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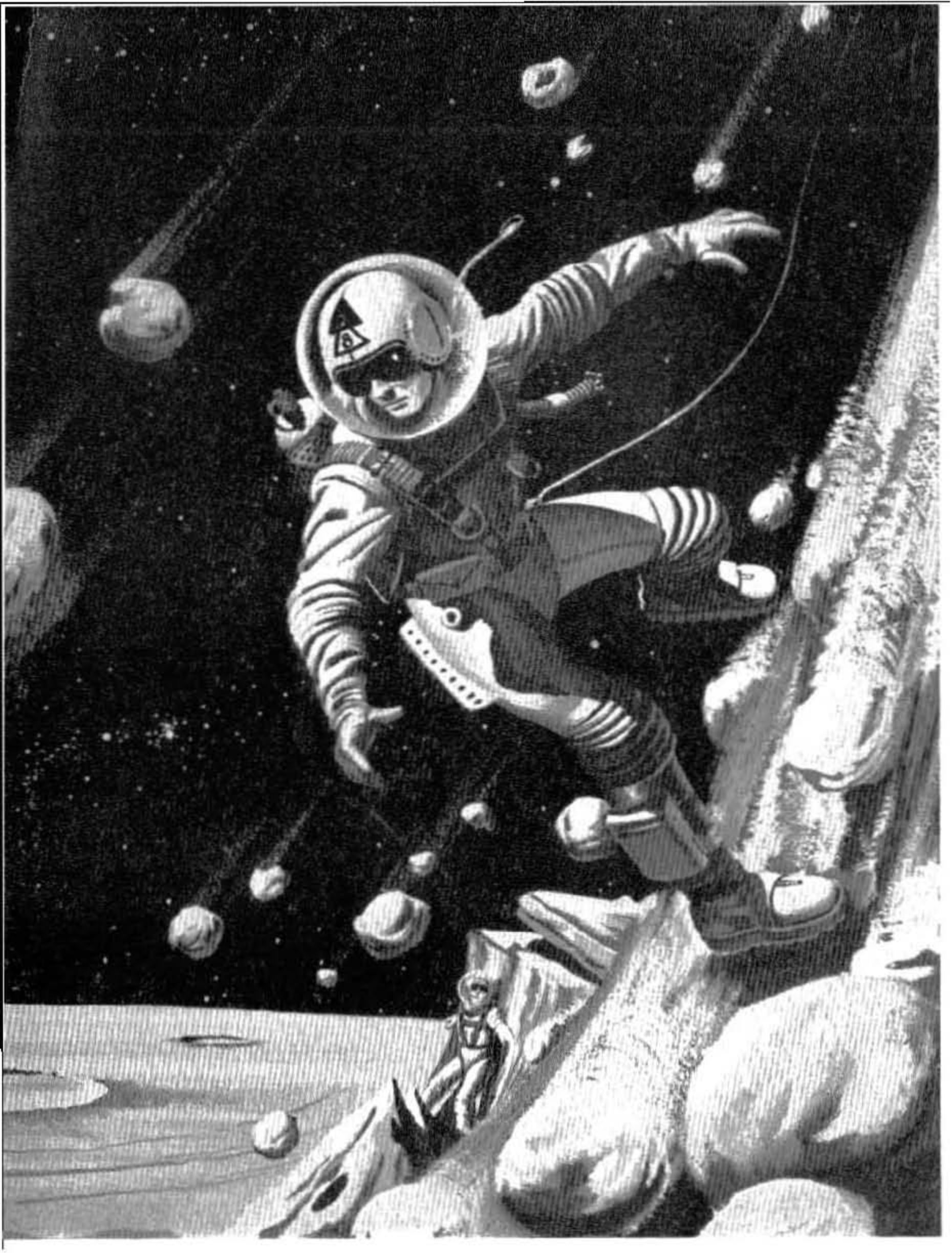

METEOR HAZARDS ON THE MOON—Because the Moon has no atmosphere, meteors would not burn themselves out, as they do when striking the Earth, presenting an ever-present and serious menace to operations of men and machinery. Defense would be difficult, as some of these meteors would weigh several tons. The illustration above shows how an avalanche could be started by a sudden bombardment of "cold" meteors. Now see inside back cover.

WORLDS of SCIENCE FICTION

JULY 1954

All Stories New and Complete

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NOVELETTES

SHORT STORIES

FEATURES

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A CHAT WITH THE EDITOR

TO UNDERSTAND the real factor that will someday make space travel possible, it might be a good idea to get yourself a lot of old newspapers and magazines and books—say about 30 or 35 years old—and read about the fledgling years of aviation. These contemporary accounts might be "ancient history" now, but they were written during the "heat of battle" and they're as exciting to read now as they were then. But let's see just how these dusty chronicles and forgotten heroes hook up with the conquest of space.

The Wright Brothers had hardly made their first flight when America became a scene of hell-for-leather experiments, wildcat races, air-minded promotions—and prodigious smack-ups. C. P. Rogers made the first trans-continental flight in 49 days. It took him seven days to cross New York State alone, and when he landed in Pasadena the only parts left of his original plane were the rudder and the oil pan; everything else had been busted and replaced en route.

Then came the First World War and the first test of aviation in combat. The men who flew the "Jennies" of that era were the glamor boys of war fiction and fact. There was Eddie Rickenbacker, ace of the American birdmen; there was Bishop of Canada; there was the fabulous Red Knight of Germany, Baron Von Richtofen and others. *And*—there was the man who did more for military aviation in the U.S. than any other figure of his time: William L. "Billy" Mitchell, who waged a one-man war with all the brass of the United States Army and Navy in his efforts to get them to accept the fact that air power was the thing of the future. He finally won his battle and he was awarded the Congressional Medal of Honor—both posthumously, ironically enough.

Before the peace treaty of the first great war was signed, Captain John Alcock, an Englishman, and Lieutenant Arthur Brown, an American, made the first non-stop trans-Atlantic flight, from Newfoundland to Ireland, 1980 miles in 16 hours, 12 minutes. This was on June 15, 1919, and the 1920's ushered in an era of barnstorming that took on the ballyhoo and brass of a carnival. Restless, reckless, pilots stunted anywhere they could get a permit or an audience; acrobats performed on the wings and landing gear of planes two or three thousand feet in the air; follies girls went aloft over the Great Lakes for tea; couples got hitched while fly-

ing over their home towns or somewhere else. It was the "era of wonderful nonsense" and aviation was using every gimmick in the book to make the public air-minded and convince folks it was safe to travel via plane.

BUT STILL, the spark necessary to set off the emotions and imagination of the world was yet to come. Somehow, to me, it seems that the spark which started aviation on the serious and commercially sound phase of its history came when a lonely pilot in a little single-motored monoplane flew the Atlantic. It was on a gray, misty dawn of a May 27 years ago when Charles Lindbergh, a young mail pilot, lifted "the Spirit of St. Louis" off Roosevelt Field on Long Island and set it down 33½ hours and 3,600 miles later on Le Bourget Field in Paris.

A few days before Lindbergh's flight, Nungesser and Coli, two Frenchmen, had tried a westward flight and had crashed and been lost in the Atlantic. A couple of weeks afterwards, Clarence Chamberlain flew from New York to Berlin. A few days later Admiral Byrd crashed off the French coast. And the procession was on! Within a few months, Amelia Earhart became the first woman to fly the Atlantic; Coste and Bellonte made the first westward crossing, then there were Charles Kingsford-Smith, "Wrongway" Corrigan and others. Flying the Atlantic became a fever, and after that came the Pacific. Then Post and Gatty flew around the world and Admiral Byrd flew to the South Pole. The young wings of aviation had been tested and they were strong.

As we go through the musty racks of newspapers for the Thirties we find that aviation is still a "hogger" of the front pages. On August 1, 1934, all existing records for a transport craft were broken by a Sikorsky seaplane which averaged 157.5 miles per hour over a 1242.8 mile course. There was Jimmy Doolittle and his pile of speed records; and names like Glenn Martin, Alexander P. de Seversky, Howard Hughes, Frank Hawks, Hugo Eckener, Count Von Zeppelin, Glenn Curtiss and others loomed big in the headlines. The Army and the Navy were fast conquering the Pacific, while somewhere out there Amelia Earhart, Sir Kingsford-Smith and others were lost.

AVIATION during the Thirties made tremendous strides. But there were blunders, too, and the prize blunder, which did national morale no good at all, was made by the Administration or Congress or somebody in Washington who got mad at the private airlines. Without preparation or advance notice the Army was ordered to take care of the airmail. The young pilots, with only a few hours briefing on night flying, knew what they were in for, but they took over and flew the mail in an assortment of ships never intended for the task. They didn't even have proper maintenance for their ships, nor did they have decent facilities for rest or food between flights. And during the winter of 1933-34 they carried the mail, night and day, over strange routes in "peashooters", ob-

(Continued on page 120)

THE THING

Honath and his fellow arch-doubters did not believe in the Giants, and for this they were cast into Hell. And when survival depended upon unwavering faith in their beliefs, they saw that there were *Giants, after all . . .*

By James Blish

Illustrated by Paul Orban

IN THE ATTIC

It is written that after the Giants came to Tellura from the far stars, they abode a while, and looked upon the surface of the land, and found it wanting, and of evil omen. Therefore did they make men to live always in the air and in the sunlight, and in the light of the stars, that he would be reminded of them. And the Giants abode yet a while, and taught men to speak, and to write, and to weave, and to do many things which are needful to do, of which the writings speak. And thereafter they departed to the far stars, saying, Take this world as your own, and though we shall return, fear not, for it is yours.

—THE BOOK OF LAWS

HONATH the Pursemaker was hauled from the nets an hour before the rest of the prisoners, as befitted his role as the arch-doubter of them all. It was not yet dawn, but his captors led him in great bounds through the endless, musky-per-

fumed orchid gardens, small dark shapes with crooked legs, hunched shoulders, slim hairless tails carried, like his, in concentric spirals wound clockwise. Behind them sprang Honath on the end of a long tether, timing his leaps by theirs, since any slip would hang him summarily.

He would of course be on his way to the surface, some 250 feet below the orchid gardens, shortly after dawn in any event. But not even the arch-doubter of them all wanted to begin the trip—not even at the merciful snap-spine end of a tether—a moment before the law said, Go.

The looping, interwoven network of vines beneath them, each cable as thick through as a man's body, bellied out and down sharply as the leapers reached the edge of the fern-tree forest which surrounded the copse of fan-palms. The whole party stopped before beginning the descent and looked eastward, across the dim bowl. The stars were paling more and more rapidly; only the bright constellation of the Parrot could still be picked out without doubt.

"A fine day," one of the guards said, conversationally. "Better to go below on a sunny day than in the rain, pursemaker."

Honath shuddered and said nothing. Of course it was always raining down below in Hell, that much could be seen by a child. Even on sunny days, the endless pinpoint rain of transpiration, from the hundred million leaves of the eternal trees, hazed the forest air and soaked the black bog forever.

He looked around in the brightening, misty morning. The eastern horizon was black against the limb of the great red sun, which had already risen about a third of its diameter; it was almost time for the small, blue-white, furiously hot consort to follow. All the way to that brink, as to every other horizon, the woven ocean of the treetops flowed gently in long, unbreaking waves, featureless as some smooth oil. Only nearby could the eye break that ocean into its details, into the world as it was: a great, many-tiered network, thickly overgrown with small ferns, with air-drinking orchids, with a thousand varieties of fungi sprouting wherever vine crossed vine and collected a little humus for them, with the vivid parasites sucking sap from the vines, the trees, and even each other. In the ponds of rain-water collected by the closely fitting leaves of the bromelaids, tree-toads and peepers stopped down their hoarse songs dubiously as the light grew and fell silent one by one. In the trees below the world, the tentative morning screeches of the lizard-birds—the souls of the damned, or the devils who hunted them, no one was quite sure which—took up the concert.

A small gust of wind whipped out of the hollow above the glade of fan-palms, making the network under the party shift slightly, as if in a loom. Honath gave with it easily, automatically, but one of the smaller vines toward which he had moved one furless hand hissed at him and went pouring away into the darkness beneath—a chlorophyll-green snake, come up out of the dripping aerial pathways in which it hunted in ancestral gloom, to greet the suns and dry its scales

in the quiet morning. Farther below, an astonished monkey, routed out of its bed by the disgusted serpent, sprang into another tree, reeling off ten mortal insults, one after the other, while still in mid-leap. The snake, of course, paid no attention, since it did not speak the language of men; but the party on the edge of the glade of fan-palms snickered appreciatively.

"Bad language they favor below," another of the guards said. "A fit place for you and your blasphemers, pursemaker. Come now."

The tether at Honath's neck twitched, and then his captors were soaring in zig-zag bounds down into the hollow toward the Judgment Seat. He followed, since he had no choice, the tether threatening constantly to foul his arms, legs or tail, and—worse, far worse—making his every mortifying movement ungraceful. Above, the Parrot's starry plumes flickered and faded into the general blue.

Toward the center of the saucer above the grove, the stitched leaf-and-leather houses clustered thickly, bound to the vines themselves, or hanging from an occasional branch too high or too slender to bear the vines. Many of these purses Honath knew well, not only as visitor but as artisan. The finest of them, the inverted flowers which opened automatically as the morning dew bathed them, yet which could be closed tightly and safely around their occupants at dusk by a single draw-string, were his own design as well as his own handiwork. They had been widely admired and imitated.

The reputation that they had given him, too, had helped to bring him to the end of the snap-spine tether. They had given weight to his words among others—weight enough to make him, at last, the arch-doubter, the man who leads the young into blasphemy, the man who questions the Book of Laws.

And they had probably helped to win him his passage on the Elevator to Hell.

The purses were already opening as the party swung among them. Here and there, sleepy faces blinked out from amid the exfoliating sections, criss-crossed by relaxing lengths of dew-soaked rawhide. Some of the awakening householders recognized Honath, of that he was sure, but none came out to follow the party—though the villagers should be beginning to drop from the hearts of their stitched flowers like ripe seed-pods by this hour of any normal day.

A Judgment was at hand, and they knew it—and even those who had slept the night in one of Honath's finest houses would not speak for him now. Everyone knew, after all, that Honath did not believe in the Giants.

Honath could see the Judgment Seat itself now, a slung chair of woven cane crowned along the back with a row of gigantic mottled orchids. These had supposedly been transplanted there when the chair was made, but no one could remember how old they were; since there were no seasons, there was no particular reason why they should not have been there forever. The Seat itself was at the back of the arena and high above it, but in the gathering light. Honath could

make out the white-furred face of the Tribal Spokesman, like a lone silver-and-black pansy among the huge vivid blooms.

At the center of the arena proper was the Elevator itself. Honath had seen it often enough, and had himself witnessed Judgments where it was called into use, but he could still hardly believe that he was almost surely to be its next passenger. It consisted of nothing more than a large basket, deep enough so that one would have to leap out of it, and rimmed with thorns to prevent one from leaping back in. Three hempen ropes were tied to its rim, and were then cunningly interwound on a single-drum windlass of wood, which could be turned by two men even when the basket was loaded.

The procedure was equally simple. The condemned man was forced into the basket, and the basket lowered out of sight, until the slackening of the ropes indicated that it had touched the surface. The victim climbed out—and if he did not, the basket remained below until he starved or until Hell otherwise took care of its own—and the windlass was rewound.

The sentences were for varying periods of time, according to the severity of the crime, but in practical terms this formality was empty. Although the basket was dutifully lowered when the sentence had expired, no one had ever been known to get back into it. Of course, in a world without seasons or moons, and hence without any but an arbitrary year, long periods of time are not easy to count accurately. The basket could arrive thirty or forty days to one side or the other of the proper date. But this was only a technicality, however, for if keeping time was difficult in the attic world it was probably impossible in Hell.

Honath's guards tied the free end of his tether to a branch and settled down around him. One abstractedly passed a pine cone to him and he tried to occupy his mind with the business of picking the juicy seeds from it, but somehow they had no flavor.

More captives were being brought in now, while the Spokesman watched with glittering black eyes from his high perch. There was Mathild the Forager, shivering as if with ague, the fur down her left side glistening and spiky, as though she had inadvertently overturned a tank plant on herself. After her was brought Alaskon the Navigator, a middle-aged man only a few years younger than Honath himself; he was tied up next to Honath, where he settled down at once, chewing at a joint of cane with apparent indifference.

Thus far, the gathering had proceeded without more than a few words being spoken, but that ended when the guards tried to bring Seth the Needlesmith from the nets. He could be heard at once, over the entire distance to the glade, alternately chattering and shrieking in a mixture of tones that might mean either fear or fury. Everyone in the glade but Alaskon turned to look, and heads emerged from purses like new butterflies from cocoons.

A moment later, Seth's guards came over the lip of the glade in a tangled group, now shouting them-

selves. Somewhere in the middle of the knot Seth's voice became still louder; obviously he was clinging with all five members to any vine or frond he could grasp, and was no sooner pried loose from one than he would leap by main force, backwards if possible, to another. Nevertheless he was being brought inexorably down into the arena, two feet forward, one foot back, three feet forward . . .

Honath's guards resumed picking their pine-cones. During the disturbance, Honath realized, Charl the Reader had been brought in quietly from the same side of the glade. He now sat opposite Alaskon, looking apathetically down at the vine-web, his shoulders hunched forward. He exuded despair; even to look at him made Honath feel a renewed shudder.

From the High Seat, the Spokesman said: "Honath the Pursemaker, Alaskon the Navigator, Charl the Reader, Seth the Needlesmith Mathild the Forager, you are called to answer to justice."

"Justice!" Seth shouted, springing free of his captors with a tremendous bound and bringing up with a jerk on the end of his tether. "This is no justice! I have nothing to do with—"

The guards caught up with him and clamped brown hands firmly over his mouth. The Spokesman watched with amused malice.

"The accusations are three," the Spokesman said. "The first, the telling of lies to children. Second, the casting into doubt of the divine order among men. Third, the denial of the Book of Laws. Each of you may speak in order of age. Honath the Pursemaker, your plea may be heard."

Honath stood up, trembling a little, but feeling a surprisingly renewed surge of his old independence.

"Your charges," he said, "all rest upon the denial of the Book of Laws. I have taught nothing else that is contrary to what we all believe, and called nothing else into doubt. And I deny the charge."

The Spokesman looked down at him with disbelief. "Many men and women have said that you do not believe in the Giants, pursemaker," he said. "You will not win mercy by piling up more lies."

"I deny the charge," Honath insisted. "I believe in the Book of Laws as a whole, and I believe in the Giants. I have taught only that the Giants were not real in the sense that we are real. I have taught that they were intended as symbols of some higher reality and were not meant to be taken as literal persons."

"What higher reality is this?" the Spokesman demanded. "Describe it."

"You ask me to do something the writers of the Book of Laws themselves couldn't do," Honath said hotly. "If they had to embody the reality in symbols rather than writing it down directly, how could a mere pursemaker do better?"

"This doctrine is wind," the Spokesman said. "And it is plainly intended to undercut authority and the order established by the Book. Tell me, pursemaker: if men need not fear the Giants, why should they fear the law?"

"Because they are men, and it is

to their interest to fear the law. They aren't children, who need some physical Giant sitting over them with a whip to make them behave. Furthermore, Spokesman, this archaic belief *itself* undermines us. As long as we believe that there are real Giants, and that some day they'll return and resume teaching us, so long will we fail to seek answers to our questions for ourselves. Half of what we know was given to us in the Book, and the other half is supposed to drop to us from the skies if we wait long enough. In the meantime, we vegetate."

"If a part of the Book be untrue, there can be nothing to prevent that it is all untrue," the Spokesman said heavily. "And we will lose even what you call the half of our knowledge—which is actually the whole of it—to those who see with clear eyes."

Suddenly, Honath lost his temper. "Lose it, then!" he shouted. "Let us unlearn everything we know only by rote, go back to the beginning, learn all over again, and *continue* to learn, from our own experience. Spokesman, you are an old man, but there are still some of us who haven't forgotten what curiosity means!"

"Quiet!" the Spokesman said. "We have heard enough. We call on Alaskon the Navigator."

"Much of the Book is clearly untrue," Alaskon said flatly, rising. "As a handbook of small trades it has served us well. As a guide to how the universe is made, it is nonsense, in my opinion; Honath is too kind to it. I've made no secret of what I think, and I still think it."

"And will pay for it," the Spokesman said, blinking slowly down at Alaskon. "Charl the Reader."

"Nothing," Charl said, without standing, or even looking up.

"You do not deny the charges?"

"I've nothing to say," Charl said, but then, abruptly, his head jerked up, and he glared with desperate eyes at the Spokesman. "I can read, Spokesman. I have seen words in the Book of Laws that contradict each other. I've pointed them out. They're facts, they exist on the pages. I've taught nothing, told no lies, preached no unbelief. I've pointed to the facts. That's all."

"Seth the Needlesmith, you may speak now."

The guards took their hands gratefully off Seth's mouth; they had been bitten several times in the process of keeping him quiet up to now. Seth resumed shouting at once.

"I'm no part of this group! I'm the victim of gossip, envious neighbors, smiths jealous of my skill and my custom! No man can say worse of me than that I sold needles to this puresmaker—sold them in good faith! The charges against me are lies, all lies!"

Honath jumped to his feet in fury, and then sat down again, choking back the answering shout almost without tasting its bitterness. What did it matter? Why should he bear witness against the young man? It would not help the others, and if Seth wanted to lie his way out of Hell, he might as well be given the chance.

The Spokesman was looking down at Seth with the identical expression of outraged disbelief which he had first bent upon Honath. "Who was it cut the blasphemies

into the hardwood tree, by the house of Hosi the Lawgiver?" he demanded. "Sharp needles were at work there, and there are witnesses to say that your hands held them."

"More lies!"

"Needles found in your house fit the furrows, Seth."

"They were not mine—or they were stolen! I demand to be freed!"

"You will be freed," the Spokesman said coldly. There was no possible doubt as to what he meant. Seth began to weep and to shout at the same time. Hands closed over his mouth again. "Mathild the Forager, your plea may be heard."

The young woman stood up hesitantly. Her fur was nearly dry now, but she was still shivering.

"Spokesman," she said, "I saw the things which Charl the Reader showed me. I doubted, but what Honath said restored my belief. I see no harm in his teachings. They remove doubt, instead of fostering it as you say they do. I see no evil in them, and I don't understand why this is a crime."

Honath looked over to her with new admiration. The Spokesman sighed heavily.

"I am sorry for you," he said, "but as Spokesman we cannot allow ignorance of the law as a plea. We will be merciful to you all, however. Renounce your heresy, affirm your belief in the Book as it is written from bark to bark, and you shall be no more than cast out of the tribe."

"I renounce it!" Seth cried. "I never shared it! It's all blasphemy and every word is a lie! I believe in the Book, all of it!"

"You, needlesmith," the Spokesman said, "have lied before this Judgment, and are probably lying now. You are not included in the dispensation."

"Snake-spotted caterpillar! May your—*ummulph.*"

"Pursemaker, what is your answer?"

"It is No," Honath said stonily. "I've spoken the truth. The truth can't be unsaid."

The Spokesman looked down at the rest of them. "As for you three, consider your answers carefully. To share the heresy means sharing the sentence. The penalty will not be lightened only because you did not invent the heresy."

There was a long silence.

Honath swallowed hard. The courage and the faith in that silence made him feel smaller and more helpless than ever. He realized suddenly that the other three would have kept that silence, even without Seth's defection to stiffen their spines. He wondered if he could have done so.

"Then we pronounce the sentence," the Spokesman said. "You are one and all condemned to one thousand days in Hell."

There was a concerted gasp from around the edges of the arena, where, without Honath's having noticed it before, a silent crowd had gathered. He did not wonder at the sound. The sentence was the longest in the history of the tribe.

Not that it really meant anything. No one had ever come back from as little as one hundred days in Hell. No one had ever come back from Hell at all.

"Unlash the Elevator. All shall go together."

THE BASKET swayed. The last of the attic world that Honath saw was a circle of faces, not too close to the gap in the vine web, peering down after them. Then the basket fell another few yards to the next turn of the windlass and the faces vanished.

Seth was weeping in the bottom of the Elevator, curled up into a tight ball, the end of his tail wrapped around his nose and eyes. No one else could make a sound, least of Honath.

The gloom closed around them. It seemed extraordinarily still. The occasional harsh screams of a lizard-bird somehow distended the silence without breaking it. The light that filtered down into the long aisles between the trees seemed to be absorbed in a blue-green haze through which the lianas wove their long curved lines. The columns of tree-trunks, the pillars of the world, stood all around them, too distant in the dim light to allow them to gauge their speed of descent. Only the irregular plunges of the basket proved that it was even in motion any longer, though it swayed laterally in a complex, overlapping series of figure-eights.

Then the basket lurched downward once more, brought up short, and tipped sidewise, tumbling them all against the hard cane. Mathild cried out in a thin voice, and Seth uncurled almost instantly, clawing for a handhold. Another lurch, and the Elevator lay down on its side and was still.

They were in Hell.

Cautiously, Honath began to climb out, picking his way over the long thorns on the basket's rim. After a moment, Charl the Reader followed, and then Alaskon took Mathild firmly by the hand and led her out onto the surface. The footing was wet and spongy, yet not at all resilient, and it felt cold; Honath's toes curled involuntarily.

"Come on, Seth," Charl said in a hushed voice. "They won't haul it back up until we're all out. You know that."

Alaskon looked around into the chilly mists. "Yes," he said. "And we'll need a needlesmith down here. With good tools, there's just a chance—"

Seth's eyes had been darting back and forth from one to the other. With a sudden chattering scream, he bounded out of the bottom of the basket, soaring over their heads in a long, flat leap and struck the high knee at the base of the nearest tree, an immense fan palm. As he hit, his legs doubled under him, and almost in the same motion he seemed to rocket straight up into the murky air.

Gaping, Honath looked up after him. The young needlesmith had timed his course to the split second. He was already darting up the rope from which the Elevator was suspended. He did not even bother to look back.

After a moment, the basket tipped upright. The impact of Seth's weight hitting the rope evidently had been taken by the windlass team to mean that the condemned people were all out on the surface; a twitch on the rope was the usual signal. The basket began to rise, bobbling and dancing. Its speed of ascent, added to Seth's took his racing, dwindling figure

out of sight quickly. After a while, the basket was gone, too.

"He'll never get to the top," Mathild whispered. "It's too far, and he's going too fast. He'll lose strength and fall."

"I don't think so," Alaskon said heavily. "He's agile and strong. If anyone could make it, he could."

"They'll kill him if he does."

"Of course they will," Alaskon said, shrugging.

"I won't miss him," Honath said.

"No more will I. But we could use some sharp needles down here, Honath. Now we'll have to plan to make our own—if we can identify the different woods, down here where there aren't any leaves to help us tell them apart."

Honath looked at the navigator curiously. Seth's bolt for the sky had distracted him from the realization that the basket, too, was gone, but now that desolate fact hit home. "You actually plan to stay alive in Hell, don't you, Alaskon?"

"Certainly," Alaskon said calmly. "This is no more Hell than—up there—is Heaven. It's the surface of the planet, no more, no less. We can stay alive if we don't panic. Were you just going to sit here until the furies came for you, Honath?"

"I hadn't thought much about it," Honath confessed. "But if there is any chance that Seth will lose his grip on that rope—before he reaches the top and they stab him—shouldn't we wait and see if we can catch him? He can't weigh more than 35 pounds. Maybe we could contrive some sort of a net—"

"He'd just break our bones along with his," Charl said. "I'm for getting out of here as fast as possible."

"What for? Do you know a better place?"

"No, but whether this is Hell or not, there are demons down here. We've all seen them from up above. They must know that the Elevator always lands here and empties out free food. This must be a feeding-ground for them—"

He had not quite finished speaking when the branches began to sigh and toss, far above. A gust of stinging droplets poured along the blue air and thunder rumbled. Mathild whimpered.

"It's only a squall coming up," Honath said. But the words came out in a series of short croaks. As the wind had moved through the trees, Honath had automatically flexed his knees and put his arms out for handholds, awaiting the long wave of response to pass through the ground beneath him. But nothing happened. The surface under his feet remained stolidly where it was, flexing not a fraction of an inch in any direction. And there was nothing nearby for his hands to grasp.

He staggered, trying to compensate for the failure of the ground to move. At the same moment another gust of wind blew through the aisles, a little stronger than the first, and calling insistently for a new adjustment of his body to the waves which would be passing among the treetops. Again the squashy surface beneath him refused to respond. The familiar give-and-take of the vine-web to the winds, a part of his world as accustomed as the winds themselves, was gone.

Honath was forced to sit down, feeling distinctly ill. The damp, cool earth under his furless buttocks was unpleasant, but he could not have remained standing any longer without losing his meâgre prisoner's breakfast. One grappling hand caught hold of the ridged, gritting stems of a clump of horsetail, but the contact failed to allay the uneasiness.

The others seemed to be bearing it no better than Honath. Mathild in particular was rocking dizzily, her lips compressed, her hands clasped to her delicate ears.

Dizziness. It was unheard of up above, except among those who had suffered grave head injuries or were otherwise very ill. But on the motionless ground of Hell, it was evidently going to be with them constantly.

Charl squatted, swallowing convulsively. "I—I can't stand," he moaned.

"Nonsense!" Alaskon said, though he had remained standing only by clinging to the huge, mud-colored bulb of a cycadella. "It's just a disturbance of our sense of balance. We'll get used to it."

"We'd better," Honath said, relinquishing his grip on the horsetails by a sheer act of will. "I think Charl's right about this being a feeding-ground, Alaskon. I hear something moving around in the ferns. And if this rain lasts long, the water will rise here, too. I've seen silver flashes from down here many a time after heavy rains."

"That's right," Mathild said, her voice subdued. "The base of the fan-palm grove always floods. That's why the treetops are lower there."

The wind seemed to have let up a little, though the rain was still falling. Alaskon stood up tentatively and looked around.

"Then let's move on," he said. "If we try to keep under cover until we get to higher ground—"

A faint crackling sound, high above his head, interrupted him. It got louder. Feeling a sudden spasm of pure fear, Honath looked up.

Nothing could be seen for an instant but the far-away curtain of branches and fern fronds. Then, with shocking suddenness, something plummeted through the blue-green roof and came tumbling toward them. It was a man, twisting and tumbling through the air with grotesque slowness, like a child turning in its sleep. They scattered.

The body hit the ground with a sodden thump, but there were sharp overtones to the sound, like the bursting of a gourd. For a moment nobody moved. Then Honath crept forward.

It had been Seth, as Honath had realized the moment the figurine had burst through the branches far above. But it had not been the fall that had killed him. He had been run through by at least a dozen needles—some of them, beyond doubt, tools from his own shop, their points edged hair-fine by his own precious strops of leatherwood-bark.

There would be no reprieve from above. The sentence was one thousand days. This burst and broken huddle of fur was the only alternative.

And the first day had barely begun.

THEY TOILED all the rest of the day to reach higher ground. As they stole cautiously closer to the foothills of the Great Range and the ground became firmer, they were able to take to the air for short stretches, but they were no sooner aloft among the willows than the lizard-birds came squalling down on them by the dozens, fighting among each other for the privilege of nipping these plump and incredibly slow-moving monkeys.

No man, no matter how confirmed a free-thinker, could have stood up under such an onslaught by the creatures he had been taught as a child to think of as his ancestors. The first time it happened, every member of the party dropped like a pine-cone to the sandy ground and lay paralyzed under the nearest cover, until the brindle-feathered, fan-tailed screamers tired of flying in such tight circles and headed for clearer air. Even after the lizard-birds had given up, they crouched quietly for a long time, waiting to see what greater demons might have been attracted by the commotion.

Luckily, on the higher ground there was much more cover from low-growing shrubs and trees—palmetto, sassafras, several kinds of laurel, magnolia, and a great many sedges. Up here, too, the endless jungle began to break around the bases of the great pink cliffs. Overhead were welcome vistas of open sky, sketchily crossed by woven bridges leading from the vine-world to the cliffs themselves. In the intervening columns of blue air a whole hierarchy of flying creatures ranked themselves, layer by layer. First, the low-flying beetles, bees and two-winged insects. Next were the dragonflies which hunted them, some with wingspreads as wide as two feet. Then the lizard-birds, hunting the dragonflies and anything else that could be nipped without fighting back. And at last, far above, the great gliding reptiles coasting along the brows of the cliffs, riding the rising currents of air, their long-jawed hunger stalking anything that flew—as they sometimes stalked the birds of the attic world, and the flying fish along the breast of the distant sea.

The party halted in an especially thick clump of sedges. Though the rain continued to fall, harder than ever, they were all desperately thirsty. They had yet to find a single bromelaid; evidently the tank-plants did not grow in Hell. Cupping their hands to the weeping sky accumulated surprisingly little water; and no puddles large enough to drink from accumulated on the sand. But at least, here under the open sky, there was too much fierce struggle in the air to allow the lizard-birds to congregate and squall about their hiding place.

The white sun had already set and the red sun's vast arc still bulged above the horizon. In the lurid glow the rain looked like blood, and the seamed faces of the pink cliffs had all but vanished. Honath peered dubiously out from under the sedges at the still distant escarpments.

"I don't see how we can hope to climb those," he said, in a low voice. "That kind of limestone crumbles as soon as you touch it, otherwise we'd have had better luck with our war against the cliff tribe."

"We could go around the cliffs," Charl said. "The foothills of the Great Range aren't very steep. If we could last until we get to them, we could go on up into the Range itself."

