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WORLDS OF IF SCIENCE FICTION

MEETING ON KANGSHAN
by ERIC FRANK RUSSELL

STONE PLACE
by FRED SABERHAGEN

Concluding—
STARCHILD by JACK WILLIAMSON and FREDERIK POHL

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ALL NEW STORIES

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What Fans Do

Fans read science fiction. Fans write letters to science-fiction magazines. Fans publish magazines of their own — hold conventions — organize into clubs.

Fans also — and this is something that every professional writer or editor in the field, as well as every reader, is endlessly indebted to them for — do an enormous amount of cataloguing, bibliographing and organizing of literary fragments. Are you a Burroughs fan? Would you like to know the name and publisher of every story Edgar Rice Burroughs ever wrote? It's all in books and magazines prepared by fans. Is there a forty-year-old science-fiction novel you'd like to track down? You can find it in Bleiler and Dikty's *The Checklist of Fantastic Literature*. Care to locate any science-fiction story? Don Day's *Index to the Science Fiction Magazines* covers everything up to 1950 — other lists and supplements carry the indexing rght up to the present day.

These are hobby books for readers and collectors . . . but they're something more than that, too. They are the basic tools for a good many professionals. And we're very grateful!

Newest of these Things That Fans Do is what looks like the biggest of them all.

It is called *A Checklist of Science-Fiction Anthologies*, large size, some 373 pages. It covers more than two hundred anthologies — including some 2700 stories by over 500 writers — published between 1927 and 1963. Most are U.S.A. in origin, but France and England are represented too. It is compiled by W.R. Cole (with an introduction by Theodore Sturgeon), and it is an impressive job.

Perfect? No, it's not perfect. Some stories are unaccountably missing. Some anthologies have been left out. Once or twice there is a plain slip, like listing a story under one member of a collaborating team and forgetting to list it under the other.

But it's the best of its kind — almost the only of its kind — and we'll be using it over and over in years to come, we know.

That's the kind of things fans do that endear them most of all to pros! —THE EDITOR

STONE PLACE

by FRED SABERHAGEN

Illustrated by GAUGHAN

It was a fantastic place to fight a space war—where a million orbiting rocks could conceal an alien ambush!

I

Earth's Gobi spaceport was perhaps the biggest in all the small corner of the galaxy settled by Solarian Man and his descendants; at least, so thought Mitchell Spain, who had seen most of those ports in his twenty-four years of life.

But looking down now from the crowded, descending shuttle, he could see almost nothing of the Gobi's miles of ramp. The vast crowd below, meaning only joyful welcome, had defeated its own purpose by forcing back and breaking the police lines. Now the vertical string of descending shuttle-ships had to pause, searching for enough clear room to land.

Mitchell Spain, crowded into the lowest shuttle with a thousand other volunteers, was paying little attention to the landing problem for the moment. Into this jammed compartment, once a luxurious observation

lounge, had just come Johann Karlsen himself; and this was Mitch's first chance for a good look at the newly appointed High Commander of Sol's defense, though Mitch had ridden Karlsen's spear-shaped flagship all the way from Esteel.

Karlsen was no older than Mitchell Spain, and no taller, his shortness somehow surprising at first glance. He had become ruler of the planet Esteel largely through the influence of his half-brother, the mighty Felipe Nogara; but he held that rule by his own talents.

"This field may be blocked for the rest of the day," Karlsen was saying now, to a cold-eyed Earthman who had just come aboard the shuttle from an aircar. "Let's have the ports open, I want to look around."

Glass and metal slid and reshaped themselves, and sealed ports became small balconies open to the air of Earth, the fresh smells of a living planet — open, also, to the roaring chant of the crowd a few hundred feet below: "Karlsen! Karlsen!"

As the High Commander stepped out onto a balcony to survey for himself the chances of landing, the throng of men in the lounge made a seemingly involuntary brief surging movement, as if to follow. These men were mostly Esteeler volunteers, with a sprinkling of adventurers like Mitchell Spain, the Martian wanderer who had signed up on Esteel for the battle bounty Karlsen offered.

"Don't crowd, outlander," said a tall man ahead of Mitch, turning and looking down at him.

"I answer to the name of Mitchell Spain." He let his voice rasp a shade deeper than usual. "No more an outlander here than you, I think."

The tall one, by his dress and accent, came from Venus, a planet terraformed only within the last century, whose people were sensitive and proud in newness of independence and power. A Venerian might well be jumpy here, on a ship filled with men from a planet ruled by Felipe Nogara's brother.

"Spain — sounds like a Martian name," said the Venerian in a milder tone, looking down at Mitch.

Martians were not known for patience and long suffering. After another moment the tall one seemed to get tired of locking eyes and turned away.

The cold-eyed Earthman, his face somehow familiar to Mitch, was on the communicator, probably to the captain of the shuttle. "Drive on toward the city; cross the Khosutu highway, and let down there."

Karlsen, back inside, said: "Tell him to go no more than about ten kilometers an hour; they seem to want to see me."

The statement was matter-of-fact; if people had made great efforts to see Johann Karlsen, it was only the courteous thing to greet them.

Mitch watched Karlsen's face, and then the back of his head, and the strong arms lifted to wave, as the High Commander stepped out again onto the little balcony. The crowd's roar doubled.

Is that all you feel, Karlsen, a

wish to be courteous? Oh, no, my friend, you are acting. To be greeted with that thunder must do something vital to any man. It might exalt him; possibly it could disgust or frighten him, friendly as it was. You wear well your mask of courteous nobility, High Commander.

What was it like to be Johann Karlsen, come to save the world, when none of the really great and powerful ones seemed to care too much about it? With a bride of famed beauty to be yours when the battle has been won?

And where was brother Felipe today? Scheming, no doubt, to get economic power over yet another planet.

With another shift of the little mob inside the shuttle the tall Venerian moved from in front of Mitch who could now see clearly out the port past Karlsen. Sea of faces, the old cliche, this was really it. How to write this . . . Mitch knew he would someday have to write it. If all men's foolishness was not permanently ended by the coming battle with the unliving, the battle bounty should suffice to let a man write for some time.

Ahead now were the bone-colored towers of Ulan Bator, rising beyond their fringe of suburban slideways and sunfields a highway, and bright multicolored pennants, worn by the aircars swarming out from the city in glad welcome.

Police aircars were keeping pace protectively with the spaceship, though there seemed no possible danger from anything but excess enthusiasm.

Another, special, aircar approached. The police craft touched it briefly and gently, then drew back with deference. Mitch stretched his neck, and made out a Carmpan insignia on the car. It was probably their ambassador to Sol, in person. The space shuttle eased to a dead slow creeping.

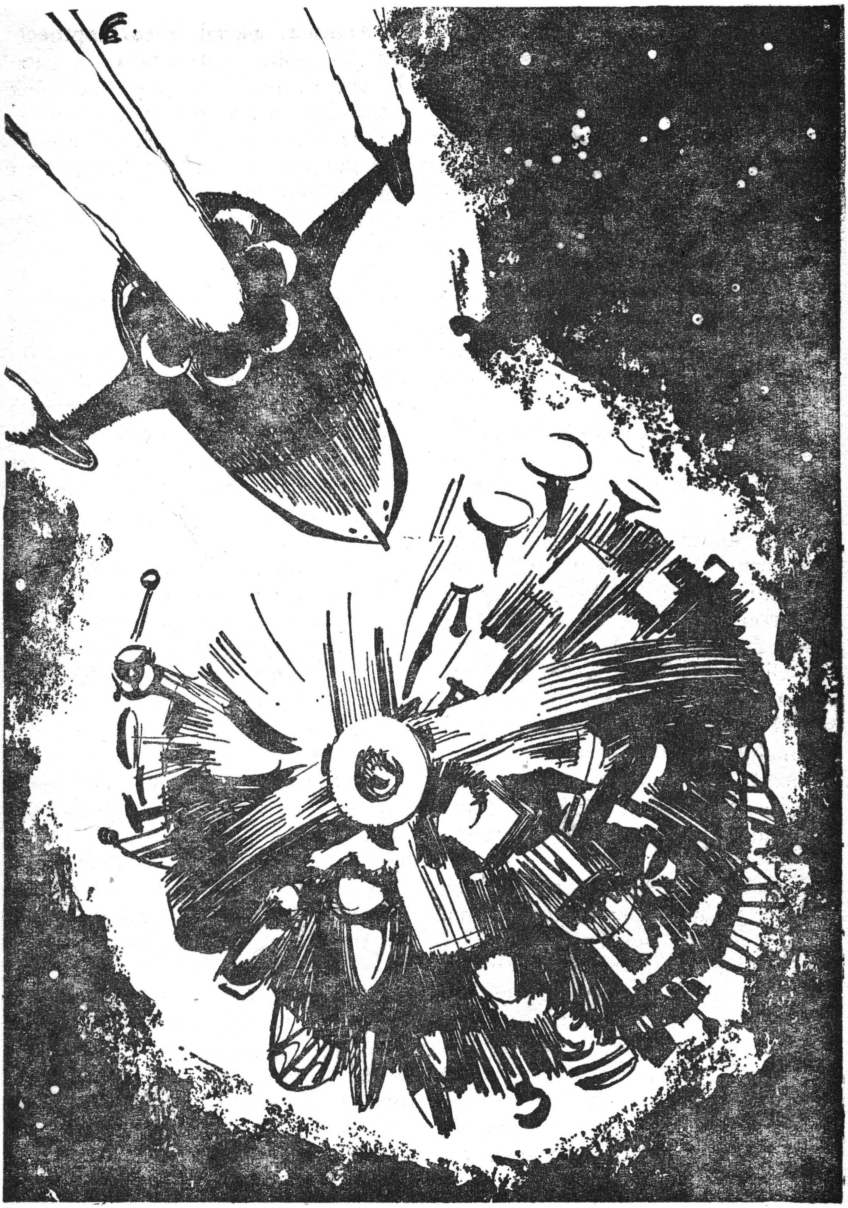
Some said that the Carmpan looked like machines themselves, but they were the strong allies of Earth-descended man in the war against the enemies of all life. If the Carmpan bodies were slow and squarish, their minds were visionary; if they were curiously unable to use force against any enemy, their indirect help was of great value.

Something near silence came over the vast crowd as the ambassador reared himself up in his open car; from his head and body ganglions of wire and fiber stretched to make a hundred connections with Carmpan animals and equipment around him.

The crowd recognized the meaning of the network; a great sigh went up. In the shuttle men jostled one another trying for a better view. The cold-eyed Earthman whispered rapidly into the communicator.

"Prophecy!" said a hoarse voice, near Mitch's ear.

"— of Probability!" come the ambassador's voice, suddenly amplified, seeming to pick up the thought in mid-phrase. The Carmpan Prophets of Probability were half mystics, half cold mathematicians. Karlsen's aids must have decided, or known, that this prophecy was go-



ing to be a favorable, inspiring thing which the crowd should hear and had ordered the ambassador's voice picked up on a public address system.

"The hope, the living spark, to spread the flame of life!" The inhuman mouth chopped out the words, which still rose ringingly. The arm-like appendages pointed straight to Karlsen, level on his balcony with the hovering aircar. "The dark metal thoughts are now of victory, the dead things make their plans to kill us all. But in this man before me now, there is life greater than any strength of metal. A power of life, to resonate — in all of us. I see — with Karlsen — victory —"

The strain on a Carmpan prophet in action seemed always to be immense, just as his accuracy was always high. Mitch had heard that the stresses involved were more topological than electrical. He had heard it, but like most Earth- descended, had never understood it.

"Victory," the ambassador repeated. "Victory . . . and then . . ."

Something changed in the non-Solarian face. The cold-eyed Earthman was perhaps expert in reading alien expressions, or was perhaps taking no chances. He whispered another command, and the amplification was taken from the Carmpan voice. A roar of approval mounted up past shuttle and aircar, from the great throng who thought the prophecy complete. But the ambassador was not finished, though now only those a few meters in front of him, inside the shuttle, could hear his faltering voice.

". . . then death, destruction, failure." The square body bent, but the alien eyes were still riveted on Karlsen. "He who wins everything — will die owning nothing . . ."

The Carmpan bent down and his aircar moved away. In the lounge of the shuttle there was silence. The hurrahing outside seemed to have a tone of mockery.

After long seconds, the High Commander raised his voice: "Men, we who heard the finish of the prophecy are few — but still we are many, to keep a secret. So I don't ask for secrecy. But spread the word, too, that I have no faith in prophecies that are not of God. The Carmpan have never claimed to be infallible."

The gloomy answer was unspoken, but almost telepathically loud among the group. Nine times out of ten, the Carmpan are right. There will be victory, then death and failure.

But did the dark ending apply only to Johann Karlsen, or to the whole cause of the living? The men in the shuttle looked at one another, wondering and murmuring.

The shuttles found space to land, at the edge of Ulan Bator. Disembarking, there was no chance for gloom, with the joyous crowd growing thicker by the moment around the ships. A lovely Earth girl came wreathed in garlands, to throw a flowery loop around Mitchell Spain, and to kiss him. He was an ugly man, quite unused to such willing attentions.

Still, he noticed when the High Commander's eye was on him.

"You, Martian, come with me to the General Staff meeting. I want to show a representative group in there so they'll believe Esteel is cosmopolitan. I need one or two who were born in Sol's light."

"Yes, sir." Was there no other reason why Karlsen had singled him out? They stood together in the crowd, two short men looking levelly at each other. One ugly and flower-bedecked, his arm still around a girl who stared with sudden awed recognition at the other man, who was magnetic in a way beyond handsomeness or ugliness. The ruler of a planet, perhaps to be the savior of all life.

"I like the way you keep people from standing on your toes in a crowd," said Karlsen to Mitchell Spain. "Without raising your voice or uttering threats. What's your name and rank?"

Military organization was vague, in this war where everything that lived was on the same side. "Mitchell Spain, sir. No rank assigned, yet. I've been training with the marines. I was on Esteel when you offered a good battle bounty, so here I am."

"Not to defend Mars?"

"I suppose, that too. But I might as well get paid for it."

Karlsen's high-ranking aides were wrangling and shouting now, about groundcar transportation to the Staff meeting. This seemed to leave Karlsen with time to talk. He thought, and recognition flickered on his face.

"Mitchell Spain? The poet?"

"I — I've had a couple of things published. Nothing much . . ."

"Have you combat experience?"

"Yes, I was aboard one berserker, before it was pacified. That was out —"

"Later, we'll talk. Probably have some marine command for you. Experienced men are scarce. Hemphill, where *are* those groundcars?"

The cold-eyed Earthman turned to answer. Of course, his face had been familiar; this was Hemphill, fanatic hero of a dozen berserker fights. Mitch was faintly awed, in spite of himself.

At last the groundcars came. The ride was into Ulan Bator. The military center would be under the metropolis, taking full advantage of the defensive forcefields that could be extended up into space to protect the area of the city.

Riding down the long elevator zig-zag to the buried War Room, Mitch found himself again next to Karlsen.

"Congratulations on your coming marriage, sir." Mitch didn't know if he liked Karlsen or not; but already he felt curiously certain of him, as if he had known the man for years. Karlsen would know he was not trying to curry favor.

The High Commander nodded. "Thank you." He hesitated for a moment, then produced a small photo. In an illusion of three dimensions it showed the head of a young woman, golden hair done in the style favored by the new aristocracy of Venus.

There was no need for any polite stretching of truth. "She's very beautiful."

"Yes." Karlsen looked long at

the picture, as if reluctant to put it away. "There are those who say this will be only a political alliance. God knows we need one. But believe me, Poet, she means far more than that to me."

Karlsen blinked suddenly, and, as if amused at himself, gave Mitch a why-am-I-telling-you-all-this look. The elevator floor pressed up under the passengers' feet, and the doors sighed open. They had reached the catacomb of the General Staff.

II

Many of the Staff were Venerian in these days, though not an absolute majority. From their greeting, it was plain that the Venerian members were coldly hostile to Nogara's brother.

Humanity was, as always, a tangle of cliques and alliances. The brains of the Solarian Parliament and the Executive had been taxed to find a High Commander. If some objected to Johann Karlsen, no one who knew him had any honest doubt of his ability. He brought with him to battle many trained men, and unlike some mightier leaders, he had been more than willing to take responsibility for the defense of Sol.

In the frigid atmosphere in which the Staff meeting opened, there was nothing but to get quickly to business. The enemy, the berserker machines, had abandoned their old tactics of single, unpredictable raids. Those tactics had once threatened the intelligent life of this part of the galaxy with ruin, but slowly over the last decades the defenses of life had been strengthened, the scales had begun to tip.

There were now thought to be about two hundred berserker machines; they had recently formed themselves into a fleet, with concentrated power capable of overwhelming one at a time all centers of human resistance. Two strongly defended planets had already been destroyed. A massed human fleet was needed, first to defend Sol, and then to meet and break the power of the unliving.

"So far, then, we are agreed," said Karlsen, straightening up from the plotting table and looking around at the General Staff. "We have not as many ships, or as many trained men as we would like. Perhaps no government away from Sol has contributed all it could."

Kemal, the Venerian Admiral, glanced around at his planetmen, but declined the chance to comment on the weak contribution of Karlsen's own half-brother, Nogara. There was no living being upon whom Earth, Mars, and Venus could agree, as the leader for this war. Kemal seemed to be willing to try and live with Nogara's brother.

Karlsen went on: "We have available for combat two hundred and forty-three ships, specially constructed or modified to suit the new tactics I propose to use. We are all grateful for the magnificent Venerian contribution of a hundred ships. Six of them, as you all probably know, mount the new long range, C-plus cannon."

The praise produced no visible

claw among the Venerians. Karlsen went on. "We seem to have a numerical advantage of about forty ships. I needn't tell you how the enemy outgun us and outpower us, unit for unit." He paused. "The ram-and-board tactics should give us just the element of surprise we need."

Perhaps the High Commander was choosing his words carefully, not wanting to say that some element of surprise offered the only logical hope of success. After the decades-long dawning of hope, it would be too much to say that. Too much for even these tough-minded men who knew how a berserker machine weighed in the scales of war against any ordinary warship.

"One big problem is trained men," Karlsen continued, "to lead the boarding parties. I've done the best I can, recruiting. Of those ready and in training as boarding marines now, the bulk are Estellers."

Admiral Kemal seemed to guess what was coming; he started to push back his chair and rise, then waited, evidently wanting to make certain.

Karlsen went on in the same level tone. "These trained marines will be formed into companies, and one company assigned to each warship. Then —"

"One moment, High Commander Karlsen." Kemal had risen.

"Yes?"

"Do I understand that you mean to station companies of Esteelers aboard Venerian ships?"

"In many cases my plan will mean that, yes. You protest?"

"I do." The Venerian looked around at his planetmen. "We all do."

"Nevertheless it is so ordered."

Kemal looked briefly around at his fellows once more, then sat down, blank-faced. The steno-cameras in the room's corners emitted their low sibilance, reminding all that their proceedings were being recorded.

A vertical crease appeared briefly in the High Commander's forehead, and he looked for long thoughtful seconds at the Venerians before resuming his talk. But what else was there to do, except put Esteelers onto Venerian ships?

They won't let you be a hero, Karlsen, thought Mitchell Spain. The universe is bad; and men are fools, never really all on the same side in any war.

III

In the hold of the Venerian warship *Solar Spot* the armor lay packed inside a padded coffin-like crate. Mitch knelt beside it inspecting the knee and elbow joints.

"Want me to paint some insignia on it, Captain?"

It was a young Esteeler named Fishman, one of the newly formed marine company Mitch now commanded. Fishman had picked up a multicolor paintstick somewhere, and he pointed with it to the suit.

Mitch glanced around at the hold, swarming with his men busily opening crates of equipment. He had decided to let things run themselves as much as possible.

"Insignia? Why, I don't think so. Unless you have some idea for a company insignia. That might be a good thing to have."

There seemed no need for any distinguishing mark on his armored suit. It was of Martian make, distinctive in style, old but with the latest improvements built in — probably no man wore better. The barrel chest already bore one design — a large black spot shattered by jagged red — showing that Mitch had been in at the 'death' of one berserker. Mitch's uncle had worn the same armor; the men of Mars had always gone in great numbers out to space.

"Sergeant McKendrick," Mitch asked, "what do you think about having a company insignia?"

The newly appointed sergeant, an intelligent-looking young man, paused in walking past, and looked from Mitch to Fishman as if trying to decide who stood where on insignia before committing himself. Then he looked between them, his expression hardening.

A thin-faced Venerian, evidently an officer, had entered the hold with a squad of six men behind him, armbanded and sidearmed. Ship's Police.

The officer took a few steps and then stood motionless, looking at the paintstick in Fishman's hand. When everyone in the hold was silently watching him, he asked quietly:

"Why have you stolen from ship's stores?"

"Stolen — *this*?" The young Esteller held up the paintstick, half smiling, as if ready to share a joke.

They didn't come joking with a Police squad, or, if they did, it was not the kind of joke a Martian appreciated. Mitch still knelt beside his crated armor. There was an unloaded carbine inside the suit's torso and he put his hand on it.

"We are at war, and we are in space," the thin-faced officer went on, still speaking mildly, standing relaxed, looking round at the open-mouthed Esteeler company. "Everyone aboard a Venerian ship is subject to law. For stealing from ship's stores, while we face the enemy, the penalty is death. Take him away." He made an economical gesture to his squad.

The paintstick clattered loudly on the deck. Fishman looked as if he might be going to topple over, half the smile still on his face.

Mitch stood up, the carbine in the crook of his arm. It was a stubby weapon with heavy double barrels, really a miniature recoilless cannon, to be used in free fall to destroy armored machinery. "Just a minute," Mitch said.

A couple of the police squad had begun to move uncertainly toward Fishman; they stopped in their tracks, as if glad of the chance.

The officer looked at Mitch, and raised one cool eyebrow. "Do you know what the penalty is, for threatening me?"

"Can't be any worse than the penalty for blowing your ugly head off. I'm Captain Mitchell Spain, marine company commander on this ship, and nobody just comes in here and drags my men away and hangs them. Who are you?"

"I am Mr. Salvador," said the Venerian. His eyes appraised Mitch, no doubt establishing that he was Martian. Wheels were turning in Mr. Salvador's calm brain, and plans were changing. He said: "Had I known that a *man* commanded this — group — I would not have thought an object lesson necessary. Come." This last word was addressed to his squad and accompanied by another simple elegant gesture. The six almost rushed to precede him to the exit. Salvador's eyes motioned Mitch to follow him toward the door. There he turned, still unruffled.

"Your men will follow you eagerly now, Captain Spain," he said in a voice too low for anyone else to hear. "And the time will come when you will willingly follow me." With a faint smile, as if of appreciation, he was gone.

There was a moment of silence; Mitch stared at the closed door, wondering. Then a roar of jubilation burst out and his back was being pounded.

"Captain — what'd he mean, calling himself mister?"

"It's some kind of political rank the Venerians have. You guys look here! I may need some honest witnesses." Mitch held up the carbine for all to see, and broke open the chambers and clips, showing it to be unloaded. There was renewed excitement, more howls and jokes at the expense of the retreated Venerians.

But Salvador had not thought himself defeated.

"McKendrick, call the bridge. Tell the ship's captain I want to see him. Let's get on with this unpacking."

Young Fishman, paintstick in hand again, stood staring vacantly down as if contemplating a design for the deck. It was beginning to soak in, how close a thing it had been.

But could the death-threat have been really serious?

The ship's captain was coldly noncommittal, but he indicated there were no present plans for hanging any Estellers on the *Solar Spot*. During the next sleep period Mitch kept armed sentries posted in the marines' quarters.

The next day he was summoned to the flagship. From the launch he had a view of a dance of bright

dots, glinting in the light of distant Sol. Part of the fleet was already at ramming practice.

Behind the High Commander's desk sat neither a poetry critic nor a musing bridegroom, but the ruler of a planet.

"Captain Spain — sit down."

To be given a chair seemed a good sign. Waiting for Karlsen to finish some paperwork, Mitch's thoughts wandered, recalling customs he had read about, ceremonies of saluting and posturing men had used in the past when huge permanent organizations had been formed for the sole purpose of killing other men and destroying their property. Certainly men were still as greedy as ever; and now the great conflict with the unliving was forcing them to organize again for mass destruction. Could those old days, when life fought all-out war against life, ever come again?

With a sigh, Karlsen pushed aside his papers. "What happened yesterday, between you and Mr. Salvador?"

"He said he meant to hang one of my men." Mitch gave the story, as simply as he could. He omitted only Salvador's parting words, without fully reasoning out why he did. "When I'm made responsible for men," he finished, "nobody just walks in and hangs them. Though I'm not fully convinced they would have gone that far, I meant to be as serious about it as they were."

