside the kindergarten, too. Shall we try to hold it?"

"Let it go," Timmins snapped. "We've got to concentrate on essential installations." He broke off. "Sorry, Andy. It's your decision, of course:"

"I agree. What are they really after, Ben What's their prime target?"

"What do you think?" Timmins snapped. "Admin House. If they get in here—"

A MUFFLED explosion in the near distance punctuated the remark. Objects rattled on the desk. Somewhere there was a sound of breaking glass. Galt whirled to the window. Smoke was billowing from a point near the main gate, which was twisted off its mountings. Men came streaming through the opening in a ragged spearhead.

"Where are our, militiamen?" Timmins yelled and left the room at a run. Shouts sounded from the downstairs, accompanied by heavy thuddings. Galt arrived in the foyer to find a dozen volunteer defenders, all of them smoke-smudged and bleeding from small cuts and abrasions, grouped behind the massively barred doors.

"They're starting to get rough," one of the men called. "They've got

guns—a dozen of them anyway. God only knows where they got them. Nobody killed yet far as I know, but that explosion they set off—"

The pounding at the heavy doors ceased abruptly. Voices could be heard beyond the heavy panels, shouting over the rumble of crowd noises.

"We're in a hopeless position," a man said. "We've done all we could—these hoodlums mean business. I say let's get out while we can."

"Dammit, you can't run away now—" Timmins began.

"Go ahead, Jacobs," Galt cut in. "Anybody who wants to leave now, make it fast. Thanks for your help."

All but two of the volunteers departed hastily, some silently, some with apologies. A chant had started up outside the doors.

"What the devil are they shouting?" Timmins said.

"Give—us—Galt!" the chant came through clearly in a momentary lull in the background roar. "Give—us—Galt"

"The damned murderous swine," Timmins cried. "Andy, you've got to get out. They want a scapegoat, somebody to blame—and you're elected."

Galt shook his head; he went up the stairs to the landing. From the narrow window there he could see the drama spread out before him: the ruined gate, the ragged crowd of rebels fanning out from it, forming a loose arc fifty feet from the steps; the packed mob beyond the walls, craning for a better look.

"Like ghouls, watching a beheading," Timmins said beside him. "Don't the damn fools know if these anarchists get inside it's all over for Colmar?"

"Don't blame them; they're just ordinary citizens caught in something outside their scope. They're waiting for leadership—any leadership." Galt glanced at Timmins. "And if we can't give it to them, somebody else will." He pointed to the tall man standing front and center, with a bandolier of cartridges slung over his shoulder, a heavy power rifle gripped in a brawny fist.

"A malcontent named Brauer," Timmins said. "By God, if I had a gun—" He looked at Galt, dropped his eyes to the pistol in Gault's belt. "Let me borrow that, Andy," he said in a low, intense voice. "I can drop him with one shot."

Galt shook his head. "You know better than that, Ben."

"If killing one man will stop this—I say it's justified."

"I'd probably agree with you—if one killing would stop it. The fact is, we'd be giving them a martyr—shot from ambush. I think I know which way the crowd would go then." He turned and

went back down the stairs.

"Open it up," he said to the two men waiting beside the big doors.

"Mr. Administrator, you can't surrender to that mob," one of the men blurted. "They'll skin you alive. That's all they want."

"Who's surrendering? Get that door open."

OVER the protests of Timmins, men withdrew the locking bars, swung the portals wide. A sound went up from the crowd as Galt stepped out on the portico; it faded quickly as the big man named Brauer stepped forward. He stood for a moment, fingering the gun in his hands; then he turned and called over his shoulder:

"Let's go; the rats are throwing in their hand." He started forward, walking with a defiant swagger, all eyes on him. Those directly behind him followed; the crowd edged forward, sliding silently through the gate, spreading out. Brauer came on. When he was six feet away, Galt flipped back his jacket to expose the pistol thrust into his belt, dropped his hand to the butt. Brauer stopped dead. A number of expressions crossed his face; surprise, anger, determination. His eyes narrowed. The rifle in his hands started to come up.

"Throw that gun down or I'll put a bullet between your eyes, Brauer," Galt said quietly.

Brauer froze. He glanced at Galt's face, at his chin, his belt buckle.

"You crazy, Galt? he asked "Get out of my way—"

"Five seconds," Galt said.

"You want to get killed?" Brauer burst out.

"Four," Galt said. "Three. Two—"

With an oath, Brauer threw down the gun. A murmur went up from the crowd. A man behind Brauer started forward.

"Get back in line," Galt snapped. The man halted.

"Drop the bandolier, Brauer," Galt ordered. Brauer complied. He looked up at Galt, his face slowly turning red.

"Come inside," Galt said. "I want to talk to you." The big man stood fast. "Move, I told you!" Galt snapped. Brauer attempted a cocky smile; it became a sickly grimace. He went up the steps. Galt followed him inside. When he glanced back from the door, the crowd was already melting away.

"You can't get away with this," Brauer was saying. "We don't have to stand for this—"

"I think you will," Galt said.

"We've got rights!" Brauer yelled. "The power belongs to the people!"

"That's right," Galt said. "I agree you're under no obligation to support the government just because it's there."

"Well, then—" Brauer started.

"Certainly, you have a right to revolt," Galt went on. "But that dosn't mean I'm under any obligation to let you get away with it."

"WHAT I can't understand," Timmins said an hour later, after the militia had reported all quiet in the city, "is why you let him get so close before you stopped him."

"Simple," Galt said. "I couldn't hit the wide side of a warehouse with a pistol unless the muzzle was touching it." He smiled. "Brauer made the same mistake in judgment Blum did—they both let me get too close. And when we started talking—I had the better argument. Brauer agreed he would have made a lousy administrator." He yawned. "Tomorrow we'll announce Weinberg's discovery—and a new plan for Colmar's economy." ●

READING ROOM

(Continued from page 2)

on. Whenever the future becomes the present—as it must do constantly—we are not prepared to cope with it.

A hundred years ago there was no great problem. A man who had all his thoughts frozen at the 1850 level was not going to be profoundly shocked by anything impinging on his daily life for the rest of the century. Oh, he saw an occasional automobile and heard that the Wrights had learned to build a machine that flew. But such things came into the world slowly and did not put too great demands on him. For him the future never really arrived; he lived in a sort of eternal present, where the verities were indeed fixed.

Today, the future has been with us for a quarter of a century. The man who returned from World War II was faced with radical changes. Television came into his home; while it entertained, it also presented a whole world to him, much of which stubbornly refused to accept his exact values. The atom bomb had been exploded and racial extinction was now possible—as well as injury to his children from fallout. Those dratted scientific ideas had become part of his mental environment—and of his taxes. And today, all his fixed values are being shaken to tatters. The younger generation—grown in a present that vanishes from them as they learn it, but a present thirty years from Mr. Establishment's world, or thirty years in his mental future—all think and talk in ways that world finds nearly impossible to follow.

In another twenty years the future may well have wrenched this younger generation even more severely. The changes from their 1965 conditioning are already major. We now face such phenomena as pollution, for which nothing in their books can offer an answer. They generally are already falling back on a failure to adapt that takes the form of demanding their hopeless elders do something about it. And they are confronted with a world that is already grossly overpopulated for a technical age; that was supposed to be a problem for the year 2000, but it turned out it was for the year 1930!

Man is a reasonably adaptive animal. But the demands for adaptation are no longer reasonable, as most people see them. With the accelerating rate of change a human being today (who should reevaluate everything he knows about living at least once a decade) is going to face the need to rethink all his values and solutions at least once a year. That requirement of annual change is too severe a demand for the average homo sapiens to face. Even now, the need for change has resulted in severe shock reaction that manifests itself in many of the social ills of our time.

Toffler goes on to document his case and to examine what we must expect during the rest of this century. He considers the inability of our institutions to deal with the problems and tries to explore what must be done to let us meet the test of survival. It is an important and valuable book, well worth careful reading.

Yet the one solution that seems to have worked to some extent so far is hardly covered, for rather obvious reasons. And that solution, it seems to me, may be the long-range reading of science fiction! At least, from my own observations, the steady readers of our literature seem to be far readier to cope with a changing future than most other people and I find very little real future shock among my friends in the field.

Science fiction, after all, does not deal with *the* future (as Frederik Pohl has pointed out repeatedly). It deals with any and every future. Each major story in the field sets up a different future in many ways and looks for solutions to meet the conditions in that future. As readers, we spend our time playing a constant game of fairy chess, where the rules change from game to game and often within the game.