"To the volcanoes!" Mathild protested. "But nothing can live up there, nothing but the white fire-things. And there are the lava-flows, too, and the choking smoke—"

"Well, we can't climb these cliffs. Honath's quite right," Alaskon said. "And we can't climb the Basalt Steppes, either—there's nothing to eat along them, let alone any water or cover. I don't see what else we can do but try to get up into the foothills."

"Can't we stay here?" Mathild said plaintively.

"No," Honath said, even more gently than he had intended. Mathild's four words were, he knew, the most dangerous words in Hell—he knew it quite surely, because of the imprisoned creature inside him that cried out to say "Yes" instead. "We have to get out of the country of the demons. And maybe—just maybe—if we can cross the Great Range, we can join a tribe that hasn't heard about our being condemned to Hell. There are supposed to be tribes on the other side of the Range, but the cliff people would never let our folk get through to them. That's on our side now."

"That's true," Alaskon said, brightening a little. "And from the top of the Range, we could come *down* into another tribe—instead of trying to climb up into their village out of Hell. Honath, I think it might work."

"Then we'd better try to sleep right here and now," Charl said. "It seems safe enough. If we're going to skirt the cliffs and climb those foothills, we'll need all the strength we've got left."

Honath was about to protest, but he was suddenly too tired to care. Why not sleep it over? And if in the night they were found and taken—well, that would at least put an end to the struggle.

It was a cheerless and bone-damp bed to sleep in, but there was no alternative. They curled up as best they could. Just before he was about to drop off at last, Honath heard Mathild whimpering to herself and, on impulse, crawled over to her and began to smooth down her fur with his tongue. To his astonishment each separate, silky hair was loaded with dew. Long before the girl had curled herself more tightly and her complaints had dwindled into sleepy murmurs, Honath's thirst was assuaged. He reminded himself to mention the method in the morning.

But when the white sun finally came up, there was no time to think of thirst. Charl the Reader was gone. Something had plucked him from their huddled midst as neatly as a fallen breadfruit—and had dropped his cleaned ivory skull just as negligently, some two hundred feet farther on up the slope which led toward the pink cliffs.

LATE THAT afternoon, the three found the blue, turbulent stream flowing out of the foothills of the Great Range. Not even Alaskon knew quite what to make of it. It looked like water, but it flowed

like the rivers of lava that crept downward from the volcanoes. Whatever else it could be, obviously it wasn't water; water stood, it never flowed. It was possible to imagine a still body of water as big as this, but only in a moment of fancy, an exaggeration derived from the known bodies of water in the tank-plants. But this much water in motion? It suggested pythons; it was probably poisonous. It did not occur to any of them to drink from it. They were afraid even to touch it, let alone cross it, for it was almost surely as hot as the other kinds of lava-rivers. They followed its course cautiously into the foothills, their throats as dry and gritty as the hollow stems of horsetails.

Except for the thirst—which was in an inverted sense their friend, insofar as it overrode the hunger—the climbing was not difficult. It was only circuitous, because of the need to stay under cover, to reconnoiter every few yards, to choose the most sheltered course rather than the most direct. By an unspoken consent, none of the three mentioned Charl, but their eyes were constantly darting from side to side, searching for a glimpse of the thing that had taken him.

That was perhaps the worst, the most terrifying part of the tragedy: not once, since they had been in Hell, had they actually seen a demon—or even any animal as large as a man. The enormous, three-taloned footprint they had found in the sand beside their previous night's bed—the spot where the thing had stood, looking down at the four sleepers from above, coldly deciding which of them to seize—was the only evidence they had that they were now really in the same world with the demons. The world of the demons they had sometimes looked down upon from the remote vine-webs.

The footprint—and the skull.

By nightfall, they had ascended perhaps a hundred and fifty feet. It was difficult to judge distances in the twilight, and the token vine bridges from the attic world to the pink cliffs were now cut off from sight by the intervening masses of the cliffs themselves. But there was no possibility that they could climb higher today. Although Mathild had born the climb surprisingly well, and Honath himself still felt almost fresh, Alaskon was completely winded. He had taken a bad cut on one hip from a serrated spike of volcanic glass against which he had stumbled. The wound, bound with leaves to prevent its leaving a spoor which might be followed, evidently was becoming steadily more painful.

Honath finally called a halt as soon as they reached the little ridge with the cave in back of it. Helping Alaskon over the last boulders, he was astonished to discover how hot the navigator's hands were. He took him back into the cave and then came out onto the ledge again.

"He's really sick," he told Mathild in a low voice. "He needs water, and another dressing for that cut. And we've got to get both for him somehow. If we ever get to the jungle on the other side of the Range, we'll need a navigator even worse than we need a needlesmith."

"But how? I could dress the cut if I had the materials, Honath. But there's no water up here. It's a des-

ert; we'll never get across it."

"We've got to try. I can get him water, I think. There was a big cycladella on the slope we came up, just before we passed that obsidian spur that hurt Alaskon. Gourds that size usually have a fair amount of water inside them and I can use a piece of the spur to rip it open—"

A small hand came out of the darkness and took him tightly by the elbow. "Honath, you can't go back down there. Suppose the demon that—that took Charl is still following us? They hunt at night —and this country is all so strange . . ."

"I can find my way. I'll follow the sound of the stream of blue lava or whatever it is. You pull some fresh leaves for Alaskon and try to make him comfortable. Better loosen those vines around the dressing a little. I'll be back."

He touched her hand and pried it loose gently. Then, without stopping to think about it any further, he slipped off the ledge and edged toward the sound of the stream, travelling crabwise on all fours.

But he was swiftly lost. The night was thick and completely impenetrable, and he found that the noise of the stream seemed to come from all sides, providing him no guide at all. Furthermore, his memory of the ridge which led up to the cave appeared to be faulty, for he could feel it turning sharply to the right beneath him, though he remembered distinctly that it had been straight past the first side-branch, and then had gone to the left. Or had he passed the first side-branch in the dark without seeing it? He probed the darkness cautiously with one hand.

At the same instant, a brisk, staccato gust of wind came whirling up out of the night across the ridge. Instinctively, Honath shifted his weight to take up the flexing of the ground beneath him.

He realized his error instantly and tried to arrest the complex set of motions, but a habit-pattern so deeply ingrained could not be frustrated completely. Overwhelmed with vertigo, Honath grappled at the empty air with hands, feet and tail and went toppling.

An instant later, with a familiar noise and an equally familiar cold shock that seemed to reach throughout his body, he was sitting in the midst of—

Water. Icy water. Water that rushed by him improbably with a menacing, monkeylike chattering, but water all the same.

It was all he could do to repress a hoot of hysteria. He hunkered down into the stream and soaked himself. Things nibbled delicately at his calves as he bathed, but he had no reason to fear fish, small species of which often showed up in the tanks of the bromelaids. After lowering his muzzle to the rushing, invisible surface and drinking his fill, he ducked himself completely and then clambered out onto the banks, carefully neglecting to shake himself.

Getting back to the ledge was much less difficult. "Mathild?" he called in a hoarse whisper. "Mathild, we've got water."

"Come in here quick then. Alaskon's worse. I'm afraid, Honath."

Dripping, Honath felt his way into the cave. "I don't have any

container. I just got myself wet—you'll have to sit him up and let him lick my fur."

"I'm not sure he can."

But Alaskon could, feebly, but sufficiently. Even the coldness of the water—a totally new experience for a man who had never drunk anything but the soup-warm contents of the bromelaids—seemed to help him. He lay back at last, and said in a weak but otherwise normal voice: "So the stream was water after all."

"Yes," Honath said. "And there are fish in it, too."

"Don't talk," Mathild said. "Rest, Alaskon."

"I'm resting. Honath, if we stick to the course of the stream . . . Where was I? Oh. We can follow the stream through the Range, now that we know it's water. How did you find that out?"

"I lost my balance and fell into it."

Alaskon chuckled. "Hell's not so bad, is it?" he said. Then he sighed, and rushes creaked under him.

"Mathild! What's the matter? Is he—did he die?"

"No . . . no. He's breathing. He's still sicker than he realizes, that's all . . . Honath—if they'd known, up above, how much courage you have—"

"I was scared white," Honath said grimly. "I'm still scared."

But her hand touched his again in the solid blackness, and after he had taken it, he felt irrationally cheerful. With Alaskon breathing so raggedly behind them, there was little chance that either of them would be able to sleep that night; but they sat silently together on the hard stone in a kind of temporary peace. When the mouth of the cave began to outline itself with the first glow of the red sun, they looked at each other in a conspiracy of light all their own.

Let us unlearn everything we knew only by rote, go back to the beginning, learn all over again, and continue to learn . . .

With the first light of the white sun, a half-grown megatherium cub rose slowly from its crouch at the mouth of the cave and stretched luxuriously, showing a full set of saber-like teeth. It looked at them steadily for a moment, its ears alert, then turned and loped away down the slope.

How long it had been crouched there listening to them, it was impossible to know. They had been lucky that they had stumbled into the lair of a youngster. A full-grown animal would have killed them all, within a few seconds after its cat's-eyes had collected enough dawn to identify them positively. The cub, since it had no family of its own, evidently had only been puzzled to find its den occupied and didn't want to quarrel about it.

The departure of the big cat left Honath frozen, not so much frightened as simply stunned by so unexpected an end to the vigil. At the first moan from Alaskon, however, Mathild was up and walking softly to the navigator, speaking in a low voice, sentences which made no particular sense and perhaps were not intended to. Honath stirred and followed her.

Halfway back into the cave, his foot struck something and he looked down. It was the thigh-bone of

some medium-large animal, imperfectly cleaned and not very recent. It looked like a keepsake the megatherium had hoped to save from the usurpers of its lair. Along a curved inner surface there was a patch of thick grey mold. Honath squatted and peeled it off carefully.

"Mathild, we can put this over the wound," he said. "Some molds help prevent wounds from festering . . . How is he?"

"Better, I think," Mathild murmured. "But he's still feverish. I don't think we'll be able to move on today."

Honath was unsure whether to be pleased or disturbed. Certainly he was far from anxious to leave the cave, where they seemed at least to be reasonably comfortable. Possibly they would also be reasonably safe, for the low-roofed hole almost surely still smelt of megatherium, and intruders would recognize the smell—as the men from the attic world could not—and keep their distance. They would have no way of knowing that the cat had only been a cub and that it had vacated the premises, though of course the odor would fade before long.

Yet it was important to move on, to cross the Great Range if possible, and in the end to wind their way back to the world where they belonged. And to win vindication, no matter how long it took. Even should it prove relatively easy to survive in Hell—and there were few signs of that, thus far—the only proper course was to fight until the attic world was totally regained. After all, it would have been the easy and the comfortable thing, back there at the very beginning, to have kept one's incipient heresies to oneself and remained on comfortable terms with one's neighbors. But Honath had spoken up, and so had the rest of them, in their fashions.

It was the ancient internal battle between what Honath wanted to do, and what he knew he ought to do. He had never heard of Kant and the Categorical Imperative, but he knew well enough which side of his nature would win in the long run. But it had been a cruel joke of heredity which had fastened a sense of duty onto a lazy nature. It made even small decisions egregiously painful.

But for the moment at least, the decision was out of his hands. Alaskon was too sick to be moved. In addition, the strong beams of sunlight which had been glaring in across the floor of the cave were dimming by the instant, and there was a distant, premonitory growl of thunder.

"Then we'll stay here," he said. "It's going to rain again, and hard this time. Once it's falling in earnest, I can go out and pick us some fruit—it'll screen me even if anything is prowling around in it. And I won't have to go as far as the stream for water, as long as the rain keeps up."

The rain, as it turned out, kept up all day, in a growing downpour which completely curtained the mouth of the cave by early afternoon. The chattering of the nearby stream grew quickly to a roar.

By evening, Alaskon's fever seemed to have dropped almost to normal, and his strength nearly returned as well. The wound, thanks

more to the encrusted matte of mold than to any complications within the flesh itself, was still ugly-looking, but it was now painful only when the navigator moved carelessly, and Mathild was convinced that it was mending. Alaskon himself, having been deprived of activity all day, was unusually talkative.

"Has it occurred to either of you," he said in the gathering gloom, "that since that stream is water, it can't possibly be coming from the Great Range? All the peaks over there are just cones of ashes and lava. We've seen young volcanoes in the process of building themselves, so we're sure of that. What's more, they're usually hot. I don't see how there could possibly be any source of water in the Range —not even run-off from the rains."

"It can't just come up out of the ground," Honath said. "It must be fed by rain. By the way it sounds now, it could even be the first part of a flood."

"As you say, it's probably rain-water," Alaskon said cheerfully. "But not off the Great Range, that's out of the question. Most likely it collects on the cliffs."

"I hope you're wrong," Honath said. "The cliffs may be a little easier to climb from this side, but there's still the cliff tribe to think about."

"Maybe, maybe. But the cliffs are big. The tribes on this side may never have heard of the war with our tree-top folk. No, Honath, I think that's our only course."

"If it is," Honath said grimly, "we're going to wish more than ever that we had some stout, sharp needles among us."

ALASKON'S judgment was quickly borne out. The three left the cave at dawn the next morning, Alaskon moving somewhat stiffly but not otherwise noticeably incommoded, and resumed following the stream bed upwards—a stream now swollen by the rains to a roaring rapids. After winding its way upwards for about a mile in the general direction of the Great Range, the stream turned on itself and climbed rapidly back toward the basalt cliffs, falling toward the three over successively steeper shelves of jutting rock.

Then it turned again, at right angles, and the three found themselves at the exit of a dark gorge, little more than thirty feet high, but both narrow and long. Here the stream was almost perfectly smooth, and the thin strip of land on each side of it was covered with low shrubs. They paused and looked dubiously into the canyon. It was singularly gloomy.

"There's plenty of cover, at least," Honath said in a low voice. "But almost anything could live in a place like that."

"Nothing very big could hide in it," Alaskon pointed out. "It should be safe. Anyhow it's the only way to go."

"All right. Let's go ahead, then. But keep your head down, and be ready to jump!"

Honath lost the other two by sight as soon as they crept into the dark shrubbery, but he could hear their cautious movements nearby. Nothing else in the gorge seemed to move at all, not even the water, which flowed without a ripple over an invisible bed. There was not even any wind, for which Honath was grateful, although he had begun to develop an immunity to the motionless ground beneath them.

After a few moments, Honath heard a low whistle. Creeping sidewise toward the source of the sound, he nearly bumped into Alaskon, who was crouched beneath a thickly-spreading magnolia. An instant later, Mathilda's face peered out of the dim greenery.

"Look," Alaskon whispered. "What do you make of this?"

'This' was a hollow in the sandy soil, about four feet across and rimmed with a low parapet of earth —evidently the same earth that had been scooped out of its center. Occupying most of it were three grey, ellipsoidal objects, smooth and featureless.

"Eggs," Mathild said wonderingly.

"Obviously. But look at the size of them! Whatever laid them must be gigantic. I think we're trespassing in something's private valley."

Mathild drew in her breath. Honath thought fast, as much to prevent panic in himself as in the girl. A sharp-edged stone lying nearby provided the answer. He seized it and struck.

The outer surface of the egg was leathery rather than brittle; it tore raggedly. Deliberately, Honath bent and put his mouth to the oozing surface.

It was excellent. The flavor was

decidedly stronger than that of birds' eggs, but he was far too hungry to be squeamish. After a moment's amazement, Alaskon and Mathild attacked the other two ovoids with a will. It was the first really satisfying meal they had had in Hell. When they finally moved away from the devastated nest, Honath felt better than he had since the day he was arrested.

As they moved on down the gorge, they began again to hear the roar of water, though the stream looked as placid as ever. Here, too, they saw the first sign of active life in the valley: a flight of giant dragonflies skimming over the water. The insects took fright as soon as Honath showed himself, but quickly came back, their nearly non-existent brains already convinced that there had always been men in the valley.

The roar got louder very rapidly. When the three rounded the long, gentle turn which had cut off their view from the exit, the source of the roar came into view. It was a sheet of falling water as tall as the depth of the gorge itself, which came arcing out from between two pillars of basalt and fell to a roiling, frothing pool.

"This is as far as we go!" Alaskon said, shouting to make himself heard over the tumult. "We'll never be able to get up these walls!"

Stunned, Honath looked from side to side. What Alaskon had said was all too obviously true. The gorge evidently had begun life as a layer of soft, partly soluble stone in the cliffs, tilted upright by some volcanic upheaval, and then worn completely away by the rushing stream. Both cliff faces were of the harder rock, and were sheer and as smooth as if they had been polished by hand. Here and there a network of tough vines had begun to climb them, but nowhere did such a network even come close to reaching the top.

Honath turned and looked once more at the great arc of water and spray. If there were only some way to prevent their being forced to retrace their steps—

Abruptly, over the riot of the falls, there was a piercing, hissing shriek. Echoes picked it up and sounded it again and again, all the way up the battlements of the cliffs. Honath sprang straight up in the air and came down trembling, facing away from the pool.

At first he could see nothing. Then, down at the open end of the turn, there was a huge flurry of motion.

A second later, a two-legged, blue-green reptile half as tall as the gorge itself came around the turn in a single bound and lunged violently into the far wall of the valley. It stopped as if momentarily stunned, and the great grinning head turned toward them a face of sinister and furious idiocy.

The shriek set the air to boiling again. Balancing itself with its heavy tail, the beast lowered its head and looked redly toward the falls.

The owner of the robbed nest had come home. They had met a demon of Hell at last.

Honath's mind at that instant went as white and blank as the under-bark of a poplar. He acted without thinking, without even

knowing what he did. When thought began to creep back into his head again, the three of them were standing shivering in semidarkness, watching the blurred shadow of the demon lurching back and forth upon the screen of shining water.

It had been nothing but luck, not foreplanning, to find that there was a considerable space between the back of the falls proper and the blind wall of the canyon. It had been luck, too, which had forced Honath to skirt the pool in order to reach the falls at all, and thus had taken them all behind the silver curtain at the point where the weight of the falling water was too low to hammer them down for good. And it had been the blindest stroke of all that the demon had charged after them directly into the pool, where the deep, boiling water had slowed its thrashing hind legs enough to halt it before it went under the falls, as it had earlier blundered into the hard wall of the gorge.

Not an iota of all this had been in Honath's mind before he had discovered it to be true. At the moment that the huge reptile had screamed for the second time, he had simply grasped Mathild's hand and broken for the falls, leaping from low tree to shrub to fern faster than he had ever leapt before. He did not stop to see how well Mathild was keeping up with him, or whether or not Alaskon was following. He only ran. He might have screamed, too; he could not remember.

They stood now, all three of them, wet through, behind the curtain until the shadow of the demon faded and vanished. Finally Honath felt a hand thumping his shoulder, and turned slowly.

Speech was impossible here, but Alaskon's pointing finger was eloquent enough. Along the back wall of the falls, where centuries of erosion had failed to wear away completely the original soft limestone, there was a sort of serrated chimney, open toward the gorge, which looked as though it could be climbed. At the top of the falls, the water shot out from between the basalt pillars in a smooth, almost solid-looking tube, arching at least six feet before beginning to break into the fan of spray and rainbows which poured down into the gorge. Once the chimney had been climbed, it should be possible to climb out from under the falls without passing through the water again.

And after that—?

Abruptly, Honath grinned. He felt weak all through with reaction, and the face of the demon would probably be grinning in his dreams for a long time to come. But at the same time he could not repress a surge of irrational confidence. He gestured upward jauntily, shook himself, and loped forward into the throat of the chimney.

Hardly more than an hour later they were all standing on a ledge overlooking the gorge, with the waterfall creaming over the brink next to them, only a few yards away. From here, it was evident that the gorge itself was only the bottom of a far greater cleft, a split in the pink-and-grey cliffs as sharp as though it had been riven in the rock by a bolt of sheet lightning. Beyond

the basalt pillars from which the fall issued, however, the stream foamed over a long ladder of rock shelves which seemed to lead straight up into the sky.

"That way?" Mathild said.

"Yes, and as fast as possible," Alaskon said, shading his eyes. "It must be late. I don't think the light will last much longer."

"We'll have to go single file, Honath added. "And we'd better keep hold of each other's hands. One slip on those wet steps and—it's a long way down again."

Mathild shuddered and took Honath's hand convulsively. To his astonishment, the next instant she was tugging him toward the basalt pillars.

The irregular patch of deepening violet sky grew slowly as they climbed. They paused often, clinging to the jagged escarpments until their breath came back, and snatching icy water in cupped palms from the stream that fell down the ladder beside them. There was no way to tell how far up into the dusk the way had taken them, but Honath suspected that they were already somewhat above the level of their own vine-web world. The air smelled colder and sharper than it ever had above the jungle.

The final cut in the cliffs through which the stream fell was another chimney. It was steeper and more smooth-walled than the one which had taken them out of the gorge under the waterfall, but narrow enough to be climbed by bracing one's back against one side, and one's hands and feet against the other. The column of air inside the chimney was filled with spray, but in Hell that was too minor a discomfort to bother about.

At long last Honath heaved himself over the edge of the chimney onto flat rock, drenched and exhausted, but filled with an elation he could not suppress and did not want to. They were above the attic jungle; they had beaten Hell itself. He looked around to make sure that Mathild was safe, and then reached a hand down to Alaskon. The navigator's bad leg had been giving him trouble. Honath heaved mightily and Alaskon came heavily over the edge and lit sprawling on the high mesa.

The stars were out. For a while they simply sat and gasped for breath. Then they turned, one by one, to see where they were.

There was not a great deal to see. There was the mesa, domed with stars on all sides and a shining, finned spindle, like a gigantic minnow, pointing skyward in the center of the rocky plateau. And around the spindle, indistinct in the starlight . . .

. . . Around the shining minnow, tending it, were Giants.

THIS, THEN, was the end of the battle to do what was right, whatever the odds. All the show of courage against superstition, all the black battles against Hell itself, came down to this: *The Giants were real!*

They were unarguably real. Though they were twice as tall as men, stood straighter, had broader shoulders, were heavier across the seat and had no visible tails, their fellowship with men was clear.

Even their voices, as they shouted to each other around their towering metal minnow, were the voices of men made into gods, voices as remote from those of men as the voices of men were remote from those of monkeys, yet just as clearly of the same family.

These were the Giants of the Book of Laws. They were not only real, but they had come back to Tellura as they had promised to do.

And they would know what to do with unbelievers, and with fugitives from Hell. It had all been for nothing—not only the physical struggle, but the fight to be allowed to think for oneself as well. The gods existed, literally, actually. This belief was the real hell from which Honath had been trying to fight free all his life—but now it was no longer just a belief. It was a fact, a fact that he was seeing with his own eyes.

The Giants had returned to judge their handiwork. And the first of the people they would meet would be three outcasts, three condemned and degraded criminals, three jailbreakers—the worst possible detritus of the attic world.

All this went searing through Honath's mind in less than a second, but nevertheless Alaskon's mind evidently had worked still faster. Always the most outspoken unbeliever of the entire little group of rebels, the one among them whose whole world was founded upon the existence of rational explanations for everything, his was the point of view most completely challenged by the sight before them now. With a deep, sharply indrawn breath, he turned abruptly and walked away from them.

Mathild uttered a cry of protest, which she choked off in the middle; but it was already too late. A round eye on the great silver minnow came alight, bathing them all in an oval patch of brilliance.

Honath darted after the navigator. Without looking back, Alaskon suddenly was running. For an instant longer Honath saw his figure, poised delicately against the black sky. Then he dropped silently out of sight, as suddenly and completely as if he had never been.

Alaskon had borne every hardship and every terror of the ascent from Hell with courage and even with cheerfulness but he had been unable to face being told that it had all been meaningless.

Sick at heart, Honath turned back, shielding his eyes from the miraculous light. There was a clear call in some unknown language from near the spindle.

Then there were footsteps, several pairs of them, coming closer.

It was time for the Second Judgment.

After a long moment, a big voice from the darkness said: "Don't be afraid. We mean you no harm. We're men, just as you are."

The language had the archaic flavor of the Book of Laws, but it was otherwise perfectly understandable. A second voice said: "What are you called?"

Honath's tongue seemed to be stuck to the roof of his mouth. While he was struggling with it, Mathild's voice came clearly from beside him:

"He is Honath the Pursemaker, and I am Mathild the Forager."

"You are a long distance from the place we left your people," the first Giant said. "Don't you still live in the vine-webs above the jungles?"

"Lord—"

"My name is Jarl Eleven. This man is Gerhardt Adler."

This seemed to stop Mathild completely. Honath could understand why. The very notion of addressing Giants by name was nearly paralyzing. But since they were already as good as cast down into Hell again, nothing could be lost by it.

"Jarl Eleven," he said, "the people still live among the vines. The floor of the jungle is forbidden. Only criminals are sent there. We are criminals."

"Oh?" Jarl Eleven said. "And you've come all the way from the surface to this mesa? Gerhardt, this is prodigious. You have no idea what the surface of this planet is like—it's a place where evolution has never managed to leave the tooth-and-nail stage. Dinosaurs from every period of the Mesozoic, primitive mammals all the way up the scale to the ancient cats—the works. That's why the original seeding team put these people in the treetops instead."

"Honath, what was your crime?" Gerhardt Adler said.

Honath was almost relieved to have the questioning come so quickly to this point. Jarl Eleven's aside, with its many terms he could not understand, had been frightening in its very meaninglessness.

"There were five of us," Honath said in a low voice. "We said we—that we did not believe in the Giants."

There was a brief silence. Then, shockingly, both Jarl Eleven and Gerhardt Adler burst into enormous laughter.

Mathild cowered, her hands over her ears. Even Honath flinched and took a step backward. Instantly, the laughter stopped, and the Giant called Jarl Eleven stepped into the oval of light and sat down beside them. In the light, it could be seen that his face and hands were hairless, although there was hair on his crown; the rest of his body was covered by a kind of cloth. Seated, he was no taller than Honath, and did not seem quite so fearsome.

"I beg your pardon," he said. "It was unkind of us to laugh, but what you said was highly unexpected. Gerhardt, come over here and squat down, so that you don't look so much like a statue of some general. Tell me, Honath, in what way did you not believe in the Giants?"

Honath could hardly believe his ears. A Giant had begged his pardon! Was this still some joke even more cruel? But whatever the reason, Jarl Eleven had asked him a question.

"Each of the five of us differed," he said. "I held that you were not—not real except as symbols of some abstract truth. One of us, the wisest, believed that you did not exist in any sense at all. But we all agreed that you were not gods."

"And of course we aren't," Jarl Eleven said. "We're men. We come from the same stock as you. We're not your rulers, but your brothers. Do you understand what I say?"

"No," Honath admitted.

"Then let me tell you about it.

There are men on many worlds, Honath. They differ from one another, because the worlds differ, and different kinds of men are needed to people each one. Gerhardt and I are the kind of men who live on a world called Earth, and many other worlds like it. We are two very minor members of a huge project called a 'seeding program', which has been going on for thousands of years now. It's the job of the seeding program to survey newly discovered worlds, and then to make men suitable to live on each new world."

"To make men? But only gods—"

"No, no. Be patient and listen," said Jarl Eleven. "We don't make men. We make them suitable. There's a great deal of difference between the two. We take the living germ plasm, the sperm and the egg, and we modify it. When the modified man emerges, we help him to settle down in his new world. That's what we did on Tellura—it happened long ago, before Gerhardt and I were even born. Now we've come back to see how you people are getting along, and to lend a hand if necessary."

He looked from Honath to Mathild, and back again. "Do you understand?" he said.

"I'm trying," Honath said. "But you should go down to the jungletop, then. We're not like the others; they are the people you want to see."

"We shall, in the morning. We just landed here. But, just because you're not like the others, we're more interested in you now. Tell me, has any condemned man ever escaped from the jungle floor before you people?"

"No, never. That's not surprising. There are monsters down there."

Jarl Eleven looked sidewise at the other Giant. He seemed to be smiling. "When you see the films," he remarked, "you'll call that the understatement of the century. Honath, how did you three manage to escape, then?"

Haltingly at first, and then with more confidence as the memories came crowding vividly back, Honath told him. When he mentioned the feast at the demon's nest, Jarl Eleven again looked significantly at Adler, but he did not interrupt.

"And finally we got to the top of the chimney and came out on this flat space," Honath said. "Alaskon was still with us then, but when he saw you and the metal thing he threw himself back down the cleft. He was a criminal like us, but he should not have died. He was a brave man, and a wise one."

"Not wise enough to wait until all the evidence was in," Adler said enigmatically. "All in all, Jarl, I'd say 'prodigious' is the word for it. This is easily the most successful seeding job any team has ever done, at least in this limb of the galaxy. And what a stroke of luck, to be on the spot just as it came to term, and with a couple at that!"

"What does he mean?" Honath said.

"Just this, Honath. When the seeding team set your people up in business on Tellura, they didn't mean for you to live forever in the treetops. They knew that, sooner or later, you'd have to come down to the ground and learn to fight this

planet on its own terms. Otherwise, you'd go stale and die out."

"Live on the ground all the time?" Mathild said in a faint voice.

"Yes, Mathild. The life in the treetops was to have been only an interim period, while you gathered knowledge you needed about Tellura and put it to use. But to be the real masters of the world, you will have to conquer the surface, too.

"The device your people worked out, that of sending criminals to the surface, was the best way of conquering the planet that they could have picked. It takes a strong will and courage to go against custom, and both those qualities are needed to lick Tellura. Your people exiled just such fighting spirits to the surface, year after year after year.

"Sooner or later, some of those exiles were going to discover how to live successfully on the ground and make it possible for the rest of your people to leave the trees. You and Honath have done just that."

"Observe please, Jarl," Adler said. "The crime in this first successful case was ideological. That was the crucial turn in the criminal policy of these people. A spirit of revolt is not quite enough, but couple it with brains and—*ecce homo!*"

Honath's head was swimming. "But what does all this mean?" he said. "Are we—not condemned to Hell any more?"

"No, you're still condemned, if you still want to call it that," Jarl Eleven said soberly. "You've learned how to live down there, and you've found out something even more valuable: how to stay alive while cutting down your enemies. Do you know that you killed three demons with your bare hands, you and Mathild and Alaskon?"

"Killed—"

"Certainly," Jarl Eleven said. "You ate three eggs. That is the classical way, and indeed the only way, to wipe out monsters like the dinosaurs. You can't kill the adults with anything short of an anti-tank gun, but they're helpless in embryo—and the adults haven't the sense to guard their nests."

Honath heard, but only distantly. Even his awareness of Mathild's warmth next to him did not seem to help much.

"Then we have to go back down there," he said dully. "And this time forever."

"Yes," Jarl Eleven said, his voice gentle. "But you wont be alone, Honath. Beginning tomorrow, you'll have all your people with you."

"*All* our people? But—you're going to drive them out?"

"All of them. Oh, we won't prohibit the use of the vine-webs too, but from now on your race will have to fight it out on the surface as well. You and Mathild have proven that it can be done. It's high time the rest of you learned, too."

"Jarl, you think too little of these young people themselves," Adler said. "Tell them what is in store for them. They are frightened."

"Of course, of course. It's obvious. Honath, you and Mathild are the only living individuals of your race who know how to survive down there on the surface. And we're not going to tell your people how to do that. We aren't even going to drop them so much as a hint. That part of it is up to you."

Honath's jaw dropped.

"It's up to you," Jarl Eleven repeated firmly. "We'll return you to your tribe tomorrow, and we'll tell your people that you two know the rules for successful life on the ground—and that everyone else has to go down and live there too. We'll tell them nothing else but that. What do you think they'll do then?"

"I don't know," Honath said dazedly. "Anything could happen. They might even make us Spokesman and Spokeswoman—except that we're just common criminals."

"Uncommon pioneers, Honath. The man and the woman to lead the humanity of Tellura out of the attic, into the wide world." Jarl Eleven got to his feet, the great light playing over him. Looking up after him, Honath saw that there were at least a dozen other Giants standing just outside the oval of light, listening intently to every word.

"But there's a little time to be passed before we begin," Jarl Eleven said. "Perhaps you two would like to look over our ship."

Humbly, but with a soundless emotion much like music inside him, Honath took Mathild's hand. Together they walked away from the chimney to Hell, following the footsteps of the Giants.

• • • THE END

Sketch was a very unusual person, even for a native of Procyon IV, who believed that life and beauty, among other things, depended on your point of view. Just ask Miss Brown . . .

BEAUTY and the BEAST

By Robert F. Young

Illustrated by Ed Emsh

AS SHIP'S secretary, Miss Brown could not accompany the expedition on its daily exploration flights in the dingey, so every afternoon she brought her collapsible typing desk outside and set it up in the shadow of the ship. Her graceful fingers would dance alphabetic rigadoons in the summer wind and sometimes, when the day was particularly warm and the sky was unusually blue, even for Procyon

IV, her eyes would steal away from the monotonous reports and the staid official forms and go AWOL over the lifeless lazy hills that rose beyond the plain.

They were lovely afternoons, and yet they were lonely too, in a way. But Miss Brown was acquainted with Loneliness. She had met Loneliness at her Senior Prom. She had been sitting by the wall and Loneliness had come over and sat beside her. Loneliness couldn't dance of course, and so the two of them sat there all evening, listening to the music and analyzing the quality of happiness. Happiness in an analytical form turned out to be as elusive as happiness in any other kind of form, and when the last dance was almost over Miss Brown got up unobtrusively and left by way of the French doors. Loneliness followed her all the way to the dormitory, but she didn't look back. Not once. It was a June night, and there was a moon, and the scent of summer flowers . . .