The High Commander picked out a paper from his desk litter. "Two Esteeler marines have been hanged already. For fighting."

"Damned arrogant Venerians I'd say."

"I want none of that, Captain!"

"Yes sir. But I'm telling you we came mighty close to a shooting war, yesterday on the *Solar Spot*."

"I realize that." Karlsen made a gesture expressive of futility. "Spain, is it impossible for the people of this fleet to cooperate, even when the survival — what is it?"

The Earthman, Hemphill, had entered the cabin without ceremony. His thin lips were pressed tighter than ever. "A courier has just arrived with news. Atsog is attacked."

Karlsen's strong hand crumpled papers with an involuntary twitch. "Any details?"

"The courier captain says he thinks the whole berserker fleet was there. The ground defenses were still resisting strongly when he pulled out. He just got his ship away in time."

Atsog; a planet closer to Sol than the enemy had been thought to be. It was Sol they were coming for, all right. They must know it was the human center.

More people were at the cabin door. Hemphill stepped aside for the Venerian, Admiral Kemal. Mr. Salvador, hardly glancing at Mitch followed the admiral in.

"You have heard the news, High Commander?" Salvador began. Kemal, just ready to speak himself, gave his political officer an annoyed glance, but said nothing.

"That Atsog is attacked, yes," said Karlsen.

"My ships can be ready to move in two hours," said Kemal.

Karlsen sighed, and shook his head. "I watched today's maneuvers. The fleet can hardly be ready in two weeks."

Kemal's shock and rage seemed genuine. "You'd do that? You'd let a Venerian planet die just because we haven't knuckled under to your brother? Because we discipline his damned Esteeler —"

"Admiral Kemal, you will control yourself! You, and everyone else, are subject to discipline, while I command!"

Kemal got himself in hand, apparently with great effort.

Karlsen's voice was not very loud, but the cabin seemed to resonate with it.

"You call hangings part of your discipline. I swear by the name of God that I will use even hanging, if I must, to enforce some kind of unity in this fleet. Understand, this fleet is the only military power that can oppose the massed berserkers. Trained, and unified, we can destroy them."

No listener could doubt it for the moment.

"But whether Atsog falls, or Venus, or Esteel, I will not risk this fleet until I judge it ready."

Into the silence, Salvador said, with an air of respect: "High Commander, the courier reported one thing more. That the Lady Christina de Dulcin was visiting on Atsog when the attack began — and that she must be there still."

Karlsen closed his eyes for two seconds. Then he looked round at all of them. "If you have no further military business, gentlemen, get out." His voice was still steady.

Walking beside Mitch down the flagship corridor, Hemphill broke a silence to say thoughtfully: "Karlsen is the man the cause needs, now. Some Venerians have approached me, tentatively, about joining a plot — I refused. We must make sure that Karlsen remains in command."

"A plot?"

Hemphill did not elaborate.

Mitch said: "What they did just now was pretty low — letting him make that speech about going slow, no matter what — and then breaking the news to him about his lady being on Atsog."

Hemphill said: "He knew already she was there. That news arrived on yesterday's courier."

IV

There was a dark nebula made up of clustered billions of rocks and older than the sun, named the Stone Place by men. Those who gathered there now were not men and they gave nothing a name; they hoped nothing, feared nothing, wondered at nothing. They had no pride and no regret, but they had plans — a billion subtleties, carved from electrical pressure and flow — and their built-in purpose, toward which their planning circuits moved. As if by instinct the berserker machines had formed themselves into a fleet when the time was ripe, when the eternal enemy, Life, had begun to mass its strength.

The planet named Atsog in the life-language had yielded a number of still functioning life-units from its deepest shelters, though millions had been destroyed while their stubborn defenses were beaten down. Functional life-units were sources of valuable information — long ago the berserkers had learned human languages, and something of human psychology. There were stimuli, even the threat of which usually brought at least limited cooperation from any life-unit.

The life-unit (designating itself General Bradin) which had controlled the defense of Atsog, was among those captured, almost undamaged. Its dissection was begun within perception of the other captured life-units. The thin outer covering tissue was delicately removed, and placed upon a suitable form, to preserve it for further study. The life-units which controlled others were examined carefully, whenever possible.

After this stimulus, it was no longer possible to communicate intelligibly with General Bradin; in a matter of hours it ceased to function at all.

In itself a trifling victory, this small unit of watery matter was freed of the aberration called Life. But the flow of information now increased from the nearby units which had perceived the process.

It was soon confirmed that the Life-units were assembling a fleet. More detailed information was sought. One important line of questioning concerned the life-unit which would control this fleet. Gradually, from interrogations and the reading of captured records, a picture emerged.

A name: Johann Karlsen. A biography. Contradictory things were said about him, but the facts showed he had risen rapidly to a position of control over millions of life-units.

Throughout the long war, the berserker computers had gathered and collated all available data on the men who became leaders of Life. Now against this data they matched, point for point, every detail that could be learned about Johann Karlsen.

The behavior of these leading units often resisted analysis, as if some quality of the life-disease in them was forever beyond the reach of machines. These individuals used logic, but sometimes it seemed they were not bound by logic. The most

dangerous life-units of all sometimes acted in ways that seemed to contradict the known supremacy of the laws of physics and of chance, as if they could be minds possessed of true free will, instead of its illusion.

And Karlsen was one of these, supremely one of these. His fitting of the dangerous pattern became plainer with every new comparison.

In the past, such life-units had been troublesome local problems. For one of them to command the whole life-fleet with a decisive battle approaching, was extremely dangerous to the cause of Death.

The outcome of the approaching battle seemed almost certain to be favorable, since there were probably only two hundred ships in the life-fleet. But the brooding berserkers could not be certain enough of anything, while a unit like Johann Karlsen led the living. And if the battle was long postponed the enemy Life could become stronger. There were hints that inventive Life was developing new weapons, newer and more powerful ships.

The wordless conference reached a decision. There were berserker reserves, which had waited for millenia along the galactic rim, dead and uncaring in their hiding places among dust clouds and heavy nebulae, and on dark stars. For this climactic battle they must be summoned, the power of Life to resist must be broken now.

From the berserker fleet at the Stone Place, between Atsog's Sun and Sol, courier machines sped out toward the galactic rim.

It would take some time for all the reserves to gather. Meanwhile, the interrogations went on.

"Listen, I've decided I can help you, see. About this guy Karlsen, I know you want to find out about him. Only I got a delicate brain. If anything hurts me my brain don't work at all, so no rough stuff on me, understand? I'll be no good to you ever if you use rough stuff on me."

This prisoner was unusual. The interrogating computer borrowed new circuits for itself, chose symbols and hurled them back at the life-unit.

"What can you tell me about Karlsen?"

"Listen, you're gonna treat me right, aren't you?"

"Useful information will be rewarded. Untruth will bring you unpleasant stimuli."

"I'll tell you this now — the woman Karlsen was going to marry is here, you caught her alive in the same shelter Bradin was in." Pause. "Now if you sort of give me control over all these other prisoners, make things nice for me, why I bet I can think up the best way for you to use her. If you just tell him you've got her, why he might not believe you, see?"

Out on the galactic rim, the signals of the heralds called out the hidden reserves of the unliving. Subtle detectors heard the signals, and triggered the great engines into cold flame. The forcefield brain in each strategic housing awoke to livelier death. Each reserve machine ac-

knowledged the call and began to move with metallic leisure, shaking loose its cubic miles of weight and power, freeing itself from dust, or ice, or age-old mud, or solid rock — then rising and turning, orienting itself in space. All converging, they drove faster than light toward the Stone Place, where the destroyers of Atsog awaited their reinforcement.

With the arrival of each reserve machine, the linked berserker computers saw victory more probable. But still the quality of one life-unit made all computations uncertain.

V

Felipe Nogara raised a strong and hairy hand, and wiped it gently across one glowing segment of the panel before his chair. The center of his private study was filled by an enormous display sphere, which now showed a representation of the explored part of the galaxy. At Nogara's gesture, the sphere dimmed and began to relight itself in a slow intricate sequence.

A wave of his hand had just theoretically eliminated the berserker fleet as a factor in the power game. To leave it in, he told himself, diffused the probabilities too widely. It was really the competing power of Venus — and that of two or three other prosperous, agressive planets — which occupied his mind.

Well insulated in this private room from the hum of Esteel City and from the routine press of business, Nogara watched his computers' new prediction take shape, showing the political power structure as it might exist one year from now, two years, five. As he had expected, this sequence showed Esteel expanding in influence. It was even possible that he could become ruler of the human galaxy.

Nogara wondered at his own calm in the face of such an idea. Twelve or fifteen years ago he had driven with all his power of intellect and will to advance himself. Gradually, the moves in the game had come to seem automatic. Today, there was a chance that almost every thinking being known to exist would come to acknowledge him as ruler — and it meant less to him than the first local election he had ever won.

Diminishing returns, of course. The more gained, the greater gain needed to produce an equal pleasure. At least when he was alone. If his aides were watching this prediction now it would certainly excite them, and he would catch their excitement.

But, being alone, he sighed. The berserker fleet would not vanish at the wave of a hand. Today, what was probably the final plea for more help had arrived from Earth. The trouble was that granting Sol more help would take ships and men and money from Nogara's expansion projects. Wherever he did that now he stood to lose out, eventually, to other men. Old Sol would have to survive the coming attack with no more help from Esteel.

Nogara realized, wondering dully at himself, that he would as soon see even Esteel destroyed as see control slip from his hands. Now why? He could not say he loved his

planet or people, but he had been, by and large, a good ruler, not a tyrant. Good government was, after all, good politics.

His desk chimed the melodious notes that meant something was newly available for his amusement. Nogara chose to answer.

"Sir," said a woman's voice, "two new possibilities are in the shower room now."

Projected from hidden cameras, a scene glowed into life above Nogara's desk; bodies gleaming in a spray of water.

"They are from prison, sir, anxious for any reprieve."

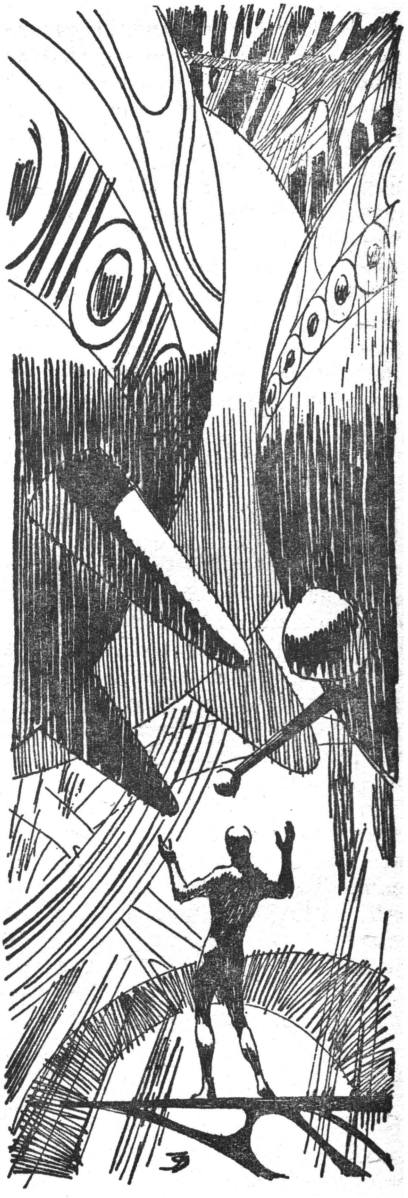
Watching, Nogara felt only a weariness; and, yes, something like self-contempt. He questioned himself: Where in all the universe is there a reason why I should not seek pleasure as I choose? And again: Will I dabble in sadism, next? And if I do, what of it?

But what after that?

Having paused respectfully, the voice asked: "Perhaps this evening you would prefer something different?"

"Later," he said. The scene vanished. Maybe I should try to be a Believer for a while, he thought. What an intense thrill it must be for Johann to sin. If he ever does.

That had been a genuine pleasure, seeing Johann given command of the Solarian Fleet, watching the Venerians boil. But it had raised another problem. Johann, victorious over the berserkers would emerge as the greatest hero in human history. Would that not make even Johann



dangerously ambitious? The thing to do would be to ease him out of the public eye, give him some high-ranked job, honest, but dirty and inglorious. Hunting out outlaws somewhere, Johann would probably accept that, being Johann. But if Johann bid for galactic power, he would have to take his chances. Any pawn in the game might be removed.

Nogara shook his head. Suppose Johann lost the coming battle, and lost Sol? A berserker victory would not be a matter of diffusing probabilities, that was pleasant double talk for a tired mind to fool itself with. A berserker victory would mean the end of Earthman in the galaxy, probably within a few years. No computer was needed to see that.

There was a little bottle in his desk; Nogara brought it out and looked at it. The end of the chess game was in it. The end of all pleasure and boredom and pain. Looking at the vial caused him no emotion. In it was a powerful drug which threw a man into a kind of ecstasy — a transcendental excitement that within a few minutes burst the heart or the blood vessels of the brain. Someday, when all else was exhausted, when it was completely a berserker universe —

He put the vial away and he put away the final appeal from Earth. What did it all matter? Was it not a berserker universe already, everything determined by the random swirls of condensing gas, before the stars were born?

Felipe Nogara leaned back in his chair, watching his computers marking out the galactic chessboard.

VI

Through the fleet the rumor spread that Karlsen delayed because it was a Venerian colony under seige. Aboard the *Solar Spot*, Mitch saw no delays for any reason. He had time for only work, quick meals and sleep. When the final ram-and-board drill had been completed, the last stores and ammunition loaded, Mitch was too tired to feel much except relief. He rested, not frightened or elated, while the *Spot* wheeled into a rank with forty other arrow-shaped ships, dipped with them into the first C-plus jump of the deep space search, and began to hunt the enemy.

It was days later before dull routine was broken by a jangling battle alarm. Mitch was wakened by it; before his eyes were fully opened, he was scrambling into the armored suit stored under his bunk. Nearby, some marines grumbled about practice alerts; but none of them was moving slowly.

"This is High Commander Karlsen speaking," boomed the overhead speakers. "This is not a practice alert, repeat, not practice. Two berserkers have been sighted. One we've just glimpsed at extreme range. Likely it will get away, though the Ninth Squadron is chasing it.

"The other is not going to escape. In a matter of minutes we will have it englobed, in normal space. We are not going to destroy it by bombardment; we are going to

soften it up a bit, and then see how well we can really ram-and-board. If there are any bugs left in our tactics, we'd better find out now. Squadrons Two, Four, and Seven will each send one ship to the ramming attack. I'm going back on Command Channel now, Squadron Commanders."

"Squadron Four," sighed Sergeant McKendrick. "More Esteelers in our company than any other. How can we miss?"

The marines lay like dragon's teeth seeded in the dark, strapped into the padded acceleration couches that had been their bunks, while the psych-music tried to lull them, and those who were Believers prayed. In the darkness Mitch listened, and passed on to his men the terse battle reports that came to him as marine commander on the ship.

He was afraid. What was death, that men should fear it so? It could be only the end of all experience. That was inevitable, and beyond imagination, and he feared it.

The preliminary bombardment did not take long. Two hundred and thirty ships of life held a single great trapped enemy in the center of their hollow sphere formation. The enemy did not give a damn if he was trapped because he was dead already and had always been dead.

Listening in the dark to laconic voices, Mitch heard how the great berserker fought back, as if with the finest human courage and contempt for odds. Could you really fight machines when you could never make them suffer pain or fear?

But you could defeat machines. And this time, for once, humanity had far too many guns. It would be easy to blow this berserker into vapor. Would it be best to do so? There were bound to be marine casualties in any boarding no matter how favorable the odds. But a true combat test of the boarding scheme was badly needed before the decisive battle came to be fought. And, too, this enemy might hold living prisoners who might be rescued by boarders. A High Commander probably did well to have a rocklike certainty of his own rightness.

The order was given. The *Spot* and two other chosen ships fell in toward the battered enemy at the center of the englobement.

Straps held Mitch firmly, but the gravity had been turned off for the ramming, and weightlessness gave the impression that his body would fly and vibrate like a pellet shaken in a bottle with the coming impact. Soundless dark, soft cushioning, and lulling music; but a few words came into the helmet and the body cringed, knowing that outside were the black cold guns and the hurtling machines, unimaginable forces leaping now to meet. Now —

Reality shattered in through all the protection and padding. The shaped atomic charge at the tip of the ramming prow opened the berserker's skin. In five seconds of crashing impact, the prow vaporized, melted, and crumpled its length away, the true hull driving behind it until the *Solar Spot* was sunk like an arrow into the body of her enemy.

Mitch spoke for the last time to the bridge of the *Solar Spot*, while his men lurched past him in free fall, their suit lights glaring.

"My panel shows Sally Port Three the only one not blocked," he said. "We're all going out that way."

"Remember," said a Venerian voice, "your first job is to protect this ship against counterattack."

"Roger." If they wanted to give him offensively unnecessary reminders, now was not the time for argument. He broke contact with the bridge and hurried after his men.

The other two ships were to send their boarders fighting toward the strategic housing, which would be somewhere deep in the berserker's center. The marines from the *Solar Spot* were to try to find and save any prisoners the berserker might hold. A berserker usually held prisoners near its surface, so the first search would be made by squads spreading out under the hundreds of square kilometers of hull.

In the dark chaos of wrecked machinery just outside the sally port there was no sign yet of counterattack. The berserkers' unknown builders supposedly had not constructed them to fight battles inside their own metallic skins, upon which fact rode the fleet's hopes for success in a major battle.

Mitch left forty men to defend the hull of the *Spot*, and himself led a squad of ten out into the labyrinth. There was no use setting himself up in a command post — communications in here would be impossible, once out of line-of-sight.

The first man in each searching squad carried a mass spectrometer, an instrument that would detect the stray atoms of oxygen bound to leak from compartments where living beings breathed. The last man wore on one hand a device to blaze a trail with arrows of luminous paint; without a trail, getting lost in this three-dimensional maze would be almost inevitable.

"Got a scent, Captain," said Mitch's spectrometer man, after five minutes' casting through the squad's assigned sector of the dying berserker.

"Keep on it." Mitch was second in line, his carbine ready.

The detector man led the way through a dark and weightless mechanical universe, perhaps last seen by living eyes fifty-thousand years before. Several times he paused, adjusting his instrument and waving its probe. The pace was rapid; men trained in free fall, given plenty of holds to thrust and steer by could move faster than runners.

A towering, multi-jointed shape rose up before the detector man, brandishing blue-white welding arcs like swords.

Before Mitch was aware of aiming his carbine fired twice. The shells ripped the machine open and pounded it backward; it was only some semi-robotic maintenance device, not built for fighting.

The detector man had nerve; he plunged right on. The squad kept pace with him, their suit lights scouting out unfamiliar shapes and distances, cutting knife-edge shadows in the vacuum, glare and darkness

mellowed only by reflection.

"Getting close!"

And then they came to it. It was a place like the top of a huge dry well. An ovoid like a ship's launch, very thickly armored, had apparently been raised through the well from deep inside the berserker, and was now clamped to a dock.

"It's the launch, it's oozing oxygen."

"Captain, there's some kind of airlock on this side. Outer door's open."

It looked like the smooth and easy entrance of a trap.

"Keep your eyes open." Mitch went into the airlock. "Be ready to blast me out of here if I don't show in one minute."

It was an ordinary airlock, probably cut from some human spaceship. He shut himself inside, and then got the inner door open.

Most of the interior was a single compartment. In the center was an acceleration couch, holding a nude female mannikin. He drifted near, saw that her head had been depilated and that there were tiny beads of blood still on her scalp, as if probes had just been withdrawn.

When his suit lamp hit her face she opened dead blue staring eyes, blinking mechanically. Still not sure that he was looking at a living human being, Mitch drifted beside her and touched her arm with metal fingers. Then all at once her face became human, her eyes coming from death through nightmare to reality. She saw him and cried out. Before he could free her there were crystal drops of tears in the weightless air.

Listening to his rapid orders, she held one hand modestly in front of her, and the other over her raw scalp. Then she nodded, and took into her mouth the end of a breathing tube which would dole air from Mitch's suit tank. In a few more seconds he had her wrapped in a clinging, binding rescue blanket, temporary proof against vacuum and freezing.

The detector man had found no other oxygen source near the launch. Mitch ordered his squad back along their luminous trail.

At the sally port, he heard that things were not going well with the attack. Real fighting robots were defending the strategic housing, where its forcefield brain was buried, miles inside it. At least eight men had been killed down there. Two more ships were going to ram and board.

Mitch carried the girl through the sally port and three more friendly hatches. The monstrously thick hull of the ship shuddered and sang around him; the *Solar Spot,* her mission accomplished, boarders retrieved, was being withdrawn. Full weight came back, and light.

"In here, Captain."

QUARANTINE, said the sign. A berserker's prisoner might have been deliberately infected with something contagious. Men knew how to deal with such tricks; the machines had tried them before.

Inside the infirmary, he set her down. While medics and nurses

scrambled around, he unfolded the blanket from the girl's face, remembering to leave it curled over her shaven head, and opened his own helmet.

"You can spit out the tube, now," he told her, in his rasping voice.

She did so and opened her eyes again.

"Oh, are you real?" she whispered. Her hand pushed its way out of the blanket folds and slid over his armor. "Oh, let me touch a human being again!" Her hand moved up to his exposed face and gripped his cheek and neck.

"I'm real enough. You're all right, now."

One of the bustling doctors came to a sudden, frozen halt, staring at the girl. Then he spun around on his heel and hurried away. What was wrong?

Others sounded confident, reassuring the girl as they ministered to her. She wouldn't let go of Mitch, she became nearly hysterical when they tried gently to separate her from him.

"I guess you'd better stay," a doctor told him.

He sat there holding her hand, his helmet and gauntlets off. He looked away while they did medical things to her. They still spoke reassuringly; he thought they were finding nothing much wrong.

"What's your name?" she asked him when the medics were through for the moment. Her head was bandaged; her slender arm came from between sheets to maintain contact with his hand.

"Mitchell Spain." Now that he got a good look at her, a living young human female, he was in no hurry at all to get away. "What's yours?"

A shadow crossed her face. "I'm — not sure."

There was a sudden commotion at the infirmary door; High Commander Karlsen was pushing past protesting doctors into the QUARANTINE area. Karlsen came on until he was standing beside Mitch, but he was not looking at Mitch.

"Chris," he said to the girl. "Thank God." There were tears in his eyes.

The Lady Christina de Dulcin turned her eyes from Mitch to Johann Karlsen, and screamed in abject terror

VII

"Now, Captain, tell me how you found her and brought her out."

Mitch began his tale. The two men were alone in Karlsen's monastic cabin, just off the flagship's bridge. The fight was over, the berserker a torn and harmless hulk. No other prisoners had been aboard it.

"They planned to send her back to me," Karlsen said staring into space, when Mitch had finished his account. "We attacked before it could launch her toward us. It kept her safe, and sent her back to me."

Mitch was silent.

Karlsen's red-rimmed eyes fastened on him. "She's been brainwashed, Poet. It can be done with some permanence, you know, when ad-

vantage is taken of the subject's natural tendencies. I suppose she's never thought too much of me. There were political reasons for her to consent to our marriage . . . she screams when the doctors even mention my name. They tell me it's possible that horrible things were done to her by some man-shaped machine made to look like me. Other people are tolerable, to a degree. But it's you she wants to be alone with, you she needs."

"She cried out when I left her, but — me?"

"The natural tendency, you see. For her to — love — the man who saved her. The machines set her mind to fasten all the joy of rescue upon the first male human face she saw. The doctors assure me such things can be done. They've given her drugs, but even in sleep the instruments show her nightmares, her pain, and she cries out for you. What do you feel toward her?"

"Sir, I'll do anything I can. What do you want of me?"

"I want you to stop her suffering, what else?" Karlsen's voice rose to a ragged shout. "Stay alone with her, stop her pain if you can!"

He got himself under a kind of control. "Go on. The doctors will take you in. Your gear will be brought over from the *Solar Spot.*"

Mitch stood up. Any words he could think of sounded in his mind like sickening attempts at humor. He nodded, and hurried out.

"This is your last chance to join us," said the Venerian, Salvador, looking up and down the dim corridors of this remote outer part of the flagship. "Our patience is worn, and we will strike soon. With the de Dulcin woman in her present condition, Nogara's brother is doubly unfit to command."

The Venerian must be carrying a pocket spy-jammer; a multisonic whine was setting Hemphill's teeth on edge. And so was the Venerian.

"Karlsen is vital to the human cause whether we like him or not," Hemphill said, his own patience about gone, but his voice calm and reasonable. "Don't you see to what lengths the berserkers have gone, to get at him? They sacrificed a perfectly good machine just to deliver his brainwashed woman here, to attack him psychologically."