The average man doesn't really believe there is a future—just an eternal present through which he will drift to his end. But science fiction readers have often become more future-oriented than present-

adjusted. (That has its troubles, too, but apparently less severe ones.) And since they deal in possible futures, rather than the seemingly probable one, they are quite accustomed to having to reorient themselves every time they sit down to look at the future.

In a world of unfixed and changing values the man who has made a game of thinking outside the seeming values of his present is clearly the man who will find any radical alteration far less shocking.

Incidentally, that would seem to indicate that those who want science fiction to deal with present problems and situations are totally wrong; there aren't going to be any present problems and situations—by the time tomorrow gets here, the future will have jumped ten tomorrows ahead and be in the past. It may be that the less science fiction concerns itself with the real world (as we know it), the more useful it will be.

IN THAT case—in fact, in any case—one of the "must" books is Philip José Farmer's *To Your Scattered Bodies Go* (Putnam's Sons, $4.95). This deals with a future which almost certainly isn't going to happen, but one in which a lot of the rigid values are tossed aside for a logic inherent in the story, yet just out of the reader's full comprehension. It sounds wild, and it is; but it's an excellent exercise in building mental flexibility, as well as a pleasure to read.

This is the first of a series which will deal with the "Riverworld." Much of this book was run in the form of novelettes in *If* previously, but it is now reshaped into a novel, and well worth reading in its entirety.

Riverworld is apparently some kind of artificial planet designed to accommodate an Ouriborus river that winds back and forth through multiple valleys, to meet itself and resume its journey. And to this world, all the human beings who have ever died—from the first Eanthropus to the men who died when the race was exterminated—are returned to life. They are partly clumped by similarity of era and area, but about 10% are randomized, so that dawnmen and even aliens may be mixed with our current types.

They don't know how or why all this has happened. It fits no established religious pattern. And since they are dumped onto this world with no artifacts normal to them, it fits directly almost no social pattern. They are given a source of food—and drugs for those who want—so that this is a sort of welfare world; but beyond that minimum they have almost nothing.

In addition they find that death

has not only been defeated, but has been repealed. Oh, a man can be killed, with all the suffering of normal death. On this world, where everything seems to be returning to tribal moralities, there is a lot of the ancient bloody war and killing from the history of man. But shortly after a man dies, he appears again somewhere along the river. He may die a hundred times or more and still go on.

It's a wild and lovely idea, filled with impossibilities that only Farmer would have the courage to try to write. Any other writer I know, if he were clever enough to think of the basic idea, would have abandoned it as too big and too shapeless to turn into a novel. But for Farmer it works.

In fact, it worked long ago when he was just beginning as a writer. This was a story that he must have written around 1950. It was then a single, huge novel. He offered it in a prize contest one of the fan-publishing groups was running and it won. Then, for complicated reasons, it was never published nor did Farmer collect the prize to which he was entitled. But like the characters in his novel, the story was killed only to appear again in another situation.

It was apparently too long for serialization. But eventually Farmer reworked it into a series of novelettes, so that part of it came out in magazine form, considerably altered from the original.

How much alteration that entailed, I do not know. I was once given the original form to deliver to the office in New York. So, for a brief period, I saw the early form of the novel; but there wasn't time enough even to skim it. That is something I greatly regret. Had I known that the manuscript was available, I'd have dropped everything to read it, but the first version had to pass through my hands unread, damn the luck.

I gather that the series now beginning to appear from Putnam's is a further reworking.

This volume is basically the odyssey of Richard Burton after his revival on Riverworld. In that sense it forms a complete story, though much of the deeper thread behind it all remains uncovered. I dislike being left up in the air, but at least history is being presented fairly. Putnam has announced it as the first of the group, and it reaches a resolution of Burton's development, without introducing any artificial false ending or leaving us on a cliff-hanger. And maybe I'm just so glad to see it appearing that I'm kinder to this example of split-up publishing than I might otherwise be.

The riddle of how and why is a constant tantalizer in the book. Burton has reason—and apparently for some reason, at

that—to know that there are sentient beings behind it all. They have deliberately created River-world and managed to revive everyone who lived. He cannot know why they are doing all this. He knows also that they have some kind of spies among the revived humans. One of them apparently is a traitor to the others, which is why Burton was allowed to learn more of the behind-the-scenes activity than the others. But beyond trying to reach the head (or foot, since they are the same) of the river where the planners seem to have their secret headquarters, he can do nothing but attempt in his own logical way to avoid their discovering him.

It's a complicated setup. Until the books are finally all published I can't be sure how well the ramifications are worked out. But the promise behind the premise is wonderful. And even if the end should turn out not quite to justify the means, the means are good enough for me to settle for them.

There is a weakness in the book, of course, as there is to almost any work that involves so difficult a concept. The principal one seems to me to be the use of known characters. We have Richard Burton, who was truly a fantastic human being in real life; he was the translator of the *Arabian Nights* and a great adventurer. We also have Hermann Goering and the woman for whom *Alice in Wonderland* was written. She comes through very well, but the historicity of the others bothers me in reading their fictional life here. Button, as fiction, makes a fine hero for the book; but I find him overshadowed by references to what seems to me a larger reality. Goering has all his weaknesses—but again, the strengths and oddly distorted but real Junker code of the historical figure do not quite fit this picture. Farmer's research is sound—but the real figures just don't seem capable of being fitted well into this box. The wholly imaginary ones always seem to come off better.

THE Daleth Effect, by Harry Harrison (Berkley, 75¢) is a totally different type of book. Here the means are standard—the end seems to be everything. The author uses a method of getting space travel without the vast sums possible only to a major nation to set up his theme: what man will do with his ability.

To me, this is a curious book; it kept irritating me because it recalled another I had read some time previously. This was a story by Arthur Sellings about a whacky professor who found a means to get cheap space flight and then had to run from pillar to post to convince the world—then to es-

cape the world and to end up giving Israel the first successful use of his discovery. Harrison's book begins as if he'd also read the Sellings story and then decided to be as severely logical and honest about the real consequences as possible.

I'm not suggesting that Harrison copied anything; far from it. He has simply taken a similar basic idea and then gone beyond it, very well indeed.

In this book the inventor developed a vaguely similar effect to cheapen space flight in Israel, but felt that country too much involved in its own political struggle, to make proper use of his discovery. He takes it to Denmark—only to find that politics and the struggle for power follow wherever power may lodge. This is a story of the intrigue behind a major discovery, as well as the story of what adventures and developments may come from a basic discovery. And in following through, Harrison's logic is severe and honest.

It isn't always a pleasant book. The adventure part of it lives up to all of Harrison's proven ability to do a fine story of this kind. But there is little of the release from tension in the end, and almost none of the humor that he sometimes handles so well. This isn't that kind of a story.

This definitely isn't "escape" fiction, unless you want to escape into the world that is too much with us. But it does give us another view of our time and place and a further example of what future shock really can accomplish. It's also a good book—excellent in its own terms, which is all we can ask.

THE Leaves of Time, by Neal Barrett, Jr. (Lancer, 75¢) is unfortunately far less than it should be in terms of the author's previously demonstrated ability. The work shows us another and interesting type of future, but then seems to go into some kind of shock within itself and turn its back on the reality it has begun to explore.

Basically, a man from a world of possibilities somewhat like those on our own is thrown into another, differently oriented world. On his world, aliens who can control men and simulate real humans have virtually taken over the planet; his jump from world to world is caused by a last-ditch battle—and one alien is thrown across with him.

His problem is that the alien immediately begins trying to take over the new world. (Aliens can fission, thus one can populate a planet in time.) He finds he likes the new world; he feels responsible and sets out to warn the new world and try to save it.

The plot so far is all right; but

unfortunately the really good part of this novel is the promise at the beginning. Here we meet our first inhabitant in the form of a girl who can *know* at once when a man is telling the truth. The probability-world involved has developed a philosophy that gives the students quite remarkable powers, and we're led to expect that the whole world will react differently to the alien, the Gorgon. Those bits of what this world and its people might be like are fascinating. It's a world I'd like to know more about.

Then nothing really comes of it. We see even more petty political folderol here than on a world without the philosophy. We see people who can *know* truth from falsehood at once being as silly as anyone else. We see the great leader of the philosophy being duped like anyone else. In fact, we're told the world is different from ours—but we're shown quite the reverse, while the story degenerates into a who-is-the-alien thing, to which the answer is patently obvious—so patently that we can only assume the great students of the philosophy are no better than the worst among us.

It's a pity, because there was a kernel here that showed great promise. It's still not a bad book, but unfortunately it isn't the good one it could be.