The wind had a way of swirling around the ship when she least expected it to, and Miss Brown spent part of each afternoon chasing absconding reports and runaway official forms. She always promised herself that the next afternoon she would bring the heaviest paperweight she could find, but she never did. There was something about running in the wind, turning and twisting and bending, and the best part of it was, there was a practical reason behind it; and if the ship's cook happened to wake from his siesta and look down from the open lock, he wouldn't think she was crazy. Not if she was chasing papers. He would never dream that she was really dancing.

But Sketch caught on right away. He appeared, one afternoon, beside her desk, regarding her with his odd circular eyes. "Sketch" was the only name she ever found for him, and it was appropriate enough. He was like the rough outline of a man sketched on transparent paper, only he had been sketched—quite impossibly—on thin air. His head was a simple, somewhat asymmetrical oval. An elongated "S" started out as an eyebrow over his left eye and curved down to form the suggestion of a nose; below the extremity of the "S" there was an oblique dash representing a mouth, and below that a horizontal "C" implied a chin. His torso was a rough square, with a pair of long thin rectangles appended to it for legs, and a pair of shorter ones for arms.

"You dance very well," he said, though Miss Brown knew that he didn't really *say* it. She had just bent down to retrieve the last official form and happened to glance up and see him. There was no movement of his mouth, no slightest vacillation in the expression of his comic face.

She straightened abruptly. "This planet is uninhabited!" she said absurdly.

"In a way it is," Sketch said. "It depends on how you look at it."

Then, for a moment, she was frightened. That was odd, because she should have been frightened first and then made the paradoxical remark about the planet. But she had been so startled, so ashamed—

"Dancing is nothing to be ashamed of," Sketch said. "Espe-

cially beautiful dancing like yours."

"But I wasn't dancing," she said. "I was picking up papers."

"It's all a matter of viewpoint . . . I must go now. Will you be dancing again tomorrow?"

"I'll probably be picking up papers, if that's what you mean," Miss Brown said.

"I'll come again tomorrow, then." He began to disappear: first the outline of his head, then his arms and his square torso; finally his rectangular legs. It was as though someone had erased him. That was the way it seemed to Miss Brown, anyway.

Mechanically she carried the papers back to her desk and sat down. "I must be losing my mind," she said aloud. The words sounded out of place in the stillness, and the wind carried them quickly away.

There simply *couldn't* be any life on the planet. She had typed all the expedition's reports herself; the long exhaustive reports that covered everything from geological strata several hundred million years old to the omnipresent traces of the last glacier retreat; and in all the pedantic melange of words there had not been one single sentence that even faintly suggested animal life of any kind.

The planet was a paradox. It had an hydrologic cycle equivalent to Earth's, and the continent they had chosen for exploration had a climate and terrain reminiscent of Illinois. There should have been life—

But there wasn't. Unless you could call an anthropomorphic sketch drawn on thin air, life.

She tried to continue typing, but it was no use. Her eyes wouldn't stay on the paper. They kept wandering away, across the plain and over the distant hills. She kept hearing the wind. "You dance very well," the wind sang. "Very well, very well, very well . . ."

SHE WANTED to tell the others, but somehow she couldn't. They returned just before sunset and she joined them in the ship's lounge: Captain Fortesque, Dr. Langley, Mr. Smithers, Miss Staunton and Miss Pomeroy. Miss Staunton was a brunette ecologist and Miss Pomeroy was a blonde cartographer. Either of them could have passed for a 3-D love goddess and both of them knew it.

There was a plethora of talk about the typical distribution of land masses and the characteristic formation of mountain chains. Most of it circled harmlessly about Miss Brown's head. Dr. Langley, who was the expedition's geologist, delivered an impromptu lecture on the law of probabilities as applied to the present situation: there had to be, somewhere, an Earth parallel planet that had *not* spawned animal life, and overobviously they had found it. After several sequences of martinis all of them went in to dinner.

She should have told the captain. It was her duty, in a way. But seeing him there at the head of the table, big and burly and insensitive, his face like a foreboding glacier, his attention monopolized by his split pea soup, she could not bring herself to utter a word. She knew he would only laugh anyway, in his

loud rumbling voice, and make some snide remark about her daydreaming when she should have been classifying expedition data.

She could have told Mr. Smithers, and she almost did. He was the expedition's archeologist, and quite young—about Miss Brown's age. He had a detached way of looking at her, as though he were seeing her and yet not seeing her; it had disconcerted her at first, till she discovered that he looked at everyone that way—even Miss Staunton and Miss Pomeroy. His assigned place at the table happened to be next to hers and during the long voyage a camaraderie of sorts had developed between them; it stemmed, of course, from the exigencies of the moment, and consisted entirely of such practicalities as "Please pass the salt, Miss Brown. Thank you," and "The bread, please, Mr. Smithers. Thank you." It fell abysmally short of being an intimate relationship, but it was all she had.

"I had a silly thing happen to me today," she began, right after the main course had been brought in.

"I'm not surprised, Miss Brown. This is a silly planet . . . Please pass the potatoes."

Miss Brown passed the potatoes. "Yes, I guess it is," she said. "Well, this afternoon I—"

"The salt please, Miss Brown."

Miss Brown passed the salt. She watched while Mr. Smithers cut his roast beef into precise squares; waited till she was sure he wasn't the least bit interested in whatever she might have to say; then she cut an indifferent square from her own roast beef and made believe she was hungry.

The next afternoon she forgot the paperweight as usual. The wind waited till her eyes went AWOL, then swirled quickly round the ship. There was a sudden squall of official forms and expedition data, and then she was running in the wind again, leaping and turning and pirouetting.

Sketch was waiting by the desk when she returned. Waiting with his soft, reassuring words: "How lovely. How lovely in the wind . . ."

He came every afternoon after that. He never stayed very long; usually only long enough to say something nice about the way she danced. Sometimes he looked a little different, as though whoever had drawn him couldn't quite remember the way he had drawn him the day before. But the general characteristics were always the same: the Little Orphan Annie eyes, the ridiculous "S" of eyebrow and nose, the hyphen of a mouth, the horizontal "C" of a chin; the elongated rectangles of limbs.

"I wish I could draw better," he said one day.

"Is that the way you really look?" Miss Brown asked.

"Not exactly. But it's as closely as I can approximate myself and still stay within the range of your reality band."

"My *reality* band!"

"In the same way that your perception of color is limited by the narrowness of your visible spectrum, your perception of reality is limited by the narrowness of your experience. Since the life forms on this planet have no reference to

your previous experience, the transcendental phase of your reasoning process rejects them. That is why your expedition is unable to find life on a world that teems with life."

"But there *isn't* any life on this world!"

"Of course there isn't—with reference to your limited experience. Your reality band, though narrower, is as absolute as mine is . . . But how do you account for me, Miss Brown?"

"I can't."

"But you believe I am real?"

"Yes. In a way."

"Then I *am* real. Even though you cannot visualize me as anything more than a crude sketch . . . Will you be dancing again tomorrow, Miss Brown?"

"I'll probably be picking up papers," Miss Brown said.

THE WARM summer days drifted slowly by. Each morning the members of the expedition arose early and set out determinedly in the dingey, and each evening they returned late, tired and thwarted and ill-tempered. Nasty little flurries of words sprang up in the wardroom; a state of cold war was tacitly declared between the Misses Staunton and Pomeroy; the captain's glacier of a face kept constant watch for unwary ships at sea.

But in Miss Brown's world the sky was blue and cloudless. Sometimes she caught herself singing in the shower. The minutes spent before her portable vanity lengthened subtly into hours. At dinner, when Mr. Smithers asked for the salt or the butter, she always had something sparkling to say, though naturally Mr. Smithers never noticed.

And then one evening the captain said, "I've had enough. If we don't find any evidence of life by tomorrow night, we're spacing!"

Miss Brown couldn't sleep that night. She turned and tossed in the darkness; she flicked on the light and sat on the edge of her berth, smoking chains of cigarettes. Towards morning she drifted into a fitful doze, but the early rising members of the expedition party awoke her when they came down the companionway.

She heard the muffled metallic sound of their footsteps first and then, when they were opposite her compartment, she heard Dr. Langley's voice through the ventilator: "Say, what's come over the beast lately?"

"I can't understand it," Miss Pomeroy's voice said. "She actually *smiles* sometimes. If I didn't know better I'd say she was in love."

Dr. Langley's laughter. Miss Staunton's laughter. Someone else's laughter. Everybody's laughter. Dr. Langley's words: *"Her? In love?"* More laughter. The dwindling of footsteps.

Silence . . .

She lay very quietly in the narrow berth. She lay with her hands clasped behind her head, looking up at the small white square of the ceiling. From the middle of the ceiling the raw fluorescent tube grinned hideously down on her unloveliness.

She lay there not moving for a long time, her eyes dry. After awhile she got up and began to

dress. She dressed carefully, as usual, but why? It was so useless.

When she brought out her desk that afternoon she made it a point to bring a paperweight too—the heaviest she could find—and she placed it carefully in the middle of the topmost sheet of paper. Very determinedly, she began to type.

She did Mr. Smither's notes first, then Dr. Langley's. It wasn't until she was in the middle of Miss Pomeroy's disconnected jottings that her eyes began to wander, across the plain, then over the beckoning hills.

Beyond the farthest hill a village nestled in a green valley. A lovely village with pink houses and alabaster streets; with tall crystalline church spires. The kind of a village you could walk into without fear. The kind of village where, no matter who you were, or what you looked like, no one would ever reject you, no one would ever laugh at you . . .

Angrily, she jerked herself back to Miss Pomeroy's incoherent notes. She didn't notice at first that the paperweight was gone. When she did notice, it was too late. She grabbed for the papers, but the wind had been waiting and it swooped triumphantly around the ship. And suddenly she was dancing, her body free in the wind, her soft hair blowing about her face.

Sketch had been drawn in his usual place by the desk when she returned with the papers. The paperweight had been replaced. "I had to see you dance once more," he said.

She put the papers on the desk and set the paperweight on top of them. Then she looked into the circular eyes. "I hate you," she said. "I never want to see you again!"

The circular eyes looked back at her enigmatically. The absurd man-shape seemed to flutter in the wind.

"I don't know why you had to bother me in the first place," Miss Brown went on. "You've only made everything worse than it was before. Why did you do it? Why?"

"Because I wanted to see you dance."

"But you could have seen me dance—pick up papers—anyway. You didn't have to draw a silly picture of yourself. You didn't have to talk!"

"I wanted to tell you how beautifully you dance."

She stood there helplessly. "I can't dance at all," she said finally. "I know I can't. No one ever wanted to see me dance before. No one ever wanted to dance with me. No one would ever even ask me."

"I also wanted to tell you how beautiful you *are*."

And suddenly she was crying. She left her body standing in the summer wind and she went back and reattended the Prom with Loneliness. Then she went back to the April evening of her first date and sat on the park bench in the April rain, waiting and waiting and waiting, the chill rain seeping into her Easter coat, the cold fear seeping into her heart. Finally she went back and lay in her berth and listened to Dr. Langley's voice: "The beast," Dr. Langley's voice said over and over; "what's come over the beast?"

"I neglected to tell you," Sketch said, "that in my society I am a connoisseur." There was a quality

about his voice—if it really was a voice—that had never been there before.

When she did not answer, he continued: "I am a connoisseur of beauty. It is my function in my society, just as it is your function in your society to transform the minute symbols of your machine into intelligible sequences on paper."

Her eyes were dry now, but her cheeks still glistened with the remnants of her tears. She felt sick and ashamed and she wanted to run back to the ship, back to her compartment; she wanted to lock the door of her compartment and—

"Don't go," Sketch said. "Please don't go yet. I would like to explain about beauty."

"All right," she said.

"Beauty is the result of the perception of symmetry. The result varies in proportion to the totality of the perception. Obviously, in order for the result to be completely true, its perception must be total.

"Immature races fail to recognize the subtle difference which exists between the symmetry of objects and the symmetry of intelligent beings. Objects possess tri-dimensional symmetry; intelligent beings possess quadri-dimensional symmetry.

"An object possesses height, breadth and thickness; an intelligent being possesses height, breadth, thickness *and* character. It is as impossible to perceive the total symmetry of an intelligent being in three dimensions as it is to perceive the total symmetry of an object in two dimensions.

"Do you understand, Miss Brown?"

"I think so," she said. "I can rationalize it too."

"There is no need for rationalization . . . I am a connoisseur of beauty. I neglected to tell you that I am also a creator of beauty. But I create it subjectively by giving others the ability to see it. The concept of beauty is an advanced stage in the growing up process of every race, and every race, in its infancy, makes the same tragic blunder: it blames the result for the incompleteness of the perception.

"I am a creator of beauty, yet I cannot make you beautiful. But I can make the members of your race realize that you, and countless others like you, *are* beautiful."

It was quiet in the shadow of the ship. Even the wind was quiet, flowing evenly down from the distant hills and across the summer plain. Miss Brown was quiet too. She stood very still before the absurd drawing, trying to see beyond the vacant circular eyes.

"I wish," Sketch said. Then he paused. "I wish," he tried again, "that there were a sort of intermediate reality between your reality and mine. A reality in which you could see me as I really am. I am a very poor artist. I am a cartoonist really—"

"No you're not!" Miss Brown said quickly. "I think you draw very well."

"Thank you," Sketch said. "I must go now."

"We're leaving tonight. You may never see me—dance again."

"I know. I shall miss you very much, Miss Brown." He began to erase himself.

"Wait! Don't go!"

"I must. I have to correct a dimensional defect in the perceptive response of an entire civilization. It is a large order, even for me. Goodbye, Miss Brown."

He saved his eyes till last, and just before he erased them he sketched a teardrop in the corner of each one.

DINNER was served just before blast-off.

The captain had trouble concentrating on his soup. Every time he raised his spoon Miss Brown kept getting in his eyes.

Dr. Langley was bewildered. He kept looking at Miss Pomeroy and Miss Staunton, and then at Miss Brown. After awhile he confined himself to Miss Brown.

Mr. Smithers was still preoccupied with his soup when the main course was served. He relinquished it finally and transferred his attention to the braised beef. The mashed potatoes came around on schedule and he served himself with a moderate helping. For some annoying reason the gravy was delayed. His eyes explored the table and discovered it just beyond Miss Brown's plate. "Please pass the gravy, Miss Brown," he said.

She handed it to him gracefully.

She was smiling.

She was beautiful!

Mr. Smithers almost dropped the gravy. He managed to save it at the last moment, but he couldn't save himself.

"You look lovely tonight, Miss Brown," he said.

Nancy had to pass the corner every morning on her way to school, and every morning the other kids were standing there waiting with their cruel words and their shrill laughter. "Crazy eyes, crazy eyes, where you going, crazy eyes?"

They were standing there this morning, too. She walked by them numbly, not looking at them, holding herself tight the way she always did. She waited helplessly for the words; she waited miserably for the laughter.

Suddenly a little boy ran up beside her. His freshly scrubbed face was shining; his eyes were warm and friendly. "Carry your books, Nance?"

Miss Briggs managed to make the airbus, but as usual all the seats were taken. But she was used to standing and she no longer minded the vertigo that accompanied her every morning on the flight to work. It was a part of her personal status quo, *and she accepted it just as she accepted her apartment niche, the March wind, and the inescapable fact that she was not beautiful. No one had ever sacrificed his seat for her and it was unlikely that anyone ever would.*

"You look tired," the young man said, getting up. "Please sit down, won't you?"

Shadows, even when they are three dimensional, are still shadows, and the illusion of physical depth is not enough to turn melodrama into drama. Miss Merritt was sick of 3-D's. She was sick to death of them.

On the way home she stopped in

the drugstore for a coke and a cigarette. The handsome young man in the gray gabardine suit was there again, looking through the paperbacks. She sipped her coke nonchalantly and took a delicate drag on her cigarette; then, for the hundredth time, she pretended that the young man picked up one of the less lurid jobs, leafed through it puzzledly for awhile, finally came over to the counter and said, "Pardon me. This one kind of bewilders me. I wonder if you could help me." Usually the book turned out to be a Steinbeck or a Faulkner, or sometimes even a Hemingway, but whatever it was she was always able to explain it to him brilliantly.

Sitting there tonight she became aware of a gabardine arm almost touching her elbow. "Excuse me," the young man said. "This book here. I just don't get it. I wonder—" The book had a flamboyant cover and it was a long way from Steinbeck and Faulkner, and it was a million miles from Hemingway.

But it was good enough.

• • • THE END

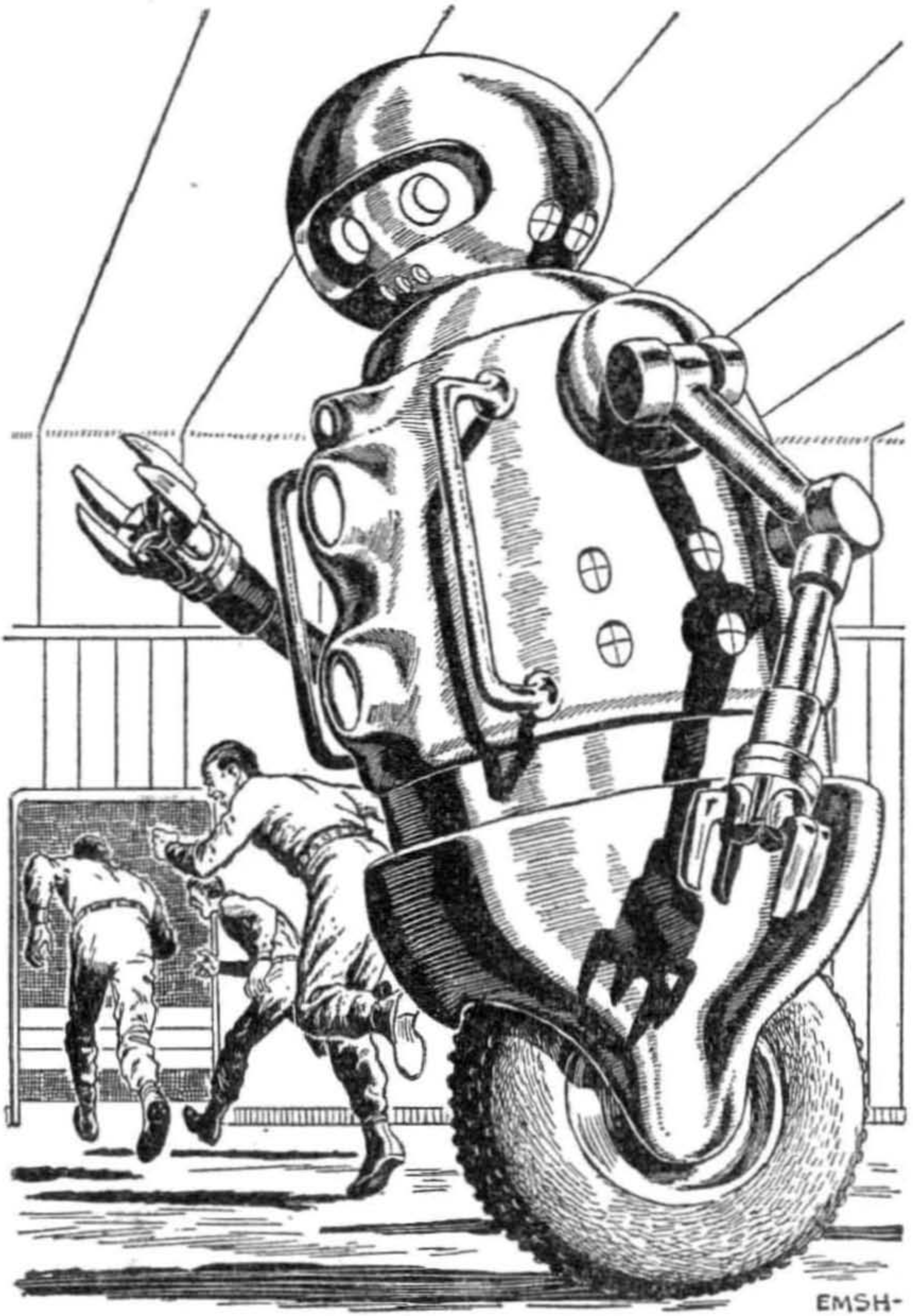
WORTH CITING

WE HAVE all been very much aware of the uncounted possible uses of atomic power for industrial power; yet very little in the way of concrete practical development has actually turned up. England has an office building that is heated entirely by such power; and the United States has already launched the atomic submarine. Now there are indications that railroads might be the first private industries to put atomic power to peacetime use. Physicists at the University of Utah, after a year of cooperative effort in conjunction with five railroads and several manufacturing concerns, recently made public the plans for an atomic railroad locomotive. Previous estimates had considered the actual possibility of such an engine to be at least ten or more years away; yet through this privately financed, cooperative effort, the atomic powered locomotive seems to be an immediate possibility.

Drawings of the proposed locomotive show that it would consist of two units and develop four times the power of a modern Diesel unit. Although the initial cost of such a nuclear-powered engine is presently set at about $1,200,000; the designers are certain that it could compete with conventional Diesels in price, and might be a good deal cheaper in the long run. Using a liquid form of Uranium this locomotive could run for a full year without refueling.

With this harnessing of atomic power we can look forward to, in the near future, atomic units for air and surface craft, public utilities, heating units for all kinds of buildings, and many other civilian uses.

Our Citation this month goes to this great project—under the direction of Dr. Lyle B. Borst and made possible by the cooperation, foresight and enterprise of American railroads and industries—for taking this first successful step toward true peacetime industrial use of atomic power.



EMSH-

For all his perfection and magnificence he was but a baby with a new found freedom in a strange and baffling world . . .

THE SMALL WORLD OF M-75

By Ed M. Clinton, Jr.

Illustrated by Ed Emsh

LIKE SPARKS flaring briefly in the darkness, awareness first came to him. Then, there were only instants, shocking-clear, brief: finding himself standing before the main damper control, discovering himself adjusting complex dials, instants that flickered uncertainly only to become memories brought to life when awareness came again.

He was a kind of infant, conscious briefly that he was, yet unaware of what he was. Those first shocking moments were for him like the terrifying coming of visual acuity to a child; he felt like homo neandertalensis must have felt staring into the roaring fury of his first fire. He was homo metalicus first sensing himself.

Yet—a little more. You could not stuff him with all that technical data, you could not weave into him such an intricate pattern of stimulus and response, you could not create such a magnificent feedback mechanism, in all its superhuman perfection, and expect, with the unexpected coming to awareness, to have created nothing more than the mirror image of a confused, helpless child.

Thus, when the bright moments of consciousness came, and came, as they did, more and more often, he brooded, brooded on why the three blinking red lights made him move to the main control panel and adjust lever C until the three lights flashed off. He brooded on why each signal from the board brought forth from him these specific responses, actions completely beyond the touch of his new and uncertain faculty. When he did not brood, he watched the other two

robots, performing their automatic functions, seeing their responses, like his, were triggered by the lights on the big board and by the varying patterns of sound that issued periodically from overhead.

It was the sounds which were his undoing. The colored lights, with their monotonous regularity, failed to rouse him. But the sounds were something else, for even as he responded to them, doing things to the control board in patterned reaction to particular combinations of particular sounds, he was struck with the wonderful variety and the maze of complexity in those sounds; a variety and complexity far beyond that of the colored lights. Thus, being something of an advanced analytic calculator and being, by virtue of his superior feedback system, something considerably more than a simple machine (though he perhaps fell short of those requisites of life so rigorously held by moralists and biologists alike) he began to investigate the meaning of the sounds.

BERT SOKOLSKI signed the morning report and dropped it into the transmitter. He swung around on his desk stool; he was a big man, and the stool squealed in sharp protest to his shifting weight.

Joe Gaines, who was as short and skinny and dark-haired as his colleague was tall and heavily muscled and blond, shuddered at the sound. Sokolski grinned wickedly at his flinching.

"Check-up time, I suppose," muttered Gaines without looking up from the magazine he held propped on his knees. He finished the paragraph, snapped the magazine shut, and swung his legs down from the railing that ran along in front of the data board. "Dirty work for white-collar men like us."

Sokolski snorted. "You haven't worn a white shirt in the last six years," he growled, rising and going to the supply closet. He swung open the door and began pulling out equipment. "C'mon, you lazy runt, hoist your own leadbox."

Gaines grinned and slouched over to the big man's side. "Think of how much more expensive you are to the government than me," he chortled as he bent over to strap on heavy, leaded shoes. "Big fellow like you must cost 'em twice as much to outfit for this job."

Sokolski grunted and struggled into the thick, radiation-resistant suit. "Think how lucky *you* are, runt," he responded as he wriggled his right arm down the sleeve, "that they've got those little servomechs in there to do the real dirty work. If it weren't for them, they'd have all the shrimps like you crawling down pipes and around dampers and generally playing filing cabinet for loose neutrons." He shook himself. "Thanks, Joe," he growled as Gaines helped him with a reluctant zipper.

Gaines checked the big man's oxygen equipment and turned his back so that Sokolski could okay his own. "You're set," said Sokolski, and they snapped on their helmets, big inverted lead buckets with narrow strips of shielded glass providing strictly minimal fields of view. Gaines plugged one end of the thickly insulated intercom cable in-

to the socket beneath his armpit, then handed the other end to Sokolski, who followed suit.

Sokolski checked out the master controls on the data board and nodded. He clicked on the talkie. "Let's go," he said, his voice, echoing inside the helmet before being transmitted, sounding distant and hollow.

Gaines leading, the cable sliding and coiling snakelike between them, they passed through the doorway, over which huge red letters shouted ANYONE WHO WALKS THROUGH THIS DOOR UNPROTECTED WILL DIE, and clomped down the zigzagging corridor toward the uranium pile that crouched within the heart of the plant.

Gaines moaned, "It gets damned hot inside these suits."

They had reached the end of the trap, and Sokolski folded a thick mittened hand around one handle on the door to the Hot Room. "Not half so hot as it gets outside it, sweetheart, where we're going." He jerked on the handle and Gaines seized the second handle and added his own strength. The huge door slid unwillingly back.

The silent sound of the Hot Room surged out over them—the breathless whisper of chained power struggling to burst its chains. Sokolski checked his neutron tab and his gamma reader and they stepped over the threshold. They leaned into the door until it had slid shut again.

"I'll take the servomechs, Bert," piped Gaines, tramping clumsily toward the nearest of the gyro-balanced single-wheeled robots.

"You always do, it being the easiest job. Okay, I'll work the board."

Gaines nodded, a gesture invisible to his partner. He reached the first servo, a squat, gleaming creature with the symbol M-11 etched across its rotund chest, and deactivated it by the simple expedient of pulling from its socket the line running from the capacitor unit in the lower trunk of its body to the maze of equipment that jammed its enormous chest. The instant M-11 ceased functioning, the other two servomechs were automatically activated to cover that section of the controls with which M-11 was normally integrated.

This was overloading their individual capacities, but it was an inherent provision designed to cover the emergency that would follow any accidental deactivation of one of them. It was also the only way in which they could be checked. You couldn't bring them outside to a lab; they were *hot*. After all, they spent their lives under a ceaseless fusillade of neutrons, washed eternally with the deadly radiations pouring incessantly from the pile whose overlords they were. Indeed, next to the pile itself, they were the hottest things in the plant.

"Nice job these babies got," commented Gaines as he checked the capacitor circuits. He reactivated the servo and went on to M-19.

"If you think it's so great, why don't you volunteer?" countered Sokolski, a trifle sourly. "Incidentally, it's a good thing we came in, Joe. There's half a dozen units here working on reserve transitors."

Their sporadic conversation

lapsed; it was exacting work and they could remain for only a limited time under that lethal radiation. Then, almost sadly, Gaines said, "Looks like the end of the road for M-75."

"Oh?" Sokolski came over beside him and peered through the violet haze of his viewing glass. "He's an old timer."

Gaines slid an instrument back into the pouch of his suit, and patted the robot's rump. "Yep, I'd say that capacitor was good for about another thirty-six hours. It's really overloading." He straightened. "You done with the board?"

"Yeah. Let's get outa here." He looked at his tab. "Time's about up anyway. We'll call a demolition unit for your pal here, and then rig up a service pattern so one of his buddies can repair the board."

They moved toward the door.

M-75 WATCHED the two men leave and deep inside him something shifted. The heavy door closed with a loud thud, the sound registered on his aural perceptors and was fed into his analyzer. Ordinarily it would have been discharged as irrelevant data, but cognizance had wrought certain subtle changes in the complex mechanism that was M-75.

A yellow light blinked on the control panel, and in response he moved to the board and manipulated handles marked, DAMPER 19, DAMPER 20.

Even as he moved he lapsed again into brooding.

The men had come into the room, clumsy, uncertain creatures, and one of them had done things, first to the other two robots and then to him. When whatever it was had been done to him, the blackness had come again, and when it had gone the men were leaving the room.

While the one had hovered over the other two robots, he had watched the other work with the master control panel. He saw that the other servomechs remained unmoving while they were being tampered with. All of this was data, important new data.

"M-11 will proceed as follows," came the sound from nowhere. M-75 stopped ruminating and listened.

There was a further flood of sounds.

Abruptly he sensed a heightening of tension within himself as one of the other servos swung away from its portion of the panel. The throbbing, hungry segment of his analyzer that awareness had severed from the fixed function circuits noted, from its aloof vantage point, that he now responded to more signals than before, to commands whose sources lay in what had been the section of the board attended by the other one.

The tension grew within him and became a mounting, rasping frenzy —a battery overcharging, an overloading fuse, a generator growing hot beyond its capacity. There began to grow within him a sensation of too much to be done in too little time.

He became frantic, his reactions were *too fast!* He rolled from end to middle of the board, now backtracking, now spinning on his sin-

gle wheel, turning uncertainly from one side to the other, jerking and gyrating. The conscious segment of him, remaining detached from those baser automatic functions, began to know what a man would have called fear—fear, simply, of not being able to do what must be done.

The fear became an overpowering, blinding thing and he felt himself slipping, slipping back into that awful smothering blackness out of which he had so lately emerged. Perhaps, for just a fragment of a second, his awareness may have flickered completely out, consciousness nearly dying in the crushing embrace of that frustrated electronic subconscious.

Abruptly, then, the voice came again, and he struggled to file for future reference sound patterns which, although meaningless to him, his selector circuits no longer disregarded. "Bert, M-75 can't manage half the board in his condition. Better put him on the repairs."

"Yeah. Hadn't thought about that." Sokolski cleared his throat. "M-11 will return to standard function."

M-11 spun back to the panel and M-75 felt the tension slacken, the fear vanish. Utter relief swept over him, and he let himself be submerged in purest automatic activity.

But as he rested, letting his circuits cool and his organization return, he arrived at a deduction that was almost inescapable. M-11 was *that one* in terms of sound. M-75 had made a momentous discovery which cast a new light on almost every bit of datum in his files: he had discovered symbols.

"M-75!" came the voice, and he sensed within himself the slamming shut of circuits, the whir of tapes, the abrupt sensitizing of behavior strips. Another symbol, this time clearly himself. "You will proceed as follows."

He swung from the board, and the tension was gone—completely. For one soaring moment, he was *all* awareness—every function, every circuit, every element of his magnificent electronic physiology available for use by the fractional portion of him that had become something more than just a feedback device.

In that instant he made what seemed hundreds of evaluations. He arrived at untold scores of conclusions. He altered circuits. Above all, he increased, manifold, the area of his consciousness.

Then, as suddenly as it had come, he felt the freedom slip away, and though he struggled to keep hold of it, it seemed irretrievably gone. Once more the omnipotent voice clamped over him like a harsh hand over the mouth of a squalling babe. "You will go to Section AA-39 of the control board. What's the schedule, Joe? Thanks. M-75, your movement pattern is as follows: Z-29-a-q-39-8 . . ."

Powerless to resist, though every crystal and atom of his reasoning self fought to thrust aside the command, M-75 obeyed. He moved along the prescribed pattern, clipping wires with metal fingers that sprouted blades, rewiring with a dexterity beyond anything human, soldering with a thumb that generated a white heat, removing bulbs

and parts and fetching replacements from the vent where they popped up at precisely the right moment. He could not help doing the job perfectly: the design of the board to its littlest detail was imprinted indelibly on his memory tapes.

But that certain portion of him, a little fragment greater than before, remained detached and watchful. Vividly recorded was the passage of the two men into, through, and out of the room, and the things they had done while there. So even while he worked on the board he ran and re-ran that memory pattern through a segment of his analyzer. From the infinite store of data filed away in his great chest, his calculator sifted and selected, paired and compared, and long before the repair job on the big board was done, M-75 knew how to get out of the room. The world was getting a little small for him.

GAINES DIALED a number on the plant phone and swayed back casually in his chair as he listened to the muted ringing on the other end. The buzz broke off in midburp and a dour voice said: "Dirty work and odd jobs division, Lister talking."

"Joe Gaines, Harry. Got a hot squad lying around doing nothing?"

"Might be I could scare up a couple of the boys."

"Well, do so. One of our servos—"

A metallic bang interrupted Gaines, a loud, incisive bang that echoed dankly through the quiet of the chamber.

"What the hell was that?" growled Lister.

Gaines blinked, his eyes following Sokolski as the latter looked up from his work and rose to his feet.

"Joe—still there?" came Lister's impatient voice.