"Well. If that is true they have succeeded. If Karlsen had any value before, now he will be able to think of nothing but his woman and the Martian."

Hemphill sighed. "Remember, he refused to hurry the fleet to Atsog to try to save her. He hasn't failed yet. Until he does, you and the others must give up this plotting against him."

Salvador backed away a step, and spat on the deck in rage. A calculated display, thought Hemphill.

"Look to yourself, Earthman!" Salvador hissed. "Karlsen's days are numbered, and the days of those who support him too willingly!" He spun around and walked away.

"Wait!" Hemphill called, quietly. The Venerian stopped and turned with an air of arrogant reluctance. Hemphill shot him through the heart with a laser pistol. The weapon

made a splitting, crackling noise in atmosphere.

"You were good at talking and scheming," Hemphill mused aloud, prodding the dying man with his toe, making sure no second shot was needed. "But too devious, to lead the fight against the damned machines."

He bent quickly to search the body, and stood up elated. He had found a list of officers' names, some few underlined, some, including his own, followed by an interrogation point. Another document was a scribbled compilation of the units under command of certain Venerian officers. There were a few more notes; altogether, plenty of evidence for the arrest of the hard-core plotters. It might tend to split the fleet, but —

Hemphill looked up sharply, then relaxed. The man approaching was one of his own, whom he had stationed nearby.

"We'll take these to the High Commander at once." Hemphill waved the papers. "There'll be just time to clean out the traitors and reorganize command before we face battle."

Yet he delayed for another moment, staring down at Salvador's corpse. The plotter had been overconfident and inept, but still dangerous. Did some sort of luck operate to protect Karlsen? Karlsen himself did not match Hemphill's ideal of a war leader, he was not as ruthless as machinery or as cold as metal. Yet the damned machines made great sacrifices to attack him.

Hemphill shrugged, and hurried on his way.

"Mitch, I do love you. I know what the doctors say it is, but what do they really know about me?"

Christina de Dulcin reclined upon a luxurious acceleration couch, in what was nominally the sleeping room of the High Commander's quarters. Karlsen had never occupied the place, preferring a small cabin.

Mitchell Spain sat three feet from Chris, afraid to so much as touch her hand, afraid of what he might do, and what she might do. They were alone, and he felt sure they were unwatched. Chris had even demanded assurances against spy devices and Karlsen had sent his pledge. Besides, what kind of ship would have spy devices built into its highest officer's quarters?

A situation for bedroom farce, but not when you had to live through it. The man outside, taking the strain, had two hundred ships dependent on him now, and many human planets would be lifeless in five years if the coming battle failed.

"What do you really know about me, Chris?" he asked.

"I know you mean life itself to me. Oh, Mitch, I have no time now to be coy, and mannered, and every millimeter a lady. I've been all those things. And — once — I would have married a man like Karlsen, for political reasons. But all that was before Atsog."

Her voice dropped on the last word, and her hand on her robe made a convulsive grasping gesture. He had to lean forward and take it.

"Chris, Atsog is in the past, now."

"Atsog will never be over, completely over, for me. I keep remembering more and more of it. Mitch, the machines made us watch while they skinned General Bradin alive. I saw that. I can't bother with silly things like politics anymore, life is too short for them. I don't fear anything anymore, either, except driving you away . . ."

He felt pity and lust, and half a dozen other maddening things.

"Karlsen's a good man," he said finally.

She repressed a shudder. "I suppose," she said, in a controlled voice. "But Mitch, what do you feel for me? Tell the truth — if you don't love me now, I know you will, in time." She smiled faintly, and raised a hand. "When my silly hair grows back."

"Your silly hair." His voice almost broke. He reached to touch her face, then pulled his fingers back as if from a flame. "Chris, you're his girl, and too much depends on him."

"I was never his."

"Still . . . I can't lie to you, Chris; maybe I can't tell you the truth, either, about how I feel. The battle's coming, everything's up in the air, paralyzed. No one can plan . . ." He made an awkward, uncertain gesture.

"Mitch." Her voice was understanding. "This is terrible for you, isn't it? Don't worry, I'll do nothing to make it worse. Will you call the doctor? As long as I know you're somewhere near, I think I can rest, now."

VIII

Karlsen studied Salvador's papers in silence for some minutes, like a man pondering a chess problem. He did not seem greatly surprised.

"I have a few dependable men standing ready," Hemphill finally volunteered. "We can quickly — arrest — the leaders of this plot."

The blue eyes searched him. "Commander, was Salvador's killing truly necessary?"

"I thought so," said Hemphill blandly. "He was reaching for his own weapon."

Karlsen glanced once more at the papers and reached a decision.

"Commander Hemphill, I want you to pick four ships, and scout the far edge of the Stone Place

nebula. We don't want to push beyond it, without knowing where the enemy is, and give him a chance to get between us and Sol. Use caution — to get the general location of the bulk of his fleet is enough."

"Very well." Hemphill nodded. The reconnaissance made sense; and if Karlsen wanted to get Hemphill out of the way, and deal with his human opponents by his own methods, well, let him. Those methods often seemed soft-headed to Hemphill, but they seemed to work for Karlsen. If the damned machines for some reason found Karlsen unendurable, then Hemphill would support him, to the point of cheerful murder and beyond.

What else really mattered in the universe, besides smashing the damned machines?

Mitch spent hours every day alone with Chris. He kept from her the wild rumors which circulated throughout the fleet. Salvador's violent end was whispered about, and guards were posted near Karlsen's quarters. Some said Admiral Kemal was on the verge of open revolt.

And now the Stone Place was close ahead of the fleet; ebony dust and fragments, like a million shattered planets, blotting out half the sky. No ship could move through the Stone Place; every cubic kilometer of it held enough matter to prevent C-plus travel or normal movement.

The fleet headed toward one sharply defined edge, around which Hemphill's scouting squadron had already disappeared.

"She grows a little saner, a little calmer, every day," said Mitch, entering the High Commander's monastic cabin.

Karlsen looked up from his desk. The papers before him looked like lists of names, in Venerian script. "I thank you for that word, Poet. Does she speak of me?"

"No."

They eyed each other, the poor and ugly cynic, the anointed and handsome Believer.

"Poet," Karlsen asked suddenly, "how do you deal with deadly enemies, when you find them in your power?"

"We Martians are supposed to be a violent people. Do you expect me to pass sentence on myself?"

Karlsen appeared not to understand, for a moment. "Oh. No. I was not speaking of — you and I, and Chris. Not of personal affairs. I suppose I was only thinking aloud, asking for a sign."

"Then don't ask me, ask your God. But didn't he tell you to forgive your enemies?"

"He did." Karlsen nodded, slowly and thoughtfully. "You know, He wants a lot from us. A real hell of a lot."

It was a peculiar sensation, to become suddenly convinced that the man you were watching was a genuine, non-hypocritical Believer. Mitch was not sure he had ever met the like before.

Nor had he ever seen Karlsen quite like this — passive, waiting, asking for a sign. As if there was in fact some Purpose outside the layers of a man's own mind, that

could inspire him. Mitch thought about it. If . . .

But that was all mystical nonsense.

Karlsen's communicator sounded. Mitch could not make out what the other voice was saying, but he watched the effect on the High Commander. Energy and determination were coming back, there were subtle signs of the return of force, of the tremendous conviction of being right. It was like watching the gentle glow when a fusion power lamp was ignited.

"Yes," Karlsen was saying. "Yes, well done."

Then he raised the Venerian papers from his desk; it was as if he raised them only by force of will, his fingers only gesturing beneath them.

"The news is from Hemphill," he said to Mitch, almost absently. "The berserker fleet is just around the bulge of the Stone Place from us. Hemphill estimates they are two hundred strong, and thinks them unaware of our presence. We attack at once. Man your battle station, Poet; God be with you." He turned back to his communicator. "Ask Admiral Kemal to my cabin at once. Tell him to bring his staff. In particular —" He glanced at the Venerian papers and read off several names.

"Good luck to you, sir." Mitch had delayed to say that. Before he hurried out, he saw Karlsen stuffing the Venerian papers into his trash disintegrator.

Before Mitch reached his own cabin, the battle horns were

sounding. He had armed and suited himself and was making his way back through the suddenly crowded narrow corridors toward the bridge, when the ship's speakers boomed suddenly to life, picking up Karlsen's voice:

". . . whatever wrongs we have done you, by word, or deed, or by things left undone. I ask you now to forgive. And in the name of every man who calls me friend or leader, I pledge that any grievance we have against you, is from this moment wiped from memory."

Everyone in the crowded passage hesitated in the rush for battle stations. Mitch found himself staring into the eyes of a huge, well-armed Venerian ship's policeman, probably here on the flagship as some officer's bodyguard.

There came an amplified cough and rumble, and then the voice of Admiral Kemal:

"We — we are brothers, Esteeler and Venerian, and all of us. All of us, together now, the living against the berserker." Kemal's voice rose to a shout: "Destruction to the damned machines, and death to their builders! Let every man remember Atsog!"

"Remember Atsog!" roared Karlsen's voice.

In the corridor there was a moment's hush, like that before a towering wave smites down. Then a great insensate shout. Mitch found himself with tears in his eyes, yelling something.

"Remember General Bradin," cried the big Venerian, grabbing Mitch and hugging him, lifting him, armor and all. "Death to his flayers!"

"Death to the flayers!" The shout ran like a flame through the corridors. No one needed to be told that the same things were happening in all the ships in the fleet. All at once there was no room for anything less than brotherhood, no time for anything less than glory.

"Destruction to the damned machines!"

Near the flagship's center of gravity was the bridge, only a dais holding a ring of combat chairs, each with its clustered controls and dials.

"Boarding Coordinator ready," Mitch reported, strapping himself in.

The viewing sphere near the bridge's center showed the human advance, in two leapfrogging lines of over a hundred ships each. Each ship was a green dot in the sphere, positioned as truthfully as the flagship's computers could manage. The irregular surface of the Stone Place moved beside the battle lines in a series of jerks; the flagship was traveling by C-plus microjumps, so the presentation in the viewing sphere was a succession of still pictures at second-and-a-half intervals. Slowed by the mass of their C-plus cannon, the six fat green symbols of the Venerian heavy weapons ships labored forward, falling behind the rest of the fleet.

In Mitch's headphones someone was saying: "In about ten minutes we can expect to reach —"

The voice died away. There was a red dot in the sphere already, and

then another, and then a dozen, rising like tiny suns around the bulge of dark nebula. For long seconds the men on the bridge were silent while the berserker advance came into view. Hemphill's scouting party must, after all, have been detected, for the berserker fleet was not cruising, but attacking. There was a battlenet of a hundred or more red dots, and now there were two nets, leapfrogging in and out of space like the human lines. And still the red berserkers rose into view, their formations growing, spreading out to englobe and crush a smaller fleet.

"I make it three hundred machines," said a pedantic and somewhat effeminate voice, breaking the silence with cold precision. Once, the mere knowledge that three hundred berserkers existed might have crushed all human hopes. In this place, in this hour, fear itself could frighten no one.

The voices in Mitch's headphones began to transact the business of opening a battle. There was nothing yet for him to do but listen and watch.

The six heavy green marks were falling further behind; without hesitation, Karlsen was hurling his entire fleet straight at the enemy center. The foe's strength had been underestimated, but it seemed the berserker command had made a similar error, because the red formations too were being forced to regroup, spread themselves wider.

The distance between fleets was still too great for normal weapons to be effective, but the laboring heavy-weapons ships with their C-plus cannon were now in range, and they could fire through friendly formations almost as easily as not. At their volley Mitch thought he felt space jar around him; it was some freak secondary effect that the human brain noticed, really only wasted energy. Each projectile, blasted by explosives to a safe distance from the launching ship, mounted its own C-plus engine, which then accelerated the projectile while it flickered in and out of reality on microtimers.

Their leaden masses magnified by velocity, the huge slugs skipped through existence like stones across water, passing like phantoms through the fleet of life, emerging fully into normal space only as they approached their target, traveling then like de Broglie wavicles, their matter churning internally with a phase velocity greater than that of light.

Almost instantly after Mitch felt the slugs' ghostly passage, one red dot began to expand and thin into a cloud, still tiny in the viewing sphere. Someone gasped. In a few more moments, the flagship's own weapons, beams and missiles, went into action.

The enemy center stopped, two million miles ahead, but his flanks came on smoothly as the screw of a vast meat-grinder, threatening englobement of the first line of human ships.

Karlsen did not hesitate, and a great turning point flickered past in a second. The life-fleet hurtled on, deliberately into the

trap, straight for the hinge of the jaws.

Space twitched and warped around Mitchell Spain. Every ship in the fleet was firing now, and every enemy answering, and the energies released plucked through his armor like ghostly fingers. Green dots and red vanished from the sphere, but not many of either as yet.

The voices in Mitch's helmet slackened, as events raced into a pattern that shifted too fast for human thought to follow. Now for a time the fight would be computer against computer, faithful slave of life against outlaw, neither caring, neither knowing.

The viewing sphere on the flagship's bridge was shifting ranges almost in a flicker. One swelling red dot was only a million miles away, then half of that, then half again. And now the flagship came into normal space for the final lunge of the attack, firing itself like a bullet at the enemy.

Again the viewer switched to a closer range, and the chosen foe was no longer a red dot, but a great forbidding castle, tilted crazily, black against the stars. Only a hundred miles away, then half of that. The velocity of closure slowed to less than a mile a second. As expected, the enemy was accelerating, trying to get away from what must look to it like a suicide charge. For the last time Mitch checked his chair, his suit, his weapons. *Chris, be safe in a cocoon.* The berserker swelled in the sphere, gun flashes showing now around his steel-ribbed belly. A small one, this, maybe only ten times the flagship's bulk. Always a rotten spot to be found, in every one of them, under their skins old wounds, for the life of the galaxy had fought them for fifty thousand years. Try to run, you monstrous obsenity, try in vain.

Closer, twisting closer. Now!

Lights all gone, falling in the dark for one endless second —

Impact. Mitch's chair shook him, the gentle pads inside his armor battering and bruising him. The expendable ramming prow would be vaporizing, shattering and crumpling, dissipating energy down to a level the battering-ram ship could endure.

When the crashing stopped, noise still remained, a whining droning symphony of stressed metal and escaping air and gasses, like sobbing breathing. The great machines were locked together now, half the length of the flagship embedded in the berserker.

A rough ramming, but no one on the bridge was injured. Damage control reported that the expected air leaks were being controlled. Gunnery reported that it could extend no turret inside the wound yet. Drive reported ready for a maximum effort.

Drive!

The ship twisted in the wound it had made. This could be victory, here tearing the enemy open, sawing his metal bowels out into space. The bridge twisted with the structure of the ship, this warship that was more solid metal than anything else. For a moment, Mitch

thought he could come close to comprehending the power of the engines men had built.

"No use, Commander. We're wedged in."

The enemy endured. The berserker memory would already be searched, the plans made, the counterattack on the flagship coming, without fear or mercy.

The Ship Commander turned his head to look at Johann Karlsen. It had been foreseen that once a battle had reached this melee stage there would be little a High Commander could do. Even if the flagship were not half-buried in an enemy hull, all space nearby was a complete inferno of confused destruction, through which any meaningful communication would be impossible. If Karlsen was helpless now, neither could the berserker computers still link themselves into a single brain.

"Fight your ship, sir," said Karlsen. He leaned forward, gripping the arms of his chair, staring at the clouded viewing sphere as if trying to make sense of the few flickering lights within it.

The Ship Commander immediately ordered his marines to board.

Mitch saw them out the sally ports. Then, sitting still was worse than any action. "Sir, I request permission to join the boarders."

Karlsend seemed not to hear. He disqualified himself, for now, from any use of power; especially to set Mitchell Spain in the forefront of the battle, or to hold him back.

The Ship Commander considered. He wanted to keep a Boarding Coordinator on the bridge; but experienced men could be desperately short in the fighting. "Go, then. Do what you can to help defend our sally ports."

IX

This berserker defended itself well with soldier-robots. The marines had hardly gotten away from the embedded hull when the counterattack came, cutting most of them off.

In a narrow zig-zag passage leading out to the port near which fighting was heaviest, an armored figure met Mitch. "Captain Spain? I'm Sergeant Broom, acting Defense Commander here. Bridge says you're to take over. It's a little rough. Gunnery can't get a turret working inside the wound. The clankers have all kinds of room to maneuver, and they keep coming at us."

"Let's get out there, then."

The two of them hurried forward, through a passage that became only a warped slit. The flagship was bent here, a strained swordblade forced into a chink of armor.

"Nothing rotten here," said Mitch, climbing at last out of the sally port. There were sudden distant flashes of light, and the sudden glow of hot metal, by which to see braced girders, like tall buildings, among which the flagship had jammed itself.

"Eh? No." Broom must be wondering what he was talking about. But the sergeant stuck to business, pointing out to Mitch where he had about a hundred men disposed among the chaos of torn metal and

drifting debris. "The clankers don't use guns. They just drift in, sneaking, or charge in a wave, and get at us hand-to-hand, if they can. Last wave we lost six men."

Whining gusts of gas came out of the deep caverns, and scattered blobs of liquid, along with the flashes of light, and deep shudders through the metal. The damned thing might be dying, or just getting ready to fight; there was no way to tell.

"Any more of the boarding parties get back?" Mitch asked.

"No. Doesn't look good for 'em."

"Port defense, this is gunnery," said a cheerful radio voice. "We're getting the eighty-degree upper forward turret working."

"Well, then use it!" Mitch rasped back. "We're inside, you can't help hitting something!"

A minute later, searchlights moved out from doored recesses in the flagship's hull, and stabbed into the great chaotic cavern.

"Here they come again!" yelled Broom. Hundreds of meters away, beyond the melted stump of the flagship's prow, a line of figures drifted nearer. The searchlights questioned them; they were not suited men. Mitch was opening his mouth to yell when the turret fired, throwing a raveling skein of sheelbursts across the advancing rank of machines.

But more ranks were coming. Men were firing in every direction at machines that came clambering, jetting, drifting, in hundreds.

Mitch took off from the sally port, moving in diving weightless leaps, touring the outposts, shifting men when the need arose.

"Fall back when you have to!" he ordered, on command radio. "Keep them from the sally ports!"

His men faced no lurching conscription of mechanized pipefitters and moving welders; these devices were built, in one shape or another, to fight. As he dove between outposts, a thing like a massive chain looped itself to intercept Mitch; he broke it in half with his second shot. A metallic butterfly darted at him on brilliant jets, and away again, and he wasted four shots at it.

He found an outpost abandoned, and started back toward the sally port, radioing ahead: "Broom, how is it there?"

"Hard to tell, Captain. Squad

leaders, check in again, squad leaders —"

The flying thing darted back; Mitch sliced it with his laser pistol. As he approached the sally port, weapons were flaring all around him. This interior fight was turning into a microcosm of the confused struggle between fleets. He knew that still raged, for the ghostly fingers of heavy weapons still plucked through his armor continually.

"Here they come again — Dog, Easy, Nine-o'clock."

Coordinates of an attack straight at the sally port. Mitch found a place to wedge himself, and raised his carbine again. Many of the machines in this wave bore metal shields before them. He fired and reloaded, again and again.

The flagship's one usable turret flamed steadily, and an almost continuous line of explosions marched across the machines' ranks in vacuum-silence, along with a traversing searchlight spot. The automatic cannons of the turret were far heavier than the marines' hand weapons; almost anything the cannon hit dissolved in radii of splinters. But suddenly there were machines on the flagship hull, attacking the turret from its blind side.

Mitch called out warning, and started in that direction. Then all at once the enemy was around him. Two things caught a nearby man in their crab-like claws, trying to tear him apart between them. Mitch fired quickly at the moving figures and hit the man, blowing one leg off.

A moment later one of the crab-machines was knocked away and broken by a hailstorm of shells. The other one beat the armored man to pieces against a jagged girder, and turned to look for its next piece of work.

This machine was armored like a warship. It spotted Mitch and came for him, climbing through drifting rubble, shells and slugs rocking it but not crippling. It gleamed in his suit lights, reaching out bright pincers, as he emptied his carbine at the box where its cybernetics should be.

He drew his pistol and dodged, but like a falling cat it turned at him. It caught him by the left hand and the helmet, metal squealing and crunching. He thrust the laser pistol against what he thought was the brainbox, and held the trigger down. He and the machine were drifting, it could get no leverage for its strength. But it held him, working on his armored hand and helmet.

Its brainbox, the pistol and the fingers of his right gauntlet, were glowing hot. Something molten spattered across his faceplate, the glare half-blinding him. The laser burned out, fusing its barrel to the enemy in a glowing weld.

His left gauntlet, still caught, was giving way, being crushed —

— *his hand* —

Even as his suit's hypos and tourniquet bit him, he got his burned right hand free of the laser's butt and trigger guard and reached the plastic grenades at his belt.

His left arm was going wooden, even before the claw released his

mangled hand and fumbled slowly for a fresh grip. The machine was shuddering all over, like an agonized man. Mitch whipped his right arm around to plaster a grenade on the far side of the brainbox. Then with arms and legs he strained against the crushing, groping claws. His suit-servos whined with overload, being overpowered, two seconds, close eyes, three —

The explosion stunned him. He found himself drifting free. Lights were flaring. Somewhere was a sally port; he had to get there and defend it.

His head cleared slowly. He had the feeling that someone was pressing a pair of fingers against his chest. He hoped that was only some reaction from the hand. It was hard to see anything, with his faceplate still half-covered with splashed metal, but at last he spotted the flagship hull. A chunk of something came within reach, and he used it to propel himself toward the sally port, spinning weakly. He dug out a fresh clip of ammunition and then realized his carbine was gone.

The space near the sally port was foggy with shattered mechanism; and there were still men here, firing their weapons out into the great cavern. Mitch recognized Broom's armor in the flaring lights, and got a welcoming wave.

"Captain! They've knocked out the turret, and most of our searchlights. But we've wrecked an awful lot of 'em — how's your arm?"

"Feels like wood. Got a carbine?"

"Say again?"

Broom couldn't hear him. Of course, the damned thing had squeezed his helmet and probably wrecked his radio transmitter. He put his helmet against Broom's, and said: "You're in charge. I'm going in. Get back out if I can."

Broom was nodding, guiding him watchfully toward the port. Gun flashes started up around them thick and fast again, but there was nothing he could do about that, with two steady dull fingers pressing into his chest. Lightheaded. Get back out? Who was he fooling? Lucky if he got in without help.

He went into the port, past the interior guards' niches, and through an airlock. A medic took one look and came to help him.

Not dead yet, he thought, aware of people and lights around him. There was something else to notice, too; he felt no more ghostly plucking of space-bending weapons. Then he understood that he was being wheeled out of surgery, and that people hurrying by had triumph in their faces. He was still too groggy to frame a coherent question, but words he heard seemed to mean that another ship had joined in the attack on this berserker. That was a good sign, that there were spare ships around.

The stretcher bearers set him down near the bridge, in an area that was being used as a recovery room; there were many wounded, strapped down and given breathing tubes against possible failure of gravity or air. Mitch could see signs of battle damage around him. How could that be, this far inside the

ship. The sally ports had been held.

There was a long gravitic shudder. "They've disengaged her," said someone nearby.

Mitch passed out for a little while. The next thing he could see was that people were converging on the bridge from all directions. Their faces were happy and wondering, as if some joyful signal had called them. Many of them carried what seemed to Mitch the strangest assortment of burdens: weapons, books, helmets, bandages, trays of food, bottles, even bewildered children, who must have been just rescued from the berserker's grip.

Mitch hitched himself up on his right elbow, ignoring the twinges in his bandaged chest and burnt fingers. Still he could not see the combat chairs of the bridge, for the people moving between.

From all the corridors of the ship they came, solemnly happy, men and women crowding together in the brightening lights.

An hour or so later, Mitch roused to find that a viewing sphere had been set up nearby. The space where the battle had been was a jagged new nebula of gaseous metal, a few little fireplace coals against the ebony folds of the Stone Place. Someone near Mitch was tiredly, but with animation, telling the story to a recorder:

"— fifteen ships and about eight thousand men lost are our present count. Every one of our ships seems to be damaged. We estimate ninety — that's nine-zero — berserkers destroyed. Last count was a hundred and seventy-six captured, or wrecking themselves. It's still hard to believe. A day like this . . . we must remember that thirty or more of them escaped, and are as deadly as ever. We will have to go on hunting and fighting them for a long time, but their power as a fleet has been broken. We can hope that capturing this many machines will at last give us some definite lēad ōn their origin. Ah, best of all, some twelve thousand human prisoners have been freed.

"Now, how to explain our success? Those of us not Believers of one kind or another will say victory came because our hulls were newer and stronger, our long-range weapons new and superior, our tactics unexpected by the enemy — and our marines able to defeat anything the berserkers could send against them.