And it shows many appalling examples of the bad editing always totally inexcusable but which I've seen too often. In the top paragraph of page 73, for instance, we're told that "... she intended the gift for *he* and Tai .... with both *he* and Tai expected for dinner."

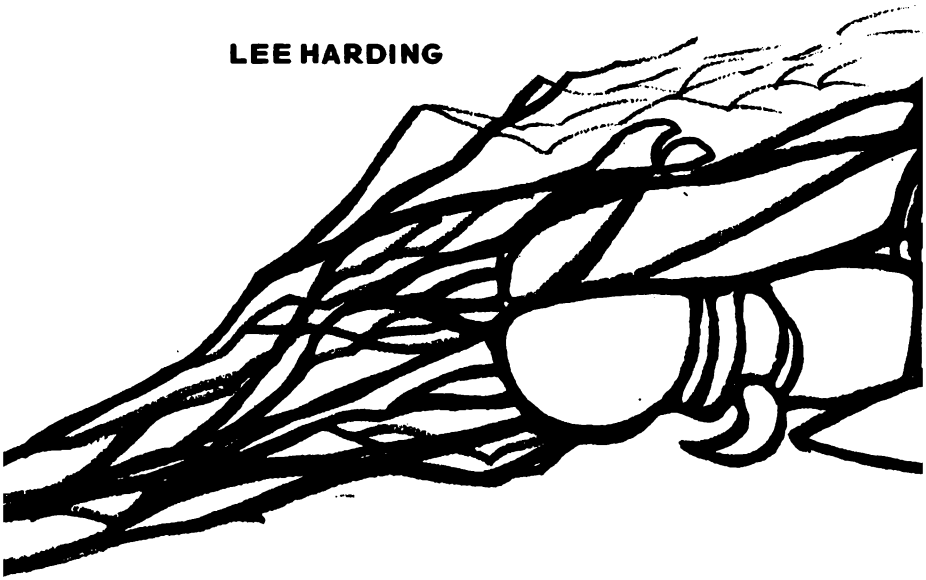
Yes, Virginia, English does have an accusative case for its pronouns! After a preposition, the object of that preposition always takes the accusative, even when coupled with a noun. If the writer wrote it wrong, any competent editor would change it. After all, there is such a thing as reader shock, too. And I'm shocked when I find such gaucheries in the basic use of the one tool writers and editors must use well—the English language.

Maybe our academic minds should stop worrying about the purpose of fiction and the evils of "escape literature"; they might better spend it trying to instil elementary respect for the language, since that does have a real and evident purpose. It's also one area where the future won't bring too many jarring new discoveries to shock them—unless they let it degenerate too rapidly.

Or has the language changed in a sudden new arrival of the future and am I unable to adapt to it quickly enough? Maybe I'm in future shock, too, despite my reading of science fiction. Enough, I've got to consult Alvin Toffler again. •

FALLEN SPACEMAN

LEE HARDING



MATTARO knew that it had been an accident—the ship would never have abandoned him intentionally. But knowing this was no way out of his predicament. By now the *Star Wind* would be many millions of miles away and he could not anticipate any rescue from that direction.

He was lucky to be alive. The ship had accelerated suddenly—and without any prior warning or due regard for his safety—and the spatial concussion had thrown him an enormous distance away from the rear Doppler turrets that had been the object of his routine inspection. He had tumbled through space for hundreds of miles before the miniature computer inside his cumbersome suit had managed to stabilize him in a safe orbit around the beautiful green world that turned underneath him, and when he recovered consciousness he felt sick and confused.

His initial reaction was one of intense fear and a horror of what might become of him; but eventually his rigid training and functional discipline reasserted themselves and he found that he could contemplate the future with a cooler eye.

He was surprised that his suit had survived the catastrophe. He fervently thanked the engineers who had designed and manufactured the monstrous and sometimes awkward exoskeleton and began to check out its functions. The small computer bank set immediately in front of his chest was operating smoothly enough—otherwise he would still be tumbling head over heels through space instead of drifting in a stable orbit around the bright young world below. He cautiously moved his arms and legs and felt the enormous limbs of the suit respond and duplicate his movements; there were no signs of strain or delay in the mechanical operations of the suit. A few judicious bursts from the maneuvering jets convinced him that they, too, were functioning smoothly. He eased off the manual controls and allowed the computer to edge him back into orbit. He listened to it cluck contentedly to itself and considered his predicament.

He disconnected most of the neural sensors from his body and tried to relax. There was ample room inside the suit for him to feel unencumbered; he could flex his

limbs and move the upper half of his body quite freely within the restraining webs that cushioned his fragile body from external shocks and minor impacts. He had not yet begun to panic, but for some reason he could not pin down he felt cold. He shivered and felt afraid. There was no logical reason why he should feel such a physical chill: the insulation was working perfectly and his suit seemed to be in excellent shape. So far so good.

Perhaps it was the unaccustomed isolation that brought about this sudden flutter of his pale flesh. He had never before felt so much alone, so unspeakably *deserted.* Gone was the warmth and companionship of his unit. Now all he had for a friend was the forever wise and quietly clucking computer in his suit.

"All right, then, little lady," he sighed. "Let's see if you can get me out of this mess—"

HE HAD enough air to last him for seven and a half hours, for several circuits of the world below. At the end of that time he would suffer a terrifying death; his suit would become a lonely coffin, orbiting until such time as it swung so low that the atmosphere claimed it and transformed it into fiery incandescence.

Mattero's suit was only a standard maintainance unit, a smaller version of the enormous locomotive machines that could carry a man across hostile alien landscapes at considerable speed and protect him from atmospheres that could soon corrupt his pallid human flesh; it had very little to offer in the way of sophisticated survival gear. It had never been meant to move very far away from the immediate vicinity of the ship.

A less intelligent spaceman would have remained in orbit until his small reserve of air gave out, hoping with his last breath that the *Star Wind* would arrive back in time to save him; but Mattaro knew that no ship could ever contemplate the expenditure of time and energy that would be required if it were to turn around and come back to locate a solitary, mislaid crewman. Mattaro belonged to Maintainance—he was a cog among cogs—and while no one could ever openly be considered expendable, the loss of one small unit could be readily absorbed. Whatever urgent business had spurred the *Star Wind* hastily to complete its survey of the colonial world below and move off without first making sure that her hull was clear of maintainance units, would also guarantee that the ship could hardly turn back and come looking for him, always assuming that his disappearance had been registered with the Master Control.

Equally, a less intelligent spaceman might have lacked sufficient courage to embark upon the desperate gamble which Mattaro, with his computer's ready agreement, had decided to commit himself.

Mattaro was logical enough to realize that his only chance lay in trying to reach the world below. The computer had decided that, with a good measure of luck, he might make a safe landing on one of the wide continents that turned underneath his monstrous unmoving feet. Enough power was left in his suit batteries to permit a reasonably fast descent—no point in endangering his life any further by taking it leisurely and using up more of his vital oxygen than was necessary. Once he was safely down he would need every ounce of reserve air that he could manage so that he might reach some habitation before it finally gave out.

The computer would brake his fall at the very last minute. It would send a powerful surge of energy from the batteries into the gray coils wrapped around his exo-waist and quickly nullify the planet's attraction. Mattaro knew that this entailed great risk, but he believed that with judicious conversation of his available power he just *might* make a safe landing and the computer endorsed his decision. So, if the suit nursed him down and saved most of its remaining energy for a single, powerful blast of repulsion at the very end of his fall—he just might come out of this alive.

The alternative was unthinkable. Better a quick, fiery death than a slow orbit into insanity. At least this way he could retain some semblence of dignity, up to and including the very end *if* he failed to accomplish the desired descent.

He had no idea how he would make out once he was on the ground. He knew that this world was inhabited, that the *Star Wind* had been locked in orbit for several days while its scientists studied the visible results of a seeding program which his people had instigated many centuries earlier; but beyond this he knew nothing. Mattaro was a specialist conversant with every facet of his trade—and with very little else. Such was the nature of his time and his people. What he knew of the people who had colonized the fresh young world below had only been ascertained from ship's gossip. He knew that they existed on a relatively primitive scale: their society was agrarian and widely scattered and there had been, so far, no outside interference in their affairs. And this was the sum of his knowledge. But he felt confident that the biological sensors in his suit would enable the computer to set him down reasonably

close to some sort of habitation—as to how he would make out afterward he had no idea. He would have to play it by ear. The important thing was first to get down.