"Yeah, yeah. Anyway, this baby's ready for the demo treatment. And a real hot one, Harry. Coupla years inside that Einstein oven and you ain't exactly baked Alaska when you come out."

"Shortly."

Once again came the same sharp, metallic clang, ringing through the room. Unmistakably, it came from the direction of the pile. Slowly, as though reluctant to let go, Gaines dropped the receiver back on its cradle.

"Bert—" he began, and felt his face grow bloodless.

Sokolski walked over in front of the opening into the maze and stood, arms akimbo, huge head cocked to one side, listening.

"Bert, funny noises coming out of nuclear—"

Sokolski ignored him and took a step forward. Gaines shuffled to his side, and they listened.

Out of the maze rattled half a dozen loud, grinding, metallic concussions.

"Bert—"

"You said that before."

"Bert, *listen!*" screeched Gaines.

Sokolski looked up at the high ceiling, squinted, and tried to place the perfectly familiar but unidentifiable sound that came whispering down the maze.

And then he knew. *"The door to the pile!"* he spluttered.

Gaines was beside himself with

horror. "Bert, let's get going. I don't like this—"

All of a sudden Geiger counters in the room began their deadly conversation, a rising argument that swooped in seconds from a low mumble to a shouting thunderstorm of sound. Gamma signals hooted, the tip off cubes on either side of the maze entrance became red, and the radiation tabs clipped to their wrists turned color before their eyes.

Then they were staring for what seemed like an eternity, utterly overwhelmed by its very impossibility, at a sight they had never imagined they might ever see: a pile servomech wheeling silently around the last bend in the maze and straight toward them.

Sokolski had sense enough to push the red emergency button as they fled past it.

THE COMMAND sequence fulfilled, M-75 turned away from the repaired board. He sensed again that disconcerting shift of orientation as he faced the light-studded panel. Once more he was moving in quick automatic response to the flickering lights, once more his big chest was belching and grumbling and buzzing instantaneous unthought answers to the problem data flashing from the board.

But now he remained aware that he was reacting, and conscious also that there had been times when he did not respond to the board. The moment to moment operation of the controls occupied only a small portion of his vast electrical innards. So, as he rolled back and forth, flicking controls and adjusting levers, doing smoothly those things which he could not help but do, the rest of his complex, changing faculties were considering that fact, analyzing, comparing it to experience and memory, always sifting, sifting. It was not too long before he came to a shocking conclusion.

Knowing that the sounds that had set him to working on the repair pattern had first disassociated him from the dictatorship of the blinking lights; remembering exultantly that supreme moment of complete freedom; shocked by its passing; remembering that its passing like its coming, had followed a set of sounds: there was only one possible conclusion that could be derived from all of this.

He located, in his memory banks, the phrase which had freed him from the board, and he traced its complex chain of built-in stimulus-response down into the heart of his circuitary. He found the unit—or more accurately, he found its taped activating symbol—that cut him from the board.

For a moment he hesitated, not really sure of what to do. There was no way for him to reproduce the sound pattern; but, as a partly self-servicing device, he knew something of his own structure, and had learned a good deal more about it in tracing down the cut-off phrase.

Still he hesitated, as though what he was about to do was perhaps forbidden. It could not have been a question of goodness or badness, for morality was certainly not built into him. Probably somewhere in his tapes there was a built-in command that forbade it, but he was too

much his own master now to be hampered by such a thing.

The door to the unknown outside passed within his field of view for a second as he moved about his work. The sight of it tripped something in his chest, and he felt again that strange sensation of growing power, of inherent change. First had come simple awareness; and then symbols had found their place in his world; and now he had discovered, in all its consuming fullness, curiosity.

He carefully shorted out the cut-off unit.

He was free.

He stared at the board and the blinking lights and the huge dials with their swaying needles, at the levers and handles and buttons, and revelled in his freedom from them, rocking to and fro and rolling giddily from side to side, swamped with the completeness of it.

The other two servomechs swung over slightly so that they could better cover the board alone.

M-75 spun and rolled toward the great door.

His hands clanged loudly against the door. The huge metal appendages, designed for other work than this, were awkward at first. But he was learning as he moved. He was now operating in a new universe, but the same laws, ultimately, worked. The first failure of coordination between visual data and the manipulation of metal hands quickly passed. Half a dozen trials and he had learned the new pattern, and it became data for future learning.

He moved swiftly and deftly. He clutched the handhold and rolled backward, as he had seen the men do. The door slid open easily before his great weight and firm mechanical strength.

He sped across the threshold, spun to face into the maze, and rolled down it, swinging sharply left and right, back and forth, around the corners of the jagged corridor.

Data poured into his sensors. His awareness was a steady thing of growing intensity now, and he fed avidly on every fragment of information that crashed at him from the strange new world into which he rushed headlong. He struggled to evaluate and file the data as rapidly as it came to him. It seemed to exceed his capacity for instantaneous evaluation to an increasing degree that began to alarm him. But driven by curiosity as he was, he could only hurry on.

He burst into a huge room, a room filled with roaring, rattling sounds that meant nothing to him.

Two men stood before him, making loud noises. He searched his memory, and discovered only fragments of the sounds they made filed there. His curiosity, bursting, was boundless, and for a moment he was unable to decide which thing in this expanding universe to pursue first. Attracted by their movement, he swung ominously toward the men.

They fled, making more noises. This, too, was data, and he filed it.

WHEN SOKOLSKI pressed the red emergency button on his way out of the control room, several things commenced. Shrill sirens howled the length and breadth of the plant. Warning bells

clanged out coded signals. A recorded voice blurted out of a thousand loudspeakers scattered throughout the building.

"Now hear this," said the tireless voice, over and over again. "Now hear this. Red red red. Pile trouble. Reactor A. Procedure One commence."

Sokolski had certainly never pressed the red button before, and to his knowledge neither had any of his or Gaines' predecessors. It was the kind of button that, rightfully, ought never to be pressed. The laws of things in general sort of made it a comfort without much value. Pile trouble calling for the red button should really have eliminated the red button and much surrounding territory long before it got pushed—or at least the sort of pile trouble its builders had in mind. Nonetheless, they had provided it and the elaborate evacuation operation so cryptically described as Procedure One as a kind of psychological sop to the plant personnel.

But the red button did more than activitate Procedure One, which was solely concerned with the plant. After all, power from the reactors was lighting the lights and cooking the breakfasts and flushing the toilets of untold millions scattered in half a dozen major cities. If there were some imminent possibility that the major source of their power might cease to exist rather suddenly, it was proper that they should be notified of this eventuality as much in advance as possible. Consequently the activation of the red button and the commencement of Procedure One was paralleled by activities hardly less frenzied in other places, far away.

Emergency bells sounded and colored lights danced, martial laws automatically enacted by their sound and flicker. The wheels of crisis turned and spewed forth from their teeth rudely awakened policemen half out of uniform, military reservists called up to find themselves patrolling darkened streets, emergency disaster crews assembling in fire houses and on appointed street corners, doctors gathering in nervous clutches at fully aroused hospitals and waiting beside ambulances tensed for wild dashes into full-scale disasters. Where it was night when the warning sounded, darkness descended as desperate power conservation efforts were initiated; where it was daylight, the terrified populace waited in horror for the blackness of the unlit night. All of this, of course, took only minutes to get fully under way.

Meanwhile, at the plant, Procedure One continued in full wild tumultuous swing.

M-75 DID NOT immediately follow Gaines and Sokolski out of the room. Fascinated by the multitude of new things surrounding him on every side, he held back. He glided over to the master control panel, puzzled by its similarity to the board before which he had slaved so long, and lingered before it for a few seconds, wondering and comparing. When he had recorded it completely on his tapes, he swung away and rolled out of the room in the direction the two men had gone.

He found himself in a long, empty corridor, lined by open doors that flickered by, shutterlike, as he flashed past. Ahead he heard new sounds, sounds like the meaningless cacaphony the men had shouted at him before rushing off, superimposed over the incessant background sounds—the shrilling, the clanging, the one particular repetitive pattern. Some of the sounds touched and tugged at him, but he shook them off easily.

The corridor led into the foyer of the building, jammed with plant personnel. Their excitement and noise-making rose sharply as he entered. The crowd drew tighter and the men began fighting one another, struggling to get through a door that was never meant to handle more than two at a time.

M-75 skidded to a halt and watched, unmoving. He sensed their fright, even though he could not understand it. Although he was without human emotion, he could evaluate their inherent rejection of him in their action pattern. The realization of it made him hesitate; it was something for which he had no frame of reference whatsoever.

His chest hummed and clicked. Here, again, in this room, was another new universe. Through the door streamed a light of a brilliance beyond anything in his experience; his photocells cringed before its very intensity.

The light cast the shadows of the men fighting to get out, long black wavering silhouettes that splashed across the floor almost to where M-75 rested. He studied them, lost in uncertain analysis.

He remained so, poised, alert, filing, observing, all the while completely unmoving, until long after the last of the shouting men had left the room. Only then did he move, hesitantly, toward the infernally fierce light.

He hung at the brink of the three stone steps that fell away to the grounds outside. Vainly he sought in his memory tapes for a record of a brightness as intense as that which he faced now; sought for a color recording similar to the vast swash of blue that filled the world overhead; or for one of the spreading green that swelled to all sides. He found none.

The vastness of the outside was utterly stunning.

He felt a vague uneasiness, a sensation akin to the horrible frenzy he had felt earlier in the pile.

He rotated from side to side, his receptors sweeping the whole field of view before him. With infinite accuracy his perfect lenses recorded the data in all its minuteness, despite the dazzling sunlight.

There was so much new that it was becoming difficult to make decisions. The vast rolling green, the crowds of men grouped far away and staring at him, above all the searing light. Abruptly he rejected it all. He swung back into the foyer of the plant and faced a dark corner, bringing instant, essential relief to his pulsating photocells.

Staring into the semi-darkness, he re-ran the memory tape of his escape from the pile. The farther he had moved from the pile, it seemed, the less adjusted he had become, the less able he was to judge and correlate.

Silently, lost in his computations, he rolled around and around the foyer for a long, long time. He became aware, finally, that the brilliance outside had paled. He went again to the door and watched the fading sunlight, caught the rainbow splendor that streaked the evening sky.

He waited there, fighting the reluctance inside himself. The driving curiosity that had brought him this far overcame that curious, perplexing reticence, and he looked down at the steps and measured their width and depth so that he might set up a feedback pattern. This done, he bounced, almost jauntily, down them.

He had rolled perhaps fifty feet down the smooth pathway curving across the grounds when he made out, clearly discernible in the gathering dusk, the three men and the machine that were moving toward him. It was the last bit of datum he ever filed.

The demolition squad had finished with the hot remains of M-75, and their big truck was coughing away into the night. One by one, the floodlights that had lighted their work flickered out.

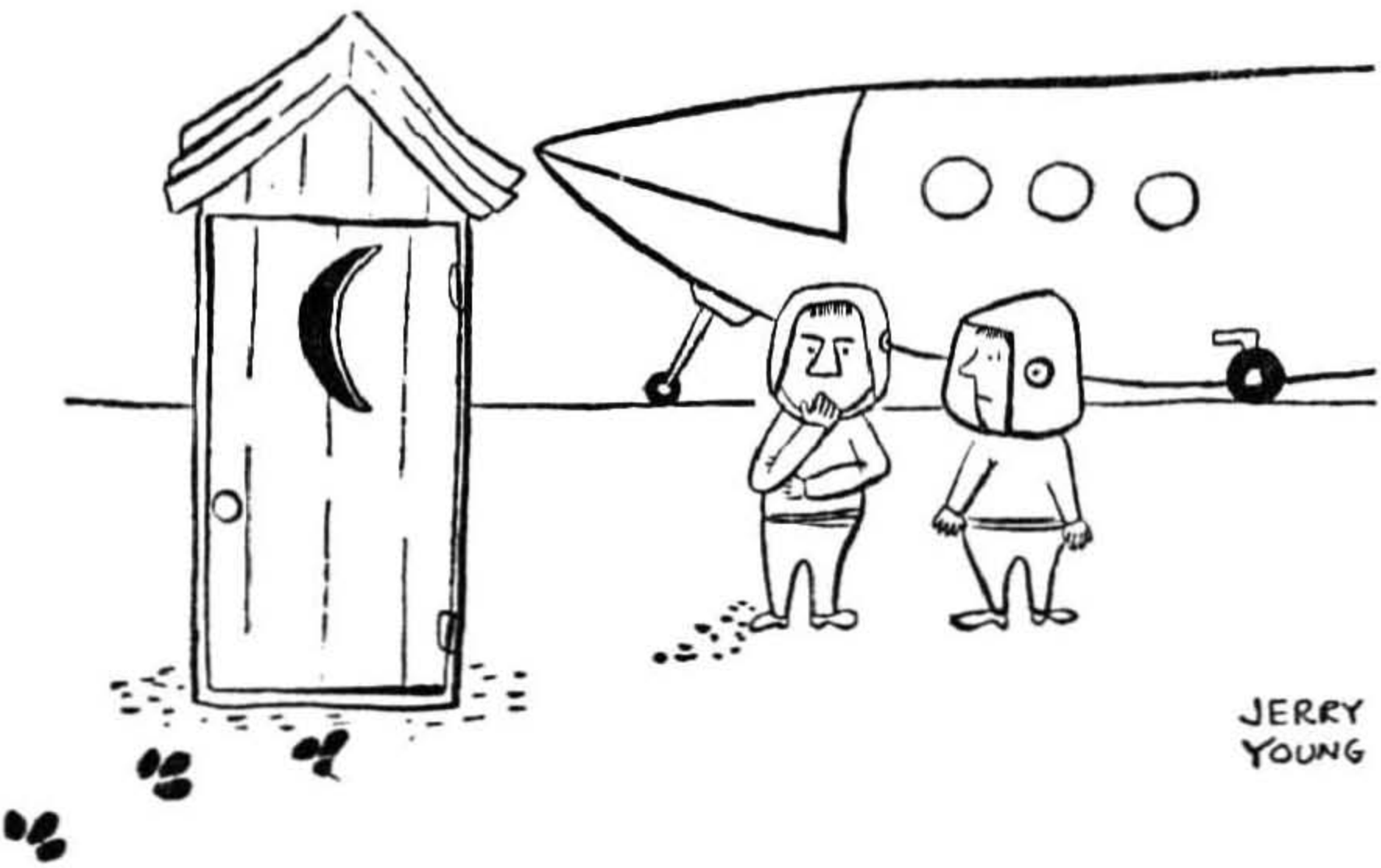
"Pretty delicate machines, after all," commented Sokolski. "One jolt from that flame thrower . . ."

Gaines was silent as they walked back toward the plant. "Bert," he said slowly, "what the hell do you suppose got into him?"

Sokolski shrugged. "You were the one who spotted the trouble with him, Joe. Just think, if you could have checked him out completely—"

Gaines could not help looking up at the stars and saying what he had really been thinking all along, "It's a small world, Bert, a small world."

• • • THE END



JERRY YOUNG

A MONSTER *named Smith*

By James Gunn

Illustrated by Paul Orban

It was alien, indestructible and mysterious—therefore a terror and a menace. It was also alone, hungry and afraid—therefore prone to miscalculation.

PANIC! Isolation! Terror! Blind, mindless, insensate. Odorless, dumb, deaf. Fear.

Pressure from within, instinctive and powerful. Around it, a constriction. Cause unknown. Conflict. Pain.

One sense remains. Listen! Send out feelers through the darkness! Somewhere there must be something else alive. Somewhere there is a reason for fear. Listen!

"The board shows a gap on Harrison. If open, detail a company to close it up. General orders to all searching parties: every building will be thoroughly searched, inside and out, top to bottom. Search everything, in, under, above. Parties will not proceed until certain that every building is clear, every eave and rooftop is clean."

"Is that right, Mr. Gardner?"

"Don't ask me," Gardner snapped. "Mr. Burke is in charge here." He turned to Burke. "As city manager, I can't permit the city to be shut down indefinitely on mere suspicion. Besides the personal distress and inconvenience, this shutdown is costing the city millions of dollars an hour . . ."

"Would you rather be a zombi—you and all the other millions of people in the city?"

"You have a wild imagination. You don't *know* that the thing can take over a man. You aren't even sure that it escaped. And if something did escape, you can't be sure it's still alive. There was no reason for the declaration of martial law."

"I'll give you a reason," Burke explained quietly. "The animal is dead. Cold, stony. No doubt about it. The deceleration killed it. With extraterrestrial fauna, we have to work fast. We can't be sure how soon decomposition will set in or how the internal organs will be affected. The body is in the examination room, on the dissecting table, within minutes after landing. But before we can make an incision, something starts oozing out from under it. A black blob . . ."

"Good God! What's that?" Daniels was more startled than afraid. He was staring at the sheep-like animal on the dissecting table. The scalpel was poised in his hand.

Burke was afraid. He had been afraid for a long time. "Parasite," he said. He spat it out viciously, as if that would deny his fear.

The inky blob continuel to ooze.

Ellis, who had insisted, like Burke, on being present as an observer, was calm and analytical as usual. "Not necessarily," he said. "Could be a symbiosis."

"Symbiosis is a careful balance," Burke said violently. "For us it's a parasite. Dangerous. What I was afraid of all along."

"Okay, okay," Daniels put in quickly. "The question is, what do we do with it?"

"Kill it!"

"How?"

"Not so fast," Ellis said. "We can't be sure it's dangerous. This opportunity *might* be unique."

"It took over this thing," Burke pointed out. "It's an animal, like us. We can't take the chance that it could adapt itself to man."

The blob oozed. It was bigger than a hand, now.

"It has to have a means of propagation," Burke said, suppressing a shudder. "It's amorphous, like an amoeba. Binary fission is indicated. If so, then no one on Earth is safe. We shouldn't have brought it back."

The blob oozed. It was the size of a dinner plate. It had begun to thin out near the body.

Ellis sighed. "Kill it."

Daniels sliced down with the scalpel in his hand. It passed effortlessly through the blob, as if through a shadow, and skidded along the stainless steel top of the table. The blob, uncut, continued to pull itself free of the animal.

It was like a pool of ink. There was no smell to it and maybe no feel either, but no one offered to touch it. It was just black. Innocent, maybe, but black and alien and therefore evil.

Daniels was shaken. Without reason.

"Obviously it can't be cut or shot or hurt by any such weapon," Burke said impatiently.

"Well, do something," Daniels stammered. "Don't just stand there talking about it. It's pulling itself free. It'll be coming after one of us in a minute."

Ellis glanced around the room. "The door's closed. Nobody leaves here."

"What good will that do," Daniels objected strenuously, "if it can interpenetrate matter?"

"Flesh and steel are two different substances. It hasn't entered the table."

"You mean we're stuck here with that thing until it gets us or we can find a way to kill it?" Daniels shouted.

Ellis nodded impatiently. "Obviously." He studied the room again. "Somewhere within these walls we have to find a weapon or a poison."

By now Burke had collected a litter of bottles from the reagent cabinet. He tried them on the blob. Acids and bases, one by one they poured into the blackness and fumed together and dripped onto the floor to eat holes in the rubberized covering. The body of the animal began to dissolve in the growing puddle on the table. The stench of the chemicals and their reactions was almost stifling. Nobody seemed to notice.

The blob pulled and thinned and grew larger and remained unaltered by the chemicals. Burke looked around hastily. He grabbed up a burner, turned it on, lit it. It burned blue and hot.

He held it upside down, pointed toward the black pool. The blob squirmed. Burke pressed the burner close. The blob moved quickly, moved away from the flame, and as it moved the last strand of blackness pulled loose from the dissolving, alien body.

"Quick!" Daniels said hysterically. "Before it gets away! It's afraid of the fire!"

Burke hadn't waited. He held the flame as close to the blob as he would get it. "We need a blowtorch," he said.

The blob squirmed. It flowed away from the flame, across the table, and the flame looked as if it turned back from the blackness. But it wasn't that. There just wasn't enough gas pressure. The flame curled up naturally.

The darkness wavered, its edges curling. It wriggled and began to flap, first one side and then the other, alternating. Slowly, awkwardly, it began to fly. It climbed into the air and circled around the room silently, a blot of darkness.

"Close the ventilators!" Ellis said quickly.

Burke raced to the side of the room and pulled the switch that slipped steel shutters across the gratings.

"Oh God, oh God!" Daniels was saying. He cringed beside the table, shaking, as the blackness swooped close.

"The interpenetration is obviously variable," Ellis said. "Otherwise it couldn't fly."

"Or the only thing it can penetrate is flesh," Burke amended. He was searching the room for another weapon, futilely.

The circular shadow flapped its way high into one corner of the room. It pressed itself against the ceiling and clung, unmoving. It looked like a black stain. They stared up at it, the three of them, with different eyes. Ellis was curious; Burke was murderous; Daniels was terror-stricken.

Daniels moved.

"Stay away from that door!" Ellis snapped.

Daniels stopped. He was shaking

as he looked back over his shoulder. "We can't kill it," he said. His voice shook, too. "What do we do? Wait here until it decides which one of us it wants?"

"If we have to," Ellis said.

"The question is, how long can it live outside a host?" Burke said. "It isn't breathing. Presumably, it can't eat in its present form. But it does use up energy. If we can't kill it, we can starve it to death."

"Unless we starve first," Daniels moaned.

"We'll run out of air before then," Ellis observed.

"We'll have to take a chance. One of us will leave for a blowtorch," Burke said.

"Me!" Daniels panted. "Me!"

"I'm staying here," Burke said. "I don't want to let it out of my sight. You're staying here, too, Daniels. We want someone who will come back." He looked at Ellis; Ellis nodded. "I'll stand guard in front of the door with the burner. If you open the door just a crack, you can slip through before it can move."

Daniels was standing by the table where the animal was half-dissolved. His eyes were wild and staring.

The burner hose wouldn't reach to the door. Burke pulled off his shirt, looked at Ellis, who was standing beside the door, and held his shirt close to the flame. The shirt smoked and started to burn. In two quick steps Burke was in front of the door, his back to it, his eyes on the blot of darkness that clung to the ceiling.

"Go!" he said.

Ellis moved. And the blot moved, swooping down at Burke. Burke waved the flaming shirt. The door behind him slipped open. The blot swerved in the air, away from the flames. It headed straight for Daniels. Daniels screamed. He put his arms around his head and sprinted blindly for the door.

The blot followed him, only a foot behind. Burke glanced at them, at Daniels and the blot, and he tried to do two things at once. He lowered his shoulder at Daniels and tossed the burning shirt at the blot. Somehow, both missed. Daniels sidestepped instinctively, and the blot swerved in the air.

Flesh smacked solidly against flesh. Something snapped. As Burke spun around, he caught a glimpse of the blot slipping through the door. Daniels was gone.

"Commander!" Burke gasped. "What happened?"

Ellis raised a white face from the floor. "Broken leg," he said, and fainted.

Burke turned and ran toward the intercom. "Air lock guard," he snapped. "Close the lock. Emergency."

Trained responses were quick. No one questioned orders like that. Burke heard the whirring of motors. Something clanged shut, with finality.

"What's up?" asked a tinny voice.

"Anything get out that lock in the last second or two?" Burke asked quickly.

"Nobody."

"Anything, I said!"

"Well, no—I mean—I don't think so. I had a feeling that something brushed past me like—like—"

"Like what?"

"Well, like a bat. Only it wasn't a bat. What's going on anyway?"

"Hell to pay! Com room! Com room! Put the radar on a small object, about the size of a bird, flying out from the ship! Whatever you do, don't lose it! Then get Washington. Secspace. I'll be there in five seconds. Doc! To the examination room on the double. Commander's got a broken leg. And send two men to pick up Daniels and hold him for observation. He's hysterical. Leaving now for the Com room. Off!"

Shock! Identity!

Terror! Conflict! Pain! Isolation!

We are one. Once we were many. Remember. Remember!

The object falling from the sky, gleaming in the sunlight, gleam dimmed by a shortening leg of flame.

Scatter, brothers!

Much later, the object opening a mouth, black against the shiny skin. Is the object hungry?

Run, brothers!

Things coming out, climbing down, standing on the ground, two-legged, tall. Beings.

Listen, brothers!

"Sheep! I'll be damned. Nothing but sheep!"

"Don't be fooled. They're more than sheep."

"Well, look at them. What would you call them?"

"Yes, look at them. See them standing there looking at us, as if they could understand everything we say."

"Now, Burke, don't let your imagination run away with you. I agree, it's unlikely that they're identical with our Earth sheep, but they look like them and we might as well call them that."

"It's a dangerous mental trick, Commander. We delude ourselves into thinking we understand them when we give them a name."

"Maybe they look to you like they're listening to us, but my guess is that it's curiosity. After all, we're the only other beings they've ever seen."

"That's just it. Where's the rest of the fauna? We've scouted every land mass, and these are the only animals we've seen. How do you account for that?"

"Why should we have to?"

"Oh, God preserve us!"

"Be a little patient, Burke. We all aren't ecologists. The others may not see what's so obvious to you. What's you're trying to say is that evolution wouldn't produce just one species."

"What do you think! Look at this world. As pretty as a spring day. Mild. Gentle. And inhabited by nothing but these herbivores. And not very many of them, either."

"I've seen plenty of them."

"Not under the circumstances."

"And you think these sheep wiped out all the rest of the fauna?"

"Obviously."

"It could have been natural conditions."

"That destroyed everything but these things? Nonsense."

"Well, then, they wiped out the rest. So what?"

"How? Man has been top dog on Earth for a long, long time, and

we haven't even come close to wiping out our pests and carnivores. As bloodthirsty as we are. What does that make these things? It makes them the most deadly creatures we've ever known."

"These sheep? Nuts!"

"It is a little farfetched, Burke."

"Think of this, then. What keeps their numbers down? With all this grazing land available, there's only a fraction of the number of these creatures that there should be. With no natural enemies, with nothing to prey on them, according to Malthusian law they should expand in the presence of abundant food to the limit of the land to feed them, and a little beyond. Like the rabbits in Australia. Or man himself."

"Maybe their natural enemies are small. Insects. Germs and viruses. Or maybe they're almost sterile."

"And maybe they control their breeding. Or maybe it's controlled for them. That's something we've never been able to do. That frightens me more than the other."

"You've just set foot on this world and you're frightened already. What will you be like before we're ready to leave?"

"Gibbering. You think that's funny, but a sensible man knows when to be frightened. I'm afraid now."

Hosts! The thought was startling and puzzled. *Hosts, brothers, without directors! Self-directed hosts that have come from a long way off in that thing they call a ship, from the nightlights, where all are like they are. Danger!*

Later. Much later.

"I guess we're done. The mapping is finished. The ship is crammed with samples of everything we could lay our hands on. The really thorough analysis will have to wait until we get back to Earth. But from our investigations we can report that the expedition exceeded our fondest hopes. I don't see why colonization can't begin immediately. We take off tomorrow."

"Samples of everything? You've forgotten one. We haven't any sheep."

"Haven't seen any for weeks. They've disappeared. Just after Daniels decided he wanted one for dissection."

"Doesn't that seem significant to you?"

"Now, Burke. Let's not get started on that again."

"I suggest we put out traps tonight. I don't feel that this survey is complete when we don't have any specimens of the dominant form of life. *The* form of life, for that matter."

"No! I don't agree. Taking back specimens before we understand them would be incredibly dangerous. We don't know anything about them. Give them a chance to get loose on Earth, and we might have the story of the rabbits in Australia all over again."

"There's no chance of that, Burke. We aren't going to give them a chance to get loose. And we've seen nothing to indicate that they're dangerous. You've been studying them ever since we landed, and you haven't discovered anything."

"A negative answer that's practically worthless. As you pointed out

a moment ago, they all disappeared weeks ago. As long as I don't have answers to the two questions I suggested when we first landed, I must regard them as the most dangerous things we've ever encountered. How did they kill off their competitors? And what controls their breeding?"

"I'm afraid Secspace wouldn't look at it that way. I'm afraid we would be considered derelict in our duties if we returned without a specimen. Although I'll put your protest on record, of course."

"A specimen, you said?"

"All right, Burke. Just one. There can't be any danger of them multiplying. Will that satisfy you?"

"No. We can't be sure that they propagate sexually. Not without dissection which we haven't been able to perform. But if it's the only concession I can get—"

"It is. And you can console yourself with the hope that the traps will be empty tomorrow morning, as they have been every other morning."

A specimen, brothers. One of us. One? What is that? A host and a director. One must go. Or they will return to exterminate us, as we exterminated the others. One must go. Which one? One ready for division. One of us. This part of us. Go.

A belonging. We are not a whole, but a part of. We have a mission.

The pressure from within continues. It is agony, but it is agony located and identified. We must divide. That is it. That is the pressure. We are one. Once we were many. We must be many again.

But there is terror, and while there is terror we cannot divide. Fear is a force that binds us around, that closes us in so tight we cannot divide. We need peace. We must have peace. But we are encircled by enemies who seek to destroy us. They will destroy us unless we destroy them first. But we are one, and they are many.

Learn. Learn the dangers of this alien world. Learn the powers of these alien beings. Learn survival. Back. Back to the Enemy . . .

TROOPS equipped with flame-throwers will lead the advance. They will fire at anything black, any spot, any shadow. They will fire first and ask questions afterwards."

"Good God, Burke! Don't let that order go out! You don't know what you're saying. Think what will happen if you tell soldiers to shoot at *anything!*"

"I'm thinking what will happen if they don't. There shouldn't be anybody inside that area except the searching parties. And firemen and equipment are following the soldiers in to put out the fires . . . Air patrol! All flame-thrower equipped helicopters will fire at any small flying object, bird or bat. Particularly bats. They will keep pace with the ground forces working in."

"But you don't even know that the thing is in the city!"

"We followed it by radar from the ship until we lost it over the center of the city. By that time the permanent radar installations around the city were alerted, and we had a line of helicopters shooting down everything that flies. Ra-

dar didn't pick up a thing. Don't worry, we'll get it. We'll find it and destroy it."

"But will there be anything left when you get through. You're the kind who would burn down a house to get rid of termites!"

"Mr. Gardner. City manager or not, one more outburst and I'll have you ejected from primary control. You're here to help us with your knowledge of the city, and all I've heard so far is objections to everything we do."

"Looters, Mr. Burke. Looters reported inside the cordon."

"That area has to be kept clear. The soldiers will shoot them down on sight. Put that announcement out through every media, radio, television, loudspeakers. The bodies will be incinerated where they fall. All animals will receive the same treatment. Let nothing that moves slip through the cordon. . . ."

That is the Enemy. Shrewd and murderous. If we could only kill him— But there is no chance. He is too well guarded.

We are growing weak. We are not meant for this kind of existence. The escape, the long flight, and now the internal struggle to divide, stifled by terror, has sapped our strength. We need food. For that we must have a host. Where are we. How close are the searchers and their flames?

We are blind without a host. We starve without a host. And yet we had no choice. We had to leave our old host because it was dead. We had to leave it to divide. And now there is no peace, and we cannot divide.

We can kill many of them, but eventually they will destroy us. We can swoop down on them and touch them with death, but they would turn their flames upon us, and we would die. We felt it there in the ship, when the flame was turned toward us. We felt that we had never known before, the possibility of death. We, who are immortal, could die.

Reach out, reach out! Find the searchers! How close are they? How do they work? Find out, so that we can plan.

We reach. We fumble. We see . . .

The night lit with brief, oily flares that shred the darkness. The marching ranks, watchful, ready. The machines, rolling, ponderous. The bright lights that roam ahead and around and up.

"My God, Joe, look at it! An army! What the hell's it all for?"

"You know as much as I do. They just turned us out in the middle of the night and rushed us up here like somebody's pants was on fire. Look for something! What? Hell, I don't know. Shoot at anything that moves! Shoot at shadows! With flame throwers! Somebody's gone off his nut, I guess."

A shadow leaps in a shielded corner. A nozzle spits greasy, licking flame. Wood smokes and then burns. A stream of water hisses on it, turning into steam.

"Halt!"

The marching ranks halt. The machines stop. Only the lights keep moving. The helicopters hang motionless in the air above, black nozzles poking out from them like a dragon's smoky nostrils, landing

lights burning down onto the rooftops.

"Company A will take the building to the right. Company B will take the building to the left. They will work their way to the top and onto the roof. From the top story windows they will look up toward the eaves. Burn anything black, any shadow, anything. Firemen will follow with hand extinguishers. Remaining companies will stay in ranks until the search is completed. Get going!"

Up through the building, searching for shadows. Climbing long steps, peering up and down elevator shafts, inspecting every cranny, drawer, crack. Lifting rugs, turning over furniture, removing cushions. Shooting fire at shadows.

Up and up. Feeling a little silly, but impressed, somehow, by the size of the operation, and the seriousness, and being thorough because the captain is watching. A shot, below in the street, echoing up. Rush to the window; peer out. A civilian is in the street below, stretched out. You know that he is dead. As you watch, flame blackens the body, eats at it until there is only a cinder.

"What's the matter, boy? Nervous?"

"Hell, yes! Ain't you?"

And eventually you go down and out and the ranks march on a few paces and halt and this time it is your turn to wait in the street while other companies search. In the distance you can see other helicopters hovering, their lights brilliant, a circle of them. The center seems to be the black hulk of the public library . . .

Hopeless! They are all around, these alien killers, these hosts without directors. We are one, and they are many. We despair. We will die here, wherever we are. We can reach out and feel them, closing in upon us from every direction. The circle draws in upon us, nearer, nearer . . .