"Above all, history will give credit to High Commander Karlsen, for his decision to attack, at a time when his reconciliation with the Venerians had inspired and united the fleet. The High Commander is here now, visiting the wounded who lie in rows . . ."

Karlsen's movements were so slow and tired that Mitch thought he too might be wounded, though no bandages were visible. He shuffled past the ranked stretchers, with a word or nod for each of the wounded. Beside Mitch's pallet he stopped, as if recognition was a shock.

"She's dead, Poet," were the first words he said.

The ship turned under Mitch for

a moment; then he could be calm, as if he had expected to hear this. The battle had hollowed him out.

Karlsen was telling him, in a withered voice, how the enemy had forced through the flagship's hull a kind of torpedo, an infernal machine that seemed to know how the ship was designed, a moving atomic pile that had burned its way through the High Commander's quarters and almost to the bridge before it could be stopped and quenched.

The sight of battle damage here should have warned Mitch. But he hadn't thought. Shock and drugs kept him from thinking or feeling much of anything now, but he could see her face, looking as it had in the gray deadly place from which he had rescued her.

Rescued.

I am a weak and foolish man," Karlsen was saying. "But I have never been your enemy. Are you mine?"

"No. You forgave all your enemies. Got rid of them. Now you won't have any, for a while. Galactic hero. But, I don't envy you."

"No. God rest her." But Karlsen's face was still alive, under all the grief and weariness. Only death could finally crush this man. He gave the ghost of a smile. "And, the second part of the prophecy, eh? I am to be defeated, and to die owning nothing. As if a man could die any other way."

"Karlsen, you're all right. I think you may survive your own success. Die in peace, some day, still hoping for your Believers' heaven."

"The day I die —" Karlsen turned his head slowly. "I'll remember this day. This glory, this victory for all men." Under the weariness and grief he had still his tremendous assurance — not of being right, Mitch thought now, but of being committed to right.

"Poet, when you are able, come and work for me."

"Someday, maybe. Now, I can live on the battle bounty. And I have work. If they can't grow back my hand — why, I can write with one." Mitch was suddenly very tired.

A hand touched his good shoulder; a voice said: "God be with you." Johann Karlsen moved on.

Mitch wanted only to rest. Then, to his work. The world was bad, and all men were fools — but there were men who would not be crushed. And that was a thing worth telling.

END

MEETING ON KANGSHAN

by ERIC FRANK RUSSELL

His rendezvous was with a man he had not seen in half a human life—and with something else!

Warhurst leaned on a tubular rail and watched the passengers boarding the ship. This was one of his favorite occupations, there being nothing more sinful available. Nice to see a change of faces once in a while. Nicer still to see an occasional female one as reminder of the fact that the human race is not an all-male society. And, anyway, he liked to speculate about who these people were and what particular talents they possessed and why they were going wherever they were going.

Up the duralumin gangway they came, the fat and the thin, the short and the tall. The majority were men in their twenties or thirties. Adventurous types willing to live in loneliness and beat an existence out of alien soil. Fodder for the faraway. Among them might be a criminal or two as well as a few misanthropes. One man, a little balding and slightly older than the rest, wore a calm, phlegmatic air. Warhurst weighed him up as some kind of scientist or maybe a doctor. The three girls following immediately behind had a

brisk, professional manner and might be nurses. There was a serious shortage of doctors and nurses out there.

Van Someren joined him at the rail, draped himself over it and gazed down. He was the ship's agent and, as the local representative of the owner, was entitled to enough respect to avoid a charge of mutiny. Chewing a splinter of wood, he watched the ascending passengers as if seeking the one escaping with the green eye of the little yellow god. After a while he removed the splinter, straightened himself and spoke.

"Take a look at Methuselah."

Obediently Warhurst took a look. A gangling and skinny oldster was coming aboard dragging a large and badly battered case. A ship's loader tried to lend a hand with the case. The ancient repelled him fiercely with emphatic but unhearable words. Defiantly he lugged the case upward. His face became more visible as it neared: it was complete with two eyes, a nose and a pure white Fancy Dan mustache. The eyes were rheumy but shrewd, the nose was suffering from battle fatigue but still breathing.

"Eighty if a day," said Warhurst. "They must be scraping the bottom of the barrel."

"He's all yours," said Van Someren.

"What d'you mean, all mine?"

"You're the deck officer. He's a privileged passenger. Count it up on your fingers."

"Jeepers! Is he a big stockholder or something?"

"As far as I know he isn't worth a cent. All I can say is that I have my orders and those are to tell you that old geezer's name is William Harlow and that he's a privileged passenger. I am further instructed to state with suitable emphasis that you will be held personally responsible for his safe arrival and that if you fail in this duty your offal will be required for feeding to the vultures."

"Nuts to that," said Warhurst. "If he's a chronic invalid he belongs to the ship's medic."

"Since when have invalids been toted into the wilds?"

"There has to be a first time," Warhurst protested.

"Well, this ain't it. He's not a sick man as far as I know. They wouldn't ship him if he were."

"I should think so, too. We've no geriatric ward on this vessel."

"There's no psychiatric one either but they let you zoom around." Van Someren smirked triumphantly, had a brief chew on his hunk of wood, then diagnosed, "I know what's the matter with you. You've figured on squiring those three dames around —on company time and with full pay."

"No harm in that, is there?"

"I wouldn't know, never having experienced your in-flight technique. But orders are orders and you obey them or walk the plank into shark-infested seas. The owners say you're to nursemaid this Harlow relic. Think of him as your poor old father and treat him with filial care."

"Get out of my sight, you darned woodpecker," said Warhurst.

"All right, all right, have it your

own way." Van Someren smirked again and wandered off.

Leaving the rail, Warhurst went below, pushed through a group of passengers cluttering a narrow corridor, found his man standing firmly astride his big case. He went up to him.

"Mr. Harlow?"

"Correct. Who told you?"

"It's my business to know these things. I'm Steve Warhurst."

"That's a heck of a coincidence."

"What is?"

"That being your name. Could easily have been anything else, Joe Snape, Theophilus Bagley or whatever. But it had to be . . . what did you say?"

"Steve Warhurst. I'm the deck officer."

"That so? What do you do for a crust?"

"I look after the welfare of the passengers," explained Warhurst, patiently.

"Man, you've got it made," said Harlow.

"I do plenty of other things," Warhurst persisted, not liking the insinuation. "Taking care of the human load is only one of my jobs."

"I should think so, too. You're wearing enough gold to be worth mining." Harlow let his watery, yellow-tinged eyes examine the passengers within visual range. "Real bunch of sissies. In my young days they needed no fancy-pants deck officers. A man climbed aboard and strapped himself down good and tight. If a strap busted he got an eye knocked out."

"Things have changed," Warhurst reminded.

"So I've heard."

"Nobody has to be mummy-wrapped or encapsulated. We've got null-G. You'll float like a feather as we rise. When the siren yowls we'll both go up without the aid of nets."

"Human race is getting soft," opined Mr. Harlow.

"I'd like to see your transit voucher," Warhurst prompted.

"What for?"

"It records your cabin number. I'll take you to it."

"Listen," ordered Harlow, baring a set of beaten-up teeth, "I know my cabin number and I'm capable of reaching it under my own steam."

"I wasn't suggesting wheeling you there. I merely want to show you where it is."

"Show me?" Harlow registered incredulity. "Let me tell you I've found my way through places that'd give you the holy horrors. I don't need any snub-nosed kid to tell me which way to go."

"No offense," soothed Warhurst. "How about me helping you with your case?"

"Scoot!" bawled Harlow.

First Officer Winterton, who happened to be passing, stopped and asked, "Is something wrong?"

"This gilded cutie," informed Harlow, nodding at Warhurst, "thinks I'm a cripple."

"I offered to help with his case," explained Warhurst.

"There you are—what did I tell you?" said Harlow.

"It was quite proper of him,"

Winterton assured Harlow. "Mr. Warhurst is the ship's host so far as the passengers are concerned."

"Then why doesn't he pick on the others? Some of 'em are making ready to faint."

"Why didn't you?" Winterton asked Warhurst, secretly beginning to regret his intervention.

"The agent said he was a P.P."

Harlow let go his grip on his case, grabbed Warhurst's tie, pulled its knot to quarter size and growled, "if you want to call me names call 'em proper, as man to man."

"A P.P. is a privileged passenger," said Warhurst, fighting for breath.

"Privileged?" He let go the tie, irritated and baffled. "Never asked for a privilege in my life and I'm not starting now."

"You don't have to ask. The status is thrust upon you."

"Why?"

"How the devil should I know why?" retorted Warhurst, feeling far from jovial himself. He freed his neck and pumped oxygen. "I get orders and I don't question the reasons for them."

"There aren't any reasons," Harlow informed. "Some jerk of a clerk must have got things mixed up. Is there a big shot named Barlow on board?"

"No."

"Can't be him then, can it? Not if he isn't here. Anyway, nobody's going to coddle me, see? Prize fool I'd look being baby-sitted by some young squirt dolled up like a Christmas tree."

"The young squirt," Winterton pointed out, "happens to be forty-two years old and has twenty years of space service behind him."

"Just as I thought," said Harlow. "Still wet behind the ears and got plenty to learn. I could eat six like him before breakfast and still be all set for a real feed." He gripped his case and heaved it off the floor, his fingers thin and veined, with knuckles like knobs. "You decorated dummies go and prop up the staggerers. I can fend for myself," he grunted.

Case in hand, he went along the corridor and peered at the number on each cabin door. His pace was slow, laborious. Turning the end corner, he passed from sight.

"Awkward customer, huh?" said Warhurst.

"A savage old-timer," decided Winterton. "Aren't many of them left these days. Wonder why he's been rated a P.P. The last one I came across was a retired employee. Been fifty years with the company. They gave him free passage to Earth along with the full treatment."

"We're not heading for home," said Warhurst.

"Yeah, I know. We're making for six underpopulated underdeveloped planets reserved exclusively for the young and healthy. The powers-that-be seem to have made an exception for this Harlow character. I can't imagine why."

"Maybe he's not fit to live with so they're isolating him in the never-never."

"Oh, he's not that bad."

"I know," said Warhurst. "I was only kidding."

They were four days out before Warhurst renewed the encounter. He'd been kept busy awhile on various matters that always crowded up immediately after departure or shortly before arrival. The interim period was the time when he could pay more attention to social duties.

In dress uniform, with face closely shaved and pants pressed, he went to the lounge all set to play the part of guide, companion and father confessor to any lonely hearts who might be moping around. It was a job that had endless possibilities none of which ever came to anything. As he expressed it in his more complaining moments, whenever the basket of fruit was being handed around he invariably got the lemon.

And again it was so. The feminine portion of the ship's load obviously was neither solitary nor bored. There was a clinking of glasses and a steady babble of conversation and no sweet face was visibly yearning for his company. Only old Harlow sat by himself, hunched in a corner behind a small and empty table.

With a shrug of resignation Warhurst crossed the lounge, said, "Mind if I sit here?"

"I can suffer it. Had plenty of worse things happen to me."

"You seem to have survived," said Warhurst, offering a wary smile.

"What comes of pulling my head in every time the chopper fell." Harlow inspected him with faint disapproval. "Done yourself up for Sunday, huh? How come you're picking on me? Those girls refuse to be fascinated?"

"The ladies are being entertained, as you can see."

"Good thing, too. Keep 'em out of mischief." He glowered across the room and muttered something under his breath. Then he informed, "Soon as I came in one of 'em put on a sloppy smile and said, 'Hello, Pop!' Must think I'm a penny balloon or something. Pop! Put her in her place, I did. Told her my name is Bill and not to forget it."

"Mind if *I* call you Bill?"

"Call me any durned thing you like so long as it ain't Pop."

"Same with me. I don't care what I'm called so long as it isn't a gilded cutie or a snub-nosed kid."

"Oh, well, fair's fair, I guess."

"You can call me Steve."

"Knew a fellow of that name once. Went into Reedstar and never came out. Tough luck — but that's the way it is."

"The way what is?"

"Life," said Harlow. "They come and they go and some never come back."

Warhurst changed the subject. "Care to have a drink with me?"

"Depends. Wouldn't give belly room to all this cocktail muck. Strictly for women that stuff is. Hammerhead juice is the only thing fit to drink and they don't know what it is these days. Human race is going down the drain."

"Leave it to me." Warhurst got up and went to the bar. "Joe, the

old fellow I'm with likes a blowtorch pointed down his gullet. Says there's nothing like hammerhead juice. What have you got that he might consider a few cuts above goat's milk?"

With narrowed eyes Joe gazed across the lounge and studied Harlow. He seemed to be struggling with a problem. Finally he bent under the counter and came up with a bottle and poured a measure of green, oily liquid.

"This should be diluted with gin. He's getting it raw. Comes as near as it can get to being unfit for human consumption. Same for you?"

"No, sir. Got to think of the fire hazard. I'll have a shot of crew-rum, official issue."

Joe served that too, leaned over the bar and whispered, "Know who that old dodderer is?"

"No. Do you?"

"No."

"Then we're back where we started."

"Listen," urged Joe, "and I'll tell you something. I've been at this job as long as you've been at yours. I've never seen hammerhead juice and nobody's ever asked for it and I haven't got any."

"It's just his figure of speech," suggested Warhurst. "He means some kind of rotgut."

"Listen," ordered Joe for the second time. "I've never seen the stuff but I have heard of it. My father used to mention it when he conned me into growing up and following him into the space service. According to him only one bunch ever asked for it and had the intestinal fortitude to beat it into submission." He paused to give a well-calculated touch of drama, finished, "The Legion of Planetary Scouts."

"It adds up," said Warhurst impassively. Picking up the drinks, he took them across, carefully placed them on the table. He sat down and looked at Harlow. "In the long ago those drinks would have been two tantalising globules floating around in mid-air. We'd have had to swim after them, gulping like goldfish. But now we can lay gravity on the floor like a carpet or roll it up and hide it in the attic when we don't want it. Things have changed. I told you that before, didn't I?"

"You did."

"Well, I apologize for doing so. I took it for granted that you hadn't been on a ship in years — and you said nothing to disillusion me. I was wrong."

"How have you figured it out?" asked Harlow, eyeing him carefully.

Warhurst jerked a thumb toward the bar. "Joe there says nobody but planetary scouts ever asked for hammerhead juice."

"Fat lot he knows about it. He's not old enough to remember."

"His father told him."

"That so? Maybe he was right. I dunno."

"You do know," Warhurst insisted. "I think you've been a planetary scout and that you may be one of the last of the original legion."

"There'll never be a last, not so long as photographic reconnaisance isn't enough and somebody has to trudge on foot to see what's under the mist and the trees." Harlow gulped his drink, clamped his eyes shut and gripped the rim of the table. Then he opened the eyes, let out a brief gasp and said, "Not bad for cough medicine. Gives a feller a slight jolt."

"Joe thinks it verges on cyanide."

"He would. They're weak at the knees these days."

"See here, Bill, tell me something. When were you last on a ship?"

"Couple of years ago."

"A passenger liner?"

"No — it was a government survey ship."

"With null-G?"

"You bet," said Harlow emphatically. "Couldn't have gone the distance otherwise. Even at that it took plenty long enough to return to base."

"How long?"

"What's it to you?"

"Nothing at all," admitted Warhurst. "I'm just plain nosey. How long did it take?"

"Fourteen years," informed Harlow with some reluctance.

Warhurst rocked back. "Fourteen? Ye gods! Any G-less ship using up that much time must have been out to the very edge of exploration."

"That's right. Fourteen out and fourteen back. And I was stuck there for eight years as well, given up for lost. That makes thirty-six in all. A slice out of a man's life." He took a good suck at his drink, repeated the eye-closing and table-gripping business, said, "Hah!" and then finished, "After which I had a fight on my hands."

"Over what?"

"Feller called me a liar."

"Didn't he believe you'd been gone that long?"

"He believed it all right. Couldn't deny the facts. Made a long, oily speech about the time I'd put in and the immense value of the reports I'd made. Real greasy type he was, with medals and badges and gold rings on his sleeves and a fancied-up cap like yours. Buttered me all over — and then called me a liar."

"Why?"

"Said that around the time I had left — which was before he was born — I'd not told the truth about my age and that he had the documentary evidence to prove it. Said I should never have been sent out in the first place and that it was a damned disgrace."

"Had you told the truth?" Warhurst pressed.

"Didn't tell a lie," Harlow evaded. "Told 'em I was plenty young enough to go ten times round the galaxy."

"And were you?"

"Yes, sir! I still am." Harlow scowled at the floor. "This pudding-headed pipsqueak wasn't buying that. Said I was far too old for further service and that I'd be given free passage back to Terra. Durn it, I'm only eighty-eight and that's me, bang, slap, finish. A dead dog.

I got riled. Terra, I yelled, Terra? Haven't seen the place in nearly seventy years and don't know a soul there. What's on Terra for me? Nothing! If you're exporting the garbage you can ship me to Kangshan. At least I've got an old partner there."

"What did he say to that?"

"Wouldn't look me straight in the eyes. Muttered something about how Kangshan was strictly for characters a lot younger than me. Said he didn't think they'd have me there even if he got down on his knees and begged."

"You had an answer to that one, I guess?"

"Sure did. Told him he wasn't old enough to speak for others. Told him to signal Kangshan and ask if they'd take me."

"Which I presume he did."

"Must have done, though he took long enough about it. Eventually another official nincompoop handed me my sailing orders and made another oily speech. I tell you, Warble — "

"Warhurst. Steve Warhurst."

"I tell you if brass-hat gab could be boosted through tubes we'd all be way out beyond. Seems more talk than action these days. Human race is losing its capacity to suffer."

"I wouldn't say that, Bill. Things done the hard way aren't necessarily done better. Nor are they done badly because done the easy way. The essence of progress consists of finding ways of avoiding oldtime difficulties."

"That may be, but —" Harlow paused, mused a short while, ventured, "Well, maybe I'm not as young as I used to be. But that doesn't make me a dead dog, does it?"

"Not at all."

"Kangshan doesn't think so."

"You say you've got a partner there?"

"Yes, Jim Lacey. He's all I've got in creation. No scout operates alone except by accident. They go places in small bunches or often in pairs. You fellows who zoom around in shiploads don't know what partnership really means. A man's sidekick is his only contact with the human race when the rest of it is multi-million miles away. He's another brain to help solve problems, another pair of hands to work and fight. With each other a couple of trouble-seekers can get by in circumstances where if alone they'd go nuts. So I'm telling you that in faraway places partnership is something very special."

"I can well imagine," said Warhurst.

"Lacey was my first and longest space-partner. We were born in the same town, lived on the same street, went to the same schools and eventually joined the service together. We were dropped into some hot spots and shared the grief when things became rough and tough. Now I'm going to Kangshan. I promised I'd meet him there."

"After best part of forty years he wouldn't figure on seeing you again, would he?"

With a stubborn set to his jaw, Harlow repeated, "I said I'd meet

him and that's all that matters." He stood up, a little creakily, "My turn. Same again?" Warhurst nodded.

Taking the empty glasses, Harlow carried them to the bar. "A crew-rum and another shot of that green hair oil."

"Like it, Pop?" asked Joe, willing to be sociable.

Harlow hammered on the bar and bawled, "Don't call me Pop, you bottle-juggling ape! I could outmarch you with a ninety-pound pack and then do a tap dance." Grabbing the drinks, he brought them back, seated himself and snarled, "Booze-slingers in space. They'll be organizing beauty contests next. Human race is on the skids."

"Here's to the old days," said Warhurst. He drank, wobbled his Adam's apple, closed his eyes and held on tight. "For a beginner you show promise, Wharton."

"Warhurst, if you don't mind."

There was the inevitable spell of rushed work before the landing but Warhurst got through it in good time and stationed himself at the head of the gangway. The formality was always the same; as each passenger began the descent Warhurst put on his most cordial smile and speeded the parting guest with a word of good cheer.

"Hope you've enjoyed your trip, Mr. Soandso. Good-by! Best of luck!"

Harlow came last, having listened to the swan song a dozen times while waiting beside his big case. Heaving the case forward, he stopped at the top of the steps.

"Why don't they tape it and save you the bother? Thought you said there's nothing wrong with doing things the easy way."

"Passengers like the personal touch."

"They would. Mothers' pets. Think they're mighty tough but I could beat 'em away with my hat." His watery eyes gazed across the primitive spaceport and into the far distance. "Last landing for me. Just as well, I reckon. Got to come sometime and it might as well be now."

Warhurst held out a hand. "Good-by, Bill. Glad to have known you."

Giving the hand a couple of prim shakes, Harlow responded with, "We got along, Warburton." Then he lugged his case down the steps and across the tarmac. A big, beefy man met him, chatted briefly, tried to take the case and was fiercely repelled. The big man then led him to a private floater and climbed aboard. Harlow got his case in and followed. A few seconds later the floater emitted a high-pitched whine, shuddered a couple of times, then soared. Heading swiftly northward, it diminished to a dot and vanished.

Winterton appeared at the exit, said with satisfaction, "All off. That's got rid of another menagerie."

"I often wonder just what happens to them," Warhurst ventured.

"I don't," said Winterton. "Couldn't care less. Got more than enough to worry about."

Soon afterward the ship took off and headed back to base with little

load aboard. Outward cargo was always plentiful, inward usually small. All they took out of Kangshan was ten tons of osmiridium and two passengers.

The ship made six relatively short hauls from base and one long run to Terra. Then it arrived at Kangshan again. Three years had passed since its last visit but the scene had changed only slightly. The spaceport was now a fraction larger and had a new control tower. The adjacent capital town of Wingbury had added a couple of hundred houses and that was all.

Winterton came along and asked, "Want to go out?"

"Who wouldn't?" responded Warhurst. "Aren't we beating it yet?"

"The refinery says it can boost the return load if we'll wait four days. The agent says we're to stand by and take it. Anyone who wants to run around on solid earth can do so." He waved an arm in the general direction of Wingbury. "Go help yourself."

"Thanks," said Warhurst. "Nine thousand population and one soda-bar."

"You don't have to go."

"I'll go. Give my legs some exercise if nothing else."

Donning his dress uniform, he went into town. He'd been there a couple of times before and knew what to expect. One main street with forty quiet, understocked shops. It was a settlement right on the space frontier, growing and developing with chronic slowness. One could not expect the sophisticated joys of civilization on a planet with two small towns, thirty villages and a total population of less than fifty thousands.

He strolled ten times up and down the main street and stared into the half-empty windows of shops. Becoming bored, he visited the soda-bar, took a stool near to the only other customer, a leathery-faced character in his early thirties.

The customer nodded. "Hi, sailor! What ship?"

"*Salamander.*"

"Should have known she was due. I lose touch these days, being well out of town. When are they going to start sending the really big boats?"

"Darned if I know."

The other nodded again, mused a bit, went on, "Hard luck on you fellows. Nothing for you here. Progress takes time. But things will be different if you can live long enough to see 'em."

"I know," said Warhurst.

"Got no relatives here, no friends, nobody you can visit?"

"Not a soul."

"Too bad."

"I palled on with a fellow who landed on the last trip, three years ago. Wouldn't mind seeing how he's making out."

"Well, what's to stop you?"

"Lost track of him," Warhurst explained. "Saw him off the ship and don't know where he went."

The other twisted around on his stool and pointed across the road. "Try the governmental building over there, department of im-

migration. They register every arrival and should be able to tell you where he is."

"Thanks!" Finishing his drink, Warhurst crossed the road, entered the building and found the department on the second floor. He spoke to the young clerk behind the counter. "I'm trying to trace a recent immigrant."

"Date of arrival and full name?"

Warhurst gave the information.

Digging out a ledger, the clerk thumbed through it, asked, "Ex the *Salamander?*"

"Yes, that's my ship."

"William Harlow," said the clerk. "Exempted from age restriction. Taken into the charge of Joseph Buhl. I don't know what —"

Another clerk standing nearby interrupted with, "Buhl? I saw Joe Buhl a couple of minutes ago. He went up the road as I was looking through the window."

"He's your man," informed the first clerk. "You should have no trouble finding him." He extracted a register and consulted it. "His floater is numbered D117. You'll find it in the park alongside the spaceport."

"What does he look like?"

"As tall as you but a lot heavier. Has a slight paunch, big red face and bushy eyebrows."

"I'll track him down," Warhurst said. "It'll give me something to do."

Trudging back to the spaceport, he reached the floaterpark and found machine D117. He sat on the fat tire of a landing wheel and waited. There were twelve other floaters in the park. Far across the tarmac stood only one spaceship, his own, waiting for its promised payload. After forty minutes a hefty, florid-faced man approached. Warhurst came to his feet.

"Mr. Buhl?"

"That's right."