Some day, years from now, a ship might pass close by this world and, if luck would have it, they would have been made aware of his disappearence and might even dispatch a small skiff to see if they could find some trace of him.

Some day. That could be ages from now. And in the meantime he had to survive.

It was with a growing sense of urgency that he instructed the computer to begin the descent.

HE FELL for what seemed like ages but in actuality amounted to a few short hours. The world underneath his enormous articulated legs became clearer. He entered the upper limits of the atmosphere and the dark night of space changed color abruptly. The nearby sun kindled the air around him until it glowed with a tantalizing blueness he found quite strange. He flexed his limbs inside the suit and felt the exoskeleton respond. He was confident that all would be well.

The air inside the suit became hot.

"Take it easy," he warned. "I can't take too much of this."

The suit slowed slightly. Mattaro began to sweat. It was a process alien to his conditioning and it alarmed him to realize that his body cells were recalling such an archaic function. The grav coils continued to throw out a small measure of power and he grew alarmed when he saw how much this token resistance was draining his batteries. He concluded—and the computer quickly verified—that he hadn't escaped the concussion of the *Star Wind's* departure as well as he had imagined: a small but continuous energy drain was going somewhere that might well prove disastrous.

Oh, my Mother, why hast thou forsaken me?

His normally placid pulse rate quickened. He began to panic.

An ocean yawned underneath him.

"Not there!" he screamed. "Find some habitation—quickly!"

The computer struggled to oblige but already the energy drain had reached dangerous proportions.

He was three miles up and falling rapidly, the computer jealously withholding as much power as it could safely risk for the last few seconds of the terrifying descent.

It was so hot inside the suit he could hardly breathe.

Now he was inland and falling at a steep angle toward a densely populated forest. The world below looked green, luxuriant and

very frightening. There were no signs of human habitation.

Would he ever make it alive?

Two miles.

One.

Falling faster all the time, the wind tearing at his suit like a howling banshee.

Mother, help me! I'm going to die. I don't want to die . . . out here . . . like this!

Where were the shining cities his people had spun between the stars, the magic wonderlands he had known as a child? Where was the beauty of all the things he had ever known and loved?

Gone.

There was only this crawling world at his feet with some offer of hope; this clumsy ball of mud and water lumbering around a parent sun like some bemused and indolent child; this virgin world fresh from the furnaces of space which man, in his curiosity, had sown with his own seed and stood back in the shadows of the centuries to observe.

For the first time in all his long and precisely ordered life Mattaro became conscious of what living really meant to him. For a moment his eyes widened with something close to horror, like the eyes of one who has seen a vision and is incapable of acting upon what he has seen; then his mind snapped cruelly back to the present.

He was now descending vertically and at a frightful rate toward a small clearing in the forest. The computer waited until his feet were only a few hundred feet away from the tops of the trees before it fed the full remaining power into the grav coils.

The suit shuddered and rocked like a thing gone mad as it fought to decelerate and repulse the gigantic mass of the world below. The sudden application of energy sent the monstrous suit dancing and jiggling across the sky; it shook Mattaro's body so much that, in spite of the protective webbing that held his body in thrall, he thought it might crack open like an eggshell and spill his mortal insides all over the controls. The computer struggled to stabilize these wild gyrations and bring the suit safely down to the surface of the planet.

He almost made it. The repulsion field had evened itself out and he had begun to drop towards the clearing again. He could see the topmost branches of the tallest trees moving past his faceplate and he began to relax. His nightmare was over. And he had even begun to smile—a little hysterically—when the power finally gave out.

He fell like Icarus.

THE fishing had been bad all day, so Jarvis had withdrawn from this commitment and had

sprawled out beside the stream, his arms behind his head, and had contented himself with a little doze and a modicum of thought. He had wedged his rod into a convenient tree stump by the water's edge and left the line drifting casually downstream; if a fish proved foolish enough to go for his lure a small bell attached to the float would summon him from sleep. But the sun was warm and encouraged idleness and he had only caught two miserably small fish all morning.

A small pouch of wine lay beside him, some sliced rolls and some sausage in a wooden basket, and that was what fishing was really all about. He had eaten most of the food and drunk a goodly measure of the wine when he was roused from his slumber by something he could not understand.

Then he saw the dark speck high in the clear sky and heard the high-pitched, keening cry that seemed to accompany its fall. It grew from a dot the size of a bird into something gigantic and terrifying and out of place and his mind—a little dulled by the amount of warm wine he had quaffed—was slow to react.

Jarvis was no longer young. The sun had tanned his wrinkled skin a deep shade of brown and his brow was heavy with the burden of years. He had lost count of the seasons he had walked through and his mind, like his limbs, had lost a good deal of vigor. But he had never before seen an object like this falling out of the heavens—and its probable point of impact would seem to be only a short distance away on the other side of the stream.

He sat up, startled, and scrambled to his feet as the object grew large in the sky and fell toward the ground at an incredible pace. His fishing was forgotten while he stood, transfixed and spellbound. When the thing was almost at the point of crashing into the upper levels of the forest it shuddered suddenly and came to a halt in mid-air. Next it performed an insane jig across the sky, dancing about over the top of the trees like something gone mad. Jarvis took a step backward and nearly lost his balance. He could see it clearly now—and he did not like what he saw. Its general shape was that of a man and it flung its limbs about in a grotesque parody of a man possessed.

It stilled. Jarvis watched, open-mouthed, as it glided across the tree tops—toward him.

He backed away. The creature looked like something fetched from a nightmare conjured up by the foulest home brew imaginable. He prepared his skinny legs to run and just as he was about to turn and thrust them into frantic motion—the thing fell.

It crashed down through the forest as though it weighed several tons. He could hear it tearing a pathway through the tightly packed branches: a terrible screeching sound such as a monster might make, fighting for its life. The sound of the impact was thunderous and the ground shook as the creature tumbled to it, unseen.

A flock of birds rose screaming from the scene of the impact. For a while they circled wildly around the great rent in the trees, calling to each other in agitation, then they flew off and dispersed. A lazy column of dust began to creep up into the sky where the creature had fallen.

JARVIS waited for something more to happen. But time went by and only the familiar warm silence of the woods reestablished itself. He fidgeted. He rubbed his eyes and wondered what it was he had *really* seen and what he should do about it. Perhaps he had drunk too much and scrambled awake with the vestiges of a bad dream still clinging to his thoughts.

But the sounds of the screaming birds still echoed in his memory, and he was not a man to imagine such elaborate monsters.

I will go and discover what manner of creature it is that falls from the sky and makes such an awesome noise . . .

Having made his decision, he packed up his fishing rod and proceeded to wade across the shallow section of the stream. He reached the other side, dried his feet on a deep patch of grass, pulled on his sandals and strode into the forest to locate the fallen object.

His search took him some distance into the trees—somewhat further than he had expected—where the thick trunks pressed close together and the ground was always shrouded in deep shadow. The undergrowth was sparse at this time of the year and he found no difficulty in making progress— yet he moved cautiously, having no idea what to expect.

It took him some time to locate the object, mainly because it became difficult for him to hold to his original line of sight now that he was deep into the forest. But the deep, jagged cleft that the thing had carved down through the trees was a beacon to his questing eyes: through this tortured passageway the sunlight found ready access and Jarvis quickened his pace when he was near enough for the light to seem a ragged pillar, beckoning.

Approaching the point of impact he slowed down and came to a halt. His listened, but could hear no sound. He summoned his courage and moved forward, wondering what he might find.

The creature had fallen on its

side and lay there staring at him like a crippled metal ogre. Its great legs were twisted underneath its massive trunk and its head was swung round at an incongruous angle. Instead of a face only a single polished disc stared back at him.

Jarvis drew in his breath. The creature was at least three times bigger than a man and its body was covered with all manner of shiny protuberences, some of which had broken or been sheared off by its dreadful fall.

He carefully made a wide circuit around the creature before he became emboldened enough to move closer and examine the lifeless humanoid in greater detail. He might be an old man but he was no superstitious fool. He recognized this creature as a machine, some sort of mechanical contrivance, the meaning of which was as yet lost to him. But he was determined to discover more.

Why, here were massive arms of steel that could have crushed him like a cockroach. And these legs—what mighty engines drove them across the face of the earth?

The creature still did not move. The fall had either killed it or knocked it senseless for a while.

But from where had it fallen? And what was it doing here?

Jarvis moved closer. He shook his head in amazement as he noted the immense girth of the creature and followed the line of one mighty shoulder until his eyes fastened upon the gigantic metal head. It was several times larger than a man's and in the center was the bright circle that had first attracted his attention.