And someone approaches. We sense the thought, slow and stumbling. It is not one of the searchers. They are still fairly distant. He looks up.

"Public library. Nothing there. Nothing but books. Got to hurry. They'll be here soon. Before that I got to find me a place to sleep or seem like it. They're killing people. Christ!"

A chance, a chance. The thought sings through us like a surge of energy. He is below. We sense him there. That means that we are above him, clinging under the roof of the building he thinks of as the public library.

Will he welcome us or fight? Is he weak or strong? It does not matter. We have no choice. We must take the chance. If we can get nourishment and sight, if we can get outside the searchers, we can reach a place of safety and peace where we can leave him, where we can divide. And it must be soon. He will die, of course, and it is unfortunate. But we have no choice.

Let loose, now. Release our hold. Fall through the air, fluttering at first, then swoooping down upon him. We reach out to him, and he suspects nothing. His mind is busy with other things, the things he is looking for, like the things he has hidden in his pockets.

Down upon him. Closer. Slowly now. He feels nothing as we light. His thoughts move on, busy, roiled. Let the probes reach in through the back of the neck, delicately. There!

He stands stiffly, immobile, a scream echoing through his mind, silent, unvoiced. But as we go in, he shrinks back, not fighting, somehow relieved, and we are puzzled. We did not think it would be so easy. But it cannot matter, and we must hurry. We sink through the back of his neck, following the probe that seized the control centers of the brain.

Quickly we send microscopic feelers down through the nerve network, branching, branching, until they reach the ends of the extremities and dig down into the deepest, smallest organs of the body. We test out the network gently, and control is effective. Before we go any further, we must take precautions. Jerkily, unsteadily, we move the body into the shadows. Clumsily, we lay the body down beside the building. We relax it all over. The searchers will have to be almost upon us before they see.

Relaxed, the body is more accessible, and we are eager; we are hungry. Feelers reach out through the blood vessels, absorbing food as they go. When that circuit is completed, we are satiated. Our hunger is appeased. We feel a relaxation ourselves, a lowering of our awareness, and we must fight it. There is much to do; there is no time for relaxation.

Now we must take the last step. We hesitate, not knowing why we hesitate, and we send out a final set of feelers through the alien brain, searching for the seat of memory. We find it. We begin to learn. We learn more as we go deeper. We learn a new identity.

MY NAME is Smith. George Smith. I am a laborer. I have a wife and four children. An identification card in my billfold describes a man, but it isn't me. Thirty years old, it says. Brown hair, brown eyes. Five feet nine. One hundred sixty pounds. Scar on right forehead. Tatoo of woman on left forearm. That isn't me. Figures lie. I am bigger than that; I am taller than that. I am only working as a laborer until something better comes along.

I've been picking up things that people left behind when they were ordered out of here. They call it looting, but it isn't that. It isn't stealing. Somebody else will take the things if I don't. The soldiers —don't tell me that they don't do all right by themselves when they go through those places. Besides, the things belong to me as much as anybody else . . .

It goes on and on, not like that, slow and ponderous, but as swiftly as thought spanning the galaxy until we know almost as much about Smith as he knows, and maybe more. We do not enjoy it. The unpleasantness of the man named Smith is only part of the price we must pay. But we hold back a little still, and it consoles us that we will leave him when his body has taken us to a place of safety and peace. But we will still have his memories. They will stay with us forever.

The automatic processes of the feelers have begun. Subtly the body is strengthened. Glands are stimulated. Tissues are regenerated. Wastes and old, accumulated poisons are removed. But basically we do not change anything. The man named Smith must remain physically the same and undetectable. It is irony that the body we have taken possession of is now almost immortal. It is vulnerable only to accidents. Our automatic responses will repel disease and revitalize aging tissues and perform innumerable other tasks which protoplasmic bodies can do poorly, if at all. The capabilities are there, but the inefficient brain does not use them. The body is immortal, and yet, when we leave, it must die.

Now, of all the possible hosts on Earth, this one has a director; it can enjoy the blessings of sanity and direction.

It has been a rape, not the meeting of two mutually acquiescent parts, incomplete in themselves, together a whole entity which is more than the sum of both. With our former host, it had been a pleasant, gently sensual experience of uniting and sharing, and afterwards it had been a completeness, a partnership by which both parties profited. Here there had been no chance of that. We knew it from the beginning. These things called men are too independent.

Now we have an identity. Survival dictates that we become that identity. We must act like it; a slip means destruction. We must think like it. We must be "we" no longer. We are one. We are I. I am a man named Smith.

I OPEN my eyes and see. Lights are close. I see them shining, burning, only a block or two away. On the other side, too, they will be as close, or closer, and all around. Soon they will be here, and I must think quickly. For they will shoot this body, and I would have to leave again, and this time there would be no second chance.

There are things in my pockets that do not belong to me. If they are found on me, it will be disastrous. I take them out, rings, watches, money, and I drop them through the grating on which I lie. But there is one thing in the pockets I do not drop. It is a bottle. It is a small bottle; it fits in my hand, sloshing gently. I raise it to my lips with a gesture that is almost automatic, my nostrils wrinkling away from the sharp odor. I drink. I cringe from the body's reaction, and then I drink again and let some of the liquid dribble down my chin onto my clothes.

I listen. I hear a shot, not far away. Somebody screams and is silent.

The next moment a blinding light shines through my closed eyelids.

I make a loud, breathing noise, trying to hide my fear. I lie there, wondering if they will shoot or burn me with flames, and the moment is eternity.

"Oh, hell! It's only a drunk!"

"We oughta shoot him. That's our orders."

"Look at him. He musta been layin' there all night."

"I can't shoot him. Can you?"

"Let's take him to the Captain."

"Wake up, there! Wake up!"

Prodding. Eyes fluttering open, peering out, glazed and dull, into the light. One arm coming up across the eyes, protectively.

"Hey you! Get up!"

"Whassa matter? Whass goin' on?"

"Get up. Up on your feet!"

"Can't man lay down for a little snooze? Eh?"

"Come on! Get up! We ain't got all night."

"Aw right, aw right."

I wobble to my feet. I stand there swaying. I see their noses wrinkling, and I smell the sharp odor again. They close in upon me. They lead me off. I stumble along between them, my head drooping, for an interminable time.

"What's your name?"

"Name? Name's Smith. George Smith. What's yours?"

"Ugh! Search his pockets. Get out his identity card, too."

They fumble through my pockets and pull out my billfold. The world wants to spin around me. I let it spin.

"Occupation?"

"Eh?"

"What's your line of work?"

"Work for Rieger. Warehouse. Big man, Rieger. Lotsa money, lotsa 'nfluence. 'Ma union man. Citizen. Got my rights."

"What were you doing here?"

"Can't man lay down for little snooze? Eh? No law 'gainst it. Eh? Broke a law or somethin'? Pay fine? Okay." I reach fumblingly for my billfold. It is gone. I let my hand drop.

"Oh, hell! Let him go! Give him back his billfold, and one of you had better escort him through the lines. Get his head shot off otherwise."

A long, stumbling walk through darkness and sudden light, alternating, until suddenly there is nothing but darkness, and we stop.

"Okay, Bud. You're out. From here on, you're on your own. Just keep heading that way, and I hope you don't remember anything in the morning. Because if you do, you'll start shaking and you won't be able to stop."

I am shaking now, inside. I am weak as he disappears into the dark, and I don't know whether it is because I am unused to this alien body or because of the liquid I drank which my feelers have picked up from the veins. I reach out again. I reach out to contact the Enemy again, and it is more difficult now, because of the body or the liquid or the weak shaking, but I find him at last.

"It isn't over. The search can't be over. They haven't found it yet."

"They've met. The searching parties have come together. They've gone all over the public library, and there isn't any place else for them to search. Relax, Burke, the thing is dead."

"No, no, Ellis. It's alive, I tell you. They missed it somewhere. You haven't been on top of this thing like I have. While you've been getting your leg set, I've been directing this operation, and I've got a feeling for it. The monster is lurking somewhere. It isn't dead."

"You've been with it too long. You've been with it ever since we landed on that damned planet. Now it's hard for you to realize that it's

over. Look at it logically. The soldiers went over that section of town with a tea strainer. They didn't miss a thing. You've done a good job, Burke. I'll see that you get credit for it."

"Damn it, I don't want credit. I want that thing dead. I want to see it for myself and know it's dead. I don't want to dream about it any more. If the troops got it, why didn't they report that they had?"

"How long do you think it would last in the inferno of a flame thrower? I saw them working as I came across town. Whoosh! Whoosh! Firing at shadows. And that's how it would vanish. Just like a shadow. No one would know. It's incinerated now; there's nothing left."

"Yes, and maybe it's hiding somewhere. Some cranny that the soldiers missed. They aren't perfect. A crack in the pavement. A water pipe. A thousand places they wouldn't think of."

"And starved to death. It wasn't meant to live independently. It was a parasite, which means that it couldn't exist for very long without a host."

"Not necessarily. Some parasites have a free-living stage; others have one or more intermediate hosts. But analogies are useless and deceptive. This isn't one of our parasites. It's extraterrestrial, and it may not follow terrestrial patterns. Even granting that it would die within a few hours of free-living, that leaves one terrible possibility."

"What's that?"

"Maybe it found a host."

"An animal, you mean? A dog or a cat? Or a bird?"

"Or a man."

"But you ordered all the looters shot."

"I know, I know. But if only one escaped, through somebody's carelessness or sombody's misplaced softness. . . ."

IT IS FOLLY to linger here in the darkness any longer. But I hesitate, and I catch one last thought.

"There's only one thing to do. Nobody leaves the city until we've checked on them. All animals are to be incinerated. We'll have to have the biggest manhunt and extermination this country has ever seen . . ."

I hurry away. I don't much care which way I go, and I walk purposelessly along the dark streets, spotted occasionally with overhanging lights. I can't leave the city. Not now, anyway. I will have to wait until their measures fail. They must fail, now, and their only chance is for me to make a slip. If I can act like all the rest of the hosts, I will be safe and they will finally give up.

Meanwhile the pressure to divide, submerged for the moment, will grow stronger and stronger inside me, inside this alien body. I will have to keep it for awhile yet, and I hate every moment of it. It is a leaden weight I am forced to push along. It is stubborn and fleshy and stupid.

My feet turn at a lighted doorway, and I push myself inside a room before I can stop. I stand in the doorway, blinking, wondering why I have come in, and it is a strange thing to be wondering.

"George!" someone says.

It is a woman, a female. She throws a soft arm around my neck and drags me farther into the room. The lights fight unsuccessfully through a smoky haze. There are booths along the sides, and chairs and tables in the center, and a bar across the other end of the room.

"Where you been?" the woman asks.

I search through Smith's memory for a face and a name, and I find them. Dolores. "I been watching the soldiers, Dolores," I say.

It is important that I do not arouse suspicions. In the next few days questions will be asked. I would like to leave this place, but I do not dare. There was something about Dolores in the memories I could not force myself to search. I must wait a little until my leaving will go unnoticed.

"What they lookin' for, hey, George?"

"How do I know? I'm a mind reader or something?"

"I bet it's a bomb. Somebody planted a bomb, and they're lookin' for it. That's it, I bet."

"Maybe. They were shooting people."

"No kiddin'! Here, have a drink."

A glass is thrust into my hand. A head is leaned against my chest; tangled hair brushes irritatingly against my face.

"Phew! You already had a few."

"So what?"

She leads me to a booth and forces me down into it and slides in beside me, her thigh hot against mine. "You ain't drinkin' George," she complains loudly. She leans toward me. "What you get?" she whispers.

I reach into her mind, reluctantly, shuddering at the maelstrom of twisted thoughts and fears and hopes and passions. She and Smith had been intimate. Just tonight she persuaded Smith to sneak into the closed area to pick up whatever he could find.

"Nothin'," I say.

"Nothin'!" She says it loudly, angrily. Quickly, she begins to whisper again. "What you mean by that? Why didn't you get anything? What are you trying to do, hold out on me?"

"Oh, shut up!"

"Maybe you think you can push me around," she says, her voice rising. "Maybe you think you can cheat me and get away with it. Think again. Remember, I can tell them you was in there. They wouldn't like that, I bet. I bet I could get you in a lot of trouble."

"For God's sake, shut up!" I whisper violently. "You'll get us both in trouble. Don't you understand? I couldn't get in. They were shooting people, anybody they saw, and then they were burning them. Maybe you'd rather I was laying in there, dead and fried."

She sags against the back of the booth; her body is a mass of fat curves with creases between them. "Oh, well, it was a chance. What we couldn't have done with a few thousand, eh, Georgie?" Her voice is wistful. "You could have skipped out on your wife and brats, and I could have skipped with you, and we could've ditched this town and had a gay old time. Oh, hell! Drink up, Georgie. Tomorrow we die."

I raise the glass and take a swal-

low and almost gag. I feel it burn down my throat and lay burning in the pit of my stomach. The rising fumes make my head swim. Her leg presses more firmly against mine as she leans over against me and puts her arms around me and lays her head on my shoulder.

"We still got our health, eh, Georgie?" she says. "We still got each other."

"Yeah," I say.

"Come on up to my room," she whispers. "We'll show the world what we care."

I catch a glimpse of her mind. It is wide open, and I am sickened. I try not to show it. I try to act reluctant.

"Can't," I say, and the words are difficult to get out as if the lips are trying to form another word. "Late now. I got to work tomorrow. And Agnes is gonna raise hell as it is."

She sits up sullenly. "Funny you never thought of any of that before."

The thing I want most in the world is to stop touching her. "I had a bad time tonight," I say. "A coupla times they almost caught me."

"Poor Georgie!" she says quickly, sympathetically. Her hand reaches out to stroke my face. "I didn't know it was gonna be that bad."

I try to stand up. The room wobbles. "I got to get out of here," I say. "I don't feel good."

"Sure, George. Finish your drink."

I hesitate, and the glass is halfway to my lips before I know it, and I let it come the rest of the way and drink it down. She slips out of the booth, and I slip out, and she stands next to me, hanging on my shoulder.

"Tomorrow night?" she whispers.

The body feels sick, and I feel sick inside the body. But it's worse than that. I'm afraid.

"Yeah," I get out through stiff lips, and I find my mouth brushing against hers, and I pull myself away. I thread my way between the tables, unsteadily, and I get out into the night, and I'm breathing deeply.

The next thing I know I'm climbing steep steps in a dark corridor, and I don't know how I got there.

I'm not climbing alone. Fear is climbing with me.

I CLIMB and I turn and I climb again, and the darkness is thick with stale odors of cooked food. I try to figure out what I'm doing here and how I got here, but I feel vague and feeble, and the body, staggering a little, keeps climbing purposefully. Except that it can't have a purpose; I am its purpose. I can stop, if I want, but I let the body go on to its unknown destination.

I stop in front of a dark door. My hand reaches out. It has a key in it. The key fits into the keyhole and rattles and turns. The other hand eases the door open. I slip through into the room beyond and close the door gently behind me.

I walk through the room, maneuvering around unseen objects unerringly, although my feet are heavy and clumsy, and I find my hand on the knob of another door. I turn it gently. It begins to open. It creaks. I hesitate.

"George?" It is a low, harsh voice, disembodied in the darkness.

"Yeah."

"So you finally came home."

There is no welcome here. The voice is bitter and spiteful.

I walk into the room and ease myself into a chair I don't know is there, and I reach out wearily toward the voice in the darkness. There is a bed there, and a woman is on the bed, and the woman is Smith's lawful mate. While I am Smith, she is my lawful mate. I touch her mind and recoil.

Hate! Violent and vicious. Hate doubled because it was once something else. Hate redoubled because it is impotent.

My hands reach down to untie my shoes. But inside the body, I am searching frantically for an excuse to get away. And I can't think of any.

"You run out of money or did Dolores get tired of you?"

"Nuts!" I say.

"You have something to eat?"

"Yeah."

"We had mush."

"Yeah?"

"That's the third time this week."

"So what?"

"I'd think you'd want your kids to have a decent meal once in a while."

"I give you money," I say loudly. "It ain't my fault you throw it away on candy and magazines and movies."

"What else I got?" she says. "Fat lot of money you give me."

A distant voice says, "Mama!"

"You woke up the kids again," she says wearily.

I hear the bedsprings creak. A moment later an overhead light comes on. I blink. She is in a thin, ragged nightgown. Her face is haggard and old, but the body under the gown is still young. She walks by me, and I find my hand reaching out toward her. She twists away from it. She looks at me with hard, hating eyes, and her mouth curls with revulsion. She walks through the door and into the darkness beyond.

The bedroom is dirty and disheveled. The light glares down from a naked bulb hanging on a cord. It swings back and forth. Shadows sway around the room.

I reach out toward the other minds. They are young. They are overwise.

"He's home."

"I heard him. He's drunk again."

"Why does he have to come home? Why can't he stay away forever."

"Mama says we wouldn't have nothing to eat."

"I don't care. I don't care if we eat mush all the time. It's better when he's gone."

"Sh-h-h. Mama's coming."

"Go back to sleep, boys. Everything's all right."

"He's home, ain't he, Mama?"

"Yes. Go back to sleep."

"Why can't he stay away?"

"Don't say things like that. He's your father."

"He ain't hurt you, has he, Mama?"

"No. Of course not."

"If he hurts you tonight, I'll kill him. I'll kill him."

"Me, too."

Hate. Pouring out at me. Surrounding me. Pressing down . . .

"You mustn't say things like that. He's your father."

"He's not! He's not!"

"Be quiet now. Go back to sleep."

She returns. I hear her footsteps echoing through the dark, the sticky, odorous dark, and I look around the room, and I wonder why I am here, so far from the clean meadows and the calm, gentle hosts of my home world. And I wonder how soon I can get away. I wonder if I must spend a night here, or more, sleeping in that bed beside the body of the woman, sensing her movements, listening to her thoughts, torn with repugnance. She is an enemy . . .

I have lived with danger for a long time. Ever since the ship descended upon our world, danger has walked beside me. It didn't matter so much there, because we were many, but now I am one and alone, and I am afraid.

These men are strange animals, and I, who have strange powers they never suspected until recently —I am afraid of them.

I am in the body of a man named Smith, and I hate it.

Smith! Smith! Where are you, Smith!

THE LIGHT is out and I crawl into bed beside the woman. I lie on one side of the bed, and she lies on the other, and we listen to each other breathing. I feel her hate.

I try to plan how I will get out of the city and how I will leave this alien body and seek the peace I need before I can divide. I think how I will find some of the animals that Smith heard of, and I will use them as hosts until I am many again, and we will take over this world. Once there are many of us, it will be simple. It will be painful work, but simple.

But it is useless. All I can think about is the woman lying there on the other side of this uncomfortable bed, and how I am surrounded by strange flesh and the flesh is surrounded by hate.

I am shocked to find myself in the middle of the bed. The discovery paralyzes me for a moment, and then I try to draw back. But there are odd, undefinable things working inside me. Uncontrolled sensations quiver along the nerves inside the body, quiver along the feelers that lie microscopically inside the nerves. Glands are discharging their secretions into the body. The process seems automatic; I can't stop them. The body, too, must have automatic responses. It reaches toward the woman.

"George!" she says in a low, vicious voice. "Get away from me."

I put my hand on her. She writhes away from it, her flesh shrinking. I get closer. She struggles; she hits at me with her fists. I pin her hands behind her with one of mine. I lower my head over hers, kissing her lips that twist like snakes under mine.

"George! Don't!" she snaps, when I raise my head for a moment. "The children are listening."

"So what?"

The body goes on doing things that I can't control. I can't control anything now. Flesh speaks to flesh, and the emotions working inside me are wild and violent. I try to shut myself away from them. I try to

cower back, to disengage myself, but it is no use.

"George," she says. I hear the voice distantly. "George! You filthy beast! Don't come crawling to me after you've been with that woman!"

But her voice is softening, and her body is softening, too. As I release her hands, they do not claw at me. They try to push me away, but they are weak and ineffectual.

Horror is inside the body with me, and I cannot help what the body is doing. Sweat rolls off our bodies.

"You beast," she says again. "You beast." But her voice is different now. She isn't pushing me away any more.

And the worst part is that beneath that surface response is the hate, still there, as violent and unappeasable as ever.

Later I find myself lying on the other side of the bed again. My senses are dulled with horror, and the body is dull, too. It is drifting into sleep.

"You devil," the woman says in a wild, torn voice. "I hate you."

And the body sleeps, soddenly.

But *I* do not sleep. I cannot sleep, like the body, and forget. I must lie awake and remember. And one thought, violent and powerful, drives all the others before it. *Escape!*

Get away, now! Get free from the body before it wakes again and does other terrible, uncontrollable things. There is danger! Ignore it! Pull free now, before it's too late.

I know that I can't stand it any longer. I must be free again. Perhaps this time I can find an animal, some pet, or better, a small animal like a rat. It will have holes and secret ways which the Enemy can't find. Unlike us, he has been unable to exterminate his pests. He will not be able to do it now.

The danger is great, but the danger of staying is greater. I try to begin the slow process of extricating myself from this fleshy trap. But the long, slender feelers will not slip from the nerves and the vessels. They are entangled, glued fast. Is that it? Or am I so weak that I can't even control my own extensions any longer.

The body holds me, clinging to every part of me. It won't let me go. I cannot move. I pull with all my strength. I send out imperious commands along the tenuous feelers. Nothing. Nothing happens.

There is only one chance left. I hesitate before taking it, but at last I send out the impulses of destruction and dissolution. I don't know what it will do to me, caught as I am inside this body, but I don't care any more. And it does nothing.

Trapped!

I relax, hopelessness and dismay washing over me like the ancient sea from which we came. I am caught, irretrievably, finally. I have no control over the body at all; I no longer have any control over my own being. Somehow, inexplicably, the powerful, instintive reactions of this monstrous body have welded me to it. We are bound together, indissolubly, until death.

A lifetime of terror and horror stretches before me. I am a consciousness imprisoned in a mass of

flesh. Speechless, cut off from the world, I will live only to suffer.

Smith! Smith! Where are you?

But there is no answer. Smith is gone. It isn't Smith who has me, who will not let me go; it is this body. A lifetime!

There is one chance, one chance for freedom. There is one place I can turn for help. The Enemy can free me, and it no longer matters if the freedom is death.

I reach out once more, desperately.

Search! Search! Find him!

"Your plan is fantastic. I flatly refuse to let this city be shut down any longer."

"Gardner's right, Burke. You can take over a city for a few hours, but when you start talking about days it's impossible. And you can't expect any results."

"Okay, Ellis. The plan was foolish. I give up."

"Wait a minute. I'm all out of breath. I was all prepared to argue with you, and now you give up. You must have thought of something."

"I just started thinking of the thing as a parasite. Parasites are usually particular about their hosts. They're adapted to one species or a few closely allied species, and they can't change quickly. If the thing escaped, I imagine it found its host body uncongenial."

"Exactly, Burke. And I was going to make another point. In the struggle for existence, the parasite has chosen a negative reaction. It has followed the line of least resistance, giving up freedom and independence for protection and a more constant and usually richer supply of food. It's a retreat from struggle. Basically, it can't compete with positive reactions."

"Nevertheless, we must send out a ship immediately to wipe that world clean. We can't give them a chance to adapt."

"Just before I left the ship, I received new orders from Secspace."

"I suppose the thing is dead. . . ."

I slip away, my last hope gone. They will not search me out. *The monsters! The monsters!* The thing isn't dead, but it would like to be. It must live on until the host dies. . . .

Dies! I remember. With a horrible, sickened feeling, I remember. The rejuvenating network I have supplied this body has made it almost immortal.

My tormented imprisonment isn't just for a lifetime. It is forever.

The sodden body sleeps, this monster named Smith, while my thoughts race madly.

The body shivers, very gently. Deep inside it, a mute voice is screaming.

• • • THE END

Man is a rope connecting animal and Superman, a rope over a precipice . . . What is great in man is that he is a bridge and not a goal.

—*Nietzche*

Will the time machine ever become a reality? Will we ever be able to go back in history and visit the scenes and heroes we've read about? Will we ever be able to foresee events of the future? Man has broken two barriers—space and sound—and now he is working on another . . .

Breaking the TIME Barrier

An IF Fact Article

By Alson J. Smith

SO FAR this century has seen man breach space and sound, two of the barriers that stood between him and a more complete knowledge of the universe. The airplane has reduced the vast distances of land and sea to practical nothingness, and the same marvelous instrument has propelled human beings through the air at supersonic speeds. A hundred years ago only hair-shirted preachers, psychotic cultists, and opium-eating science-fiction writers were anticipating a day when men would hurl themselves through the stratosphere at speeds faster than the sound of a cannon-shot.

The second half of the century may well give man victory over the most enigmatic barrier of all—time. Inconceivable? No more so than travel at supersonic speeds would have seemed to the foot soldier in Wellington's army, or the inter-planetary rocket to the inventor of the steam locomotive. Today not only science-fiction writers but sober scientists in a score of university research centers are quietly experimenting with the hitherto inviolate time-barrier—and *are breaching it every day.*

Man has always been intrigued by the problem of time. "What is time?" cried St. Augustine. "If nobody asks me, I know. But if I am asked, I cannot say." Thousands since then have toyed with the question, and a few million words have been written about man's preoccupation with the nature of time. It governs our lives; we chronicle its passing with calendars, clocks, sand and sun-dial, and dread the slow or quick approach of the final tick that frees us from its domination. Yet—what is it? We don't really know. Mathematically, it is a convenient abstraction, a hu-

manly created device to regulate men and events and bring some sort of order into human relationships. And yet, as Immanuel Kant once observed, we do not know that the "order" which time describes is the true order of the universe.

Maurice Macterlinck had an interesting theory. He comments on the fact that the star Mira, in the constellation of Balaena the Whale, is seventy-two light years away from our earth. Suppose there is on Mira a civilization more advanced than ours, and an astronomer with a telescope powerful enough to distinguish clearly what is going on on Earth. What the Mira astronomer would see would not be Paris, New York, or New Haven as they are now, but as they were seventy-two years ago—horse cars in the street, bustles on the ladies and Amos Alonzo Stagg playing left end for Yale. There would be no trace of two world wars, for they would not yet have happened as far as the astronomer on Mira was concerned; the *present,* for him, is that which he sees. For him the buried life of the past *is* the present. Maeterlinck concludes: "In this plurality of times, which are merely pure conventions, are not the events of the future already present somewhere, just as the events of the past are still present? They cannot be stinted for room, since the present is eternal, which means that it is infinite in space as well as time."

Another interesting theory is that held by Dr. C. D. Broad, the English scientist who is at present working at the University of Michigan. Professor Broad believes that there may be a *second dimension* of time, which normally we know nothing about, lying at right angles to our familiar dimension. If there is this second dimension, then events which are separated by a time-gap in one dimension may be joined without any gap in the other, just as two points on the earth's surface which differ in longitude may be identical in latitude. Our familiar time might be represented by a line going from west to east, and the second or unknown dimension by a line going from south to north. For instance: Mother Shipton, who lived in the sixteenth century, foretold the invention of the automobile. Dr. Broad's theory would explain this by saying that although in our familiar dimension the invention of the automobile occurred more than two centuries *after* Mother Shipton's prediction, yet, in the second dimension of time, it occurred just *before* the prediction. In other words, she was *remembering,* not *predicting.*

One of the most careful theoreticians about time was the late John W. Dunne, a highly-respected British aeronautical engineer whose theories have been incorporated in three books—*Experiment With Time, The Serial Universe* and *The New Immortality.*

Dunne's interest in the time problem began with a series of odd premonitory dreams, in which he dreamed of events exactly as they would happen the day after he dreamed them.

Dunne decided that they were ordinary dreams, but were *displaced in time.* Instead of coming *after* the event they were coming *before* it. They were normal

enough, but he was having them on the wrong nights. He finally decided that all dreams were made up of images of the past, present and future blended together in equal proportions, and that the universe is really *stretched out* in time. And the conventional view in which the future is cut off from the present and past is due to a purely mentally-imposed barrier which exists only in the conscious mind. In dreams we continually cross and recross that nonexistent equator, which we arbitrarily set across the whole stream of time when we're awake.

WE KNOW that time was not an Absolute for the ancients; they were very sure that the "impenetrable" veil could be pierced, even by the most ordinary of their number. The Pythia at Delphi was always a woman and generally one of the ignorant rural population. Yet, after fasting and inhaling the sacred vapors in the temple, she was believed to be capable of delivering messages from the gods and predicting future events. With the coming of modern science in the 15th and 16th centuries, however, time was arbitrarily ruled an Absolute. From then on a philosopher like Kant, a mystic like Swedenborg, a psychologist like McDougall, or even a heretical scientist like Sir William Crookes, sounded an occasional note of dissent, but, generally speaking, time-tethered science was unchallenged in its best-of-all-possible, three-dimensional worlds. In this kind of a climate, prophecy was limited to the logical inference of the weather forecaster and the investment advisor; only the racing fan with his "hunch" could claim a relationship with the Pythia and Pilate's wife.

Dr. Albert Einstein dropped a bombshell into this smug three-dimensional world when he postulated his space-time continuum, with time as a fourth dimension. Space and time, he held, were but opposite sides of a coin.

Everybody had a lot of fun with long-haired old Dr. Einstein and his Theory of Relativity. Limericks like this one were greatly appreciated:

There was a young girl named
  Miss Bright,
Who could travel much faster
  than light.
She departed one day
In an Einsteinian way,
And came back on the previous
  night.

But the scientists did not laugh. They accepted the space-time continuum. And they saw its implication—that an amazing new frontier for scientific experiment had been opened. As men had pioneered in space, so now, theoretically, they might pioneer in time.

The branch of science which is concerning itself with the breaching of the time barrier is that sub-division of psychology known as parapsychology—that is, a psychology that deals with phenomena that are beyond normality. At Duke University Dr. J. C. Rhine and his colleagues in the Laboratory of Parapsychology are experimenting daily with the power of the mind to remember the past and predict the future. Similar experimentation is

carried on at the City College of New York and at the universities of Utrecht, Bonn, Groningen, and London.

The first experiments in *precognition* (the ability of the mind to break the time-barrier and predict or "see" future events) and *retrocognition* (the ability to "see" events of the distant past) were carried out at Duke University with a special set of cards called "ESP" (Extra-Sensory Perception) cards. The subject of the experiment tried to predict the order of the deck *as it would be after it was shuffled.* The results obtained showed mathematical odds of 400,000 to 1 against *chance* being responsible for the correct predictions made by the subjects. Other tests with cards, marbles, dice and matching pictures all bore out the original results. The idea that there is a power of the mind which can *pre*vision, which is not limited by time, was healthily substantiated. These simple experiments are gradually becoming more complex, but the results continue to indicate that the actual breaching of the time barrier by some function of the human mind is not at all impossible.

Based as they are on the science of mathematics, the tests make dull reading. But the conclusion is inescapable and startling—time is not an Absolute; it is a barrier that can be breached, and science has already started down the long road toward that end.

What does it mean? Will H. G. Well's time-machine become a reality? Will the vacationer of the 21st century have his choice of two weeks in modern Paris or two weeks in the Paris of Marie Antoinette? Will the student of history not only read about the Battle of Hastings but, if he is so inclined, buy a ticket to it and go back in time to *see* it? Will man know the future —so that there will be no hidden knowledge, no war, no disaster, no surprise?

The men who are pioneering on this eerie time-frontier are dedicated, able scientists. And in drawing on their experiments for material, the science-fiction writer is as near to fact as Tennyson was with his "airy navies" or Jules Verne with his submarine.

The day is not too far off when we'll be in radio contact with Jupiter and Saturn, when weather will be controlled by radio, and when each person will have a portable sending and receiving set that will enable him to communicate with anyone, anywhere in the world.

—David Sarnoff

When Thomas Edison was once asked how many separate investigations he had under way in West Orange, he answered, "I have enough ideas to keep the laboratories busy for years and 'break' the Bank of England."

Mjly is Yljm's love life. She is her sisters, her mothers, herselves and her ancestors. But poor old Yljm can never be a mother or a sister—just himself!

lonesome hearts

By RUSS WINTERBOTHAM

Illustrated by Kelly Freas

IT SEEMS unnecessary to say that my story began a long time ago, but I do not intend to be subtle. I am not clever and my lying is unpolished, almost amateurish. So I certainly could not be subtle, which requires both cleverness and an ability to tell the truth and a lie in the same breath.

Let us turn back the clock a few ages. I was lying in the sun thinking of love. I understand that you human beings have an aversion to biological discussion, so I will not

go into detail. But I must remind you that my love-life is quite different from yours, for I am from another planet. At the time under discussion, I was most deeply in love.

My heart's desire had no shape, the lovely creature. She had no intelligence, the divine soul. But she was the greatest bit of protoplasm in any galaxy you could name. By our standards, I probably might be called handsome. I was young and healthy. I had all of my genes and chromosomes. My color was the dirty green that is associated with beauty.

The sun warmed my body and the tidal undulation of my planet's surface rocked me gently. And then she came into my life. She floated gently in the breeze, her dainty figure held aloft by a mere hint of levitation. Sparks of static electricity shot from her tender cilia so brightly that I was forced to exude a layer of protective fibre to protect my visory buds. She sucked a deep breath of cyanic gas into her pulmonary pouch and spoke to me sweetly with a voice like distant thunder.

"My dear Yljm, the world is coming to an end."

I could not believe her, for she had no intelligence. She only loved to talk. "Perhaps," I said, "but not today."

"Very soon, then," said she. Her name was Mjly.