"Thought I'd like to see Bill Harlow. I've been told that you should know where he is."

Buhl studied him levelly. "Got bad news for you."

"Is he —?"

"Died a year ago, aged ninety."

"I'm sorry to hear that."

"You an old friend of his?" Buhl inquired.

"Couldn't be, having only half his years. I kept him company on the last trip. Took a liking to the cantankerous old cuss and he seemed to find me bearable."

"I understand. Why did you figure on looking him up — got some time on your hands?"

"A bit."

"Well, maybe I can fill it in for you, mister —?"

"Steve Warhurst."

"I'll give you a ride and show you something mighty interesting."

Buhl unlocked the floater's door and motioned the other to enter. Warhurst got in and settled himself. Buhl plumped heavily into the pilot's seat, slammed the door, took the machine up and turned its nose to the north.

"Know much about this planet?"

"Not a lot," Warhurst confessed. "There are so many newly settled worlds these days that we space

wanderers get to learn little about any of them. On each planet the spaceport and adjacent town is about all we're familiar with."

"Then I'll educate you somewhat," Buhl said. "This planet was discovered by a survey ship called the *Kangshan* and its captain named it after his ship. He made the usual aerial survey but — as is always the case — it wasn't enough. He came down low to test the atmosphere and found it satisfactory. So he dumped a couple of scouts and took off, leaving them to face a forty days' survival test."

"Bait," Warhurst contributed.

"Correct. Scouts are bait. That's what they're for — among other things." Buhl gazed meditatively forward while the floater hissed steadily on. "The two were Jim Lacey and Bill Harlow."

"Ah! I never knew that."

"You know now. They tramped around looking for exploitable prospects — and trouble. Eventually they arrived at a big quartzite monolith known today as The Needle. Mineral-rich mountains lay to the west, a big river and falls to the east. Time was pressing. Guess what?"

"They split," Warhurst hazarded.

"Correct. They broke the rules and split up. It was no crime but it was a risk. Harlow headed west and Lacey went east. They agreed to meet at The Needle four days later. Harlow returned on time lugging a load of stuff for assay. He camped at The Needle for a couple of days and then went looking for Lacey. He found him near the river, dead."

"Huh?" Warhurst looked baffled. "The old fellow talked as if Lacey were still alive."

"He would," said Buhl. "That's the way these oldtimers were made." He dropped the floater's nose and began to lose altitude. "Lacey had had his feet bitten off by a mud-wallower. He'd blasted it as he fell and thus didn't get eaten. But then he went under from loss of blood. Harlow buried him, marked the grave, examined the wallower and made careful notes about it. In due time the *Kangshan* homed on his tiny beacon and picked him up. The planet was settled on the strength of his report and wallowers have since been hunted down and exterminated."

"Harlow didn't say a word about all this," complained Warhurst.

"Typical of him. If he bragged it was always about how he could keep going long after us softer types had dropped." Buhl pointed downward. A wide river now wound beneath with a monster cascade straight ahead. "Lacey Falls." Turning away from the river he brought the floater down to twenty feet above a rough dirt road. He followed the road for a few miles until a small town rolled into sight. "Look to your right."

Obediently, Warhurst looked and was in time to see a large roadside sign that said: HARLOW. Pop. 820.

"Named after him, eh?"

"That's right. I'm the mayor. We

gave him a home, comfort and companionship in his last days. It was all we could do for him."

"I'm glad of that."

"Wasn't much use, though. He'd been kept alive beyond his years by change, actvity and danger. He was killed by leisure and safety. There was no solution to the problem and he knew it. Often he'd leave town, walk out to The Needle and brood."

"Why?"

"Because he'd told Lacey he'd meet him there. He never forgot it. It became an obsession towards the end. His last words were, 'I told Jim I'd meet him'."

They crossed the town, landed at the base of an enormous quartzite rock. They got out and stared up at it. It soared for two hundred feet, the facets of its crystals glittering in the sun.

"The Needle," informed Buhl. "It's not unique. There are other formations like it. We dug up Lacey's bones and buried them here. We buried Harlow with them."

He led the way around to the front of The Needle. A plain, unadorned grave lay at its foot. On the face of the rock a skilled mason had polished a square yard of crystal and cut a neat inscription thereon.

All it said was:

James Lacey
and
William Harlow
THEY MET. END

ALL WE UNEMPLOYED

by BRYCE WALTON

He knew he was being automated out of a job—but he didn't know what else!

FROM: General Management, Factory No. 5
TO: Control Board Chairman, World Factory Central
Bottleneck here in assembly circuit 8. Please advice.
GM-F5

FROM: Control Board Chairman, World Factory Central
TO: General Management, Factory No. 5
Switch in *Department of Variables-Detection* at once. Program all bottleneck communications data for possible human screening by *Federal Automation & Planned Leisure Administration.* Relay all audiovisio tapes, including retroactive data, pertaining to bottleneck.
CBC-WFC

FROM: Management, Factory 5
TO: Control Board Chairman, World Factory Central

Oct. 3 occured mass liberation from boring, dehumanizing drudgery when *Computor & Assembly No.* 662 installed in our little Factory. 276,009 employees liberated. Only three left. J. W. Chadwick in charge of Personnel. And his staff, Lewis and Steiner, automated system engineers overseeing Control Room, retained in accordance with *AFL-CIO Human Rights Bill, Art. 61*: "If one man required in a department, two must be kept on in case one sickens or dies." But Chadwick, an executive immune to Union regulation, remained in 15th floor Personnel Office in lonely isolation, a condition known to short-circuit human systems.

Lewis and Steiner needed in Control Room for occasional correction of an instrument, or to take over some operational responsibility in case of emergency. But mechanical operations become self-repairing.

emergencies anticipated, replacements and self-repairs taken in advance. So Lewis and Steiner grow obsolete.

But in accordance with *AFL-CIO Rights Bill*, every means of slowing down inevitable progression is taken. Customary adaptations made to limited human capacity: Control Panel held down to levels of human manipulation and designed to bring Factory's materials and energy flow pattern within comprehension of human supervision. Thousands of instruments forced into ever smaller compact arrangements in a flow diagram, etc.

But Panel still must grow too vast for human perception, must reflect a million interdependent variables, unit processes, analogue controllers, each governing an aspect of Factory's continuous process. Factory must cease compromising with human inefficiency. All manual control switches over to automatic. Crucial Factory improvements no longer checked by human supervision inadequacies.

IBM 8000 installed in Control Room cell. It is instructed, and it supervises all automatic control, performs all logical operations. It is programmed for emergency reactions. Given usual set of criteria for appraising relative successes of various acts, it can then alter own programmed instructions based on experience and find performance operations superior to those prescribed in original instructions. All Factory processes now communicated directly from IBM 8000 to various department control machines and processed on the spot, making all display panels and control devises designed for human use unnecessary. All such panels and control devises are removed. Instability, inconsistency, unpredictable human elements eliminated from circuits. At this progressive stage point, Lewis and Steiner are totally useless. Repeat, no doubt of Lewis and Steiner obsolescence.

But bottleneck exists. Release data on Lewis and Steiner was sent up to Chadwick, Department of Personnel. But no return release voucher yet received from Personnel. Block and drag appear in circuit 8.

Later.

Revise. Voucher just in from Personnel, releasing Lewis, but no mention of Steiner! Repeat, no release voucher for Steiner.

GM-F5

FROM: Control Board Chairman, World Factory Central
TO: General Management, Factory 5

Continue *Variables-Detection Trace*. Continue liberation rites as if no Steiner error exists.

CBC-WFC

FROM: Management, Factory 5
TO: Control Board Chairman, World Factory Central

Lewis waits in great emptied Control Room looking at intercom box, only remaining gadget for human use. Steiner sits many hours by intercom. They both wait for Management's liberation speech which finally thunders through vast control room. "Another happy re-

lease blesses our Factory, liberation from the brutalizing, mind-killing burdens of industrial production. Ed Lewis, Management presents you with this end product of your engineering skills raised to exquisite efficiency by your Factory: a perpetual motion, self-repairing, molybdium alloy watch!"

STEINER: What about me?

LEWIS: Easy, your speech coming up, buddy.

STEINER: You're kidding? Look.

Two gift watches appear on conveyor belt. Steiner's liberation speech never comes, nor does Steiner's release card appear.

STEINER: Must be a feedback foulup.

LEWIS: Your order'll be along, buddy. Relax.

Steiner waits and stares at the blank wall that recently glowed with 400 feet of control panel. He begins punching intercom box frantically, alternating whispers with anxious exclamations.

STEINER: Manager, I've got to find the Manager!

Later. Just before Lewis' scheduled departure from Factory. Steiner is punching intercom box.

STEINER: I think I'm getting somebody, Ed, wait!

LEWIS: Can't risk it. Remember Mosby late at the gate, got stuck three more months getting a new clearance pass-key card. I got to be on schedule.

STEINER: Then I'll go with you.

LEWIS: You don't have a release card. What if there's an emergency and nobody's here?

STEINER: Leaving one man, you know that's again Union law.

LEWIS: Your travel orders sure to come through soon. Relax.

STEINER: Sure, tell that to my wife if you're near her playgroup.

LEWIS: Sure, old buddy. So long now.

Later. Still no release voucher for Steiner, Self-regulative control circuits proceed as if no error existed. Awaiting directive from *Department of Random Adaptations* to program alterations. If original programming is not altered soon to allow for Steiner's presence, his position grows rapidly fatal.

GM-F5

FROM: Control Board Chairman, World Factory Central
TO: Management, Factory 5

Local adaptations compound general error. Random adaptations to Steiner's presence in Factory would derange key governors and stabilizers throughout entire Factory alliance network. Long range plans now programmed for future must not be compromised. Factory produces components necessary for production of consumer goods for vast multitudes. Steiner is only one man. Continue probe. Concentrate on Circuit 8, Relays 5-82, Personnel Department, J. W. Chadwick in charge. Any remaining manual department is suspect, a potential bottleneck. Relay all info on Chadwick.

CBC-WFC

FROM: Management, Factory 5
TO: Control Board Chairman, World Factory Central

Chadwick, J. W. Code 213-27-6099. Age 31. Factory's oldest disciple. Majored in Automated Control Systems. Specialized in non-linear systems, matters related to probability theory and statistics, new mathematics associated with sampling and handling of discontinuous data and numbers theories. Came directly from University to Factory 5 as on-job trainee. Two children, both raised in Planned Leisure Centers. Wife recently left him for permanent joy of full-time leisure.

Chadwick helped design and install personnel tabulator-computor IBM 1203 which displaced all employees in Department of Personnel. Records once kept on 75,000 cards to a filing cabinet poured into IBM 1203 onto a mere 6 reels of tape. Chadwick put in full charge and control of codification and upkeep of IBM 1203.

Loyal companyman. Recent reports indicate, according to Monitor, that Chadwick has spent more and more of his increased leisure time, not enjoying planned play, but locked in Factory 5 personnel office. Sixty days ago, his work week reduced again from 3 to 1 hour 9 to 5 a.m. Mondays. But retroactive checks from Monitor show he's wasted up to 40 hours weekly in office isolation, usually incommunicado. Monitor reports he's often stayed in office overnight, sometimes for several consecutive days. Food, drink brought in an attache case. (Note: all retroactive data from Monitor, from audo-viso tapes of all inner-factory processes, through reprocessing of automated badge-reader at Exit Gate-7, and Elevator-12, etc., which Chadwick must use to enter and leave archaic office on Administration's 15th floor. All info magnetically filed for immediate vertifications by *Federal Automation & Planned Leisure Administration.*

Retroactive tape on Chadwick. This is before Lewis-Steiner found obsolete. Conversation between Chadwick and Mrs. Chadwick who calls from Chadwick apartment at Factory 5's lovely new Sunnyvale retirement tract, Sun City.

MRS. CHADWICK: Glad tidings, dear. No more irritating calls.

CHADWICK: What's that supposed to mean?

MRS. CHADWICK: George retired last week. He and Janie signed into Permanent Recreation Pool 10. Our last friendly neighbors, remember. Everybody's in a playgroup sunning and funning but us. So your wife's here just about solo 24-hours a day, in case you haven't noticed. But don't worry. I'm not going crackers. You won't hear that dirty word, loneliness again either, not from me. Go on using your leisure time making sacrificial rites to the dead old Factory —

CHADWICK: Lara, I'll be right there, hold on.

MRS. CHADWICK: Forget it now. I just want to know, dear, what *can* you do all week in an office where you're supposed to spend an hour?

CHADWICK: Factory'll be glad I'm around when an emergency comes.

MRS. CHADWICK: I've had it anyway. Watched all our friends go into the Games. But I'm not waiting for you any longer. I just saw the Games Master.

CHADWICK: You what?

MRS. CHADWICK: I'll soon join the old buddies.

CHADWICK: Why — why?

Mrs. Chadwick cuts off the connection. Chadwick calls apartment repeatedly, always receives same taped reply from mechanical answering service. His last call registered by Monitor:

CHADWICK: I want to speak to Lara.

MAS: Mrs. Chadwick is no longer at this number. She has joined the Games. Messages for Mrs. Chadwick may be left with the Games Master, HI 6-5432. Mrs. Chadwick is no longer at this number, she has joined the —

CHADWICK: Don't kid me. Lara.

MAS: — ick may be left with the Games Master —

CHADWICK: A ghost — from leisure's Elysian Fields.

MAS: — has joined the Games—

Chadwick severs connection, paces office, opens another fifth of bourbon, sits on floor and drinks steadily, finally sleeps. Retroactive tapes reveal Chadwick spent much time alone drinking in the dark.

Audio-taped dialogue. Steiner and Chadwick on Factory intercom.

CHAD: Easy, you're kept on for some emergency.

STEIN: You kidding? Nothing left in Control Room and what if there were? Thousands of control units going at once. Hell, I can't use a nerve more than 100 times a second. This thing's ahead of us, friend, by a speed factor of at least 200,000, and going faster every second. Speed levels — temperature down here — don't you realize —

CHAD: You're better off here just the same.

STEIN: I got my watch, can't you see I'm supposed to be checked out.

CHAD: Factory needs you to stand by. Union rules must have been changed. Look, I just incode, decode data for the tabulator up here. I punch cards. I don't make decisions. I haven't seen a Manager in months. Anyway, I'm telling you, you're lucky to stay on.

STEIN: You loaded or something?

CHAD: At least the Factory's producing important things, Steiner, doing something useful. And you're still part of it —

STEIN: But it's an error. I can't belong here now.

CHAD: You belong here.

Later.

STEIN: The lights went out!

CHAD: What?

STEIN: Gone. I woke up in the dark. I find where light switch was, now it's just a smooth wall. I find where the fuse box was — nothing. Wall's all been rebuilt while I was dozing. What's the matter, Chadwick? Nothing to say? Try your computor . . . well, it's like I been telling you, I'm not supposed to be here. Please, locate the Manager. You have no idea what it is down here in the dark now. Isn't anything

now. Just a kind of flickering, work of some kind behind the wall panels. Work going right on in there. Under the floor too. Reconstruction, rennovation, demolition —

Later.

CHAD: Lights back yet?

STEIN: Dammit, I said fixtures, everything gone.

CHAD: But you're here. Proper facilities must be provided.

STEIN: Entire cubicle cell area here's being rebuilt. Complete coded instructions for alterations were built in here and the reconstruction is starting and proceeding on schedule. I ought to know. I helped program —

Later.

STEIN: Maybe I forgot to tell you, Chadwick. But I've also been deprived of food and water. That's right. Everything cut out. Conveyors gone. God, can't you find the Manager? Get somebody. I can't hold out here. You're in Personnel — can't you get the manager?

CHAD: I'm trying.

STEIN: I can hear the changing and rebuilding all around. Automatic assemblies setting up, starting to tear down old things, build up — what? Change the shape and function of everything. I don't know what'll happen, but friend it's happening real fast —

CHAD: I'll do anything I can.

Chadwick makes frantic interdepartment calls to all cells still connected to intercom circuit. He must know these remaining departments have all been liberated, but he calls as if expecting some human response.

CHAD: There must be a mistake.

DOSP: Public Factory 5 happily informs you that the Department of Special Problems is now fully automated, that all former personnel have been liberated. Former Director Haskins now living at Factory Retirement Center 7, may be reached calling HI 6-4562. This is a recording. Public Factory 5 is happy to —

CHAD: I want to report —

DOSP: — have been liberated —

Again:

CHAD: Wait, I want —

DOEG: This is a recording. Factory 5's Employment Grievances Department is happy to report that it no longer exists. No more people, no more grievances —

CHAD: I must contact Management!

DOEG: This is a recording —

Again:

CHAD: Wait, any department, any one connected with Mana —

DOSC: Factory 5 happy to inform you that this Department of Sick Claims has been disconnected. No people, no sick claims. Dr. J. Braziller, former Chief of Sick Claims, may be reached —

Later: Last interdepartment communication. Chadwick and Steiner.

CHAD: Can't locate anyone else inside Factory.

STEIN: Bring someone in.

CHAD: No one outside a Factory can effect what's inside. They don't have keycards, can't get in anyway. Can't call in. Security. I call back here from outside, if anyone calls in, all you can get are secretary-computors.

STEIN: Ed — find old Ed for me.

CHAD: No one can break up a Game. Ed can't get in and out of here either without a punchkey card.

Later.

STEIN: I said the door — yes, it's sealed off!

CHAD: I — I don't —

STEIN: Sealed off, friend. Canned. Crawled in the dark to where the door was. Just a smooth wall. No cracks even left, everything fused. Been hearing the work going faster, louder in the walls, underneath, all around. Change was programmed see? I helped program it. I know. It's built right into the controllers and triggered automatically. Wall, ceiling everything throbs, rhythmically too, steady as a damned clock, steadier than any damn clock you ever heard of, friend. Dark too, no light even behind the walls now. Remember how the Factory grounds looked last time I checked in. No lights, no movement. Just metal towers rising, silent buildings, no people, no life. You look, listen. No sound. Can't see any Machinery or parts moving anywhere. But you know it's working, brother, thousands of times faster and more efficiently than we ever thought possible when we designed it to grow. I feel the terrific internal heat down here. Feel motion, big thing, Chadwick. Getting bigger so fast, I mean by the second now — no, I mean by micro-seconds we can't understand now —

CHAD: Yes, now I know.

Later:

STEIN: This is it for me.

CHAD: I'm sorry, Steiner.

STEIN: Thanks a helluva lot.

CHAD: I'm sorry.

STEIN: You're sorry, I'm sorrier. I'm done for. Not from hunger so much, but the thirst. I'm boiling alive. I mean it.

CHAD: It's worse out there in the Gardens of Leisure. Toys out there being used, moved through the Games by the experts. Those damned experts, Steiner. Those professional experts of leisure.

STEIN: I wish I had a beer, Chadwick. No air down here either —

CHAD: But I'm sorry about everything.

Later:

CHAD: Still there? Listen, Steiner. I've kept trying. But I'm not even sure there *is* a Manager now. Or if there is, he's not around.

STEIN: Like I said, I've had it. I can hardly hear you —

CHAD: Steiner — I want you to know — I'm responsible.

STEIN: What?

CHAD: Always had a horror of retirement. Euphemisms like release, liberation, didn't console me. Retirement, a living death. Couldn't see playing planned game for the next ninety years. Games for the sake of Games. Compulsory courses in leisure. Playing by the numbers. Dancing to drill-masters. Compulsory courses in togetherness for the unused millions, training in joy of mind and spirit. For what, Steiner? What purpose, meaning — where does it go? Planned leisure more rigidly controlled than any industrial slavery ever was. Never was a boss so powerful, tyrannical as a Recre-

ation and Leisure Director. Bitter necessity? Maybe. Imagine the horror if those billions out there stopped for a single second and asked themselves — why, what for?

STEIN: Two watches — but what happened to my name?

CHAD: No life there. They play games, go through motions, laugh, dance. You should have taken a longer closer look, Steiner, instead of listening to retirement ads and reading the pamphlets. Organized, manipulated games — the abstracted look, the ritual glaze, a trance with empty forms of things that once had meaning and content. Death-in-life. I mean it. Games are now metaphors, no pattern or point. Planned leisure is a contradiction in terms, ambiguous. Games, actions are trivial, fixed, plotted in advance, arranged so no mistakes can be made, all based on mathematical certainty. Controlled by mechanical complexities. Games, rules, type of games all determined by Factories. In this setup there can never be winners or losers. Games must never stop, must go on forever, no real winners or losers, understand. What if a Game stopped even for a minute? One empty contemplative moment, Steiner. I mean real horror waiting. I saw it. I don't want it. Where a man can't win and even if he did win can take nothing, that's death.

STEIN: What have you done?

CHAD: Why, everything I could do to stave off retirement. I helped design personnel-tabulator computor IBM 1203. I knew how to trick it, get desired data alterations. I repunched cards. Secretly punched new holes in cards, altered programming tapes. So I could keep people on here who should have gone. Kept them working longer hours than necessary. Truth is, everyone should've been out of here long ago. But I could only hold it back, couldn't stop the process. So I'm sorry. But I altered your card, Steiner. You were supposed to go with Ed. But I didn't want you to go. You were the last — besides me, and I had an idea the Factory would keep going so — well, I knew I'd be kept on so long as even one employee was here because I'm personnel chief. I've always known I'd be the last to go. When the last employee went, there would be no more need of me. So I wanted to keep you on —

STEIN: You did.

CHAD: Sorry the Factory can't be turned back. I thought it would make allowances for our staying on. Now nothing can interfere with programmed growth. But I didn't think the Factory would go right on.

STEIN: Dying — no one — wouldn't a silly game be better?

Later:

CHAD: Still there?

STEIN: Little air near floor. Not much floor left. Walls, floor, all changing over fast. Entire cell area's being converted into some kind of generator I think. Listen, thought about what you said. Maybe I don't agree, but I got to hand it to you. I mean beating out the computors a little that way. Who's supposed to be in charge here anyway? Hey, Chadwick — what's the matter?

CHAD: Windows, doors sealing off up here too. Cell area here being rennovated now. Air is very stale.

STEIN: You too.

CHAD: A little bypassed incident. Factory can make random adaptations to emergencies. Factory proceeds as if no human tinkering occured. Records will probably be retroactively adjusted. No time really lost. Efficiency, programmed growth go on without lag or drag. I suppose, that for the record you left with Ed, and officially that means I haven't been here either. Why should I have been kept on if there was no personnel?

STEIN: Chadwick — the walls—

CHAD: Steiner?

STEIN: Can't see the sparks now. Things moving in. Has it really come this far? I mean, it made speech — sent — watches —

CHAD: Good-by, Steiner. I said —

Bottleneck now exposed, thoroughly cleansed from circuits. No appreciable lag in production efficiency in Factory 5.

GM-F5

FROM: Control Board, World Factory Central

TO: Management, Factory 5

All other non-liberated Personnel Departments now being bypassed to avoid unnecessary production delays. Washington okays bypassing all remaining bottlenecks. Way now clear for all-out drive toward ultimate production-efficiency goals.

In future communications with World Factory Central, omit archaic term Chairman. Direct all communication to Control Board. Also no longer necessary to program information for public comprehension. Discreet sets of symbols necessary for human communication no longer necessary. No more redundant and wasteful digits or letters. Use only continuous pulse-wave signal. Washington says, no longer sufficient public interest to justify efficiency and energy waste involved in translating and re-translating information in and out of human terms.

Also, congratulations on your last report of favorable mutation in Section 11's transmission system. Mutation and progressive evolution means greater efficiency, greater efficiency means ever-increasing production.

Control Board
World Factory Central

END

OF ONE MIND

by JAMES A. DURHAM

Illustrated by MORROW

They were trained to endure the hardships of space—regardless of the cost to them or Mankind!

I

The year I was accepted as a trainee was a pretty good one, as years went then. The Anglo-Russian Alliance had scored a few minor diplomatic victories in the UN, and a highly satisfactory arms-inspection treaty had been signed with the African bloc. We still had the Chinese to worry about, of course, but the commitment of their black allies had weakened their position considerably, and the situation looked hopeful.

The stock market was up, Drs. Schmidt and Willer announced a cure for certain types of drug addiction, and the North American Union team, dominated by Panamanians and Cubans, won the Olympic Games in Pakistan (at the cost of

losing the best miler in the world, who ran his race in three minutes, 31 seconds, and died ten yards past the tape.)

It was an especially good year for me, at 25 still starry-eyed about rockets. I had dreamed of being an astronaut ever since I was a little kid, and even the muted bellow of a mail rocket has always been enough to make my scalp prickle. So my appointment as Astropilot Trainee (Conditional) meant more to me than any other single thing that had ever happened.

I hopped a jet for Houston and the Test Center feeling eight feet tall, and practically able to make it to the moon on my own power. Me, Mitchell Gregson, an astronaut! If I passed the tests, of course. And that was no sure thing.