The creature was lying on its side, its "face" pointing towards him. It took but a short step for him to be able to lean forward and peer down into that enigmatic pool of light. He looked past the grimy surface of the faceplate and at the pale white face on the other side. The creature's eyes were closed and its mouth was open; a faint dribble of blood welled from its mouth and trickled down its chin. Its skin had the same pale, translucent quality as the belly of a fish.

Jarvis recoiled in surprise and hastily crossed himself.

He knew beyond doubt that he had looked down upon one of the space people.

His legs began to shake. Without wasting another moment he backed away from the fallen spaceman and turned around and ran as fast as he could back to the village.

MATTARO regained consciousness and thought, *I'm alive!* And felt the great waves of pain begin to eat away at his mind. He winced, closed his eyes and wondered how much of him had survived. He ached all over but none of his limbs felt broken; the

webbing had held. His left leg was bent at a painful angle but he could, with very little effort, withdraw it from the exoskeleton and give it some ease. The rest of his body felt numb and bruised. His head ached abominably.

He tasted blood in his mouth and ran his tongue quickly around inside. No broken teeth; just some torn sections of his cheek where he must have gripped them in agony during the final seconds of his fall. Nothing to worry about.

He was alive!

Happily, he began to explore the condition of his suit. He could get no sense out of the computer; it was sullen and silent. This caused him some concern. If the computer turned out to have been badly damaged he was as good as trapped. Only the computer could activate the suit and get it moving—or open the access gate in the back of the suit. And if his power reserves were negative . . .

Had he come so far to find himself in a situation just as hopeless as the one he had fled?

He tried to calculate how much air he had left. But with no idea how long he had been unconscious this was an impossible task. And the computer couldn't help him.

He knew some sort of settlement was nearby, otherwise the computer wouldn't have chosen to set him down here. But how could he be sure that anyone had witnessed his hasty descent—and what would they make of it if they had?

His mind—already accustomed to dealing with an impossible situation and dulled by the impact of his fall—tried to devise some worthwhile plan of action. He waited until a full measure of feeling had returned to his limbs, then flexed them experimentally. He thought that he could detect a faint murmur of activity inside the computer casing and this made him hopeful. He tried again to set the suit moving; he moved his legs about inside the exoskeleton but only found resistance. The suit refused to be budged.

After a while he gave up and considered the alternative.

"Open the access hatch," he directed.

No acknowledgment was forthcoming from the silent computer. The vital panel directly behind Mattaro didn't budge an inch. Sweating, he repeated the command.

"Open the access hatch."

For just a fraction of a second something stirred inside the damaged brain of the computer. Perhaps some last measure of residual energy prodded the machine into a simple gesture of assistance and, after this miserable erg of power had been dissipated, it slumped back into immobility.

Behind Mattaro the access hatch had begun to move. It had swung open a fraction—and stayed so. The bitter alien air creeping into his suit confirmed the fact.

Mattaro swore. He repeated the command over and over again and, when this proved ineffective, withdrew his arms from the exoskeleton and beat upon the weighty access hatch with what strength he could exert from his awkward reach. But it would not be moved any further.

He could still hear a threshold whirr of activity inside the computer, but he wasn't sure that the sound was genuine—it could have been a product of his own wishful thinking.

He felt light-headed and slumped back into the webbing. Strange, but he couldn't recall feeling like this before. Perhaps it was the fall—and the air. He could feel it stinging the inside of his nostrils and coursing down into his lungs.

Of course—that would explain his peculiar light-headedness. It was the foul, unfiltered air of this damned planet that was making him feel so strange. But it was the only air he could depend on and it was better than none.

He kept hoping that the computer might eventually reorganize itself and get him out of this mess. In the meantime he was alive and reasonably well off. The next misfortune he would have to face would be hunger—and to alleviate that he would have to find some way of getting out of his suit.

"Open the access hatch," he mumbled. "Open the access hatch—"

But the hatch remained stubbornly at its fixed position.

Through the dust-shrouded faceplate he could make out the wide trunks of the trees and, in the distance, some patched were the sunlight played on some branches in a clearing. The inside of the suit had cooled and that was something he could be thankful for. He could have come down in the tropics of the planet and might have had to endure a slow roasting before nightfall—or he could just as easily have been dumped into the sea if the power had given out earlier. There were plenty of alternatives, all right. But here he was and, in one way or another, he was still alive.

In one way or another . . .

He kept talking to the computer, trying to cajole it back into some useful activity. He still wasn't convinced that his cards had run out and he was determined to shake some life back into the stubborn little machine.

It was some time before he noticed the dark faces peering down through his faceplate.

AT FIRST the townspeople thought that Jarvis had been

drinking too much, or had been taken by the sun; but when they saw that he was indeed sober and that it had been a vision and not the heat of the sun that had dazzled his mind, then some of his excitement began to carry over to them.

Nobody had ever seen one of the space people—at least not for generations. The relatively short recorded history of their world was filled with the memory and mythology of the creatures who watched over them, but no one living had actually *seen* one of them at first hand, as Jarvis insisted he had.

"It's out there, in the forest just beyond the stream," he told them. "It fell down out of the sky and—"

"And there was a man inside, you say?" somebody asked.

"No. I say there was a *spaceman* inside. He was all pale—kind of like a grub inside a shell."

They hastily crossed themselves and, forming a citizen's committee, herded Jarvis off to meet the town council. These seven men were older and wiser than anyone else in the village and it fell to them to make all the important decisions.

Jarvis faced the mayor unflinchingly and repeated his story in detail. The council listened attentively, prepared to be skeptical.

"Could you describe this machine?" the mayor asked. He was old and arthritic and often querulous, but his fancy had been captured by this loafer's confession. "In detail, if you can."

"Well, it was shaped like a man, only much bigger." Jarvis made an awkward diagram with his hands, a gesture that was meant to imply gigantic dimensions. "It had two arms and two legs and a monstrous head that—"

The mayor swung around in his chair and conferred with his councilmen. An air of portentous gravity descended upon the dark-paneled room; Jarvis waited nervously for a decision. From the expressions of grave concern he could detect on the faces of the council, it seemed that they were prepared to accept his story at face value.

"Wait outside, please, Jarvis," the mayor requested. "We will join you in a moment and then you will take us to your discovery, so that we may all see this creature at close range."

Jarvis bowed respectfully and went back outside to where a great number of townspeople had already assembled around the humble civic center.

Mayor Dunstable led his councilmen deep into the ancient cellars of the town hall. They paused outside a stout wooden door, crossed themselves three times, then held their positions while the mayor rose and unlatched the heavy wooden bar of the door

and slipped softly inside. Once he had disappeared and the door had been discreetly closed behind him, the councilmen sat cross-legged and assumed a posture of silent meditation.

It was dark inside the Shrine. The only light came from a solitary flame set in an ornate silver chalice upon the altar. The mayor kneeled just inside the threshold and offered up a few precious moments of his lifetime in respectful meditation. The appropriate ritual completed, he rose and walked boldly towards the altar.

A half a dozen steps closed the distance. The Shrine was small and had never been intended to accommodate more than one man, and he the supreme arbiter of the township.

Dunstable ascended the three short steps leading up to the altar and reached out for the deep glass case that rested immediately in front of the chalice. Underneath the dusty lid the faded face of the Handbook was kept securely locked away from prying eyes. Dunstable ran his arthritic fingers along one side of the case until the personality-keyed lock snapped open the glass lid. He sighed, whispered some appropriate words of thanks and raised the lid. The *Handbook* was exposed and his hands shook as he reached for it.

He handled the ancient volume with reverence. In all his long period of office he had only had occasion to consult the holy tome thrice before. The book held all his people's past and all their future—but its wisdom had to be used sparingly and only when all other knowledge failed or it would turn to poison. Its random and unrestricted use on other planets—including the place of human origins—had destroyed men's minds and turned them against one another.

BREATHING heavily, Dunstable consulted the index, turning the heavy textured pages of the *Handbook* with loving care. It was so quiet in the Shrine that the sound of his own excited breathing seemed monstrously loud and out of all proportion.

He studied the relevant passages of the text for some time, reading slowly in order to impress each vital piece of information upon his no longer agile memory. Sometimes he nodded sagaciously to himself or smiled at some particularly enlightening snippet of information—on other occasions his eyes widened momentarily in shock and surprise. The *Handbook* held many dazzling secrets that were not destined for the simple minds of this world.