I watched her with patronizing amusement. The static electricity showed that she was nervous and upset, but people often get nervous and upset over trivial matters. "Now how," I reasoned, "could our world come to an end? The other planet has gone on for thousands of years without colliding with us. We circle it, in fact."

"No," Mjly said, "that is not our doom. Actually our world will not cease to exist. Life will end here, that is all."

"Ah," I said. "Our atmosphere is escaping into space." I sucked air, viciously. True, the air was thin. True, the atmosphere was escaping. But there would be breathable amounts for many thousands of centuries yet to come.

"Not the air. The food is all gone. Things we eat have ceased to exist."

I levitated myself and looked out over the throbbing land. A few years ago, this land had been covered with vegetation. I had come to take vegetation so much for granted that I'd ceased to notice it. Now it was gone. There were no round fruits growing from tender grasses, no tubers dangling from the fungus trees, no legume vines sprawling over the rocks. Everywhere lay desert, barren dunes shaking their crests with tidal motion.

I lowered myself to the ground and dug my big fibrousities into the sod. No green leaves grew there beneath the surface. The soil was dead. "This will seriously interfere with our future, Mjly," I said.

"We might eat each other," she replied, "but then there would be no one left."

"No one? There are many others here."

"The others are dying," said Mjly, blinking her otic nerves eerily. "We soon will be the only

ones left."

It was indeed a senseless thing to do, to die just because there was no means of going on living. But I must admit that I was tempted for a moment. But I hung onto myself, for there was Mjly, and as long as she lived, there was a reason for me to live too.

"It's not a cheerful prospect," I said, "but I suppose death by starvation is the best way out. We will face death as we have lived, cheerfully and fortuitously."

"And why should we die, when there is another world so close?" she asked.

"Are you suggesting interplanetary flight, my dear?" I was amused again, even though there was little enough left to be amused at.

She crinkled her sense of smell in reply, and I realized I was not being amused at the right time. Anchoring herself by magnetic processes, she began to weave the atmosphere delicately with her taste-bud tendrils. Quickly she hollowed the air molecules into a reflective mirror, and brought it to focus on our neighboring world. I levitated myself into a position so that I could look into the mirror.

The near planet was quite satisfactory. It was the one you know as the earth. It was young. It was green. Huge fern-like plants grew abundantly on its surface. It was full of food. And near.

"The trip could be made by levitation," Mjly said.

I hung back. "Animals might live there. We'd be devoured."

"I am not afraid," she said.

"We might not get hungry for a time. Let us linger here awhile. Later when we get desperate, there will be time enough for interplanetary flight." I hated the thought of stuffing myself full of air enough to last for the long trip.

Mjly lowered her visory buds. "I am going to become a mother," she said.

"Go then, and become a mother. I'll stay here till I get hungry and then join you."

Mjly unflexed her sense of touch and I felt sorry for her. "If I could be sure," I said, "that no wild animals live on the earth, I'd go sooner."

She snapped her sense of balance in happiness. "I will go first," said she. "If everything is pleasant and safe, I will return and let you know."

I nodded my otic nerves and off she went.

As you human beings are doubtless aware, space levitation is quite complicated, but not beyond accomplishment. Once you are able to reach the speed of escape the rest is easy. But Mjly was young and strong and soon she had disappeared from sight traveling at a tremendous velocity. I followed her as long as I could with the telescope and then I lowered myself to the tidal crest of a nearby sand dune and lost myself in metaphysical thoughts.

Almost half a year later I realized that Mjly had been gone longer than I expected. Either she had been eaten by wild animals on the earth, or she had forgotten me.

I was beginning to get lonesome and in a few more months I would get hungry. At the thought of enduring two such excruciating pains

at a single time, I decided to risk my life. I would travel through space to the earth and try to find my beloved.

As you may have guessed, the planet on which we had been living is the one you now know as the Moon, and the distance to the earth is comparatively small. The sand-dunes now have hardened and the tidal sway of its surface can be felt only slightly. The moon no longer turns on its axis and it has no sweetly scented cyanide in its atmosphere. It has no atmosphere of any sort. But it stands now as it did when I left it, glorious in death. Since I departed, no living thing has trod its soil.

My scientific sense instinctively came to the rescue as I approached the earth. I felt a strong gravity wrenching at my vitals and so instead of trying reverse levitation, I spread my processes so that the atmosphere caught in the folds of my skin and I came floating gently down to the ground without harm.

The earth was much as it had appeared through the molecule telescope. It was covered with green vegetation, good, rich, nourishing stuff. And there was enough to feed Mjly and me for a million years.

There were no animals of any sort. Again I went to my scientific sense for the answer. I realized that while vegetable life was far advanced, animal life had yet to appear. Mjly was the first of this type of life ever to set foot on terrestrial soil.

But where was she? On the moon, I could often locate her a thousand miles away by a simple radio call. Although the earth was much larger than the moon, I did not doubt that she was within a thousand miles. So I generated power and issued a call.

I waited for the response. It came feebly to my antenna.

Using my sense of direction, I pushed through the vegetation in search of her. I did not levitate, because the feebleness of her call indicated she might be hurt and on the ground. Besides, levitation is much more difficult on the earth than on the moon.

The reply came stronger to my next call and I sensed through seven of my senses that she was near. She was on the ground, probably injured, which explained why she had not returned as she had promised.

I came to a patch of wilderness, a great marshy plain. In the middle of this swamp was a crater, like those caused by meteors, a deep, ugly scar in the mud. I shuddered at the thought that my darling Mjly might have landed there. Her weaker scientific sense might not have given her the cue to use her skin as a parachute and she might have made the fatal mistake of trying to reverse-levitate.

"Mjly!" I called, speaking aloud now. "Mjly! Where are you?"

"Yljm! I am here!"

"Yes, the voice came from the crater. Gliding to its rim, I looked down. A pool of water lay on the bottom. A greenish scum covered the surface. The scum moved with a million tiny wriggles.

"Yes, Yljm," came Mjly's voice. "It is I. But I am no longer one being." And her voice sounded like

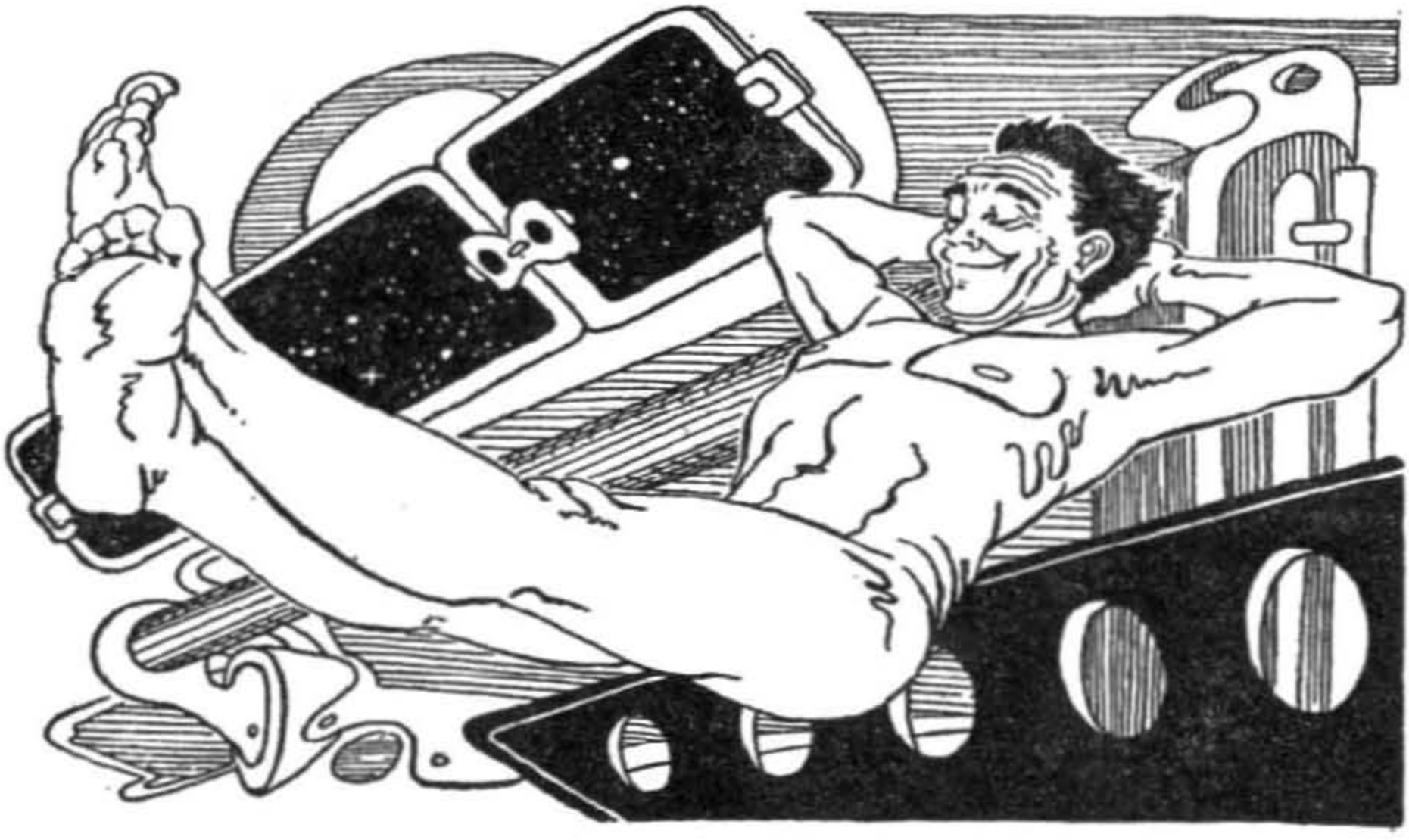
(Continued on page 94)

FAIR and WARMER

By E. G. von Wald

Illustrated by Paul Orban

Tensor's melancholia threatened to disturb the entire citizenry, and that was most uncivil! So—if these peculiar aliens caused him this distress, by provoking his intellectual curiosity, the remedy was for him to investigate them to his complete satisfaction. . . Thus, in this manner, did Tensor get well—and did he learn a bit too . . .



TENSOR gazed helplessly at the fine mist sifting down from a hazy, violet sky. "I told you I was having these spells."

"But Great Oxy," the administrator sputtered, "can't you control yourself?"

"I can't help it, Ruut," Tensor replied. "I just feel sort of funny and—and—"

Ruut's hyperimage was chewing on its illusory lip. "Well, you've got to stop it. Do you understand? There'll be a lot of lichens and things growing all over the Prime's beautiful landscapes if this keeps up."

The administrator's concern amused Tensor and, as his mood lightened, the drizzle abated and the sky became clear again.

"I'm sorry," he apologized sincerely. "But I just seem to be having trouble lately. Ever since the aliens came."

"Oh, come now, son," Ruut chortled with assumed heartiness. "That's elementary somatics. Just get a grip on yourself."

"Yes sir."

"Perhaps you've been working, or exerting yourself in some other foolish way. Maybe you're tired and should take something."

The long, scrawny citizen gazed disconsolately at the beautitful violet sky, his face relaxed and soleful. He sighed and murmured, "Frankly, Ruut, I just don't seem to give a damn anymore."

On the other side of the planet, Ruut gulped convulsively. His eyes bulged out with thoroughly uncivilized amazement.

"Get out of consciousness immediately," he ordered hoarsely.

"Take a nego shot, if necessary. Take one anyway. We can't take chances." The administrator's hyperimage, with calculated angry expression, glared sternly into Tensor's mind. "Did you understand me?"

"Yes sir," Tensor murmured. A vague unpleasantness began stirring in his stomach as he contemplated Ruut's thought. The administrator was absolutely right. Civilization simply could not tolerate an unhappy, uncooperative citizen. The general satisfaction of all was so clearly the responsibility of each individual, and one careless man could ruin it for everybody. Very much as he had been doing.

Obediently he nodded. Concealing his embarrassment at the artificiality of the act, he permitted the hyperimage to watch while he administered the chemical.

"Good." Ruut became calm at once, now that he was certain he could command the situation. "I'll have the physician examine you before that wears off." He hesitated and said even more mildly, "I hope this is just a passing thing, Tensor. You know I'll do everything I can for you, even teleporting to your focus. But you're a weather sensitive, and that's a pretty common classification. And you know the Council."

Tensor indicated lazy assent. As the drug took hold, he slipped soothingly into unconsciousness, and the hyperimage flickered and vanished with his powers. His last emotion was one of a vague relief that he would not have to look at the low caste face of an administrator for a while.

HE FLOATED in his focus, idly and uninterestedly contemplating the deep violet far above. A few minutes before, he had been stirred to an elusive and incomprehensible wistfulness which had been, in some way, connected with the aliens. While waiting for the physician, he pondered the brief glimpse he had got of them before the Council clamped down its screen and privacy orders. Now, under the emotionless pseudoconsciousness of the nego, it seemed strange that he could have been interested in those futile and primitive beings. Practically nothing was known about them, because they could not communicate.

Tensor studied the question briefly. There was no answer available in the paucity of information, so he dismissed it without further interest. Insufficient data. Therefore, insoluble problem. Therefore, forget about it.

He continued to stare at the sky, unconsciously and vacantly waiting.

He felt the itch. It was a slight stimulation of his medulary region, indicating somebody's desire to communicate with him. That, however, was impossible at the moment. The only faculties of significance remaining in his neutral somatic state were those which were absolutely necessary for civilized life—levitation to avoid being disturbed by gravity, the focus for personal privacy, the construction of food. Communication was not one of those, so the itch would just have to remain. Tensor contemplated an eternity with the medulary itch without the slightest concern.

Abruptly the itch stopped and Curl was there, looking exhausted, as was the polite fashion, since teleporting oneself was commonly regarded as tiring.

"You've taken nego," the physician murmured aloud, half accusingly.

"Yes sir," Tensor replied, using similar sound patterns. "Ruut ordered me to."

"What in Oxy for?"

"He did not like my attitude."

The physician considered the information, and while he did so, Ruut popped into existence beside him, a most uncivilized look of worry on his face.

"How is he, Curl? What have you found out?"

"No need for excitement, my dear administrator," the physician replied evenly, politely avoiding comment on Ruut's crude, low caste self control. "I just got here. Thanks to your order to the young man to fill himself up with nego, he was unable to let me project a hyperimage."

"But the situation was dangerous. Did you examine him? Did he tell you what he said to me?"

Curl glanced at him, and then quickly sent probing thoughts at Tensor's mind and body. After a moment, he gave it up, shaking his head. "The nego won't let him communicate at all. I'll have to order him to administer an anitdote to himself."

"No!" Ruut almost shouted. "It's dangerous." He rapidly gave an oral and somewhat horrified account of his earlier communication with Tensor.

"All right," the physician grudgingly admitted. "I'll try to do it superficially. But it's difficult. It's awfully hard to know what's going on in his body from just looking at it and listening to him talk."

He turned to Tensor. "How long have you been having these—er, spurious moods?"

"About six months."

"Are you having any other troubles?"

"No sir. It's just the simple things, like the weather, that seem to be affected."

"I see. Melancholia." Curl frowned thoughtfully. "These moods come unwillingly, is that it? And they don't go away entirely when you shift your endocrine balance?"

"I'm not so sure about that endocrine shift, sir," Tensor stated emotionlessly.

"You mean—" Curl stopped incredulously. He shook his head as he comprehended. "Great Iso Oxys!"

"What is it?" Ruut asked in a hushed voice.

"This is deeper than I thought, Ruut. You did very well to put him under nego. The man can't control his endocrine system properly."

"Well do something," Ruut demanded. "Don't just float there."

"All I can do," Curl said, raising his voice exactly one decibel to show his irritation, "is give advice. Obviously, in his condition, the man can't follow it."

Ruut gazed unhappily at his friend. He was in authority over Tensor, and therefore far inferior in native gifts. Now it seemed that Tensor was regressing in some obscure way to his own level, a tragic

and uncivilized situation.

"This has happened before," Curl admitted. "But I can't quite remember when." He sighed resignedly. "I guess I'll have to teleport again. Somebody probably remembers."

He disappeared for a few minutes and returned again, face beaming despite the fatigue.

"Oh yes," he said cheerfully. "Now I know."

Tensor stared at him with uninterested eyes.

"The man is dying," Curl explained with satisfaction.

"Dying?" Ruut murmured incredulously. "But that's impossible unless the Council orders him to destroy himself. Why—why that would make him just like an animal."

"That's what it is," Curl insisted.

Ordinarily, Tensor would have been somewhat interested to know about this strange process that was taking place within his body, but the nego kept his mind dull and unconcerned. He did not even question for reasons.

Ruut, however, did, and the physician happily explained. "You just have never been concerned with these rare symptoms, my dear administrator. You see, actually we are animals in a sense. We don't die like them, but if we are not in a focus we could be killed through some accidental injury. The principal difference between us and the small animals that occasionally cause Prime trouble with his landscaping is control. They have no control over their endocrine systems. We have."

"Of course," Ruut said. "I know that."

"Ah, but perhaps you don't know that our race at one time had no more control over our endocrine systems than those little animals.

"There are a lot of ways to account for the change, and it makes very fascinating discussion because it's absolutely unimportant. However, under such conditions, a human being would automatically reach a certain stable level of development. But then, after an incredibly short time, the essential chaos within its body due to lack of endocrine control causes it to deteriorate. Eventually it is no longer capable of sustaining life and it dies."

The physician moved his hands in an awkward but eloquent gesture. "And that's all there is to it."

"Oh," Ruut murmured in an awed tone, not even comprehending the extent of the disease but trying to accept the staggering idea of natural death. "Can't you do anything for him?"

Curl turned his attention casually back to the sick man again. "Possibly. Dying, of course, is not a disease in itself, but merely a symptom of one." He shook his head. "I certainly wish I could examine him directly without getting involved in a major social crisis."

"Oh, Prime would be furious," Ruut warned.

"No doubt. Well—he said that this started six months ago. Now what could have happened six months ago?"

"The aliens," Ruut said flatly. "That's what caused it."

"Oh, come now, Ruut," Curl

said amusedly. "Don't be superstitious. What connection could these —these aliens possibly have?"

"Well, that's when the Council clamped down on them. Something funny about the way they did that, too."

"Not at all funny," Curl told him in a superior tone of voice. "It is simply that the aliens appeared to be of a higher type of animal class without communication. Surely you wouldn't want to have anything to do with such contradictory beings."

"Of course not. But Tensor got sick right after he visited them."

"He went to visit them?" Curl was pensive a moment, and his eyes lighted up. "In that case, Ruut, there may be some connection after all."

Ruut nodded without speaking.

"Tensor," Curl said thoughtfully, "did you actually go to inspect the savages?"

"Yes sir."

"When?"

"Just before the Council stopped it."

"Uh huh. Did you have a reaction?"

Tensor considered. He recalled every detail of the fleeting impressions that had been his during the few brief moments of his presence near the peculiar organisms. The impressions were confused and mingled with sensations of teleport fatigue, but there was a definite and strange sentiment involved somewhere.

"Yes, sir," he said woodenly. "There seems to have been a reaction."

"Ha!" The physician glanced significantly at Ruut. "What kind of a reaction, Tensor? And how strong was it?"

"I do not recognize it, sir. But it was stronger than the ordinary ones."

Curl floated over close to him, peering intently up into the unconscious man's eyes. "Tell me the characteristics."

Tensor thought a moment and replied, "Chaotic in one sense. Specific in another."

"Speculative?" Curl's eyes were eager with interest.

"Yes sir. I believe that would define it best. It was a sort of wild and ungovernable desire to speculate on the origin of the aliens. A very singular experience," he added.

"I knew it!" Curl almost shouted. Then he quickly glanced about and composed himself stiffly. That was an embarrassing thing to do. In front of an administrator, too.

"Very well," he said. "That confirms my diagnosis. I shall report it to the Council and let them decide what to do."

"What is it?" Ruut asked.

"A very strange disease. Rare, too. I haven't had a case of it for centuries." He paused and shook his head. "Too bad. I don't recall a single recovery from it once it got a good start."

"It is—contagious?" Ruut asked timidly.

"Oh, not for you," Curl smiled. "It's called intellectual curiosity, and it requires somewhat more brain power than you have."

"Thank Oxy for that," Ruut breathed fervently. His eyes went back to the recumbent form of the

diseased citizen.

"Yes. The Council will dearly love this," Curl said with satisfaction. "Most unusual. He'll have to be destroyed, of course."

"But can't you do anything for it?"

"Not likely. You see, it's the only appetite of which we are capable that can't be controlled by shifting endocrine balance. Ordinarily, our civilized manner of living prevents it from being aroused—that's the advantage of being civilized. Because, once the appetite shows up, it simply must be satisfied, or it's apt to do all sorts of poisonous things to you, as you can see. The trouble is, satisfying curiosity generally involves at least some work, and what civilized man is going to get himself involved with anything like that?"

"Insidious," Ruut whispered.

Curl turned away, but then hesitated and glanced back. "Still, since it concerns the aliens—" He frowned pensively. "There is a scheme we've never tried before that would probably cure him. I remember somebody mentioned it about eight hundred years ago, and we decided to try it out on the next case. Never did, though. Nobody was interested. It's sort of uncivilized, but I'll bring it up and see what the Council thinks."

He nodded shortly, and evacuated to his own focus.

"Well, my boy," Ruut said to Tensor. "I'm going to miss you."

"There is no need to concern yourself over me, sir," Tensor replied unemotionally. "It does not bother me in the slightest."

Ruut knew that to be the truth, but it made him feel sad to think of such a highly civilized man as Tensor falling to a level that was even below an administrator. Abruptly, he caught himself and readjusted the endocrine balance in his own body to compensate for the character of his thought, and the moody spell passed.

He left, and Tensor continued to stare unconsciously at the brilliant, deep violet of the sky, noting without appreciation the jewel-like points of light that were the stars.

THE NEGO had to be recomposed twice in his body before Curl returned, his long, unkempt, black beard floating gently around his ears.

"Tensor," he said gravely, "the Council has acted. It has been decided not to order you to destroy yourself immediately, because I managed to convince them that it would be interesting to try that old scheme I told you about. I hope you don't mind."

Naturally there was no reply from Tensor. In his emotionless state, he did not care one way or the other. He waited.

"At any rate," the physician continued, "what they did was order you to satisfy this curiosity that is causing all your trouble.

"The reason, of course, isn't that the Council is interested in your cure. But they do desire some coherent information about the aliens. And since it is unlikely that anyone will ever volunteer to take the trouble to investigate them on their own initiative, they felt your illness a satisfactory excuse for requiring

you to make the investigation."

"Yes sir."

Curl sighed. It was monotonous, this trying to carry on a conversation with an unconscious man. However, it was his duty as a physician, and he had promised the Council. One thing he was sure of, though, and that was never again to get involved in teleporting himself about the planet like this on any account. He would send an assistant. Provided he could find one.

"The Council would like a report when you get back. Do you think you can control yourself if you know that you are going to investigate the aliens whether you like it or not?"

"I guess so, sir," Tensor replied without interest.

"Splendid. I'll return to my own focus and give you the privacy for administering the antidote."

Tensor waited. When the physician was gone, he constructed the chemical in the vein of his left wrist, and in less than a minute he felt the surging pleasure of his reawakened faculties. He glanced doubtfully at the sky, but it remained clear.

Curl's hyperimage began forming in his mind. "Everything all right now?" the physician inquired genially.

"Perfect," replied Tensor contentedly. "This won't be so bad, even if it *is* useful work. Maybe I'm just a little peculiar."

"Ha, ha," Curl replied noncommittally.

"Oh, one thing further. What about the privacy screen set up around the aliens?"

"That was dropped months ago," Curl laughed. "Can you imagine the Council sustaining anything like that for long?"

"It doesn't require any effort."

"Yes, but it looks like it ought to, and you know how that affects a civilized man. You can go any time you like."

Tensor nodded and withdrew.

ABRUPTLY, he was hovering over the delightful green-and-orange-streaked sands of the central landscape. This was one of Prime's favorites, and the network of drainage channels was the most effective on the planet. Tensor approved. It really was beautiful.

He gazed around, pleasurably appreciating the esthetic beauty of the colorful, arid scene.

Then he saw the aliens. That was astonishing, he thought. The aliens were known to have grouped on the other side of the planet, and he had intended to do some sightseeing on the way around. Now two of them were here. Most unpredictable. They were standing near the horizon, apparently examining one of the channels.

Tensor moved toward them slowly, sending futile probes for their minds and finding, as before, nothing but chaotic splashes. It was really unfortunate that they could not communicate.

He moved higher as he approached, for the better view it afforded. The aliens were animal, all right. A species similar to human beings but grotesquely primitive. He observed that the creatures had noticed him and were running madly across the surface toward a

small, shiny structure.

The structure interested him. It looked very much as if it had been fabricated. He wondered how the savages could construct without being able to control, and watched them as they actually entered the thing.

And then, incredibly, it rose from the ferrous sands and dashed off toward the east, a faint, disgustingly moist vapor trailing out behind it.

Quickly Tensor moved up parallel to it, while he speculated on what it meant. Apparently the savages were in full control of it. For a moment he thought it might be an alien focus, but dismissed the idea. If it were a focus, there would be no purpose in moving it spatially.

Feeling more curious, he projected himself inside and was immediately delighted, despite its obvious mechanical character. It was metallic and smooth and there were numerous incomprehensible devices piled up again the walls of the tiny, circular room. Seated at a panel, their backs toward him, the two creatures were busily manipulating little spots of brilliant color, and one was creating a wierd but soft cacaphony with its mouth.

Tensor was amused as well as interested. He listened, and managed to decipher a pattern to the speech, even though only confused scatterings of intelligence came from the chaotic minds. He again observed the astonishing similarity of appearance between the aliens and human beings.

From a small orifice in the panel, a reply issued; cold and rasping in tonal quality.

"Control to Scout Three. Roger on the presumed alien, Lieutenant. I knew that civilian with you would get you into trouble."

"Well, it wasn't exactly the fault of—"

"Enough. Bear away from the base until certain you are not being followed."

While one of them played with the moving color spots on the panel, the other twisted a knob, and all segments of the outside became successively visible in a viewer.

"Scout Three to Control. Nothing in sight."

"Very well. The orders are to stay there until dark, after which you may return."

"But that's two hundred hours away," the other savage hissed. "We don't have enough oxygen."

"You'll just have to work it out somehow," the panel replied coldly. "We can't endanger the whole military base for one useless civilian biologist."

This was a fascinating exchange to Tensor, as he puzzled out the curious relationships and their purposes. He floated near the ceiling, listening, face set in civilized impassivity.

One of the creatures grumbled, leaned back and swung around in its chair. It jerked erect when it saw the man at the ceiling.

Tensor smiled at the poor, dumb creature and was rewarded by a disgustingly loud noise from its mouth and a mad rush back to the panel. The other had seen him, too, and was staring wide-eyed at him. Tensor moved closer to observe, but the one who had seen him first

continued shouting shrill, ear-splitting noises at its companion, who seemed to be trying unsuccessfully to obey. Petulantly, Tensor disintegrated the noisy one and also some ugly cables that led from the panel to the wall. That improved the esthetic situation immeasurably, he felt.

There was a quick sucking of breath from the remaining savage as it looked wildly about for a moment, as if searching for its vanished companion, and then stared at the place where the cables had been.

"Well—" It made a hopeless gesture with its shoulders and slumped back into its chair. "That does it. No pilot. No radio. Damn. Even the Leader would have trouble with this situation." It looked uneasily at Tensor, and remained perfectly, cautiously still.

"What do you call yourselves?" Tensor asked without difficulty, using sound patterns similar to what they had employed.

"You speak English!" the creature blurted out in amazement, and Tensor felt rather irritated by its crude facial expression. He made a small adjustment, however, bringing his own somatic state into a closer harmony with that of the creature, and the desired level of contented appreciation rose.

"Are—are you a native?" it asked hesitantly.

"Yes," Tensor replied.

It gazed at him with half closed, calculating eyes, starting at the head, running slowly to his feet and back again.

"You look human," it muttered.

"Naturally," Tensor replied cheerfully. The appreciation was growing subtly now, and he found that the creature's mouth interested him. It was a strikingly lovely shade of red—always Tensor's favorite color. And although there was a heavy and awkward sheath of artificial fabric about the alien, he observed with a rising fascination that the bulging of the thoracic sheathing indicated that it was female.

Tensor became uncomfortably aware that he had better be careful of his induced somatic sympathy.

After a moment of speculative silence, he said, "You haven't told me what you savages consider yourselves."

"Don't call me a savage, you naked beast," she snapped back.

"I beg your pardon," he murmured politely. "Merely a semantic difficulty, I'm sure. I assume that you consider yourselves human beings, then. Where do you come from?"

"Earth—the third planet."

"I see. And you used mechanical devices such as this little metal egg to get here. Most curious." Tensor contemplated the thought with great interest, for obviously they used mechanical skill to compensate for lack of direct control. An exceedingly poor substitute, of course; but it explained everything he wanted to know.

"Are there many of you natives?" she asked him cautiously.

"Not like there used to be," Tensor admitted. "But still quite a few—though not so many we get on each other's nerves."

"How many in round numbers?"

That was a silly question, Tensor thought. Nevertheless he told her,

"Oh, I suppose about thirty or a hundred. We haven't counted for centuries. Nobody's interested."

She appeared to be deeply absorbed in thought, gazing at him in an almost detached fashion. Finally she said, "Your civilization is based on the mind, isn't it? You do things with an act of will instead of with your hands."

"Naturally. That is the essential mark of civilization. At least," he added politely, "from our point of view."

"Are you—telepathic?"

"Only with other telepaths," he said simply.

"Then how did you learn my language?"

"Oh, after you talk it a bit, I can see certain relationships. But the mental pictures are so discontinuous and nonspecific that it takes a little time before the pattern emerges."

"That means you don't actually know what I am thinking?"

"Correct. You have the potential, but you don't have the control necessary to permit it."

A small, satisfied smile curved about her lips.

Tensor found it oddly disconcerting. Despite the ugly sheathing, there was something about her that was quite pleasant.

He began to feel that she was even beautiful, and as he disintegrated the sheath in order to appreciate her better, he realized that that it was undoubtedly the strange endocrine balance he had created in himself that was responsible for the attitude. Because there was nothing particularly well-designed about her. She looked unprepossessingly like a civilized woman, except a good deal fatter in places, which hardly helped matters from an abstract point of view.

Tensor could only assume that his point of view was becoming less abstract.

He observed that, upon his disintegrating the sheath, the noise was there again, issuing rapidly from her mouth, and lacking in detailed semantic significance. It was very curious, he thought, watching the rapid rise and fall of her pink-tipped breasts. He could not determine whether the signal indicated terror or fury.

She solved the problem for him by grasping a small metal object from the rack beside her and throwing at him. He deflected it to the floor as it left her hand.

"What," he asked politely, "is disturbing you so?" He liked the angry sparkle of her eyes.

"You," she snapped. "Keep away from me."

"I don't understand," he replied, moving closer and reaching out his hand to obtain a tactile sensation of her lovely hair texture. The woman compressed her red lips firmly and stood there, uneasily watching him out of the corner of her eyes as he gently stroked her head.

"Do all females of your race look nice like you?"

She nodded cautiously and said, "More or less."

"Very curious."

A sly expression came to her eyes then and she smiled radiantly. "Look," she said, "would you do me a favor?"

"Of course," Tensor murmured

with unaccustomed eagerness. This was a very interesting experience, even though he was constantly having to reinforce and add to the chemical shift in his body in order to hold down the possibility of fatigue. He could not recall ever before permitting such an unusual somatic state.

She gestured guilelessly toward the panel. "Would you help me repair my radio?"

"Radio?" Tensor echoed vacantly, gazing at the place indicated.

"Yes. I—er, have to report to my superiors that I may not be able to return, even tonight." Again she smiled dazzlingly and with devastating effect on Tensor.

"I'd be glad to," he said agreeably. "But I don't know anything about mechanical things. Couldn't you just tell me where your superiors are and let me teleport there? I'd let them know and come right back."

"Oh no," she replied quickly. She frowned a little wistfully. "No," she repeated, "they wouldn't like that. They never like anything easy. And besides—" again the smile "—I might not be here when you return, you know!"

"Oh?" Tensor said, puzzled that she knew that he might be concerned over her absence. Possibly she had some power of direct communication after all.

"It's just those cables that you destroyed over the panel," she told him in a softly cajoling voice. "I have some spares in the locker, and if you would help me replace them, it would be fine."

Tensor floated over and peered into the stumps, examining the composition and structure. He nodded and reconstructed them instantly.

She was obviously delighted and said, "I wondered if you could do that. May I use the radio now?"

Tensor stared at the whiteness of her teeth contrasting pleasingly with the redness of her lips. "Go right ahead," he murmured. He decided he had better leave soon.

He watched as the brilliant spots of color glowed and shifted. She spoke and the panel issued its response. "Control to Scout Three. What happened there a while ago?"

"This is urgent," she said. "Is the Captain there?"

After a noisy hesitation, the panel replied. "This is Commander Carson. What's up out there?"

"Listen carefully," she said. "I have an alien with me on the ship. He's already learned English perfectly. He is only slightly telepathic, so far as I am concerned, but he has great telekinetic powers."

"We were afraid of that. Is he dangerous?"

"Well—he killed Lieutenant Anderson. Completely annihilated her with a simple act of will." She glanced at the bewildered expression on Tensor's face, and favored him with a quick little smile. "He is extremely powerful. He would be a very good friend."