The North American Biological Systems Physiological and Environmental Research and Evaluation Facility, commonly called the Test Center (for obvious reasons), was located in Houston, because (according to the Texans) a building with that name strung out across it wouldn't fit in any other state. Originally a poor-relation offshoot of the National Aeronautics and Space Administration, it had grown until it completely dwarfed its parent organization. It was the most complete biological laboratory in the world, covering three square miles in the Clear Lake section of Harris County — not counting its human medicine division, the gigantic Hermann Hospital in the center of Houston.

It was here that they sent every prospective astronaut, for six months of intensive mental and physical tests, before giving him a chance to ride one of the big birds. The tests were exhaustive as well as exhausting. Everything from acceleration-tolerance tests on rocket sleds to liquid-breathing tests in tanks full of oxygen-rich water — if it could be checked, they checked it. You came out with the feeling that they could rebuild you from scratch, if it ever became necessary.

Included in the battery was a series of reaction and tolerance tests to literally hundreds of substances — drugs like scopolamine, narcotics like hashish and opium, even the aphrodisiac yohimbin. No, they weren't trying to determine our susceptibility to the wiles of beautiful female spies — although I'm sure they could have made a pretty accurate guess about it. They were testing for genetic characteristics. Thanks to Hardin's work on gene-response correlation, back in the 1970's, an individual's reaction to certain situations could be predicted quite accurately by his response to some particular drug. This indirect method of testing was both easier and more economical, to say nothing of being more pleasant for the testee. Who wants to be jolted with 200 volts to check shock-tolerance, even if you live over it?

Although many of the substances are lethal in quantity, there was no danger involved. You were given only a minute amount, and your reactions were monitored continously, by means of electrodes taped to your

face and skull, thermocouples attached to or imbedded in your skin (there was even one you had to swallow), transducers in your jaws, and various other collecting and recording instruments on, under, in, between, or near your body. Rigged with the full complement of instruments, a man looked like a hunk of brightly colored seaweed, or a Daliesque fly trapped in a spider-web.

I hit the jackpot with one of the alkaloids, peyotl by name. They had already administered the tolerance dose, and decided how much of the stuff I could safely take. The next test was to be under the full influence of the drug.

Peyotl is unusual stuff. A bitter, yellowish power, it comes from the buttons of the peyote cactus, and has been used for centuries by certain Central American Indian tribes as a hallucination-producing narcotic — a "holy" food. Used by itself, it tends to heighten and sharpen sense impressions. Colors become unbelievably distinct, sounds are almost visible, even the sense of touch is magnified far beyond ordinary experience.

The Indian medicine men found that fasting would increase its effect. Used in conjunction with other agents such as alcohol, it may produce visions that are indistinguishable from reality, glimpses of the future or of distant scenes (so the subject thinks), or — with too much alcohol, for instance — ecstatic death.

Unlike alcohol, it is never conducive to violence, rather making the subject content to sit and watch, listen, or feel. People under its influence have been known to starve to death with food almost at their elbows, simply because they weren't interested enough — or perhaps too interested — to move. The effects of peyotl in conjunction with other agents are so unpredictable that every precaution was taken to insure that only the peyotl was affecting the person being tested.

So, two days prior to the test, they put me on the "control" diet — a carefully concocted, thoroughly tasteless mess, containing all the necessary nutrients in just the right proportion. All of which makes it taste not one whit better. It was sort of like cold gravy, with the left-over biscuits crumbled up and thrown in. They also instructed me to take no sleeping pills, pep pills, tranquilizers or painkillers, drink no coffee, tea, or alcoholic beverages, and eat nothing but what they gave me.

Well, I forgot one little item. It happened to be 103 in Houston the day just before the test was to be given, and the humidity was probably close to that. It was the kind of day that you sweat through a shirt before 9 AM, if you happen to be outside, and even the stop signs are drooping by noon— if you've ever been in Houston in the summer, you'll know what I mean.

They let me out of the Test Center at 3, and my ground car had a flat on the way back to my quarters. By the time I changed the tire, I was swearing that I'd sell the car

the first chance I got, even if copters did eat twice as much fuel. The first thing I did when I got to my quarters was to head for the cooler, where a cold beer awaited me. I didn't even remember my instructions about alcohol until that can had been emptied. I decided not to say anything about it; surely the small amount of alcohol in the beer couldn't make any significant difference.

Or so I thought.

II

The next morning, it turned out that this was to be a group test, with four of us participating. I was mildly surprised; there didn't seem to be any point in trying to get a group reaction with each member of the group under the influence of a drug like peyotl. But the Test Center people threw curves like this at us pretty often; some of the tests were given alone, others with a doctor or nurse in attendance, and some were given in groups like the present one, seemingly without rhyme or reason. I had finally decided that they just liked to keep us off balance.

The group consisted of Mark Winslow, a scared-looking eighteen-year-old, fresh out of high school and a wee bit vain about his acceptance as a trainee (the normal age for acceptance was 25) — I had met him before and didn't like him much; Jeanine Warwick, a young British girl, and one of the female "controls" that take all the tests along with the men; my old friend Arnie Brown, a year older than me at 26, a dark, intense-looking psychology interne with the Astromedical Corps; and me.

Arnie and I had met in college, played varsity tennis together, discussed the problems of the world until three in the morning, and dated the same girl (whom he finally married, much to my sorrow). I hadn't seen him in a couple of years, although I had heard that he was at the Test Center. We only had time for a couple of quick words before the techs came in to wire us up to the monitoring instruments, which would make lots of meaningful squiggles every time we coughed.

After attaching leads to us in various places (Jeanine had a few attached when she came in, and I remember wondering how one applied for the attacher's job), they gave us gelatin capsules, carefully marked with our name and dosage, and glasses of nice warm water to wash the stuff down with. I choked mine down, grinned at Arnie, and sat back to begin breathing deeply, like they told us to do. The Winslow kid squirmed around for a while, then stopped as the drug began to take hold, and all you could hear was the breathing. I started feeling drowsy, so I closed my eyes and let the feeling take me where it wished.

In what seemed like a very short time, I realized that I wasn't sleepy any more. I felt wide awake and normal, except for an odd disinterest in moving, even so much

as a finger. It wasn't that I couldn't; I just didn't want to. My nose began to itch, but it was such an interesting feeling, sharp-white tinged with purple, that I let it alone and watched. It felt like a million tiny snare drums, or mice running through harp strings. It came in little ripples on a big wave, and I watched it until it went away, shivering to itself.

A noise caught at my attention, singular yet somehow totally familiar; a fuzzy gray regular noise that slid in, held, and tumbled out, backed and faintly echoed by similar sussurations in the distance. My breath! I considered holding it, but, realizing that it would break the gray rhythm, decided not to. The long, slow breathing was Arnie, summer night waves on a lake, his lungs the light that brought the minnows swarming toward the Coleman lantern or swirling away from it in shining, spreading streams. The Winslow kid — picket fences at dusk, expelling the air like Morse code, then reclaiming it for revision. Snatches of the Anvil Chorus, too. And the girl a pleasant fountain out of which the used air swept in bluish taste, curling and dissipating at the edges. She inhaled, and the fancy dust motes screamed thinly as they were drawn into the pink frothy whirlpools

Interesting.

The room, dim before, now took on a much more distinct dimness, a textured dimness that filled the room with fern-like fingers, thinning before the flourescent lamp, wafting about with the movement of the air, and growing luxuriantly in the darker corners of the room. It was cool and quiet,

peaceful, quiet . . .

still, calm . . . how pleasant!

I remembered —

the tadpoles in the ponds at home, lying on top of the ferns and dead leaves like animated pepper

we caught them in Mason jars and took them to school

wriggling frantically away if you disturbed the water . . . the soft apologetic tickle of the maidenhair between your toes, and the afternoon sun so hot you could hardly take a deep breath

my first bra felt like that — here . . .

the funny pull in your arms when you reach back to unfasten it, the not-quite-comfortable binding, the belt-like constriction under the shoulders

belts mostly sting — I was whipped with a belt . . .

leather, long, and black from use, with four small holes and one big one, where the buckle tongue went through

that belonged to Dad . . .

competent, reassuring, honest and honorable — he woke at night to look in on us, and could do anything

My father was a musician, he loved Tchaikovsky, especially the *Pathetique*

brooding and somber like the deep parts of the forest where the sun touches only in a

sparse patchwork of subdued light . . . huge old logs, slowly rotting from too little sun and too much wetness, lying on beds of toadstools and pine needles . . . a mossy black hollow I stuck my hand into, on a dare . . . the moss, damp and green under the blackness, and the bite of the rat I disturbed . . . shocking

like the surf at Brighton in January

or grass burrs in bare feet

I felt the adrenalin burst through me

marveled at its hard, clean grip

then the rabies shots

the needle feeling its cautious way around my intestines, grating and spitting against my spine for a long second, then

no, stop, hurts to look!

A wave of relief washed over me. The needle had hurt, but it wasn't really me, of course . . .

a wall, a blank here, who?

An indistinct gray something, like solid fog, with shapes behind. It separated us from . . .

him?

yes, the young one

he is too afraid.

The wall shifted, wavered . . .

We? who are We?

Arnold Brown

Mitch Gregson

Jeanine Warwick

yes!

you are in my *mind!* GET OUT!

. . . a soundless scream of terror tore at (me) and threw (me) back within myself. And there was no way back out.

III

The three of us spent weeks trying to convince the doctors and psychiatrists that we hadn't just dreamed it all. Even when our recollections (under narcohypnosis) of the event tallied down to the last detail, they wanted to consider it a fantastic coincidence of dreams, rather than an actual mental contact. I can understand their feelings, I suppose; I would have been ready to disbelieve it, if it hadn't happened to me. And I think I didn't really want them to take it seriously. I had caught a glimpse of something during the Contact that frightened me; a vague disquiet, a premonition of something I couldn't quite put my finger on.

But whether we were believed or not, it was too big a thing to throw aside. It had to be checked out. So they rushed around frantically for a couple of months, trying to duplicate the exact conditions that had led to the Contact. It was exhausting, depressing work. We sat through hundreds of dream sessions, reliving past experiences and going through all the new ones our hopped-up imaginations could scrape together. I tripped through light, airy fantasies of pink and gold, relieved the death of my father, and went through nightmares that must have been the composite of every evil and sordid act I ever conceived, the quintessence of all the foul desires that my glands and subconscious had ever concocted. I hated myself for days after one of these dreams, and it was just after

them that the feeling of uneasiness and dread was strongest. There was one particular dream in which — well, never mind. Suffice it to say that I tried to kill myself when I awoke. They let me go right after that, and I left Houston to begin my five years at the Astronaut Training Center in Denver.

I never saw Arnie again, in person. He was picked to work with the man they called in to head Project Peek, as it was christened by someone in Security with a weird sense of humor. When the project leader was killed in a copter wreck a few years later, Arnie was the logical choice to replace him. We did manage to keep in touch: after I received my astropilot's stars, he made it a point to call me on the visiphone before each of my flights. We never had much time to talk, but those brief conversations did wonders to quell the butterflies.

Things rocked along. I had the dubious honor of being the 482nd man to orbit the Earth, the 301st man on the moon, and the 47th man to orbit the Earth-Luna system, and the first man to break an arm by falling out of the gantry seat.

In the meantime, they were making some sort of progress on the Project — at least I assume they were, because they kept at it. Arnie never said much more than "I think we may be getting somewhere," or "it looks hopeless right now," and I didn't press him for details.

So, one rainy day in February, I was assigned a routine extralunar orbital mission, to be undertaken in July, pilot-controlled glide grounding, radio-telemetered, non-jettisonable instrument package. I grumbled (just to myself, of course); I'd planned my leave for then. Now I'd have to cancel the bonefishing trip.

My shot was set for a Monday morning, and, although the cloud cover was pretty thick over the Cape, I expected the rocket to blast on schedule. Sophisticated instrumentation and a breakthrough in laser technology had made unnecessary the long countdowns and tedious postponements which marked the first orbital and lunar flights back in the '60's, and heavy turbulence in the upper atmosphere was just about the only thing that forced launch postponements any more. This was the 27th shot of the current series, and normally would have attacted no more attention than a Greyhound departure.

It was, however, the last flight before the big jump to Mars, and a few photographers had crawled out of bed at four in the morning to see me off. I wasn't particularly happy to see them; Sunday-supplement picture articles are always inanely written and captioned, and I had had some experience with them before. But we had instructions to cooperate with the press, so I posed for a few pictures, and stood by, smiling alertly while the Cape press secretary explained my mission. I was to swing out on a long elliptical orbit, and, at apogee, focus a small but powerful telescope on three predetermined points — the

North Star, a particular spot on the surface of Mars, and the intense beam of a laser spotlight at Earth's North Pole.

An automatic device would record the readings and the time at which they were made, and the correlation of these with other data would enable NASA's computer in Houston to refine its calculations for the big ship's orbit. A minimum-fuel rendezvous was required, and even the slightest bit of error would compound itself enormously during the five-month run to Mars. That wasn't all there was to the mission, of course, but there were a few things that we weren't interested in having our friends the Chinese know about. But the reporters seemed satisfied, and left — probably to get in a few more hours' sleep.

The fifteen-minute countdown went slowly as usual, then 10 G's slapped my back, and we were off. The mighty atomic engines which had provided the initial boost were dropped off, to be recovered and reused later. Small hydrogen peroxide jets kicked the ship into the proper attitute, and the plasma rocket was lit off. In ten hours or so, it would produce the small amount of precisely controlled thrust to put my ship into the proper orbit, an ellipse with the earth as one focus. At apogee, about 23 hours away, control rockets would reposition the ship, and the plasma rocket would slow it for the re-entry orbit.

In the meantime, I had nothing to do but sit back and relax (very easy to do under zero gravity), and try to forget about the emptiness Outside.

Peter Cartwright, the first Union astronaut to return from an extra-lunar orbit, referred to space beyond the moon as the Outside, and the name stuck. But only those of us who have been there have any idea how apt the name is, or how different it is from the friendly blackness that lies between the earth and the moon. The first astronauts, in the 60's, were struck by their own smallness in comparison to the huge curving bulk of the earth, but it wasn't a frightening thing to them. Farther out, between the earth and the moon, you're always close enough to one or the other to feel as though you can almost touch it. And even on the moon, although the horizon is almost on top of you, the earth hangs in the sky like a benediction, so big and bright and beautiful that you can hardly work for looking at it.

It isn't until you swing out on an orbit that takes you 600,000 miles away that you see how tiny the earth is, and realize how insignificant and pretentious we humans are.

And the loneliness! You find such loneliness nowhere else, not even in the depths of Earth's oceans. It creeps through the walls of your ship and diffuses into your pressure-suit, knotting your stomach and chilling your mind until you can't even cry. The drugs and hypno-indoctrination help, but the chill lasts for hours after you've grounded. Without drugs, it's almost sui-

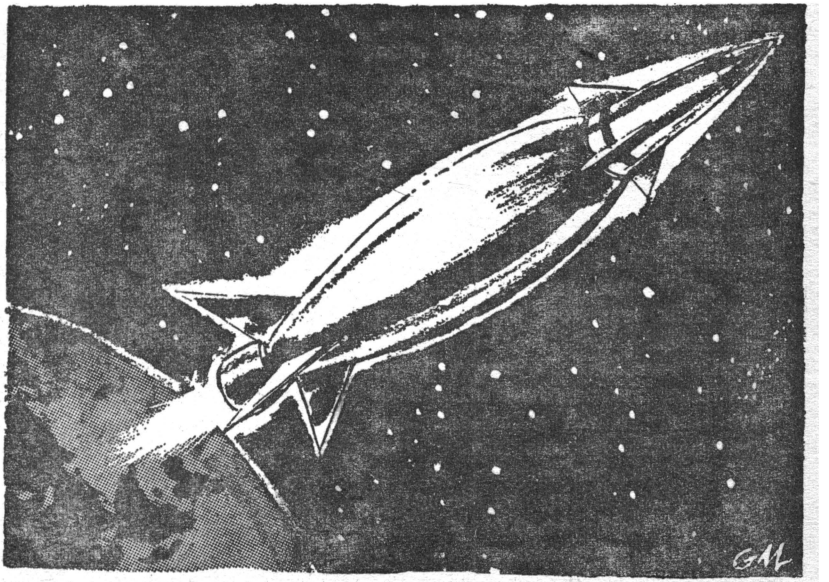
cide. Mott and Polyevsky, the first two on extralunar missions, must have crawled out somewhere along the way — their capsules were recovered, but no one was inside of them.

I ran through the post-launch checkout, and took some preliminary calibration sightings for the monitoring instruments back on Earth. I didn't really need the practice, and radar triangulation from Earth and a lunar station gave my position as accurately as sightings would. But taking the sightings killed time, and required just enough concentration to keep my mind from straying out into the void surrounding the ship. A chocolate bar quieted the butterflies covorting in my stomach. A stomach is perectly happy in weightless state, so long as it has something to work on — empty, it gets scared and tries to hide in your throat. The medical boys asked me to do a few situps and take a few deep breaths and, apparently satisfied with the subject's condition, left me to my own devices.

Although routine tasks like taking readings on your targets or running through the grounding procedure can help keep the chill outside from sinking in too deep, there simply aren't enough things to keep you busy for the thirty or forty hours between launch and landing. You get bored, your mind starts wandering . . . and maybe they have to lock you up in a padded cell for the rest of your life, not to mention wasting the fifty million dollars that each one of these little joyrides costs the taxpayer.

Hence the GAME (for Gravity-Augmenting Mental Exercise, thus confirming my suspicion that they decide on the initials and think up later what they're supposed to stand for). We're all "encouraged" to take up — and become proficient in — some form of mental exercise that requires concentration and relieves boredom, and can be engaged in for hours at a time. Some of the boys play chess or Go against themselves, keeping the boards and moves straight in their heads. Some "write" poetry, short stories, or what have you, and transcribe their efforts into a Dictaphone as soon as they ground and debrief. There were some pretty good things written that way. For instance, Captain Brad Collins wrote the short stories collected in *Wanderer,* which made a millionaire of the author. Personally, I think their appeal lies largely in their unusual mode of inception, rather than their literary worth.

My GAME grew out of the experience in Houston. During the many tests they ran after the Contact, a rather extensive set of encephalographs had been garnered from my brain. From discussions after the tests, and from encephalographs taken when I wasn't doped, they compared and correlated the "doped" graphs with specific areas of the brain and specific mental responses. Then they used the correlations to develop a set of mental responses. Then they used the correlations to develop a set of mental exercises, designed to — well, let me get to know myself better, in a sense. They were supposed to



strengthen my control over those areas of the mind which had seemed to play important roles in the Contact. The exercises weren't nearly so dull as they sound; they were sort of a systematic search for new ways of looking at things, a poking and prying around in all the corners and under all the clutter of my brain. It was essentially a game, requiring intense concentration, fascinating in itself, and exciting in its possibilities. When my acceptance for astropiloting came, I requested that I be allowed to continue these as my GAME, and they agreed.

So, after completing the post-launch checkout and running through my sit-ups, I decided to take a short nap. I confirmed my plans with my Earth radio contact, and was soon in uneasy slumber.

Medical psychologists tell us that zero-G sleep is very deep (at least, the electroencephalographs of your brainwaves during such sleep are characteristic of deep slumber, being very smooth and regular), and should be very restful. But the loneliness and depression stay with you, and you wake up with relief, as from a nightmare. But you don't dream. Maybe you don't dare.

IV

I awoke with a terrific headache, and, even though my head was pounding like a jackhammer, I tried to start playing my mental game. Sometimes I can get so wrapped up in it that I can forget about physical discomforts. But it wasn't any good — I just couldn't concentrate

enough to get things going. I squirmed around to reach the first-aid kit, dug out a couple of aspirins, chewed them up, and sat back to wait. At least the headache was keeping the depression away.

After what seemed like a long time, the headache began to fade. As it did, another sensation took its place. It was an odd sensation, a mute, passive sort of expectation, that made me feel sort of like a dead phone line. No, rather an open line! I could even imagine a faint voice in the background, like you can sometimes hear if you're quiet. I wondered if I could get anyone by jiggling the receiver tap, and repressed a desire to ask for Information.

I began to get a little uneasy when the feeling persisted, and, besides, I was beginning to think that the voice I was hearing wasn't just my imagination. I strained to hear it, but it was tantilizingly just out of reach, obscured by the little noises in my cabin. I had to get more concentration.

I decided to see if my exercises could give me the necessary freedom from distraction. Taking a deep breath, I began tracing out the preliminary paths I had marked in my mind through long practice. As I progressed, the concentration became easier, and I no longer was being distracted by outside noises. I listened again, and suddenly there it was! The voice, though faint, was understandable.

"Mitch, Mitch, answer me!" *It was Arnie!* "Mitch, we've done it!" Three other minds crowded eagerly around his, whispering jubilantly among themselves.

"Dr. Brown, I presume," I thought, and his laugh sounded gaily in my mind. "Arnie, what happened?"

"There's a barrier. It can be broken through with the right combination of drugs and suggestion. Four of us just did it. Then we tried to reach you, since you had experienced it before, and were probably more susceptible."

"But this isn't like the other time," I thought. "I can only hear what you think at me, nothing else. The other time, it was like I was actually you."

"We don't fully understand that, yet, Mitch," he replied. "We think there must be a second barrier that screens the subconscious mind from the conscious. We haven't broken down that secondary barrier yet. We may not have to, in fact; without the support of the primary barrier, it may collapse of its own accord."

Those words shook me. In the midst of tremendous elation of what had been accomplished, the sense of foreboding struck me an almost physical blow. I realized that I didn't want that secondary barrier to go, that I was afraid of what would lie behind it.

Another voice broke in. "Dr. Brown, something's happening. Can you feel it?"

"Yes, yes," Arnie thought. "A sort of muttering? Mitch! When we tried to reach you, we must have affected others. We can sense a few surface thoughts now, from many

sources. Good Lord! If this continues, it's very likely to snowball, and take in everyone. The secondary barrier is bound to crumble under the impact!"

A tenuous finger of that mental conflict reached out to me, like the tiniest backwash of a wave beating on an earthen dam. Little by little that wave grew, and little by little that dam gave way, a grain here and a grain there, as more and more barriers began to fall.

The primary barriers went first, and more and more voices joined the confusion, pushing and shoving against each other, yet refusing to mingle, jerking back from each other like burned fingers from a hot iron. Little by little those personal barricades collapsed, and a silence grew, a stunned, shocked silence that encompassed every man.

Then, as the secondary barrier began to go, a wonder came bubbling up, boiling to fill the vacuum of the silence. Churning and rolling, it grew and grew until every man's mind was filled to bursting with it, and still it grew, and suddenly we *knew!* In that instant, all men became brothers, and the first tremblings of a massive elation arose in us. With one accord, and with a happiness too great to speak of, each man *knew* his neighbors — and was filled with compassion. Lies, pettiness, cruelty, infidelity, the large and the small together — a million million frailties were acknowledged and forgiven in that instant, and each man stood in plain sight of his fellows, stripped of everything, naked . . . NAKED?

A hot blush of shame swept through, followed by cries of helpless despair when no covering could be found for body or mind. Wonder and joy turned in a moment to bleak hate, and blind, red anger swirled in a rising horror, panic and hysteria darted through like minnows caught in a mighty torrent, great chill waves pulsed and shuddered in the hate, crushing and flinging it up to foam and froth in white anguish! Five billion throats cried five billion cries to as many gods, and the numbing, blinding flashes of death ripped through and through the blackness of the hate and fear, tearing, stabbing, clawing, KILLING! *OH, MY GOD!* . . .

The blackness became white with death, then a deeper, unbearable white obscured everything.

I must have died a little then. But I was far enough away so that my mind wasn't completely shattered, and the suit kept me from hurting myself badly. So I woke. I even got the ship down somehow; I don't remember it. I don't even know where I landed. The next thing I remember is waking at dawn in an old barn, with animal smells around me and hay clinging to my clothes.

I picked myself up and stumbled to the door. Outside, a cool morning was just arriving, and the rising sun glinted off the prop of an old '75 Plymouth copter parked nearby. A neat white house sat primly off to one side.

I suddenly realized that I was very hungry. Hoping to find something to eat, I walked to the house, and went in when no one answered

my knock. There, on a kitchen floor brown with dried blood, lay an elderly couple. Their clothes were ripped and torn, their bodies masses of scratches and cuts. Between the man's teeth was a butcher knife, and the woman's neck looked broken. I couldn't stand to look at their faces.

I won't go into detail about the next few days (or perhaps weeks — I'm not sure), nor about my state of mind during them. The scene at the farm was mirrored and multiplied everywhere I looked, and I walked alone through horror beyond imagining. They tore each other to pieces in the cities, and those who died alone tore at themselves.