When he had satisfied his curiosity he reverently closed the

book and relocked the glass lid. He bowed and crossed himself three times to give himself time to erase irrelevancies from his mind, whispered a short word of prayer for the fallen spaceman and then went outside to rejoin his councilmen.

He summoned them from their meditations briskly: "Very well, gentlemen, *now* we may proceed."

Jarvis led the way. He took them by way of the river road, the councilmen breathing heavily from the unaccustomed exertion. A small army of inquisitive townspeople followed at a respectful distance. News of Jarvis' discovery had traveled fast.

The machine had not moved from where Jarvis had found it. It lay at the bottom of the ragged shaft in the trees and faced them with its lifeless eye.

The mayor drew in his breath sharply. He murmured the appropriate words prescribed by the *Handbook* and crossed himself three times. His councilmen stood silent and watchful. Behind them, clustered in small groups among the trees, the hundred or more curious onlookers kept a cautious distance and did not need to be dissuaded from coming any closer. The spaceman made no response to the mayor's greeting.

"You see," Jarvis said, "it doesn't move. Perhaps it can't move."

The mayor nodded. "Very likely." He moved closer and walked a careful circuit around the massive creature, drawing upon his recent reserves of memory of the *Handbook* to help him identify the exact nature of the fallen object.

"It *is* a spaceman, isn't it?" Jarvis asked.

Dunstable waited until he had completed his study of the object before he commented. He looked up through the great, broken shaft in the forest towards the sunlit sky.

"It is, Jarvis," he agreed

There was no point in denying what was self-evident. He had stepped close and looked through the dusty faceplate and had seen the pale white face that Jarvis had spoken of. The eyes had been momentarily closed, but the identity of the creature had been unmistakable.

By now the other councilmen had crowded close. "My friends," Dunstable informed them, "Jarvis had indeed discovered one of the space people. How he came here we do not know. He has fallen from the sky and it has been our privilege to find him. Let us pray—"

With one accord all bowed their heads while the mayor intoned words from the *Handbook* whose meaning he himself did not fully understand, though they should

have evoked a response from the object on the ground.

But the spaceman did not move and Dunstable began to wonder if the visitor from the skies were alive or if the terrible fall had killed him.

His prayer completed, the mayor lifted his head with a slight suggestion of impatience. Around him the woods were alive with peering, frightened faces. He motioned them to come closer so that they might hear what he had to say.

"My good friends, this is indeed a wondrous day for us. This—this *machine* you see here is what is known as a 'space suit.' It is meant to protect the space people from all sorts of dangers—remember, their empire is vast and beyond our comprehension; it accommodates many thousands of worlds like ours and many more where environments are hostile and dangerous. They must protect themselves from inhospitable climates and even airlessness—and they have evolved these miraculous uniforms in order to move without difficulty from world to world."

While he spoke he moved closer to the fallen spaceman and indicated certain aspects of the massive space armor. "As you see, this suit is many times larger than the man inside, yet these great metal limbs respond effortlessly to his movements and endow him with the ability to perform prodigious feats that would otherwise be beyond his capabilities. In a sense the machine is alive and ordinarily should respond to—"

"But how did he get here?" someone interrupted. It was a cry from among the many faces pressing closer through the trees.

Dunstable hesitated. "We can't be sure. Perhaps he was working somewhere in the sky." He gestured overhead.

"And he fell from *there*?" Another incredulous voice.

Dunstable frowned. Just how much information might he safely—and with good intentions—divulge? The *Handbook* left much to his judgment. He knew from it that mighty ships moved between distant worlds and that some day—in an unimaginable distant future—the descendants of his people would evolve sufficiently in knowledge to lay claim to a similar heritage. It seemed quite likely that one of these wondrous sky chariots might have been passing nearby when the spaceman fell. Dunstable had used the prescribed words to arouse the visitor, but perhaps there was a limit to what he could tell his people. The words, of course, hadn't worked.

"He fell—and that is all we know," he replied.

"But is he alive?" another asked.

The mayor raised both hands in a gesture for silence. "That we

must now ascertain." He nodded towards Jarvis. "Perhaps you found him for a reason. He may respond to you. Take a closer look, will you?"

Jarvis grinned. He basked in his new importance. He strode confidently to the machine and leaned over so that he was peering closely into the faceplate. A few of the councilmen followed to looked cautiously over his shoulder.

It was some time before Jarvis realized that the creature's eyes were open and that he was staring out at them—and not quite seeing them. Something unseen seemed to have passed between them.

Jarvis jerked back in surprise. The councilmen quickly got out of the way. They looked disconcerted.

"He is awake," Jarvis reported. "But he does not seem to see us."

The mayor stepped forward and corroborated Jarvis' observation. And as he looked down and deeply into the pale, blank eyes of the spaceman he felt an unpleasant chill shake his body. He remained hunched forward and staring for some time, then stood aside and motioned his fellow Councilmen to step forward so that they might each, in turn, look with reverence upon the unfortunate creature. If the spaceman was conscious of this solemn parade of faces in front of him then he made no move to acknowledge what he saw.

We must work quickly, Dunstable realized, *or it may be too late to help him . . .*

He summoned one of the nearby villagers—an adventurous lad of early years—and sent him back to the village for the town physician and blacksmith. The blacksmith was to bring his strongest and most reliable tools and the physician to arrange for a pallet to be brought, so that the spaceman might be gently transported to a place of seclusion and rest—*if* he could be rescued from the gigantic spacesuit that could soon become a coffin.

While he waited anxiously he supervised the curious villagers into a long, slow-moving column that filed cautiously past the gigantic metal head and looked furtively in through the dusty faceplate at the pale, unsmiling face of the spaceman.

MATTARO was conscious—in a vague sort of half-life—of the strange faces peering down at him. They were like dreadful figures in a dream; the faces all screwed up with time, skins scorched a dark, unpleasant color by the naked radiation of their sun—he could not find it in him to accept them as human beings.

Mother, my mind is on fire . . .

His body was covered by a dense film of sweat. Drops of it had formed above his eyes and splashed

down, making it difficult for him to see. His breathing was shallow and irregular; his mouth was dry and his limbs burned with some strange internal fusion he could not understand.

Mother, am I dying?

His time was running out—had run out. He was breathing alien air—deadly, unfiltered—and it was having a terrifying effect upon his sterile metabolism. A hundred unseen bacteria had already invaded his bloodstream and each minute added more. In no time at all he would be reduced to a sick and festering hospital case—unless they, those people outside whom he loathed, somehow got him out of here and placed him in some sort of rigid quarantine and purged his weakened body of the microscopic invaders. But what standard of medicine could he expect from such people?

Probably little better than primitive herbalism, he thought, and wondered why his burning mind did not react more fearfully to this supposition. Perhaps he was rapidly losing the capacity to care.

Time passed and the strange faces no longer paraded past his faceplate. Only occasionally did one or two—with which he had become familiar—press forward, perhaps to monitor his rapid deterioration. *Why don't they do something?*

Instead of just watching him and haunting him with their archaic incompetence.

Help me, his mind cried out. *Can't you see I need help? I'm dying, don't you see that? Can't you see that?*

And for himself alone: *Mother, am I really?*

Had he survived his desertion and his incredible descent only to have what was left of him burned alive by these terrible alien bacteria? Was there no way for him to . . .

He could feel his mind slipping away, his conscious thoughts disintegrating; the possibility of logical, sequential thought became lost to him. His hands ceased their occasional fumbling with the dead controls and he slumped back into the fiery well that was his world. He closed his eyes and fell into a deep sleep, surrounded by the fires and fury of a hell that had only previously existed in the unplumbed depths of his racial memory.

BLEEKER, the blacksmith, eyed the space suit doubtfully. "I haven't any tools that can open that thing," he announced. "Just take a close look at the metal. I've never seen anything like it."

"What about the faceplate?" the mayor asked. He had become agitated; their time was running out. "Could we—"

"Not unless you want to mash

him about and kill him. The stuff's too tough to cut—or for a couple of taps to crack it open."

"There's some sort of opening around the back," Jarvis said. "I've been looking real close and it seems to me that there's some sort of hatchway there. It's opened slightly."

The blacksmith walked around to the other side of the suit and hunkered down in the dirt so that he could inspect the narrow opening the old man indicated. It was a narrow crack about three and a half feet long and it did indeed look like part of a hatchway. But the rest of it merged so smoothly with the gigantic carapace that it was difficult to gauge its shape.

"Well, what do you say?" Dunstable asked. "Can you lever that open?"