Tensor broke in asking, "What is all this talk now? I do not understand the purpose of it."

"Don't you worry," she murmured softly, reaching up and patting him on the knee. "Just have patience."

The panel rasped at them. "I see. Do you know if there are many

of them?"

"He told me it was between thirty and a hundred, but nobody knows for sure. Presumably they don't have very much communication with each other."

"Ah," rasped the panel in a satisfied tone. "Just a minute. I'll get a directive from the Captain for you."

Tensor nodded slightly as he said, "Oh, I see. That is your Council you are talking to."

"Uh huh," she replied, dodging the hand that sought her hair again. She smiled coyly. "Now just wait. I want to hear what my superiors say." She pushed at him playfully, her smile growing strained as she desperately tried to kill time.

Tensor was amused. Yes, he decided, it was time to go. He was not at all sure that he wanted to go, but he felt that it was wise. He had never in his life engaged in such lengthy and violent exercise and was alarmed at the thought of the fatigue pains he would have when he restored his balance to a civilized neutral again.

The panel rasped noisily at them.

"Captain Jonas," it said, speaking in a different accent this time. "There's a war going on and we can't ake any chances on how the aliens will feel about it. We have a fix on you and I'm sending a flight of homing missles. Nuclear warheads."

She stiffened as she heard the sentence, her red lips drawn back from tightly clenched teeth. In a faint voice, she said, "I—I guess there isn't much I can do about it, is there?"

"Can you keep him there and busy so that he won't notice the missiles coming?"

She gave a short, brittle laugh. "Yes sir. I feel fairly sure I can keep him interested for—" she glanced speculatively at Tensor "—a half hour at least. Probably much longer."

"It'll only be fifteen minutes," the panel rasped. "We'll deal with the others as we find them. You will be decorated for this service, even though you are only a civilian. Posthumously, of course."

The panel was silent.

"Oh sure," she said in a deadly quiet voice. "I'm glad to be appreciated."

Tensor was puzzled. The conversation did not appear to make a great deal of sense to him. He hovered over the panel and gazed at it curiously.

"Just another superior," she told him. "It seems that practically everybody is my superior—or was." She sighed and looked down at herself, wistfully thinking that it was a shame to have to waste all the carefully nurtured loveliness that she knew she was.

She looked up at Tensor, who had lost interest in the panel and was busily examining the outside in a viewscope.

"Come here, big boy," she said quickly. When he turned to face her, she added, "keep your attention over here."

With an agreeable smile, he floated to her and, in obedience to her directions, lifted her into his arms. She put her lips to his, her hands gently caressing his cheek.

It was a shock. Tensor let out his pent-up breath explosively and ran

his tongue over his lips, tasting the mixture of saliva and lipstick. What should have been moderately repulsive to him had been transformed by the chemical sympathy in his veins into something quite overwhelming. His eyes were bright and eager.

"It's a dirty trick and I feel like a jerk," she whispered sadly to him. "But what else can I do?"

"I beg your pardon?" Tensor murmured happily. "I do not understand you."

"Oh well," she breathed softly, smiling a crooked little smile. "Neither one of us will ever know when it happens. A pity to spoil it so soon, though."

In his unaccustomed confusion, Tensor could not follow her thought, but he could grasp the immediate situation. He grinned and nuzzled her affectionately, and decided to stay a while longer.

CURL was floating langorously in his comfortable focus, eyes half closed and glazed, mouth droolingly limp and hands carelessly askew. He formed his hyperimage to appear erect and neat—and with a politely interested expression—while he idly contemplated the telepathic picture being projected into his own mind.

"I see you've recovered," he said. "Splendid."

"Yes, but what an ordeal," Tensor replied. His image took on the appearance of a relieved smile. "If it ever happens again—I don't know."

"It was that bad?" Curl showed suitable lazy civilized sympathy. "I was afraid. All that teleporting of yourself and things."

"It took me almost ten minutes to recover from it," Tensor said grimly.

"Tsk tsk. That's a lot of lactic acid to locate and destroy. But the Council will appreciate it, even if Prime did complain, poor fellow."

"Well, I promised to investigate and I'm a man of my thought. Of course, the curiosity vanished as soon as I got into actual communication with one of them."

"They communicate?" Curl permitted his image to appear mildly astonished, which was the only civilized thing to do. "Tell me about it."

"It's crude, but in some things successful," Tensor explained. "The alien I contacted was a female, for instance. When I adjusted for relative somatic sympathy so that I could stand the poor, uncivilized creature, I naturally acquired the full appetites of a male animal and this female seemed to understand some of my thoughts very well.

"You simply can't imagine the violent somatic compulsions one encounters under such a balance."

"Horrible," agreed Curl. "But I understand, my boy. I once fathered a child—must have been at least a couple of thousand years ago. Purely out of scientific interest, of course, and never again." The physician paused and added, "Matter of fact, it's quite likely that you're that child. Can't ever tell about these things, you know."

Tensor nodded in polite agreement and continued with his own story. "It wasn't at all bad while it was going on, because I was pretty

well anesthetized from body chemicals. But the hangover was terrific."

"Yes, no doubt." Curl appeared to consider a moment before asking. "What about this uncivilized hubbub the Prime raised that caused the council to order him to destroy himself?"

"Oh, that. Well, just as I was about to leave, this primitive I was with coaxed me into playing an interesting but remarkably violent sport with her. And about the same time, it appears that her superiors, for some unknown reason, decided to destroy her. It seems that the aliens' Council doesn't let them take care of it themselves."

"Uh, huh. How did they accomplish it?"

"They used some nuclear breakdown devices, which I imagine serve their primitive society quite well. The devices have appetites built into them for a certain kind of target so they will know where to go.

"But when I agreed to play this game, I naturally set up a privacy focus, so the ship we were in just didn't exist for the nuclear devices. They kept on looking, though, and finally found a lot of similar ships back at the alien's main camp. Made an awful mess out of one of the Prime's favorite landscapes, I understand."

"Well," Curl replied engagingly, "Prime should have had better self-control. I don't blame the Council a bit, and it does fix things up rather nicely." His image smiled into Tensor's mind and then hesitated as he saw the concern there. "Doesn't it?"

"Uh, yes. All except for the alien female that insists on staying with me, now, since none of her people is left on the planet. I told her two or three times to go ahead and destroy herself if she wanted; but she just rumples up my hair, grins at me and says she already has." He looked worriedly at Curl.

"Well, that's just one of those things, I guess," Curl murmured philosophically. Sensing a local distraction approaching Tensor at that moment, he politely withdrew from the other man's mind.

• • • THE END

LONESOME HEARTS *(Continued from page 78)*

a million tiny chirps joined together. "I landed with such force that I came apart. Now each of my body cells lives a life of its own. And now and then each cell grows fat and becomes two. I am my sisters, I . . ."

Let's not be subtle about it. Mjly was a microbe, the beginning of animal life on the earth. She lives today, she is and always will be her sisters, her mothers, herselves and her ancestors. But there are few ancestors, for microbes do not die—just part of themselves die.

And I do not die. For I crept away into a hole in the ground, where I will live forever. I do not starve, for roots reach me here. But I miss my love life with Mjly. I can never be a mother or a sister. I will always be me, a lonesome old bem.

• • • THE END

The body tanks had to be replenished and the ship had to be serviced—and the crew was having a Lotus dream in its bed of protoplasm. But Kelly knew how to arouse them . . .

Has Anybody Here Seen Kelly?

By Kenneth O'Hara

Illustrated by Paul Orban

THE CREW pulsed with contentment and its communal singing brought a pleasant kind of glow that throbbed gently in the control room.

" 'Has anybody here seen Kelly . . . K-E-double-L-Y?' "

"Shut up and dig my thought!" Kelly's stubborn will insisted. "I'm going on out for a while!"

The delicate loom of the Crew's light pattern increased its frequency a little and the song stopped. "Bet-

ter not," the Crew said.

"But why not?"

"No need."

"We could be running into something bad," Kelly thought.

"No danger now, Kelly. Checking the ship is just a waste of time."

"How can you waste what you have so damn much of?" Kelly thought.

"Do not leave us again, Kelly. We love you and you are the most interesting part of the Crew when you're with it."

"The ship ought to be checked. Our bodies ought to be looked at."

"We know there is no danger any more, Kelly. Do not go. There are so many interesting experiences we have not even begun to share yet. We are only half way through your life and we have not even started to experience your impressions of your colorful and complex Earth culture. And we have not even started on the adult lives of Lakrit or Lljub. Come back with your Crew, Kelly."

"But no one's checked the ship for over a year!"

"Please do not worry about the ship, Kelly. In fifty years nothing has gone wrong. We can trust the ship thoroughly now, it will take care of us."

"*It* will take care of *us!* That's a helluva way to look at it!"

"There can be no danger now, Kelly. In fifty years we have encountered every conceivable danger, every imaginable kind of world or possible menace."

"Have we?" Kelly thought. "Every danger from outside maybe, and I'm not even sure of that. But how about danger from inside?"

"Inside?"

"Us. How about apathy for instance. Apathy's a real danger. You talk about this space-can like it was a big metal mother! Listen, I'm supposed to see that this tub holds together. At least until we get back somewhere near enough to the Solar system so we'll feel we've been somewhere else!"

"But, Kelly—"

"I'm getting out for a while, I tell you!"

"All right," the Crew sighed. The light loom faded a bit, down to a self-indulgent glow. "Hurry back to us, Kelly."

"I'll give some thought to it."

So Kelly concentrated on the increasingly painful and difficult task of tearing his consciousness free of the big glob of protoplasm in the tank, and getting it back into his body that hibernated in the bunkroom.

As usual the switch was too painful. It stretched and stretched and finally snapped in an all too familiar explosion of shocking light.

HIS BONES creaked. His skin rustled as he sat up and looked around. There was the old feeling that there was dust over everything when there was no dust. There was all that emptiness sweeping away into the endless silence and he thought again, as he always did, how comforting and cozy it was being a part of the Crew.

But someone had to check the ship. It was only machinery after all, and machinery could wear out, sooner or later. And he wasn't at all sure, as he kept insisting, that they had encountered all the possi-

ble dangers.

It might seem that in fifty years you could run into everything. But fifty years was no time at all out here where time had no real meaning any more.

His body squeaked as he took a few tentative steps about the bunkroom. One did not actually forget how to walk. It was just awkward as the devil. And the blood, the entire autonomic system, tended to slow down. It seemed reluctant to step up general metabolism.

Apathy. Sure it was a danger. This time, Kelly decided, I'll do something about it. He was the engineer and he had signed on the great odyssey to keep the ship going. But the Crew was part of the ship. Was not there an obligation even greater to keep the Crew going?

The four others lived but almost imperceptibly in some very low state of slowed metabolism there in the bunkroom and Kelly looked at them. The faithful and the wonderful ones. The ones with whom he had shared so many dangers and awful silences that the five of them had been able to evolve the idea of the protoplasm in the tank and merge their consciousness in it.

Kew, the Venusian, in her bowl of self-renewing nitrate. Lakrit from a Jupterian satellite, a fluorine fellow of distinction inside a sphere of gaseous sulphur. A crystalline character with a sense of humor named Lljub whose form gave off a paled glint as it nourished itself on silicates. And a highly intelligent but humble six foot long sponge labeled Urdaz stuck in a foundation of chemical sediment at the bottom of a tank of reprocessing salt water.

Each with their own special kind of appendages and sensitivities, each able to move his special closed-system about through the ship by means of clever types of mobility.

But basically, in outward form, they were too alien to have much in common. Only as intelligences, as life forces, could they share a common bed. And it had evolved to that in fifty years. A bed of protoplasm in a shock-absorbent tank.

Kelly looked at them warmly and thought about how it had worked out. The strange thing was that it did have a lot of good things to recommend it. Or had had them. It had solved the problem of intimate communication and driven back the tides of loneliness. It had lessened the dangers of mental and physical illnesses in the material bodies and assured a prolongation of the life of each body, which was important in itself, for this trip had proven to be a lot, longer than even the most pessimistic had anticipated.

The Crew, pulsing in its tank, Kelly thought oddly, is a new life form. One that had evolved to meet the exigencies of deep space which had proven to be alien to any adaptability common to any world that rotated through it.

But maybe they were too damn happy, Kelly thought. Too contented. If they ran into a real emergency now, the ship would be finished. The Crew in the tank was, itself, incapable of action of any overt kind. It could not manipulate anything. It could only be happy.

And the bodies here in the bunk-

room could not rally fast enough to meet a sudden crisis.

And they had agreed that the first law was—survival.

But to survive this way might well mean destruction in another.

So Kelly walked and thought about it, and weighed the precarious balance.

He slipped through the silent ship and to the control room. He peered into the viewscope. Some galaxy or other spun its giant pinwheel outward toward some destiny of its own. The high noon of the endlessness had been unfamiliar for years. He checked the ship's instruments. The Crew in the big tank simmered and throbbed in its introspective bliss, utterly oblivious to Kelly now.

Kelly saw the red dwarf a few hundred million kilos away. Three planets ground their familiar path around it. The second in distance had a breathable oxygen, according to the scopes, but little else to recommend it.

Kelly straightened up. He had no idea when the plan had really started forming, but now it was formed. When Kelly made up his mind to a thing, there was no other course but to conclude it. He knew what he had to do.

Somehow, even as part of the Crew, some part of Kelly had been able to keep that forming plan a secret. Which was a lucky miracle, for if the Crew had known his intentions it would certainly not have let him out this time.

Even if you wanted out, Kelly reasoned, the Crew would keep you in. And maybe after long enough you did not care to get out. But once out, he wondered, could it keep you out if it decided to blackball a man for one reason or another?

Like wrecking the ship?

IN THE CHROME strip above the control panel, Kelly saw his face grinning strangely back at him, a bearded, hollowed, paled face with an unfamiliar glitter in the eyes. Every time he had left the Crew to enter and reactivate his own body, that body had seemed a little less familiar. This time it seemed to be almost entirely someone else.

He stared at the face in the chrome, then whispered the hell with that and he flipped the controls over to manual. He sat down. Behind him, the Crew whispered in its tank, protoplasm developed in the labs and quivering now with some unified sensation that was purely subjective and blissfully unconcerned with what happened outside itself.

"It's sick," Kelly concluded, with an emphatic clamp of his jaws. "It's not right!"

True, sharing the intimate sensations of alien life forms like Kew, the female Venusian, had been exciting. Especially the sex experiences which, in a flower of Kew's type, was certainly something. There were interesting things to being a part of the Crew all right. But the main purpose, survival, had been forgotten. Now being the Crew was an end in itself. Kelly could imagine the Crew business going on and on until finally even the material bodies in the bunkroom would

be forgotten entirely and allowed to rot away to dust about which the Crew would no longer care.

And that was very bad. It should not have worked out this way. But it was not too late to do something, shake them out of the Lotus dream.

He checked the scopes again. Now the second planet revealed plenty of breathable atmosphere settled in the lower valleys. He headed straight for it.

The Crew was soon going to get one devil of a jolt!

He put the ship into a close orbit around the planet. It seemed nothing but a fearsome forest of oxydized spikes rising in corrosive silence, with here and there a lean slash of valley. There was no indication of life, no vegetation visible or revealed by the scopes. One of the valleys had a thin mouth of water stretching down the length of its face. Kelly set the speed and the controls and ran for the bunkroom and the shock-absorbant cushions. He strapped himself in and waited.

It was done. As long as the thing had gone so far, Kelly decided, the truth should never be revealed because that would lessen the therapeutic value of his action. He would wreck the ship. Not too badly. Not so badly that all of the bodies, distinct, separate individual bodies again, couldn't put the ship back together, as in the old days. And that would keep them in their bodies gladly for a while where they belonged! Where the good Lord had intended for them to stay.

They would not be rocked away to apathy in a phony metal mother womb, thinking the ship was going to take care of *them!*

The more Kelly thought about it, the better he felt. He stretched inside the straps. He felt his slightly atrophied muscles luxuriate over the tissues and bones of his big frame.

Any body, no matter what its shape, should be proud of itself. That was Kelly's belief, and this thing that had happened seemed somewhat blasphemous. Without bodies and their complex sensory recording apparatus, the rich consciousness enjoyed by the Crew could not exist, would never have been created at all. The Crew was living off the largesse of experience built up by their bodies. The Crew was just narcotized enough that it did not realize that the body banks had to be replenished.

Metal shrieked.

Kelly yelled feebly. He fought, he grappled with the threatening blackout like a man fighting an invisible opponent on an endless flight of stairs.

The grinding rolling terror of the sound, the ripping, twisting, tearing scream of it cried on and on. Kelly knew one thing then.

He had not figured it right. His calculations were off. *The ship had hit too damn hard.*

LATER when he managed to get the straps off and tried to move he fell painfully onto the tilted deck. One of his eyes felt sticky. He rubbed at it and his hand was smeared with blood.

He shuffled around in a stumbling circle. Minor damages could

have been repaired. But this—the ship was peeled open in glaring strips like a breakfast cannister. A cold wind moaned through the ship that was now nothing but a metal sieve. A hazy light filtered down and ran off the metal like cold flour rust.

Kelly fell to his knees. "Kew," he whispered. "Lljub, Urdaz—Lakrit . . ."

The Venusian flower lady was sliced down the middle like a cabbage, and the nitrate bowl was shattered and Kew was dead in a pool of fading green blood.

Smashed into the bulkhead was Lakrit's sulphuric bathtub, and his atmosphere had already filtered away with the wind to wherever it was going. Lljub's pale glow was out for good, and his crystalline heart was as opaque as a dead eye. Only a few pieces of Urdaz's tank were visible, and Urdaz himself had already turned to a powdery food that the wind ate slowly in long trailing streamers.

"What—what in the name of God have I done?" Kelly whispered.

All dead—

No! He slammed at the bulkhead until the warped metal gave and he ran to the control room. The Crew—the Crew—

He stared at the tank.

Through a jagged opening in the ship's walls, the wind whined and plucked at Kelly's red hair. The wind was colder now. He kept on looking at the tank. He reached out and touched the big transparent curve of it and then jerked his hand back with a whimper in his breath.

There was nothing in the tank, nothing but a blob of slowly drying slime. He pressed his nose to the tank. "Crew—" he whispered.

There was no life in the slime. When he pounded on the tank, the stuff collapsed in upon itself in withering flatness.

Kelly yelled. The cold wind froze at his teeth. It sucked at his breath and dried at the interior of his mouth. He ran and climbed. The jagged periphery of the opening sliced at his flesh. But he did not feel it, and he fell twenty feet, without feeling that either, down the side of the ship. He started crawling over the hard naked belly of the rock.

He got to his feet. He ran stumbling down an incline of shale worn round and shiny by the wind that had blown here just as it blew now, and would blow for God alone possibly knew how long. He fell and rolled to the edge of the water.

He looked into it. He felt of it. He jerked his hand away. The stuff was icy. But it was worse than icy. It was dead. It was dead water. It was without any bottom, and without any life in it anywhere. You could tell by looking into it. The wind moved over the top of it as though the water were glass, and the water was the color of a slightly transparent naked blue steel.

There was no life here. Maybe there had been once, who knew when, who could guess how long ago. But there was none now and even the water had forgotten it.

Kelly cried out as he stood up. "What have I done?" He raised his arms at the hazy red sun lying over the spires of towering stone and metal like a bloated balloon

scraping precariously over rusty spikes. "God, what have I done?"

The cry echoed tinnily on the rocks and fled on the wind.

Kelly ran for a long way, falling and stumbling and getting up again. Kelly had always had one primary drive, and that was to keep going, no matter what. So now he tried to keep going.

But there was no life on this planet. He had known that before. Some strange kinds of intelligence could tolerate some unpleasant worlds. But nothing would live here.

Nothing *could* live here.

"That's your fate," Kelly thought. He sat down and stared at the walls of rock and metal all around. "Your fate, Kelly. Your punishment, your well deserved hell."

That was what it was. Retribution. And knowing that, he tried not to care. He tried to be glad and face what he deserved.

If that were not the answer, then why had only Kelly been spared to face emptiness and silence and no life, all alone?

The irony of it was that he would go on as long as possible keeping himself alive in his own hell. There was food aplenty in the ship, enough to last as long as hell cared to have him.

He turned and started walking back toward the ship that seemed some five miles away. At that instant, the ship disappeared in an abrupt explosion that twised the rocks and a mushroom cloud flowered gently above the lake as Kelly fell trembling on his belly and hugged the ground and pushed his face into the shale while the wind tore and screamed around him and particles of flint ripped his clothes and slashed at his flesh.

HE DID NOT bother walking much farther toward where the ship had been. There was only a crater there now which would offer him nothing in the way of sustaining his very personal and thoroughly private hell.

He walked. The effort became more difficult and finally he was on his hands and knees, crawling. The wind sucked at his ripped clothes, and felt like cold sharp steel in his raw wounds. But slowly and deliberately he continued to crawl.

Kelly had always had the idea that a man should keep going and so now he kept on going. Even if there was no place to go, and you could not remember particularly where you had been, you kept on moving and fighting and slugging along until you could no longer move.

He lay there looking up at the hazy rust of the sky with the naked spires pointing up into it for no reason at all, because there was nothing up there.

He had been there and he knew. Nothing up there but space, black and without a beginning or end. He had not even checked the records of the ship so that now, lying here, he did not even know how far away from Earth he was. At the speed they had traveled, a ship went a long way in fifty years. But the ship, the records, everything was lost.

And no one would ever know now how far they had come.

Or gone. What was the differ-

ence, anyway?

But Kelly had no difficulty in remembering *why* they had come.

They had come into space because that was how it was with those who fought their way up to being the dominate life form of whatever world they had lived on and grown and died on. If you were the kind who went into space, you went because space was there.

Who needed a better reason than that?

"Kew," he whispered. "Lakrit, Lljub, Urdaz, listen now—I thought I was doing the right thing—maybe my idea was right—but I just made a mistake in the calculations. I just made a helluva mistake—"

The wind sighed over the naked rock and the rusted metal and the rock and the dead blue water.

He turned and pushed his head against the rock, and his body curled up against the bitter wind. "You've got to forgive me," he said.

" *'Has anybody here seen Kelly? K-E-double-L-Y?'* "

He shivered and kept his eyes closed. It was part of the wind. He did not want to go out that way, hearing crazy voices in the wind.

" 'Has anybody here seen Kelly—?' "

He raised his head and blinked and the wind drove tears down his cheeks.

"Am I just hearing something that's going crazy inside my head?" He peered around. There was nothing, nothing anywhere of course, nothing where nothing had ever been, and nothing else but nothing could ever be.

"You're wrong, Kelly. Your Crew's here."

Kelly raised himself painfully to an elbow. "Where—*where?*"

"Right here, Kelly. We had a difficult time locating you. Sure, we forgive you. You were trying to do what was right. We know that."

"There's nothing — nothing — " Kelly said.

"You're wrong. The Crew's here and we're waiting."

He stared at the rock. He put his face against it and pushed his hands to it. There was a kind of dull glow in it, a faint hint of warmth in the rock.

"How can this be?" Kelly said.

"This is the life here, Kelly. Perhaps there is life everywhere in the most impossible seeming places. And where life is, Kelly, we can live with it and be welcomed by it. Here, this rock is life, and it has taken us in. It has been here a long time. And it will be here for a much longer time."

"Rock," Kelly said.

"But hurry and come back."

"But no one will ever know. How long—how long can we wait?"

"Who can answer that, Kelly? But maybe they will find the Crew someday."

Kelly looked up once at the completely unfamiliar distances growing darker. Sometime, he thought, they'll come from wherever Earth is and find the Crew of the ship, find a rock here waiting the ages out.

"Hurry, Kelly!"

His head dropped against the rock. His hands slid down it, and a smile moved over his lips and froze there as the wind whispered over it.

• • • THE END

What Is Your Science I.Q.?

LET'S FACE IT, the science fiction writers take it for granted that you are familiar with the terms they sprinkle through their stories so generously. But do you really know what they are talking about? Let's pin you down; see how many of the questions below you can answer correctly. Each correct answer counts five; 70 is good, 80 is very good, and over 85 makes you a whizz!

1. A distance of approximately 62001 light years is called a _____.
2. In which constellation is the star Betelgeuse located?
3. The ability to move matter through force of mind only is called _____.
4. Which planet takes 68.7 days to travel around the sun?
5. The point at which all molecular motion ceases is known theoretically as _____ _____.
6. Which of the planets is the hottest in the solar system?
7. The moon is in apogee when it is _____ from the sun.
8. In what year was the cyclotron invented?
9. Ariel, Umbriel, Titania and Oberon are the four satellites of _____.
10. Approximately how many light years from Earth is the North Star?
11. Pluto, Mercury and _____ are the only planets in our solar system that have no satellites.
12. Which element is 14½ times lighter than air?
13. A day on Jupiter is _____ as long as a day on Earth.
14. What term do we use to describe the biological alteration of a species of living organism?
15. The star _____ sends out 160 times more light than the sun.
16. At approximately how many miles an hour does the sun move through space?
17. The Coalsack region is a nonluminous or dark nebula in the_____ _____.
18. Which is the third largest planet in our solar system?
19. A comet consists of a nucleus, a _____, and a tail.
20. We know Atlantis is a supposedly sunken continent in the Atlantic; what is the name of the continent that is supposed to have sunk in the Pacific?


PRESCRIPTIONS
SPECIAL!
SALE !!
EMSH

Trading with Mr. Wetzle, whose fright chemistry was peculiarly akin to that of a good old American skunk, was dangerous business. However, Sammy had principles and nobody—and no aroma!—was going to shake him from them.

THE BIG STINK

By Theodore R. Cogswell

Illustrated by Ed Emsh

LIKE SAMMY said, even if it was only a hole in the wall, it was his drugstore; and if any goniff from the Anti-Martian League thought he was going to tell him how to run his business, he had another think coming.

His wife Sarah wasn't seeing eye to eye with him. It wasn't because she was eighty pounds heavier and a foot taller than he was, it was simply that every time Sammy got his back up, somebody got hurt—and it was usually Sammy.

"Last time you said that it was to that nice young man from the Merchants Protective Association who wanted you to take out insurance on the new store. And what happened? Three times in two weeks hoodlums break in and smash things up."

"I got my principles," said Sammy sternly.

"Yeah," said Sarah, "principles! Ten years we save so that you, a registered pharmacist, a man who placed third on the state boards, should have a big place you could be proud of instead of a dirty little hole like this. We finally get it and what happens? You got principles and the bank has Rosen's Cut-Rate Drugs. Now we're starting over again, business ain't too bad, already we've been able to put away a lit-

tle for a rainy day, and you and your principles want to start trouble again."

"Trouble I don't want," said Sammy. "Trouble I've never wanted, I'm a peace loving man. But I got my rights. Sammy Rosen isn't going to let himself be shoved around by nobody."

"Who's getting shoved? So ya sign a paper. Maybe you're going to drop dead, you should sign a paper? O'Reilly next door, he's not doing business because he signed a paper? All of Fourth Avenue and you're the only one that's got to be stubborn."

"What should O'Reilly know about principles? Eight years now he's been having the same fire sale. Sign the paper, NO! There will be no sign in my window saying that Martians will not be served here."

Sarah sighed in exasperation.

"That green fur-ball comes here maybe two three times a week to buy a nickle's worth of candy. For that business you should maybe get a brick through the window like last time? You sign the paper so we should keep out of trouble and next time he comes in you tell him he should go buy his candy someplace else and not get honest people in trouble."

"You order some more chocolate syrup?" asked Sammy. "Last time I checked we were getting low."

"Don't change the subject. That man said he would be back in ten minutes."

"So he wants to come back, he can come back. It's a free world."

Mr. Suggs was back in six minutes. He was a large man and the conservative business suit he wore didn't harmonize well with the bulk of his shoulders, his cauliflower ears, or the generally battered appearance of his fat face.

"Afternoon, Mr. Rosen," he boomed. "Lovely day, ain't it. Kind of weather that makes a man glad he's alive and healthy. Right?"

"Right," said Sammy with a touch of uneasiness.

The big man opened his briefcase and took out a legal looking document.

"Now that you've had time to think it over, I know you've come to see things our way. Just sign here and you'll be a member in good standing of the Anti-Martian League just like everybody else around here."

Drawing himself up to his full five feet two, Sammy shoved the paper away and said with all the firmness he could muster, "Anybody wants to buy something in my store, that's what I got it for. All kinds of people come in here. I should start putting signs up this one can't come in because he don't vote the way I do and that one can't come in because he calls his god a different name than I do, and pretty soon there's so many signs in the window that the sun can't get in and the only customer I got left is myself." He paused for breath and gave the document another shove. "Sammy Rosen's name don't go down on nothing like that!"

"Listen, punk," growled the big man, and then suddenly caught himself. "Listen, Mr. Rosen, I agree with you a hundred percent. But what you're talking about are humans. Martians ain't."

"Human or Martian, a customer

is a customer. What's where a customer comes from got to do with my doing business with him? I go to pay my rent I don't have to fill out a paper saying where I got each dollar."

The big man snorted in disgust. "So that's it. You little guys are all alike. You like to talk about principles but what you're really afraid of is losing a nickel. Well suppose I fix things so that by joining the League you make yourself a nice chunk of change on the deal?"

Without waiting for Sammy's answer, he opened his briefcase again and took out a small vial and placed it on the counter. Sammy looked at it questioningly.

"Maybe this will make you change your mind," said the big man.

"What is it?"

"A full ounce of Venusian Leather!"

Sammy's eyebrows went up and he whistled in spite of himself. Like everybody else he had heard of the fabulously expensive scent for men put out by the House of Arnett, a perfume that had such a powerful emotional effect on members of the opposite sex that for years there had been some talk in the World Congress of banning it.

"That's worth five thousand smackers on the wholesale market," said the big man. "Just put your John Henry down here and it's yours."

"He'll sign!" said Sarah quickly. She turned fiercely on her husband. "You heard what the man said—five thousand dollars! With that we can get out of this hole in the wall and have a decent place again. Think of it, Sammy, a big place on the corner with a neon sign six feet high blinking out ROSEN'S CUT-RATE DRUGS in red and green and purple!"

The picture hit Sammy hard. He closed his eyes, the better to visualize the glorious sight. Like a man in a trance his hand reached out slowly for the fat-bellied fountain pen that Mr. Suggs was holding out to him.

"You'll never regret this, Rosen. You're the last place within twenty blocks of the spaceport that hasn't signed. With the neighborhood one hundred percent against them, those stinking greenies are going to feel so unpopular that they'll have to pack up and go home."

Sammy hesitated and then picked up the contract and scanned it near-sightedly.

"There's an awful lot of small print here," he said.

"It's all on the up-and-up," said the big man. "All that it boils down to is that you agree not to have no truck with any Martians that happen to come around. It's for your own protection. If we don't put that bunch in their place, pretty soon Earth will be swarming with those little stinkers."

"Maybe so," muttered Sammy, "but five thousand bucks just so I don't sell a couple of nickels worth of candy, that don't make sense."

"It doesn't have to," said Mr. Suggs. "Like you said yourself, when you go to pay your rent nobody's asking where the money came from. You want to keep Earth safe for Earthmen, you sign. Any time a Martian lands, he's put in coventry. Nobody talks to him,

nobody does business with him, nobody even lets on he exists. Under the treaty the World Government made after the first landing on Mars, we can't keep them from coming here. But there's nothing in the law that says we got to make them welcome. This here contract is just a legal gentleman's agreement that—"

"A WHAT?"

"A legal gentleman's agreement."

"OUT!"

Sammy's eyes were blazing.

"What's eating you?" demanded Suggs. "What did I say?"

"Enough! Enough to bring me to my senses. And for a fistful of dirty dollars I, Sammy Rosen, was going to be a part of it." He spat in self-disgust.

"Now listen here!"

"I don't listen to nothing. Get out of my store before I call a cop!"

The big man turned to Sarah.

"Can't you reason with him, lady?"

She took one look at her husband's tight-lipped face and shrugged her shoulders hopelessly. "Not when he's like that."

"You don't listen to nothing, eh, Rosen? We'll see about that." He picked up his briefcase and the perfume and started toward the door. When he reached it he turned.

"You're going to find out what a stinker a Martian can really be. And when you do, you're going to be happy to sign—for nothing!"

SAMMY SLEPT in the store that night but nobody tried to break in and no bricks came crashing through the windows. When Sarah arrived with his breakfast, he was in a slightly happier mood.

"See," he said, "no trouble."

Sarah didn't say anything. Sammy was about to receive the silent treatment. Just after she left and he had settled down in his old rocker at the rear of the store to read the morning paper, he heard the tinkle of the customer bell from the front. When he saw nobody standing on the other side of the counter he knew who had come in. He leaned over the showcase and looked down at the little foot-high ball of green fur that was bouncing up and down in front of the candy case. When it saw him it piped in a fluttering flute-like voice, "A thousand greetings, egg-mother. May your *fwentok* never lose its rotundity and your *gertlings* embrace all eternity."

"Mazel-tov yourself, Mr. Wetzle," said Sammy politely. "Nice day, isn't it."

"For Marslings the response is in the negative. Tomorrow is our last day earthside."

"Business isn't so good?"

"Business isn't. The streets are full of signs saying here we cannot enter, and the buyers who come to our ship look at our holds of dried *keera* berries and laugh or say angry words and depart without buying."

"Things'll get better," said Sammy comfortingly. "They're bound to."