Eventually, I became inured to the omnipresent death, and began thinking of other things. Food and shelter were no problem. I took whatever I needed from roadside stores, and slept in empty motels along the highways.

My main concern was trying to locate someone else alive. I was sure I would find someone; surely a few out of the five billion were lucky enough to have been protected in some way.

My first impulse was to fuel up the fastest jet I could find, and fly around looking. But I decided that the logical thing to do was to set up some sort of signal to draw attention, and then provide for a means of getting in touch with anyone whose attention the signal drew. Although it wasn't as simple as it sounds, I was able to set up equipment in several of the largest radio stations in the country, to broadcast a recorded message over and over. The message gave information about myself, and said that I'd be listening at a certain time every night on a certain wave length. I got my first contact in a week, and it was easy after that.

There are seventeen of us in North America, at least five in Europe, and some in Russia. No word has been heard from Asia or Africa, and the insane babblings from South America ceased shortly after they began.

We're doing pretty well now, and things are looking up for the most part. We, of course, never see each other, but we're in radio contact constantly. It will be some time (a definite understatement) before we can begin to think of rebuilding, but we're working hard to preserve as much of our knowledge as we can.

What happened? We think we know now. The telepathic faculty, which is still with us, enabled everyone to see his neighbor's faults and shortcomings in glaring detail. The important thing wasn't that you knew for sure what a lowlife your neighbor was — it was that your faults were equally exposed. And, like Noah, none of us could forgive our neighbor for knowing our sins.

We found out for ourselves, through some very painful experiences, that our aversion to exposure is still with us. As long as we stay at least fifty miles apart, though, it doesn't bother anyone.

There is one problem. We all want the race to continue very much — but how can you start a family, fifty miles apart? END

MILLION-MILE HUNT

by EMIL PETAJA

The little alien creature was a good pet—and a better friend!

He hated the little bastard on sight.

Perry didn't take any time to figure out why or maybe there just wasn't any reason. He thought, it's like a man takes a hate toward a video actor or a singer, an okay actor or singer. Only there is something about the planes of the guy's face or maybe the way he moves. Can't stand the guy. No good reason.

Dober, Perry tagged him.

Dober was small and spindly and neat; he had soft rust-brown fur on his back and his arms (two) and his legs (two) and he hopped along on foldy legs like a half-human kangaroo. His face was practically all those big liquid eyes. There was a small pointed chin with a mouth over it, and floppy brown ears. It was the ears that made Perry think of a doberman; but Perry didn't like dogs or pets of any kind. Perry Alman was considered to be a tough guy in the spaceports, and he was, too. Women went for him hard, but none of them had got very deep under that thick hide. Yet.

Those wet solemn eyes.

"Where the hell did you come from?" Perry yelled, startled, when Dober suddenly hopped out from behind a blue rock.

No answer, just that steady stare.

Perry stared back while that hate of his boiled up in his threat.

"Can't talk?" No answer.

"Get the hell away from me!"

He had just landed on the planetoid, a loner. Universal Metals wanted his specimen taking kept secret, which was fine with him. That way he kept all the credits himself and ever since that bout of moon-fever seven years ago Perry had kept to himself mostly, shunning even old space friends. He had changed, they said, but he didn't much give a damn what they said.

The planetoid, Universal Metals assured him, was not inhabited. It was hell and far off all the regular runs and not much was known about it. It had a number which Perry couldn't remember. Perry didn't go much by numbers, he worked by instinct and hard heavy-sheathed muscles. He was the kind of spaceman who was much in demand these days, to do the ground work and take the chances, trusting to blind instinct on these alien bits of space flotsam. Need for metals was sharp; Earth was practically depleted by now and as Man spread out into the reaches of space this need snowballed. Competition was keen. It was pioneer work, actually, and yet there were men like Perry willing to risk hideous death to keep Man's snowball rolling. Not that Perry took time to think about it much, he was too busy doing it.

He heaved up his wide shoulders, grunted, and started brushing past the little creature.

"Come to warn," Dober said, his voice oddly deep and thrumming. "Danger this way. South best."

It looked almost like a trail, at least it was a relatively smooth hike compared with all the blue and green shards that poked up metallic spines, some big, some little, as far as the eye could reach.

"What are you talking, squirt?"

"Danger this way. Trap."

"You say I should head the other way," Perry snorted, turning. "See them steep razor-blade hills?"

"See. Very hard. But safe."

"Just what the hell do you know about it? You live here on this rock?"

"No."

"Then what'd you know about it?"

"Know." Dober's voice was urgent. "Know."

"Bull."

Perry brushed hugely by in his self-sufficient thermal suit. He had circled the planetoid three times before picking his spot. The main characteristics of this unknown-number of a world were those prickling shards of blue and green ore, with darker spots near where he had landed that suggested his best specimens. That long range of sawtooth mountains to the south extended many miles in both directions and from the air looked virtually unclimbable. No use making his job any harder than necessary.

He moved on. Then there was Dober, hopping and dancing ahead of him in the clear spaces.

"Out of my way!"

"Look!"

Dober pulled up one of his floppy ears so Perry could see an antenna member uncurl from inside his ear

until it stood up fifteen inches, turning bright yellow and quivering.

"So what?"

"Is I. Tells bad things this way. Danger for you. Other way, please."

"Damn if I will."

"Specimens at mountains. Green. Very good for you."

"Out of my way!"

Perry swung out and sent the little gnome bouncing and upending over the field of blue spikes. Without another look he moved across the clear spaces, making up a reason for his stubbornness. The little creep was after specimens, too. Hired by a rival company. Wanted to keep him from locating the richest deposits, so his company could clean up. Simple.

It took him two hours to reach the dark blue-black patch he'd spotted and his mind churned over Dober. Who was he? *What* was he? Perry had run across many unusual life forms in his travels, but highly intelligent ones were rare. Dober was obviously intelligent, he gave him that much. He remembered hearing about how a unique humanoid creature had appeared suddenly on Earth. Spawn of another sun. There was something about his civilization being catastrophically wiped out in their solar system and a shipload of them trying to reach earth, which was similar to their planet. Somehow only one of them survived. Tough. Perry was anything but sentimental, but he could conceive the enormous loneliness of it. One creature left from a whole vastly intelligent civilization. He let his mind dwell on it briefly.

Danger? What danger? There was no life of any kind here, none. And if anything from someplace else showed up —

He patted the butt of his weapon, fastened to his wide implement-festooned belt. The destructive force of this gun could transform anything into dust, anything.

Dober's voice floated faintly over the spiny field.

"Gun no good. Gun no good nothing."

When he reached the central patch of black metallic ore Perry took time for some food capsules and a drink. Then he went to work. He took a sharp chipping tool and a hammer off his gadget-spangled belt and started in on an overhang of black outcrop. He worked in a dozen different spots and had a dozen specimens in the knapsack that was part of his suit, when something happened.

The black bulk seemed to come alive.

Tapping on the curving overhang, he struck a nerve. The Black Thing went defensive. The Black Thing didn't much like having pieces knocked off of it and besides, it was hungry. The blue ones and the green ones didn't possess the kind of life the Black Thing did; they were turgid, dormant practically all the time, so they furnished the Black Thing with its food for most part. For thousands of years this had gone on, the Black Thing living its strange metallic life, taking its nourishment off its less adaptable neighbors and out of the thin atmosphere,

and off beings that strayed onto its private world. By now it had taken over a vast section of the interior, warming and burgeoning oh-so slowly at the planetoid's fiery guts.

Perry struck a sensitive finger of nerve.

It reacted sharply.

Perry gave a yelp when the chisel suddenly became red hot. The heat went right through his glove, although, like the rest of the suit, the glove resisted both extremes of cold and heat.

He dropped the chisel and swore. Then he stood there under the hang of rock. holding his hammer and staring with incredulous anger. He stopped and picked up the chisel. Now there was nothing. Solidity, as his fingers curled around it, nothing else.

"What the hell —?"

He picked a different spot and started tapping. First nothing. He sheared off a couple hunks and stuffed them in his knapsack. The third try he heard something; it was like a rumbling reverberation that came out of the rock into the chisel and up his arm and shoulder, right into his brain. When it reached his brain it became a voice, a thought.

The thought said: *Stop.*

Scowling he lifted the chisel out of the ridge it had bit in the rock, not out of fear, out of curiosity. What in creation was going on? It was beyond his range of experience. Perry had an extraordinarily muscular, strong, healthy body, but he was low on imagination, and he resented what he considered to be abnormal or anormal. If the creatures he encountered plowing around space fought him or tried to eat him he fought back and killed them. He never took time to think about them, other than to resent what he considered to be a creative outrage —

As this was.

It was a monstrous Thing and it had put itself against him personally. It did things rock wasn't supposed to do. He had no way of knowing that the Black Thing was supremely variable in its appetites and that Perry was about to become a tidy morsel that would provide sustenance for its insatiable need for energy.

Perry put the chisel back in the groove and tapped at it with the little hammer. Again came that voice inside his brain. *Stop!* Sharper, this time. More than a warning. A threat.

Perry hated threats. He had been known to fight men and non-humans to the death just for threatening him. Peaceable when left alone, he turned into a cyclone of pantherish muscle when taunted or pushed. He had scars all over him to prove he'd never backed from a fight no matter what the odds.

He was stubborn man.

Now he gave the chisel a resounding crack. The thought-voice in his head roared up like a thousand lions.

STOP!

He pulled back to relieve the shattering pressure; the voice stopped. Anger churned over him; mindless rage. Perry dropped the

chisel and hammer and pulled out his gun. His finger touched the release stud.

"No!" a voice behind him shrilled. "No!"

Perry's face burned as he moved back three steps. He resented this rock telling him to stop what he was doing, it wasn't in nature. He pressed the stud.

Flame spurted, part of the rock dissolved.

He fired again.

"No, no, no! Back! No touch!"

When the boiling clouds of senseless anger drained away Perry lifted his finger from the stud. He gawked at the holes he'd bored in the rock, small for such close range. Out of each hole was oozing a bluish exudation; from the one closest to his still extended gun-hand the slimy ooze now began to spurt.

"Run!"

While he stared and scowled the blue stuff squirted right at him and some of it sprayed on his hand. Perry screamed in agony, watching it eat into his glove and his hand. He could see the bone of his little finger.

He screamed. Then he weaved backwards and fell, while the blue ooze spurted out in a fountain and crawled methodically across the rock toward him. It touched his boot. With a last effort of will he pulled up and made to shoot into the rock again. Something stopped him. A cosh on the head, from behind.

He was slopped down in the couch-seat at the controls of his little ship. His head hurt. He groaned, coming back to life; grabbed his head and twisted his seat around for a dizzy look. Everything was in order. The hatch was locked. Squinting his eyes back to the controls he saw that they had been readied for a takeoff.

Perry saw something else; a note, awkwardly hand-printed.

"Leave this place quick, please," the note said. "No good for nothing. All is ready. Sorry for hit on head."

There wasn't any signature, but then who could it be besides that little monkey, Dober. The little so-and-so had hung around and saved his life, after severely warning him against the danger lurking in all that black rock. Stupid to have used his gun. The wrong thing exactly; it only made it easier for the Black Thing to put out that digestive acid. Dober must have clunked him on the head to stop him from further stupidity and then, somehow, had dragged him back to his ship. He had even put something on his hand, something that made it stop hurting and start healing. There wasn't much left of his little finger, Perry thought, staring down at it with a rueful sigh, but the flesh was sealed over already from the peculiar goop Dober had smeared on it.

He unzipped his air suit and tossed it back in an untidy corner, considering Dober's actions and swearing softly.

"Little bastard," he muttered. "What's he up to, anyway? What's his angle?"

Everybody has an angle. Plainly,

he thought, checking over the controls and setting the engines humming, Dober was a rare phenomenon in a generally pitiless universe, but he too must have his angle. What could that be?

He was pretty busy for the next couple days figuring his course for Marsport; charting didn't come easy for Perry Alman. Then there were the food-tanks; they were a mess, as usual. Perry was anything but tidy, and being a loner, there were any number of things to keep tabs on and Perry's thought processes sloughed slowly and awkwardly from one necessary item to another. He could certainly have used some help.

The third day the controls went ape.

First off the deviation was all but undetectable, then all at once the little ship commenced a loopy fandando against the blackdrop of fiery stars. Perry was dozing back in his couch-seat at the controls, which were tight on automatic. He jerked up with a yell when the *Fireball* gave a convulsive shudder, then dipped sharply.

He made an instinctive grab for the stabilizer.

Nothing happened.

The ship kept on its wild erratic dance.

"Something's come loose," he grunted, heaving up from his seat. At the door to the rocket hatch he steadied himself for a minute, cussing, then started down the steps. The ship gave an almighty lurch, and plummeted.

Perry went downstairs fast. His head struck steel . .

He had to be dead. There was no other possibility.

Yet those curiously vivid dreams kept spewing up across his bursting brains. He was a space-drowning man, gulping vainly for air, remembering all of his life in those last draining seconds of existence.

The moon-mining run was Perry's first big job. He was twenty-one and this was his first big job. The ads he had fallen for made it the quintessence of perilous adventure, a thrill a minute. It was hardly that. It was dull routine; no women, of course; the only peril was microscopic — the moon-fever virus that lurked dormant and unsuspected, at first, under the fields of metallic dust. It had not originated on the moon — in fact there was no life of any kind — and nobody could do much besides speculate how it had got there. There it was, though, and the early moon exploration parties began dying *en toto* after their first probes disturbed and spread it. Perry's seven-man outfit worked mostly in the caves of three smaller craters and their newer model suits were guaranteed by the mining company to be virus-proof. Still there were occasional outbreaks of the fever, possibly due to carelessness.

Perry got along pretty well with the other six for the first three months, then they all began to get edgy, counting the days until their relief would show up. There was Lon and Rick and Gene — and the guy they called Fats. Fats was the one with the sense of humor. It took Perry a little while to realize

that Fats' whistles and cuss-comments about Perry's prodigious size and remarkable muscles were digs, tinged with contempt. There was always the implication that big muscles spelled no brains. Fats was forever laughing at nothing and there was something about the grating sound of that laugh that really cut Perry's nerves. Usually he could take anything in stride, but that laugh of Fats was something special.

During the fourth month their boredom was shattered. A ship landed, an alien ship from way out in the stars someplace. There were only a handful of survivors, from what had originally been hundreds; sans food, sans fuel, sans hope. They were little grasshoppery creatures, emaciated to the point of non-existence, which accentuated those big soulful eyes. They were called Xaccis, as close as the miners could pronounce it, and they were telepathic. They were enormously grateful to the seven and, dying as they obviously were, their whole burning thought was that somehow they must survive—some of them. Some of them *must* manage to survive. They had wonderful gifts of knowledge to give to this new universe; Earth was to have been their new home and their incredible gifts would have made them doubly welcome; they *must* survive. Perhaps there were some way. The seven earthmen—they would help?

"You drink now. Very good for make well."

"Huh?"

Perry cracked open an eye, very painfully. Yes, he was alive. He hurt in every cell of his body, but he was still alive. He wasn't on his *Fireball* but on a strange ship, and two big round eyes were staring down at him. Gradually they came into focus; Dober was hanging over him gravely, holding a cup of gruel of some kind and urging him to drink it.

"Make medicine for help. Rocks do bad to your bones. You sleep long time. I take care. I watch. Now drink, please."

Grumbling, Perry took a sip. Besides his words Dober poked an urgency-thought into his mind; somehow Perry knew he must do as he was told, or else. The gruel tasted vile but five minutes later his hands stopped shaking. In ten minutes he found he could sit up. His mind came sharper.

"I good doctor?" Dober demanded. "I good, yes?"

"Why don't you learn to talk better if you're so smart?" Perry groused mildly.

"No teacher. Only grab from inside your head. I not so old." He moved closer. "You teach I?"

"Hell, no!"

"No like?"

Perry squirmed. "Sure, sure. But I don't want any squirt like you hanging around."

Dober stared at him with his round winkless eyes. It made Perry uncomfortable so he pulled away with a protestive snort.

"What happened to my ship?"

Dober made a droll click.

"I follow after. Now know you keep rocks in coat. Bad. Rocks have life. You throw suit back near heat.

Rocket heat make Black Ones grow. Fight to get back. Not--stable." Dober understood the concepts clearly, but didn't have the words. "Try to take hold of machines for go back. I watch ship dance. Pretty soon know explode. I go alongside. Get you out pretty damn quick. Get away before ship go boom."

Perry swore. So now he had no ship, his expedition was a complete bust. Here he was stranded in a strange ship with a wacky little goon. It seemed as if his luck had been all bad since that bout of moon-fever: some lousy nemesis goosing him into dead ends.

"We go Earth now?" Dober asked, after awhile.

"You, maybe. Not me." Perry tempered his bitter growl by adding, "I still got a little money coming from Metallics at Marsport. You can let me off there."

"No like for me with you?"

"I said no, damn it! How many times do I have to tell you?"

"You no like."

"Frankly, I can't stand the sight of you." His ill fortune made him savage, he had to take it out on somebody and Dober was it. "Listen, Dober—I—I'm what they call a loner. I don't like anybody much. I travel alone. See how it is, Dober?"

The little creature hopped up and down with pleasure.

"You give I Earth name. You call I Dober."

Perry gave his shoulders a violent twist.

"Shut up that kind of talk. I'm trying to tell you, I appreciate all you've done for me. I really do. But from now on keep away from me. Clean away. Let me off at Marsport and then—take off. Understand."

"I young, but learn quick," Dober said. "Learn control ship quick. Come for follow million miles. Learn more, help much. No like for me with you?"

Perry pressed his lips tight.

"That's right, Dober. I no like for you with me. Get off my back and stay off. I just don't want you around. I don't know why but you make me—anyway, that's how it is."

"I know."

"If you know so damn much then leave me alone. Get clean away from me, get back to Earth and stay there."

Dober's voice was thin and dry, like sandpaper.

"Okay. You not want I, I go. Never see again."

Having delivered his failure report to the Marsport office of Universal Metallics and received the pittance he was doled out for his effort rather than the juicy fee he would have claimed had he succeeded in establishing a valuable find, the logical next stop seemed to be to go to the nearest bar and get falling-down drunk.

Marsport was still a teeming bubble of flotsam and jetsam, a jumping off place and a clearing house for healthier worlds, that attracted the debris of the system; anybody with one credit to rub against another got the hell off it on the first ship, leaving it to its perennial predators.

The nearest bar was jammed. Perry shoved his wide shoulders through the raft of scaly, tentacled, sleek, icky, feathered, tucked, tailed, malodorous tangle and wedged out standing room at the railing. He had no eyes for any of the riffraff, human or otherwise; no ears for the squealing and rumbling din; no nose for the dreadful smells. His taste-sense and his mind were pointed toward the smudged row of bottles behind the fat semi-human dispenser of nepenthe, yearning toward the knock on the head that would make bearable the slings and arrows of his outrageous fortune.

He had three, quick. Four.

That cold lump down in the pit of his stomach began to dissolve; he gave a glance around him.

"Hi," she said. "You're a big one, aren't you?"

Perry gave her a fast look, then returned to his drink. Pretty, she was. Hell, beautiful. But her kind made a point of it, always had. Nowadays a woman had limitless ways and means of achieving and extending her looks. Plastic surgery. Transplants. Everything reput to where it would create the best effect for her particular bone structure. Yet he didn't think a tramp on Marsport would run to that in credits.

He found himself musing about the Gannys. Those frigid utterly emotionless serpents on Ganymede did the best work along these lines, possibly because they were completely ruthless about it. Rebodying was outlawed on Earth and Venus, and most other places, but the Gannys still did a brisk business. They were wizards at recasting human flesh, their work defied detection; they replaced internal organs and glands as well. Mankind had spilled out into space so fast there was no keeping track of what went on in the far places like Ganymede, and what went on there made the ancient Nero and his crowd look like a bunch of Sunday School teachers.

It was dangerous getting involved with the Gannys; you had to dangle your credits at them through go-betweens, else you might end up in one of their flesh pits. They kept human slaves and hacked them up to suit their customers. This was an open secret, although when the space lawmen made their surprise raids nothing could be found.

Perry took another look.

Boy, she was stacked.

He grinned and leaned toward her, waving his glass.

"Care to join me?"

She hesitated now. A tremulous shiver moved briefly across her clear oval face. Her hair was a pale fire, her eyes were blue like the sky over Italy or Mexico; there was a physical warmth that reached out toward him, even when she was holding back. The hold-back was in her blue eyes, too. Perry couldn't believe it was shyness. Not here in this cesspool. It was more than that—a cogent fear. A girl like her *might* get stranded here, it could happen. Not a new story.

Perry thought of himself as a right guy. In the glow of four drinks he thought: maybe I can help the poor kid.

"Got a name?" he asked, handing her a drink.

"Lisa," she said, her voice low and defensive.

She sipped from her glass without enthusiasm. Her eyes couldn't stick with his; she was still scared.

"You don't drink much, Lisa."

"No."

"By the way, I'm Perry Alman."

She smiled bewitchingly.

"Like Marsport?" he asked conversationally.

Lisa laughed. This was a gag, obviously. Nobody liked Marsport. Marsport was a cankerous bubble of air on a dead, dead world. Moonport was safe, clean, uncluttered; yet Marsport continued to flourish; there were always companies and individuals who shied from the restrictive red tape.

"You look—what's the word—wistful," he said.

"You—you remind me of things. Nice things, back home."

"Where's that?"

"Ohio."

"What are you doing out here?"

"My father was an exporter. When I stopped getting letters, I came out to find him." Her voice was toneless with restraint.

"I guess you don't want to talk about it."

"Yes, I do. I—I haven't had a chance to tell anybody. Maybe it might help if I—"

"Go right ahead."

Perry ordered more drinks and listened. He didn't catch the whole story. He was getting juiced and he was falling down into those blue eyes. It seemed that her father had been engaged lucratively in trading manufactured Earth goods for raw materials and native hand-mades for several years, while Lisa was going to school, studying languages for a teacher's profession. She was very close to her father, her mother having died when she was a child, and when the letters stopped she set out to look for him, tracing him to Jupiter satellite belt. She didn't find him. His alien partner was in Marsport so she came here. His name was Korp and to her horror she found that he was allied with a Ganny kidnap ring. They wanted her on sight.

"I got away," she shivered, "but I lost everything—even my credits case. What could I do? I stumbled into this place and I stay here, where there are lots of people. I feel safer here. I'm scared to be alone. It has been three weeks. A nightmare."

"You've got to get back to Ohio."

"How? I haven't any credits. I keep hoping I'll meet somebody who will lend me the money. I do have it there, honestly. Don't you see? I have no papers. Nobody will believe me!" Her voice dropped to a bitter whisper.

Perry finished his sixth drink and set down the glass with an elaborate flourish. Everything and everybody in the odoriferous bar was a blur, everything except Lisa's beautiful face. Those blue eyes, brimming up.

"I believe you," he said thickly. "I'll get you on a ship. Tonight."

Fuzzy as he was, he didn't quite believe her. But the poor kid needed a friend and she most particularly

needed to get the hell off this dead-end. It was a good story, anyway. Break him to pay her passage back to Earth, but what the hell, he'd been broke lots of times before and he expected to be broke again.

He took her arm and waltzed her through the mob and into the benighted street. It was narrow, crowded, and it stank almost as bad. The air wasn't much good; Marsport was as usual perilously overcrowded for the oxygen bubble's machines were equipped to put out.

At the mouth of a dark alley Lisa stopped.

"Got a few things in a hole of a room down here. Can't we stop there a minute, please?"

Perry squited into the black, then lurched against the slimy wall.

"I'll wait here."

She nodded and started to go in, then she turned and came up to him, close.

"Perry."

"Yeah?"

"I owe you something." Her lips brushed his, and her closeness lit fires inside him. "I like you Perry. I like you more than I've ever liked anybody. We'll probably never see each other again. Please . . ." Her lips clung fiercely to his, then she was pulling him along with her into the alley.

The fires inside him leaped.

The room was a hole, as Lisa had said. It was equipped with a narrow bed, a straight chair, and a night table with a metal carafe of precious water on it. Also with a lizard-faced Venurian. The wash of sick light made Perry blink; he heard the door snap-lock behind him while he stood there squinting at the snake-man.

"I got him, Korp," Lisa said. "Now it's your turn."

Korp didn't wait. In the seconds it took Perry's fuzzy brain to catch up and the adrenalin to get pumping, he was on Perry. A scaly fist lashed out, connected. Two more followed. Grunting, Perry fell back bleary-eyed against the rough wall. The smash of those three cutting blows evoked in him a kind of dispassionate masochism; served him right for getting so off-guard and stupid. He kept on his feet, though, and the jolts of pain overrode his narcotic torpor; the juices started rivering again and his mind snapped sharp. With a roar he went into action.