The blacksmith pursed his heavy lips and scowled. "Wouldn't like to say. But I'll give it a go." He stood up, spat on his hands and rubbed them together. "Get as many strong lads as you can find—we'll be needing them. If we take it in shifts then we just might budge it. But it'll take strength if I'm to judge from the workmanship of this thing."

The mayor leaned closer and, out of sight of the rest of the townspeople, breathed a confidence: "We have to get him out, you understand. Our air is dangerous to his lungs; it could very well kill him. And if we don't get him to the physician in time—"

The blacksmith nodded. "Well, no use standing here. Let's get on with it . .

He walked back to where he had deposited an assortment of his tools on the bare ground. He selected a long crowbar and gestured to one of the young men who had assigned themselves to his direction. "I have several more of these in my barn. Go fetch them—as fast as you can. We'll have need of them."

The youth—and one other—hastened away.

Bleeker gripped the crowbar in his hands and moved back behind the gigantic space suit. He found the narrow aperture of the hatchway and worked the sharp point of the instrument an inch or so into the crevice. He leaned with all his weight upon the other end but the hatchway—if that was what it was—refused to budge.

"Some help here, lads," he called out.

And they rushed forward to partake of this unaccustomed ritual.

MATTARO felt and heard the blows and curses and the hammering at his back, but he did not mind. Half in and half out of this grotesque world, with his mind on fire and his body weeping a rank, offensive fluid from every

pore, he found time to dream in his fiery hell.

Through the flames he could see the great ships he had traveled with and the marvelous worlds his people had made for themselves between the stars, like delicate crystaline webs spun across the eternal night. His skin tingled with affectionate memory of the warmth beamed down by the tiny suns they had kindled to illuminate his world.

Mother, why hast thou forsaken me?

Accidentally. She did not know.

You should have known, Mother. Don't you see? My mind is on fire. I'm burning up, one small cell at a time . . .

He saw his home world moving through space, felt the benign gravitation beneath his feet and basked in the emancipation of his people. He was space-born and had never known the feel of a planet underneath his feet or the burden of an unvarying gravity. His environment had been efficaciously controlled and he had never been exposed to the remorseless ravages of time and of the seasons that had made the faces of the colonists so gaunt and their lifetimes so short. And now he had fallen from this state of grace.

In his burning mind he saw his world turn and move toward him. Attendant suns flickered and died; the dark heavens disappeared and his world shimmered and opaqued as it moved from one realm of space into another so that it might cross light-years in an instant.

Mother, are you coming for me? Mother?

It was getting darker outside. Had the sky become dull as it prepared this world for dusk or had his eyesight betrayed him?

Mattaro was afraid.

IT TOOK them nearly two hours to open the stubborn hatchway. Two hours of sweating and cursing and sheer exhaustion. The blacksmith remained doggedly in command, seeing his youthful helpers come and go, applying their determined strength to the crowbars and then despairing—and each time moving the doorway a few millimeters more.

Finally it was wide enough for them to perceive the man inside and for them to reach in and grasp his shoulders. The spaceman did not stir: his mind—and his strength—seemed to have failed him.

They eased him from the protective webbing as gently as they could and carefully lowered him to a pallet.

The villagers stood back in awe. He seemed so pale and fragile without his fantastic carapace, like a chrysalis ripped before its time from its cocoon; but even then his

body seemed to radiate a supernal quality that was quite overpowering.

Some fell to their knees and prayed. Women wept and small children hugged their mothers' skirts and looked out upon the creature with one eye closed. A mornful chant went up from a group composed of older women; the dirge was caught up by the rest of the villagers and intoned with a deep sense of forboding.

The town physician bent over the wasted spaceman. He rolled back each eyelid in turn with his thumb and clucked disapprovingly. He rose, crossed himself and directed the two men he had assigned as carriers to hasten about their business.

"Take him to my surgery," he directed. "Quickly."

The two men trotted off. A path opened for them between the awe-struck villagers. The mayor and his councilmen hurried after the litter as best as they could. The physician, a few years their junior, set a cracking pace they found difficult to emulate. Jarvis hurried after them, a look of deep concern on his wizened face.

After a short pause, during which the doleful chant fragmented and died, the villagers moved after the *outré* procession, like tufts of weed sucked into a vacuum left by a passing wind.

The blacksmith carefully packed up his tools, then made his way slowly back to the township.

MATTARO was conscious of the journey by litter only as an even, jogging rhythm, occasionally broken. His mind had ceased to function in the external world. His body was on fire from head to toe and he was not responsible for the parade of images that danced through the brightlands of his fiery thoughts.

They placed him in the physician's surgery, in a warm bed that had been quickly installed for the occasion. They closed and barred all the windows and lit a great fire in the hearth, hoping that these humble precautions would keep out the deadly bacteria and help to warm the spaceman's cold body. But he was aware of none of these thoughtful ministrations.

The physician readied a sedative and poured a little of it into the spaceman's mouth. The poor creature seemed to have lost the ability to move his lips and his tongue, so the remainder of the dense liquid spilled down onto the bedclothes. But enough found its way down his tortured throat to prove effective.

He quickly fell asleep. His breathing became more regular and his degree of perspiration slackened. A nightwatch was kept by his bedside and they hoped that his strange fever would abate. But

when morning came they found him delirious and they were unable to reach him.

STRANGE dreams haunted Mattaro's dying. He saw times and places and creatures he could never have imagined, let alone have remembered. But a part of him that had not yet been touched by the deadly fire did remember.

Sometimes he seemed to stand naked on a rock-strewn landscape while a savage wind drove a scouring rain against his bare, shivering flesh. Another time he huddled in a cave, his body wrapped in foul-smelling skins, and watched the flickering firelight in front of him weave eerie patterns on the walls—walls upon which were carved unimaginable things. And outside the hungry howls of carniverous animals savaged the night.

He saw suns from an angle he had never before known: high overhead in a sky of dazzling blue and ochre. He felt his feet sink into the rich, dark soil of a hundred different worlds. His dying mind became a riot of landscapes he had never seen, people he had never known and worlds he would never have thought possible. And still he did not understand.

He was pithecanthropus, homo sapiens, Jupiter and Zeus; Alexander and Plato, Aristophanes and Icarus; he was Christ and Mohammed, Freud and Jung, Columbus and Armstrong; Montgomery, Napoleon—and Hitler. He was everything and everybody who had ever lived.

There: in the bottommost ragbag of all, the racial memory that had slumbered untapped until the Pandora's box of this world had opened and swallowed him up.

Now he remembered. In odd, distorted fragments, all that his people had ever been and ever hoped to be. It was all there, had always been there, but consciously inviolate until now. Until this dreadful dying had been visited upon him.

His own world seemed very far away, almost a superimposed memory—and nothing more. The fires had eaten most of it away; only a few tattered remnants clung to his disintegrated thoughts.

His would-be rescuers watched over him, bathed his body and did what they could to ease his pain. But there was a limit to what their primitive medicine could accomplish and even the reluctant physician finally had to admit that his survival was in the hands of the gods.

By which he meant the space people.

In the morning the sun rose and shone brightly through the open window at the foot of his bed. They saw no reason to maintain the useless facade of protection any

longer and they thought he would appreciate the sunlight.

Something seemed to happen. He opened his eyes and looked out upon the wonder of this fresh young world and for the first time since they had rescued him a small measure of insanity and recognition crept into his eyes.

But his brain still burned and the pain was terminal. Something beautiful seemed to come across the sweeping grasslands and over the river and down toward the house where he had slumbered.

Something gigantic and hopeful, a great gull-winged world, dazzling in the light of its twin attendant suns. It grew until it filled his mind and blotted out the terrifying ancient landscapes.

For a moment he strugged and sat up, leaning heavily on one weak elbow. His other hand stretched out toward the open window and a wild, glazed look leaped into his eyes.

"Mother!" he cried.

But the shimmering, golden world turned suddenly away. The tiny suns winked out and the dazzling silhouette of his home presented her stern to him, like a ghostly galleon passing by a drifting, abandoned seaman. For perhaps several seconds he remained rigid in that posture, his eyes fastened upon some deep internal vision, and then he slumped back.

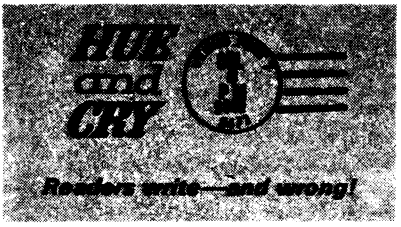
"Mother—" he whispered.

He closed his eyes and saw no more and several hours later he was dead.