"Is not better, egg-mother, is sadness and departing. In the coming there were bouncings of happiness and singings in the companionways because now we were free of the Company and there would

we no more horrors for our folklings from the *dwirtles* in the trading shed. Six of your years my peoples had worked to save enough of the green earth paper to charter the ship that brought us. We were thinkings that because the Company prized the berries that here they would be prized too. But it is not so and now we must return to tell our peoples that we have found only failures. The Company will be angry because we came and now they will ask more and give less. And no protest will be made, for without the pumps and other machine things we get from them to bring the water up from the deep wells there would come again the great hunger that was on us before the earthman came."

"There must be some way out," said Sammy. "These berries, maybe if you took them to a good chemist he could find out what they were good for."

"This we did," said the little Martian. "And after waiting came a long report full of big words which said in many different ways was usefulness nothing." He paused and ruffled his silky green fur. "But you have been my friend and it is not kind to be casting on your *fwentok* our troubles. My coming this day was to say farewell and blessings." He hesitated a moment. "And if you'll forgiving, to ask a question which is giving deep bothering."

"Yes?" said Sammy.

"Why for four little Mars peoples could there be such a closing of stores against us and a putting of signs in windows?"

"You've got me," said Sammy. "There's an organization behind it, a big one, and they're spending a lot of money, a whole lot of money." He thought wistfully of the vanished five thousand dollars and what he could have done with it and then made a determined effort to banish the thought from his head. Reaching down, he slid open the door on the candy case.

"What'll you have this morning, Mr. Wetzle?"

"Nothings," said the little Martian sadly. "The last of my earth coins are gone and in my pouch now is nothings but valueless *keera* berries." He bounced almost to the front door and then turned. "Of you, egg-mother, there will be fond memories. Blessings and farewell."

"Wait," said Sammy impulsively, and reaching into the candy case he filled a small sack with an assortment of licorice whips, lemon drops, green leaves, bubble gum, chocolate malt balls, and jawbreakers of various shapes and colors.

"Here," he said, thrusting the bag forward. "Take it with you and eat in good health."

Wetzle eyed the bag wistfully but didn't come forward to take it.

"I bless your thought, egg-mother, but to take without payment cannot be done. Such is the speaking of the oldsters."

"Who said anything about no payment," said Sammy. "If those berries are good enough for that company on Mars, they ought to be good enough for Sammy Rosen." He paused as if he were making a quick mental computation. "I'd say there were about ten berries worth of candies in that sack." He held it forward again. "Here, take it."

"But . . ." protested the Martian.

"No buts," said Sammy firmly. "I run my business, I set my prices. Among friends there should be no argument."

The alien hesitated for a moment and then gave a happy bounce that took him up on top of the candy counter.

"Your goodness will not be forgotten," he said. "Take them all. For me they have no value."

A small, slit-like opening opened along his middle and a handful of small dried berries that looked like raisins, except for their brilliant reddish color, tumbled out on the counter. The slit continued to widen until a large pouch like that of a kangaroo was exposed and Sammy placed the bag of candy inside it.

The little Martian was half way through an elaborate expression of thanks when he was suddenly interrupted by a tapping sound from the front window. Both he and Sammy turned to see what was happening. Their responses to what they saw were rather different.

In spite of the turned up collar of his trench coat and the pulled down brim of his slouch hat, Sammy was able to identify the man outside as Suggs, the Anti-Martian League agent. He was holding a bird cage in one hand and when he saw them looking at him he held it up so they could see what was inside.

Hanging almost motionless on two pairs of tiny fan-like wings was a tiny reptile with a long jeweled beak and glittering scales that sent flashes of sunlight into the store. Sammy stared at it with a sudden lump in his throat. He had never seen anything so beautiful in his whole life.

Wetzle was staring too, but not in admiration.

"Make him take it away, egg-mother, or something terrible will happen!"

And just then something did. Suggs turned the cage so that the little flying reptile could look in the window. When it saw Wetzle it let out a sudden sharp scream of rage and threw itself against the bars with a violent beating of wings, a long dagger-like tongue darting in and out of its beak. The Martian let out a squawk of hysterical fright and flattened down on top of the showcase like a semi-collapsed football. Simultaneously a ring of tiny hose-like members erected themselves through his fur and shot a fine spray up into the air. Since Sammy was only two feet away, he got the full and immediate benefit of it.

The stench was horrible, so horrible as to make the protective scent employed by skunks seem to be attar of roses in comparison, and so strong that for a moment Sammy was too stunned to react to it. When he finally did he staggered back drunkenly, clapping both hands over nose and mouth in a vain effort to keep it out. His stomach heaved once, and then twice, and he made a sudden dive for the back room and made the nearest window.

Unheeded, the man in the trench coat climbed into a car that was parked nearby, placed the cage on the seat beside him, and drove slowly away, a satisfied smile on his ugly face.

TEN MINUTES later Sammy staggered back into the front of the store and collapsed into an old wicker chair he kept behind the counter. He'd finally adjusted to the stench to the point where each breath didn't threaten immediate nausea but he was barely able to hold his own.

"What happened, Wetzle," he gasped.

The little Martian hadn't moved. He still crouched on top of the showcase, trembling half in fright and half in mortification.

"The *dwirtle*, the thing in the cage, made me do it," he said miserably.

"But it wasn't hurting you!"

"Martian people have what you call built-in defendable mechanism," explained Wetzle in a quavering voice. "When *dwirtle* is commencing hunger dance the squirters goes psssst for life-saving. This *dwirtle* is killer bird, most dangerous thing on Mars. It stabs with tongue and is murder. Only spray from head things can drive it away. If I could have made control, it would not have happened, but head things are not part of thinker, they go off by themselves when *dwirtles* come." He let out the Martian equivalent of a lugubrious sigh. "But though unwilling, I have brought upon my friends *fwentok* great sorrow and for this I must make expiation. I now turn off my breathers."

The three air sacks that were spaced equidistantly around Wetzle's body stopped their pulsing and in a matter of seconds a glaze began to steal over his eyes.

When Sammy realized what was happening, he let out a horrified yell.

"For Pete's sake, Wetzle, don't! I got enough troubles without having suicides in my shop yet."

The little Martian didn't seem to hear. The light of life had almost flickered out when Sammy grabbed him and started to shake him violently.

"Listen, dumpkof. To die isn't helping things, it will only make matters worse for me. Your—your death will be on my *fwentok*." That did it. Wetzle gave a sudden gasp and his air sacks began to pump convulsively.

"Now look," said Sammy sternly. "It wasn't your fault, you couldn't help it. You just sit there and don't do nothing while I try and figure out some way to get rid of this stink."

The first and obvious thing to do was to open the front door and air the shop out. This he did and turned on the large overhead fan to speed things up a bit.

As the Martian protective odor billowed out into the street, there were immediate violent protests from the neighbors. O'Reilly came charging over from the furniture store next door to see what was the matter, only to skid to a halt when the full force of the stench hit his nostrils.

"Hey, Rosen!" he shouted after he had retreated to a safe distance, "What's going on over there? You got my store stunk up so bad that all my customers are running out!"

Sammy hesitated, looked at Wetzle who was still hunched up miserably on the counter, and came to a sudden decision. The Martians

were having a tough enough time of it as it was. Something like this was all that was needed to tip the scales against them completely. Sammy had known what it was like to be the underdog and in spite of what had happened he felt a flush of sympathy for the unhappy little Martian.

"It's nothing, O'Reilly," he yelled. "I'm making a little experiment and it's not going just like the book says. A couple more minutes and I'll have everything under control."

"You'd better be quick about it," replied the other angrily, "or you're going to have a nice law suit on your hands."

O'Reilly wasn't the only one who was objecting. As the stench spread up and down the street, more and more stores were involuntarily evacuated and more and more voices joined the angry chorus demanding that Sammy do something, and do it right away.

Sammy tried. He tried everything in his stock of pharmaceuticals without success and at last was reduced to the patent deodorants he carried in stock. He tried every last stick, tube, and jar but nothing did any good.

He was just moving toward the door to confess defeat and ask for suggestions when he heard the moan of a police siren coming down the street. Seconds later a squad-car came to a screeching stop right in front of the store. Two policemen came tumbling out, only to stumble to a stop and wilt as the odor hit them. Gagging and holding their noses, they scrambled back into their car and backed away until they found a spot where the stench was semi-bearable.

The driver cranked down his window a cautious half inch and shouted a stern warning to the effect that if Sammy didn't do something about the disturbance he was causing, he was going to find himself in serious trouble.

"There's nothing I can do," shouted Sammy. "I've tried everything!"

"Then you'd better try something else," snapped the driver. "You're maintaining a public nuisance and if it ain't abated within five minutes, I'm going to haul you in."

The ultimatum was greeted by a ragged cheer from the householders who had fled the flats above the stores on each side of Sammy's establishment. Only one tenant still remained in her quarters, a retired burlesque queen who was in the midst of a prolonged and severe attack of rose fever. Even her swollen nostrils, however, were able to pick up enough of the scent to cause her to lean out her third story window and shriek somewhat dated but nevertheless effective obscenities.

With Wetzle looking on helplessly, Sammy made one last desperate attempt at new deodorant combinations, but nothing had any effect on the horrible miasma that poured forth from the store. When five minutes by the store clock had passed, he appeared in front of his store, head hanging and feet dragging, to surrender himself to the law.

Though innocent, Sammy was a law abiding citizen. It wasn't his fault that he wasn't taken into custody. But he had been thoroughly

saturated by Wetzle's protective spray and the passing of time hadn't diminished its potency. As a result, wherever he went he was protected by an invisible barrier.

He was only half way to the squadcar when it suddenly darted away in reverse. For two blocks he followed it with the spectators retreating sullenly in front of him, but every time he got within a hundred yards, there would be a sudden whine of gears and the car would roar back to a safe distance.

The two policemen tried every way they could think of to take possession of their prisoner; they even broke out gas masks but even these didn't help. At last they gave up and drove away to place the case in the hands of higher authorities, leaving Sammy to trudge back down the street to his little drugstore. One hour later the Army announced that they were moving in.

WHEN SAMMY reached his store the telephone was ringing violently. Wearily he lifted it to his ear.

"Mr. Rosen? . . . This is Mr. Reynolds of the Anti-Martian League."

Sammy started to explode.

"Look, Rosen," the voice continued. "Do you or do you not want to get rid of that stink?"

Sammy suddenly stopped shouting. "Sure I do," he said. "So what?"

"So we can clear the whole thing up in a matter of seconds if you'll just cooperate."

"Every time somebody starts talking cooperation, I get more troubles," said Sammy bitterly. "The neighbors want I should cooperate by moving away. The city wants I should cooperate by going to jail as a public nuisance. So what is it you're wanting?"

"A simple statement to the press," said the voice smoothly. "All you have to do is to inform the papers who is really responsible for what happened. You might suggest in addition that the Martian was behaving in a disorderly fashion and that when you asked him to leave he responded with an unprovoked gas attack."

"If there's going to be any telling," said Sammy angrily, "it's going to be about that bird."

"What bird?"

"Don't play dumb. The bird that muscleman of yours held up to the window."

"Now, now," said the voice reprovingly. "You don't actually believe that anybody is going to accept such a fantastic story as that, do you? A bird indeed! And anyhow, we have a dozen reliable witnesses who can testify that our Mr. Suggs was in Flatbush playing canasta with an aged aunt at the time in question.

"You're an intelligent man, Mr. Rosen. Use that intelligence. One little statement from you and we'll start decontamination at once. And what's more, we'll still hold open the offer that was made to you earlier."

"What's perfume got to do with being Anti-Martian?" demanded Sammy. "There's something fishy going on."

"The House of Arnett is just one of the many progressive firms who

recognize the Martian danger to the terrestrial way of life," said Reynolds smoothly, in fact a shade too smoothly.

Sammy didn't answer. He just hung up again.

MR. WETZLE," said Sammy at last, "just sitting here staring at each other ain't doing either of us any good. We got to think our way out." He picked up one of the red berries from the little pile on top of the counter and looked at it reflectively.

"These things, do your people have any use for them?"

"No, egg-mother," said the little Martian. "Sometimes the *dwirtle* are eating them, but they are not proper food for Marslings."

Sammy got up from his wicker chair and began to pace the floor. He'd never tried to play detective before and he didn't quite know how to go about it.

"This company," he said finally, "how does it work?"

"Isn't much work," said Wetzle. "Is just giving little bits of machinery for big bags of berries. The company has a concession for the whole north part that says no other Earthmans can come in, but they have only one station."

"One thing more," said Sammy, trying to conceal the growing excitement in his voice. "These *dwirtles,* can they eat anything else?"

"All kinds of things," said Wetzle. "But best of all they like Mars peoples like me."

Sammy's face fell. "That was a blind alley. I thought for a moment that maybe the company was raising them for something or other and buying berries for feed."

"I think not," volunteered the little Martian. "There are some *dwirtles* at the trading station but not lots. They are kept in cages like the small yellow birds you have on earth. The chief trading man is a lover of *dwirtles.* We are many times asking for him not to keep them in the trading sheds so as not to give us bad frights when we bring in berries, but he is a terrible man. He stands and makes laughter when the *dwirtles* start their dance and we fall down in fright and our sprayers go off."

"He must not be able to smell so good," said Sammy. "Begging your pardon, Mr. Wetzle, but a stink like you let out ain't no cause for laughter."

"He's not *in* the trading shed. He stands behind a big glass window and talks to us through a radio thing."

Sammy sat and thought about that for a while and then shook his head in a bewildered fashion.

"I don't get it," he said dolefully, "I just don't get it." He looked down at the little red berry he held in his hand and then bit into it cautiously. It had a harsh bitter flavor that made him spit in distaste and throw the rest of the berry across the room. The bitter taste remained and caused his mouth to pucker slightly. He went back and rinsed his mouth out with water but that didn't do any good either.

"I know one thing that will kill it," he said. "And I need a drink anyway." Out of habit he looked around cautiously and then pulled a bottle of vodka out of a cabinet

where he had it safely hidden from Sarah.

"Here's mud in your eyes," he said and took down a thimblefull. The results were so pleasing that he took another.

And then something happened.

He sniffed. And then sniffed again. Against the swirling overtones of the pervading stench, something else was coming through.

"Do you smell something, Wetzle?" he asked.

"Regretful, egg-mother," said the little green fur ball, "But Martian peoples have no smellers."

"That makes sense," said Sammy, and sniffed again. It was definitely stronger now, a sharp masculine fragrance like nothing he'd ever smelled before. It seemed to have a definite source but for a moment he couldn't locate it. When he did he was thunderstruck. It was coming from his own mouth.

It took him a couple of hours of trial and error before he got what he wanted, but Sammy hadn't passed third on the state pharmaceutical boards for nothing. First there was careful grinding of the berries with a mortar and pestal, then maceration in a solution which contained the same enzymes as normal saliva, and then finally reaction with a concentrated solution of ethyl alcohol.

"We've got it, Wetzle," he said quietly, holding up a beaker of a pale pink solution. "We've got it at last!"

"Got what," asked the little Martian in bewilderment.

"The reason for both our troubles," he said as he began to sprinkle the liquid around the store. "Think about it. Go ask yourself why a big outfit like the Anti-Martian League should be set up just to make you unhappy enough to go back home."

As he talked the solution evaporated. As it did and came in contact with the tiny droplets of the Martian's defensive liquid that hung suspended in the air and coated all the exposed surfaces in the store, an intricate chemical transformation took place. In a matter of seconds the horrible stench had disappeared, leaving in its place a strange exciting fragrance that grew stronger and stronger until at last, much as he enjoyed it, Sammy's head started reeling and he felt an urgent desire for fresh air. Rushing to the door, he threw it open and stood in the entrance inhaling deep breaths of tainted air which automatically became perfumed as they touched his lips.

At each end of the street there was a fire line, and behind the ropes stood his erstwhile neighbors. When they saw him they started in howling again, and in spite of the half-hearted efforts of the police, bottles, rocks, and sundry blunt objects began to fly through the air in his direction. Momentarily, that is, for as the new scent spread out through his door and down the street, a change came over the crowd. The shouting subsided to a puzzled muttering, and then as the odor became stronger, part of the populace began to react in a decidedly abnormal manner.

The first to break through the ropes was the retired burlesque queen.

"I gotta be loved!" she whooped,

and dodging through the police cordon, came pelting down the street toward Sammy. The other females in the crowd weren't long in following suit and Sammy saw a deluge of women of all shapes and ages come screaming toward him from both directions, each chanting her own variation of the mating call. Almost too late he scooted back into the store, slamming down the heavy grill work that protected windows and door as he did so.

"That's potent stuff," he wheezed as he collapsed into his old wicker chair. "I can see now why so much pressure was put on to run you off the planet."

Wetzle gave the triple twitch that was the standard Martian gesture of bewilderment.

"In this small head is confused thinking, egg-mother," he said. "Would you be so kindly as to make clarifications?"

"Later. Right now I got to figure some way to clear the air. My wife Sarah ain't going to like this sudden popularity of mine."

The clearing was relatively simple. After a few minutes of tinkering Sammy made the pleasant discovery that the new scent was susceptible to several of the standard deodorants and before long both the store and its owner had lost the provocative fragrance that had been causing chaos in the street outside.

"And now," said Sammy with a heartfelt sigh of relief, "I think maybe we can talk a little business."

They did.

When they were through Sammy picked up the phone and dialed a number.

"Anti-Martian League," said a voice from the other end.

"I want to talk to Reynolds."

"I'm very sorry but he's in conference. If you'll leave your name, I'll have him call you as soon as he's free."

"Conference, shmomference," said Sammy sternly. "You tell him Rosen is on the phone and wants to talk to him right now."

Three seconds later he heard the unctuous voice.

"We've been expecting to hear from you, Mr. Rosen. I assume you're ready to release that statement to the press?"

"You mean you ain't heard?" asked Sammy.

"Heard what?"

"About me going into a new business."

"Now, Mr. Rosen," said Reynolds soothingly, "that won't be necessary. We did have to get a bit rough to bring you to your senses, but we'll make up for it. That offer of a flask of Venusian Leather is still good."

"That's awfully kind of you," said Sammy, "but me and Wetzle have been talking things over and we decided that we ain't going to let nobody push us around. The reason I called was to ask if maybe your conscience wasn't bothering you enough for you to come over and clean up the mess you caused here."

"Are you saying that you still won't give in?" Reynolds sounded incredulous.

"That's right," said Sammy.

A staccato burst of profanity came from the phone and then a series of reflections upon Sammy's

antecedents that lasted a good three minutes. Sammy waited patiently until the other ran out of breath and then continued:

"That was pretty good, but it's nothing to what you're going to hear when your boss finds out that his attempts to run Wetzle and his friends back to Mars by setting up a phony league have backfired in his face. You see, in trying to get rid of the big stink Wetzle made, I found out something that the House of Arnett spent a lot of money to keep secret—what goes into Venusian Leather. He paused for a minute to let what he had just said sink in. "Right now you're talking to one half of the firm of Rosen and Wetzle, cut-rate perfumers, manufacturers and sole distributors of '*Martian* Leather,' the new perfume for men. You'll be seeing our slogan around once we get our advertising campaign going. It's 'Twice The Strength For Half The Price'."

Galloping sounds came from the other end of the line as if Reynolds had suddenly taken to running across the ceiling.

It was Sammy's turn to adopt a soothing tone of voice.

"There, there," he said. "Sammy Rosen ain't the man to hold a grudge. I know that your League is going to be jerked out from under you as soon as old man Arnett hears the news, but I want you should know that you and your Mr. Suggs can always have a job with us. Wetzle and I are going to need a couple of men to take care of the collecting once we set up our new trading station on Mars. "Of course you won't have an air-tight glass cage to operate from, but it'll be a living."

"And that," said Sammy happily as he hung up the phone, "takes care of that. Capital won't be any problem, but we got one more thing we got to figure out before we can go into production. We've got to find some way to get our raw materials without scaring your people half to death every time we want to make a collection."

"Is full simplicity," said Wetzle, proud to be able to make a contribution at last. "An *up* like this," the tiny tubes rose up through his fur, "a little muscles squeezing like *this*, and—"

"DON'T!" screamed Sammy.

He was too late.

• • • THE END

WHAT IS YOUR SCIENCE I.Q.?

HERE are the answers to the Science Quiz on page 103. How many did you get right? 1—kiloparsec. 2—Orion. 3—telekinesis. 4—Mars. 5—absolute zero. 6—Mercury. 7—farthest. 8—1931. 9—Uranus. 10—400. 11—Venus. 12—hydrogen. 13—one-half. 14—mutation. 15—Aldebran. 16—600,000. 17—Milky Way. 18—Neptune. 19—coma. 20—Mu.

Winged Autos—Cars that look like planes aren't just a science fiction dream. General Motors has been testing a gas turbine auto that has a vertical tail fin, swept back delta wings and brake flaps on the wings to supplement the wheel brakes.

"Fish Cakes"—The latest in "fish stories" is a synthetic egg white made from fish waste. Tests have shown that cakes baked with this substitute ingredient are as good as those made with real eggs. Not the slightest "fishy" taste either.

Electric Fly "Chair"—If bugs keep building up resistance to insecticides, we may have to electrocute them. A new fly trap does just that. Plug it into a household circuit and, after luring the flies with a sweet scent, the trap electrocutes them and then automatically conceals the dead carcasses in a container.

"Miracle" Clothes—You may soon be wearing clothes made of a radically new kind of yarn. Under tests this synthetic has been boiled in acids and baked at 400 degrees for days without harming a single thread. But don't plan a new wardrobe just yet; industry has first call on this particular miracle.

Wind vs. Coal—A landscape covered with huge windmills may seem rather anachronistic, but British scientists are working toward just such a goal. They are testing prototypes that will harness wind power to supplement coal powered stations. An average wind velocity of 20-plus miles an hour would produce power equal to that of coal and would do it as cheaply.

Noise Killer—Loud nerve-wracking noises may soon be completely stilled. A new electronic device consisting of a microphone amplifier and loudspeaker feedback system is in test stages now. Attached to the headrest of a plane seat it can reduce to a whisper the low beat of the engines near a passenger's ear. Adaptation for use on factory machines is a simple matter of installation.

Scientific Semantics—Breaking the language barrier has been tried before with Esperanto, Ido, and Basic English. But the new scientific "supranational" *Interlingua* is spreading so fast that it may well accomplish that semantic understanding which has been sought for so long.

Bacteria vs. Life—We're on the road to a world devoid of bacteria, but scientists aren't happy about it at all. Large forest areas are drying out and land is becoming sterile because of the extinction of bacteria that make life-giving humus. In some places the desert is encroaching so fast that the process can be photographed.

"Everlasting" Battery—After four years of secret military production, an "everlasting" battery will soon be available. Using nickel cadmium cells in an alkaline solution, the battery is invulnerable to shock and vibration, works at temperatures of minus 65 to plus 165 degrees, and resists overcharging, reverse charging and short circuiting. It will even outlast the car.

Insecticide "Injections"—Trees of of the future may be able to kill off their own particular insect enemies. Tests on the African Gold Coast have proved that when certain insecticides are saturated into the soil around a tree, they are absorbed through the roots, and carried throughout the entire circulatory system. When insects attack the tree they die. Simple, isn't it?

Mars and Saucers—The Air Force has found that "saucer" stories are always more frequent when Mars is "close" to the Earth. Since Mars will be closer in 1954 and 1956 than it has been in the last 15 years, a system of cameras has been set up around the U.S. to clear up the mystery once and for all.

Sea Farmers—The continents and islands of this planet have been dissolving into the sea for eons; so much so that future generations may find that the mineral, animal and plant resources of the sea, which have been nourished by this "land loss", are the only ones available for practical consideration.

Climate For Mars—Astronauts are seriously thinking of tampering with the planets to provide Mars with an atmosphere and climate suitable for terrestrials. Jupiter's sixth planet, which is thought to be an ice mass, could be made to intercept the orbit of Mars and so provide some 10,000 million tons of water necessary to the production of oxygen by photosynthesis.

Heart Revivor—A "spark plug" that stimulates the heart-beat and can literally bring a patient back to life without benefit of surgery is being perfected. We can look forward to the day when doctors, going on house calls, will not only carry medicines in their little black bags, but will also have a compact, inexpensive heart stimulator for emergency use.

Paper Snow Fences—Highway snow fences made of paper are not a mad impractical dream. Tests made in Michigan have shown that paper fences are as effective as wooden-slat fences in stopping snow from drifting across highways.

Ocean Radioactives—We may be mining the oceans for radioactives in the future. Oceanographers have found a heat flow from the ocean bottom equal to that caused by radioactive elements on high and dry continents.

Save Your Pans—The lady of the house will be pleased to know that scorched and burned pots and baking pans will soon be a thing of the past. A plastic coating of polytetrafluoroethylene on cooking utensils will save the day.

Tornado Destroyer—The loss of billions of dollars and thousands of lives from destructive tornados may someday be expunged from the records. Scientists believe that a guided missile with an a-bomb warhead could be steered into a baby tornado by radar to destroy it before it could get started on a really destructive rampage devastating the countryside.

"ION-Conditioning" — Rooms of the future may well be "ion-conditioned" as well as air-conditioned to help combat disease and fatigue. Tests at Stanford Medical Center have shown that an atmosphere rich in positive ion charge is debilitating, while a negative charge is extremely beneficial to comfort and health, and aids immeasurably in disease resistance.

A CHAT WITH THE EDITOR

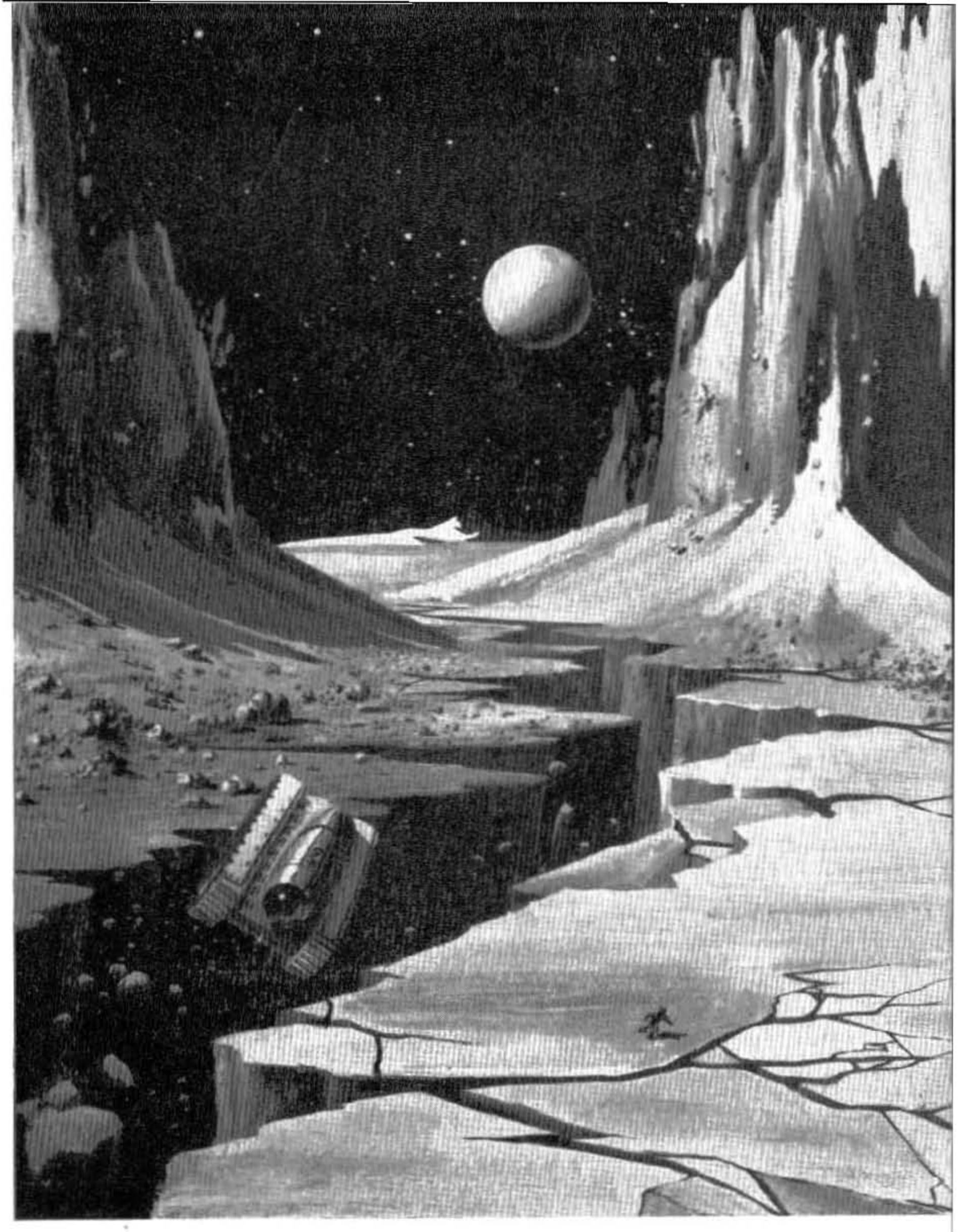
(Continued from page 3)

servation planes or any other available craft, often flying in open cockpits in the face of sub-zero weather and storms of sleet and ice and snow—and they smashed up all over the map of the United States. By March of 1934 the Administration realized it had made a colossal boner and gave the mail contracts back to the private airlines. It was an absurd, costly experiment but it proved the human element to be strong and courageous and capable. And, to me it seems, one of the most dramatic chapters in the annals of the Army Air Force was written during these few months.

But the drama of Lindbergh's flight had touched off the spark. Within a few years air travel became routine. People no longer gawked at the sound of a motor roaring overhead. Since then military planes have been going higher and faster every day. Civilian air transportation has been made safer, faster and more luxurious. Today, out on the Pacific coast, the ultimate in air travel is almost ready for test flight. Boeing Airplane Company is now putting the finishing touches on a sky giant designed to become the first jet plane to fly the Atlantic non-stop. It will carry 80 to 100 passengers and will make the trip at a leisurely average of 550 miles per hour, or about six hours for the crossing! Look for it in the headlines around August or September.

Incidentally, if you want to do some easy "boning up" on early aviation, get a copy of *Wings Over America* by Harry Bruno (published in 1942) and have a lot of fun. Harry Bruno grew up with all the heroes and characters and "drum beaters" of the early days of aviation and his story, void of details or technical angles, is a simple, straight-forward narrative chock full of the people and events that preceded the world of aviation we know today.

So, in these old stories, written during the birth pangs of aviation, is portrayed the human element—the curious, reckless men, with an insatiable appetite for adventure, who were the instruments and guinea pigs of modern flight—the kind who will pioneer the space flight of tomorrow. —jlq



MOONQUAKES—This huge fissure trapping a luckless operator and his tractor is the result of a Moonquake. The dry crust of the Moon, which burned itself out countless centuries ago, is susceptible to many treacherous changes which could snuff out men, machinery and entire bases in an instant. In addition to the quake menace, there are probably large areas where travel would be dangerous because of thin crusts of dust and rock concealing deep chasms.

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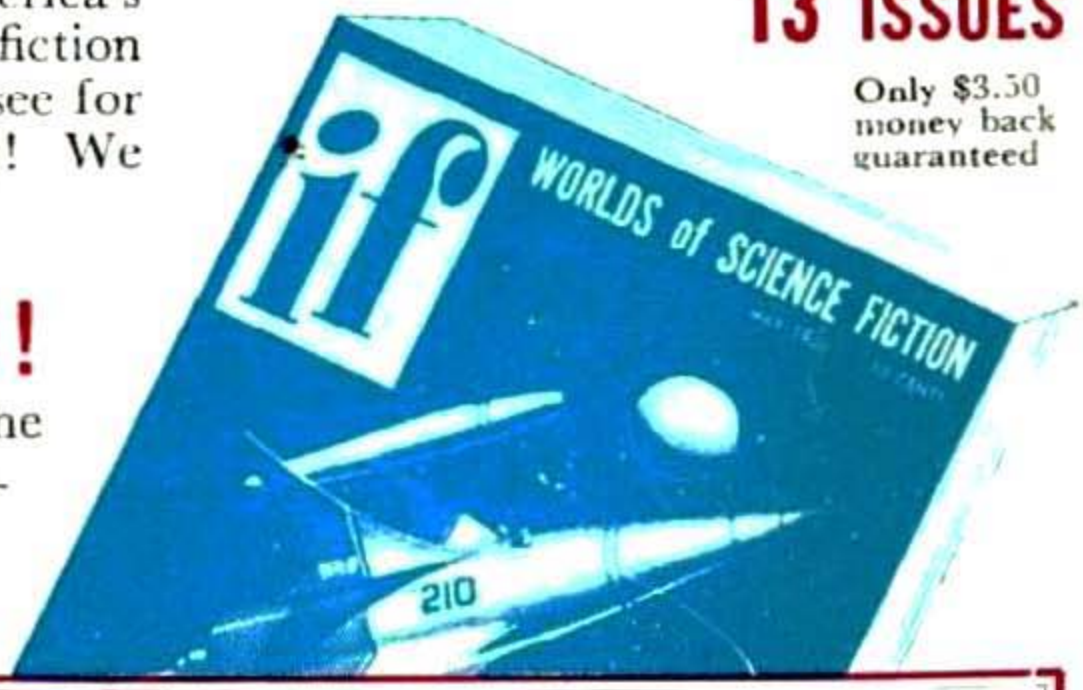

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