THE funeral was held the following day. The whole town turned out for the occasion, each person bearing mind what he and she would relate to their children and their children's children—how the town had witnessed the fall of a spaceman and attended his magnificent funeral.

They made his grave a short distance from the town, atop a small rise where the first rays of the morning sun would warm his cold ghost, and they declared it to be a holy place where pilgrims might draw spiritual sustenence. Every day thereafter two small children visited the grave and placed small floral tributes to the departed spaceman, and two small trees were planted so that they might be nourished by the holy soil; and the fruit they eventually bore was known as holy thereafter and was partaken of on the one day of the year when the town commemorated the fall of the spaceman.

And so the spaceman vanished into legend. The two small trees took strong root and flourished over his grave and their fine silver branches grew and yearned towards the distant sky. ●



Dear Mr. Jakobsson:

As a geneticist, I have followed with interest your editorials in Galaxy *and* If *on "skintelligence" and heartily support your position. I find it difficult to reconcile the attitudes you express in your editorials with the use of phrases such as "that's white of you" and "indian giver" which appear in Laumers' story in the last issue of* If.

I feel that as editor you bear responsibility for seeing to it that careless use of phrases derogatory to certain groups of people does not occur within your magazines. I recognize the possibility that it might be "in character" for certain story people to speak this way, but I think that the literary use of such expressions must be exceedingly carefully scrutinized. In the story in question I do not feel that there was any justification for such chauvinistic terms.

With reference to Coney's story in the same issue, I should like to call to your attention that geneticists have dropped the terms "mongol" and "mongoloid" nearly a decade ago as objectionable in their racial implications. "Down's Syndrome" is the presently accepted terminology, named after the man who first described the condition.

One of the few advantages of my participation in the present wave of professional unemployment is that I have time to write letters. Who knows, I might even start writing science fiction . . .

Selina Bendix, Ph.D.
Berkeley, Cal.

I give myself full freedom to say what I feel compelled to say in the space I allot myself in these magazines and sign with the label of my true descent and natural heritage. And of course there's always the hope that minds will meet.

But I don't give myself the same liberties under other people's bylines in the rest of the magazine or magazines, whose primary functions I see as serving a highly articulate and intelligent, specialized readership. Theoretically—though the theory has yet to be tested—I should be able to publish a piece of fiction diametrically opposed to my views, provided it were true to its art and genre. And were not a lie.

But I agree with your goals, Dr. Bendix, and am delighted on these pages to pass your comments on to readers and authors. Though I feel that you may have misread Laumer, whose use of the cliches of Earth colonialism in the Retief series is a consistent, satiric and

quiet swearing at that colonialism. And let's get "Down's Syndrome" accepted by the dictionary publishers.

Dear Mr. Jakobsson:
I think there can be a "working definition" of science fiction, and it could be: A story using some or all of: (1) science, (2) imaginative theoretical science, (3) fanciful poetic license, treating of some aspect of life in the real and/or imaginary universe, past, present, and/or future; the proportion of these determining whether the story is realistic, speculative or fanciful.
This can be reduced to a logical set of symbols that are too fundamental to be further reduced: $+s$ S $-s$
Even when there is very little or no science in science fiction we instinctively use science (or our knowledge of it) as measure, and some fantasy seems to suggest another *science that springs from a hidden aspect of reality; so, even with the supernatural, can one get away from the science (or lack of it) in science fiction and fantasy?*

Henry Bitman
Azusa, Cal.

Dear Mr. Jakobsson:
First of all I want to thank you for the reply I received from you. I see what a writer meant when he mentioned that personal touch a couple months ago.
I just finished reading Fear No Evil *and* Whipping Star *the other day. I know that the one is over a year old, but to tell the truth this is the first time I've had a chance to sit down and read the whole thing. I've got some issues back in 1960 I'm still promising myself I'll read when I get a chance.*
I'm happy to see that Galaxy *is back on a monthly schedule—the only thing is that with the very poor distribution in this city, that means I have to be on the lookout twice as often. Can you tell me why* If *gets better distribution?*
But back to the two novels; I think I was sidetracked. I don't know why, but in recent months I've had the feeling that every author has been rushed to conclude his work, not only in your magazines but others, too. Maybe I'm being too critical with this, but Heinlein's ending had the feeling of being tacked on and Herbert's had a feeling of deus ex machina. *What the novel* Dune Messiah *had I won't even say—except to tell you I was quite disappointed.*
However, weak Heinlein, Herbert, or even T. J. Bass's little tidbits are better than a lot of the utter crud being marketed in paperback format these days. At least these authors know how to write.
Maybe the only way out is for me to attempt to submit something to you, at least then I'd have the right to complain. There's only one problem, I don't know if the world

is yet ready for me—or I for it.

John Beck
Youngstown, Ohio

Dear Mr. Jakobsson:

Thank you very much for printing my letter that requested help in forming a science fiction group in Calgary.

A member of the British Columbia SF Society saw the letter, looked my name up in the phone directory, and gave me a call. He gave me addresses of peoply who would offer suggestions on how to form a group. All in all I contacted over 20 but the important thing was the appearance of the letter in If. *Your assistance was vital in getting things started in Calgary.*

Enclosed you will find a brief description of our first meetings and how the group developed. I hope to print a guide to forming SF groups and will send you copies. The guide should come in handy if any other If *readers want to organize.*

The next few comments are on If. *I hope you will take them in the spirit in which they were made, that of constructive criticism.*

When you print a letter, why not print the full *address of the writer? I would like to contact Sid Krupicka about the PROMETHEUS PROJECT but all I know from the Jan-Feb 1971 issue is that he lives in Riverside, California. Do I write and hope the post office is willing to hunt through all the Krupicka's to find Sid? Or will the letter come back marked Insufficient Address? Suppose* If *gave its address as only New York, N.Y. 10017; would this letter have reached you?*

Second point. There is something about the type face being used that makes it difficult to read. I have no trouble reading pocketbooks with smaller type but there is some quirk in IF *printing that irritates me. I can't pin it down but that's what I feel.*

Third. I think the illos in If *leave something to be desired, including the covers. Freas-Finlay-Valigursky seem to draw beautiful and striking illusions with depth and reality. In comparison the Jan-Feb cover seems flat and stale. That's just one opinion of course and I admit a very biased statistical sampling.*

There are, believe it or not, a few good words I can write about If. *Reading Room by del Rey is always excellent and I really enjoyed that Retief story. The magazine content is great! Well, so much at playing critic.*

My best regards in '71,
Brian Hval
1712 Home Road N.W.
Calgary 45 Alberta
Canada

Correspondents' complete addresses will be published in *Hue and Cry* only if requested in writing.

—JAKOBSSON

The doctor told me, "Marguerite, you can be alive and ugly, or beautiful and dead."

The day I first noticed the small pink spot on my cheek, I had other things on my mind. The New York papers said, "Marguerite Piazza opens at the Persian Room". I covered the spot with makeup, walked out into the spotlight, and forgot it—forgot everything—in the joy of singing.

It wasn't until the spot began to spread, that I went to a cancer specialist. The day the doctor told me I'd have to have radical face surgery, I was sure my career was over. It was no longer a matter of saving my looks. Just of saving my life.

They kept the mirrors in my hospital room covered for a week. And yet today, thanks to the fantastic skill of the surgeons, I sing in the spotlight again. I let myself be photographed full-face by a famous photographer of glamorous women. And I am alive.

So now you know why I am appealing to you on behalf of the American Cancer Society. To give money. To get regular checkups. And to pay attention to cancer's warning signals.

You know, there's something much worse than finding out you have cancer. And that's *not* finding out.

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A group of workers controlling all the nation's transportation decided to strike?

A temperamental child could destroy anything displeasing him?

A key defense scientist became convinced man was no more than a high-class bacterium cultured by a superior life form?

Machines created to think like people developed people emotions?

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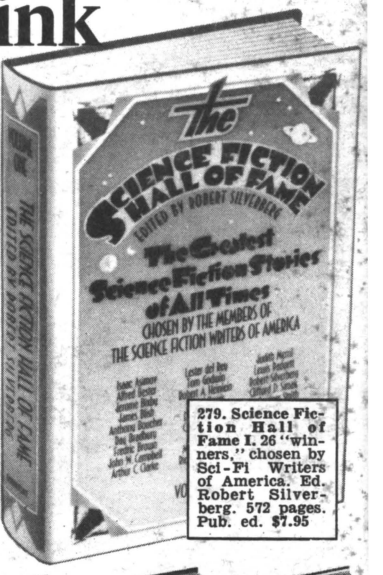

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