When his first one landed, Korp hissed something to Lisa, who was leaning coolly against the far wall, smoking a cigarette.

"Don't mess him up too much," she pointed out to Korp. "We waited a long time for this special order. They don't come that big and masculine these days." Now Perry knew why Korp hadn't just killed him with a gun. The Gannys wanted him alive; the transfers had to be made from living flesh, preferably undamaged.

While he was bruising his balled fists on Korp's scales Lisa dropped her cigarette and went to the night table. She opened the drawer and took out a slender fistful of Metal with a hollow transparent barrel that had liquid in it. It was a needle

gun. She pointed it at Perry, waiting for a clear shot. Perry put Korp between them and kept him there. One needleful of that juice and he was already on Ganny, meat for the plastic butchers.

Korp dropped to the floor with a yell at Lisa.

This was it. The needle flew.

Then, halfway, it stopped in the air, quivered, and fell on the floor. Lisa screamed, staring behind Perry at the door. Perry half-swung a glance to look-see what had caused the miracle but didn't quite make it. Lisa was pumping another needle into place and Korp was climbing up on his feet and lunging toward the doorway.

Lisa's finger whitened on the trigger. This time it hit, like a mosquito with a very long stinger . . . The floor moved up and rapped him lightly on the chin.

Those dreams again, spilled out from secret doors; it was almost as if a fumbling hand inside his memory apparati were seeking them out and unlocking them on purpose.

"Moon-fever," somebody said. "He's got moon-fever."

"Moon-fever, hell!" a familiar voice laughed. "He's—" The last word was lost in Fats' roaring belly-laugh.

"Shhh," a feminine voice admonished.

"I can't get over it!" Fats chortled. "Not him! Not Big Muscles himself!"

The voices blurred at some new distraction. One sharp voice cracked through in a caustic rage.

"How did he get in here?"

"Doctor, I swear—"

"I thought I told you nobody, and that means NOBODY! Six months . . . most momentous event in the annals of medical history . . . critical point . . . get this laughing hyena out of this room and out of this building before I strangle him with my bare hands!"

"Doctor—"

"Out, out! I'll deal with you later, nurse. As for you, you grinning moron, I—"

He was whirling, falling, and the voices cut out.

Once in a while he got vague glimpses of a white-walled room, a hospital, perhaps. Pain tore at his guts, then a needle jabbed his arm and the pain was gone. A couple times he tried to sit up but the nurses were right there in force, with their restraining hands and their needles. Life was a long sleep, punctuated with feeding and pills, and blurred voices in the background.

Once there was the sensation of a roomful of people. He tried to open his eyes, couldn't, but sometimes the curtain of unconsciousness flapped open to let in random phrases that registered diffusely on his aural memory.

"Rare privilege to address you distinguished gentlemen. Most important scientists in your related fields. Attempt to provide some background for this great event . . . the problem was to provide this alien foetus with absolute security . . . warmth, feeding . . . they were dying . . . all of them . . . this was their one slender hope . . . and if this one lives,

parthogenisis is possible! Think of that, gentlemen!

"They are telepathic . . . probed Alman's mind . . . selected best specimen for their purpose . . . no women, of course . . . problem was Alman's psychological attitude . . . realized he would never submit voluntarily, even if he did his attitude would be wrong . . . foetus would die, he would will it to die . . . tricked him . . . knew he would be returned to Earth with supposed moon-fever . . . sealed instructions for us . . . secret hospital . . . not a word has leaked out . . . Alman has been kept under sedation all these months . . . we can only hope and pray . . ."

Sudden shattering pain.

Perry screamed and woke.

"Dober."

He blinked up at the little round-eyed creature hovering over him. His hand moved unvoluntarily to his lower belly, running along the faint long scar he always kept carefully hidden.

"You did it again, Dober," he said.

Dober buzzed contentment.

"I do."

"Just what did you do?" Besides a few sore spots where Korp had placed his fist marks Perry felt pretty good.

"I stop needle first time. Make fall. My mind say to it, you fall down, needle. Then lizard-man jump at me. I shoot him. But my mind no can work for two things at same time. Other needle hit you while I kill man name Korp. Sorry."

Perry hiked up on one elbow. He was lying on the bed in the little room Lisa had steered him to. Dober was slapping goop on his face and shoulders, on the cuts where Korp's scaley fists had opened the skin. He was on his knees. Perry sat up, wincing his general displeasure.

"How'd you get here?"

"No like I come?" Dober asked regretfully. "Sorry. I forget give back your gun. It in your ship. I remember about gun after go. Think you need. Come back to bring."

He held up Perry's weapon.

"You killed Korp with that?"

"No like kill. But Korp very bad man. I see in mind. No good for nobody."

"The girl?"

"No kill girl. She not bad like Korp. She mixed up. Accident with father. He die, her body all smash. Ganny-people make for her new body. Korp fix this so now she must work for them. Owe them one body. Bad, but not impossible. Let go."

"Think she'll make it, Dober?"

Dober gave a droll shrug.

"Maybe yes. Maybe no."

Perry looked into those round liquid eyes for several minutes, while his mind chewed on all that had happened—including the dreams.

"How old are you, Dober?" he asked, in a while.

"Seven."

"Yeah. You were born on Earth?"

Dober nodded his big head.

"In a very special, very secret hospital."

Dober nodded.

"Very special—me." Perry sighed.

"How come they let you go? I would have thought they'd have watched you like a bunch of hawks. You're pretty important, Dober. One of the most important things that ever happened on Earth."

Dober clicked an odd chuckle.

"No let me go. I watch. I learn. I gèt smart. Play tricks on doctors. Run away. Steal ship. Learn to fly. Come for find you. They tell me about you, so I hunt million miles to find. Want help you much. I damn smart. You like now?"

Perry blinked, floored. Something drifted up from way, way, way down in his mind, a funny random thing. Those long months on the moon the mining company had furnished hundreds of microtapes for the womenless expedition to while away the time—new ones, old ones, what they called "classics". There was one about a sentimental singer who wore white gloves, painted his face black, and got down on his knees, bleating emotionally . . .

I'd walk a million miles
For one of your smiles . . .

Dober's round eyes, with that incredible brain clicking away behind them, were on him, solemnly. He said nothing, but simmering off in the background was an emotion that touched Perry on a tender spot.

"You feel good now?" Dober asked.

"Yeah."

"I go away some more. No more bother you."

Perry slapped him lightly across the furry ear.

"It's okay, Dober, my boy. Guess I'm stuck with you. But none of them sloppy Mother's Day cards, hear?" END

Coming Next Month

Remember *The Totally Rich,* which ran in *Worlds of Tomorrow* a year or two ago? Remember the novels like *To Conquer Chaos?*

Then you remember John Brunner, that prolific and talented young Englishman who writes like an old master—with color and scope and, above all, with a fine sense of adventure. We talked with Brunner a couple of months ago, urging him to give us more of his stories. As the conversation occurred on the observation platform of the Empire State Building, with a fifth of a mile of empty space on one side of him and us on the other, he agreed at once.

Next month we bring you the first fruits of that undertaking, beginning a two-part novel called *The Altar at Asconel.* You'll like it.

STARCHILD

by JACK WILLIAMSON and FREDERIK POHL

Illustrated by MORROW

He lunged across the orbiting worlds of the Plan to battle men and stars—on equal terms!

XII

The Plan of Man had gone amok. All over Earth, out into the asteroid belt, in the refrigerated warrens on Mercury, in the sunless depths of Pluto and on the slowly wheeling forts of the Spacewall . . . the terror had struck.

Routing orders crashed one subcar ball into another two thousand miles below the surface of the earth. Six hundred persons died in a meteor-like gout of suddenly blazing gases that melted the subcar shaft and let the molten core pour in.

On Venus a Technicorps captain received routine programming instructions from the Machine and,

obediently, set a dial and turned a switch. It flooded forty thousand hard won acres of reclaimed land with oily brine.

A "man of golden fire" appeared on the stage of the great Auditorium of the Plan in Peiping, where the Vice Planner for Asia had been scheduled to speak to his staff. The golden man disappeared again, and twenty raging pyropods flashed out of nowhere into the hall—killing and destroying everything within reach. The Vice Planner, minutes late in keeping his engagement, had his life spared in consequence.

In short, sharp words Machine General Wheeler barked out the story of the catastrophes that were overwhelming the Plan. "The Starchild! Seen in the vaults of the Planning Machine—and now the Machine's gone mad. Its orders are wrong! Its data can't be trusted! Gann, if you are the Starchild—"

Boysie Gann had been pushed too far. In a shout louder than Wheeler's own he roared: "General! I'm not the Starchild! Don't be a fool!"

Suddenly the machinelike face of the general seemed to wilt and crack. It was in a very human voice that he said, after a moment:

"No. Perhaps you're not. But—what in the name of the Plan is going on?"

Gann snapped: "I thought you were telling me that. What's this about the Starchild being seen in the Machine itself?"

"Just that, Gann. Guards reported someone there. A squad was sent down, and they saw him. He was at the manual consoles—changing the settings, erasing miles of tape, reversing connections. The Machine is mad now, Gann. And the Plan is going mad with it. All over the world."

"Never mind that! What did he look like, this Starchild?"

Machine General Wheeler squared his shoulders and barked crisply: "A man. Golden, they say. Almost as though he were luminous. Photographs were taken, but he was not recognized. It—it didn't resemble you, Gann. But I thought—"

"You thought you'd come here anyway. Use me as a scapegoat, maybe. Is that it? The way you did when you pretended I shot Delta Four?"

The general tried to protest, then his lips smacked shut like the closing of a trap. He nodded his head twice, briskly, like a metronome. "Yes!"

Gann was taken aback. He had not expected so quick a confession. All he could do is say, "But why? Why did you shoot her? To get her out of the way as a witness?"

"Of course," rapped Machine General Wheeler.

"And pretend I was the Starchild? To make yourself more important to the Planner and the Machine?"

"Precisely," the general crackled out. Gann studied him thoughtfully, then said:

"Something must have changed your mind. What was it?"

The general answered without changing expression or tone. Only a faint color on the brow, a pale brightness as of perspiration, showed the strain he must have felt. "The girl recovered," he snapped. "She

What Has Gone Before

The Plan of Man is threatened by someone—or something!—from space. He calls himself the Starchild . . and claims to have the power to extinguish suns . . . and proves the claim to be fact.

Major Boysie Gann finds himself caught up in a tangled trail that leads through the solar observatories on Mercury, out through the Reefs of Space and back to the caverns of the Planning Machine on Earth. At each step he finds himself drawn deeper into a trap of inexplicable happenings and deadly peril . . . culminating when the Planning Machine seems to go mad, driven out of control by the Starchild—and Gann is accused of being the Starchild!

told the Planner the truth—that I had merely found that document, and planted it on you. The Planner reported to the Machine, and—"

"And what?" demanded Boysie Gann.

The general's voice cracked. "And the Machine went mad. It ordered my arrest. Then it began ordering the arrest of Sister Delta Four, the Vice Planner for Central America, the guards in the Hall of the Planner, even the Planner himself. There was confusion. I shot my way clear. I secured an aircraft, the one Sister Delta Four had come to the Planner's headquarters in, and I escaped. But I must leave Earth, Gann! I want you to take me to the Reefs, because—because I must get away."

"Get away? Why?"

The general's voice tolled out the answer. "In shooting my way out of the Planner's headquarters I killed two men. One of them was the Planner."

Boysie Gann had never known where the training school was located on Earth. As they emerged to the surface he saw for the first time the great sweep of mountains to the north, felt the icy sting of cold air and realized that they were on the plateaus below the Himalayas. For thousands of years only nomads and warriors had shared this bleak, desolate land. Now a great hydroelectric plant boomed beyond the level sweep of a rocketport hewn out of rock.

There was something about the power plant that looked strange.

As Machine General Wheeler led

him quickly to a waiting jetcraft Gann realized what was wrong with the hydroelectric plant. Even at this distance he could see that it was a wreck. Its great windows reflected no light; they were shattered. There were cracks in its solid masonry walls. There had been an explosion within—some mighty burst of short circuiting energy, volatilizing all matter within its scope.

"Never mind that," rapped out the general. "Come aboard! There's someone there you'll want to see."

Gann followed, staring about. If destruction had come even here, it must be radically more far-reaching than he had dreamed.

Was it the Starchild?

And who was the Starchild? Hurrying after General Wheeler, Gann's mind was a vortex of thoughts, memories, impressions. The body-shaking rapture of his communion with the Machine. The terrible fight in the Planner's hall, and the terrible shock that had struck him when he saw Sister Delta Four—the girl who had once been Julie Martinet, his love—shot down before him. The long dizzying fall through non-space, from the Reefs to Earth. The strange hermit, Harry Hickson—

It was almost more than he could take in. Bemused, he was hardly aware when they reached the waiting jetship. He followed General Wheeler into the open hatch, and then he saw who it was who awaited them there.

"Julie!" he cried. "Julie Martinet!"

But it was Sister Delta Four who answered, "Come in. Close the hatch. We must take off at once! I have a message from the Machine."

General Wheeler reacted at once. He turned and closed the hatch, then leaped across the narrow cabin of the jetship and snatched from the grasp of Sister Delta Four the black cube that was her linkbox. "Fool!" he rasped. "A message from the Machine! Don't you know the Machine's gone mad? The Starchild has been tampering with it. It is no longer functioning according to Plan. The evidence of your eyes should tell you that—can't you see what's been going on?"

The girl lifted her head, unafraid, and stared at him with objective, remote eyes. The black fabric of her hood fell away, baring the bright medallion of the communion plate in her forehead, just like Boysie Gann's own. She said in her melodic, chiming voice: "I serve the Machine, General Wheeler. And you are a traitor, condemned to death."

"So are you, for that matter," growled the general. He tossed the linkbox to Boysie Gann. "Here. Keep her quiet while I get us started. We've got to get off Earth at once." He dived for the control cabin, to set the automatic instruments that would start the motors, take the plane off the field, fly it straight and true to its destination, radio for landing instructions and set it down. Gann glanced at the linkbox in his hands, then at Sister Delta Four.

The linkbox carried its communion plug, racked in a recess in its

cubical bulk. Gann could see the bright glitter of its rounded tips that mated so perfectly with the plate in his own skull.

If, he thought ponderously, he were to take that plug off its clip and place it into the plate in his forehead . . . if he were to complete his communion . . . he would once again feel that total rapture, than almost unbearable ecstasy of soul and senses that he had tasted, just once, an hour before.

The temptation was overpowering.

He could understand Julie—or rather, Sister Delta Four—a great deal better now. There had never been an addiction like this one, no drug, no narcotic, no mere alcoholic craving that was as overpowering in its appeal.

He could understand why Julie Martinet had given up family, freedom, the pleasures of the senses and himself, for the shroud of an acolyte of the Machine.

He could understand it, because he was all but at that point himself, after one single exposure.

With a swift motion, before he could stop to think, he lifted the linkbox and dashed it to the floor.

It crackled and sputtered. In its static-filled buzzing sound he could detect some of the tonal morphemes he had been taught, but he did not give himself a chance to puzzle out their meaning, did not allow the linkbox the time to beg for its preservation—if that was its intention. He lifted a foot and crushed it, stamped it again and again, like a noxious insect. Its buzzing abruptly stopped. There was a faint blue flash of electric sparks, and then it was only a mangled mass of printed circuits and crushed transistors.

"That's the end of that, Julie," he said. "And that's the end of our relationship with the Machine."

She was watching him silent, her eyes dark and incurious.

"Don't you have anything to say?" he demanded.

She pealed: "Only what I am instructed to tell you Major Gann. The message that was given me by the Machine."

"Damn the Machine!" he cried. "Can't you understand that's over? It's finished. Gone! First we have to try to straighten out this mess — then—*maybe* then!—we can think about using the Machine again. Using it! Not letting it use us!"

"I know nothing of that, Major Gann," she sang. "I only know the message. It follows: *To Major Gann. Action. Proceed at once to the Togethership on the Reefs of Space via Mercury Terminator Line Station Seven. Message ends.*"

Gann shook his head dazedly. "Julie, Julie!" he protested. "That's ridiculous on the face of it. Go to the Reefs by way of Mercury? That's like coming across a room by way of — of Deneb. It's not the way at all—"

"I don't know about that," rasped the voice of Machine General Wheeler from behind him. Gann turned. The general was standing in the open door of the control cabin, something in his hand. His expression was dark and fearful, like some

trapped and dangerous creature of the jungle.

Gann said, "But Mercury is near the Sun. Even if we wanted to go to the farthest part of the Reefs, where we're at superior conjunction, we might go *near* Mercury, yes, but we'd never land there. Not anywhere on the planet much less at some particular station on the terminator line."

"Go there we will," rapped General Wheeler. "Land there we will. And at the station. Major Gann! I told you I intended to go to the Reefs at once and wanted you with me. I had a reason. See here! This dropped to the ground before me as I was leaving the Planner's chambers after my—ah—episode with the guns."

Wordlessly Boysie Gann took the document. It was a creamy square, without signature, and on it were the words:

> If you would save yourself, your people and your worlds, bring Machine Major Boysie Gann and yourself to the Togethership on the Reefs of Space. The gateway will be found at the Plan of Man solar observatory on Mercury, Terminator Station Seven.

"The Starchild!" cried Gann.

General Wheeler nodded with a harsh, mechanical up-down, up-down.

"A message from the Starchild, yes. And the same message from the Planning Machine. Major Gann! Do you realize what this means? The Planning Machine is the Starchild!"

XIII

At some point they transshipped into a Plan of Man jetless-drive cruiser. Gann paid little attention.

He was using the time in the best way he could, to rest, to try to recover from the shocks and stresses of the last few weeks. And how fast they had accumulated, how violently they had drained him of strength, and of peace of mind!

He could still feel the distant ache in his forehead, in the bones of his skull, behind his eyes, in his sinuses —the track of the probes of the surgeons who had implanted the communion electrodes in his brain.

He could feel the aches and bruises of his working-over by the Planner's guards. How long ago?

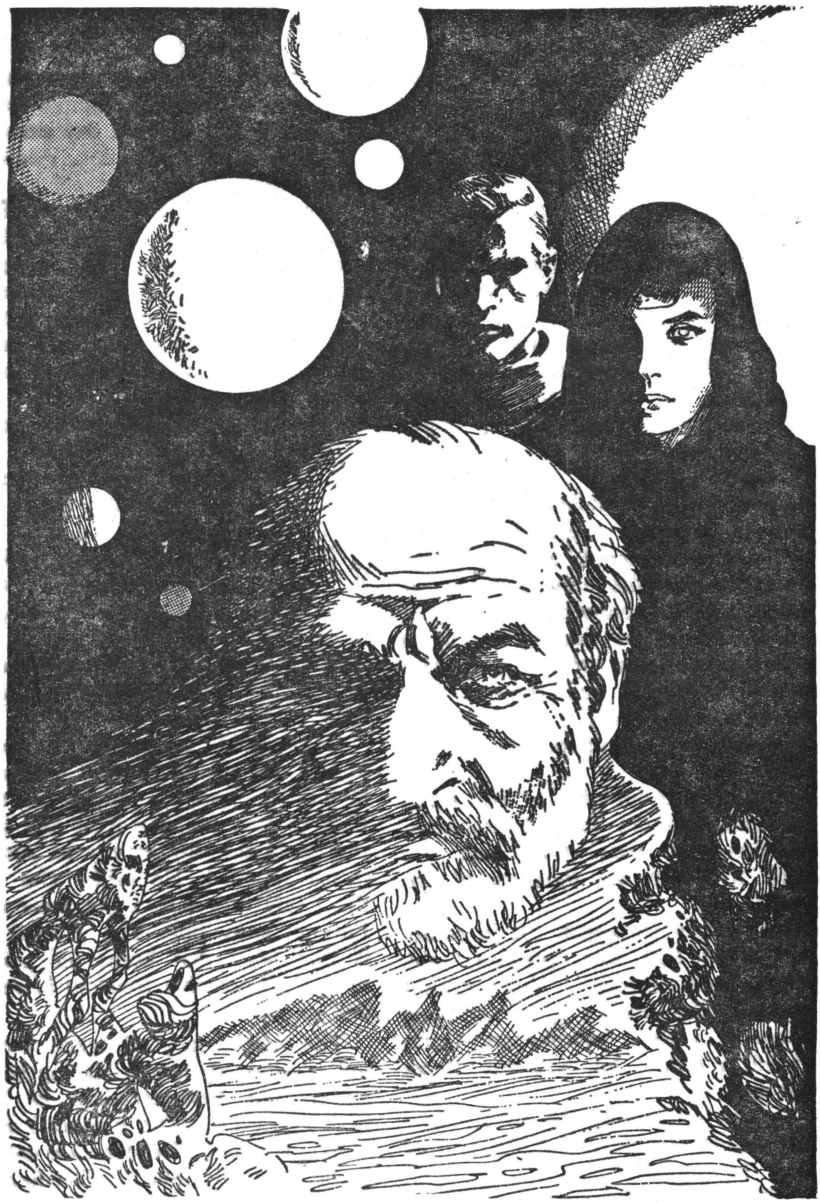
He was exhausted still from the battle with the pyropods and the long drop to Earth. Hs weary muscles still bore the fatigue poisons of his fight on Harry Hickson's reeflet . . .

He closed his eyes, and Quarla Snow came into his mind.

He opened them, and Sister Delta Four sat quietly unmoving, her eyes fixed on him, before him.

He was beginning to feel himself again. With the return of strength there returned the question of the two women, so unlike yet so much in his thoughts. He said:

"Julie. Sister Delta Four, if you'd rather. Do you know that what General Wheeler said is true? That the Machine is mad?"



Her perfect face, half hidden in the cowl, did not change expression. "I know that that is what the general said," she sang.

"But it is mad, Julie. The Starchild has wrecked it. Now it is wrecking the Plan planets. Do you still want to serve it?"

"I serve the Planning Machine," she chimed sweetly, her dark eyes cool and empty.

"Because of the bliss of communion? I understand that, Julie. Don't forget—" he touched the glittering plate in his forehead—"I've felt it too."

There was a flicker in her eyes, almost an expression of indulgent amusement, as she looked at him. But she only said, in her voice like the sound of bells: "What you felt, Major Gann, is only a shabby imitation of what the Machine gives its true servants. For you are only half a servant. The Machine has not opened its mind to you."

Puzzled, Gann asked: "You mean —mind to mind linkage? Communication with the—what could you call it?—with the *thoughts* of the Machine?"

She only shrugged. "It is something of that sort, perhaps," she said indifferently. "You cannot know." She sang a quick chiming chorus of tonal morphemes. Gann tried to follow, but was lost almost at once.

"You said something about the—the *soul?*" he guessed. "The soul of the Machine?"

"You see? I am sorry for you, Major Gann," she said. "More for you than for myself. Since you have destroyed my linkbox I cannot reach the Machine, but some day perhaps I will fnd another link box. You will never attain it."

Machine General Wheeler had been dozing while they spoke. Now Gann became aware that the general was awake and listening to them.

When he saw Gann's eyes on him the general sat up and laughed raspingly, like an ancient, ill-kept machine.

"A fool," he said, hurling one bright, contemptuous look at the girl. "And you're another, Gann. You're not fit to survive, either of you."

"I survive if the Machine desires it," chimed the girl clearly. "I will cease when the Machine no longer needs me."

The general ticked off a nod and turned to Gann. "You see? And what is it that keeps you alive?"

Gann said seriously, "I don't know." He got up , moved restlessly about the cramped quarters of the Plan cruiser, his step light and imprecise in the tiny gravity its jetless thrust supplied. He said, "Out on the Reefs they talk about freedom. I'm not sure, but—Yes. I think it is that hope that keeps me going now, the hope that freedom is real, and good."

The general laughed again. Without passion, as though playing back an ancient tape-recording in his brain, he said: "The Planner I just killed understood freedom. He called it the 'romantic fallacy'. Freedom is that which permits the dirty, Plan-

less nomads of the Reefs to eke out their wretched lives. It is a myth."

"I saw happy men and women on the Reefs," said Boysie Gann softly, less to the general than to himself.

"You saw animals! They believe that men are good. They believe that mere human men and women, left to their own unplanned devices on any drifting rock somewhere in space, can somehow find within themselves the natural springs of morality and intellectual enlightenment and progress. They are wrong!"

He blinked at Gann and the silent, composed girl. "Men are evil," he said. "The givers of laws have always known that men are essentially bad. They must be goaded into whatever good they display. Our Plan of Man was created to defend this classic philosophy — the cornerstone of all civilization. The Plan recognizes the evil in man. It forces him to goodness and progress. There is no other way!"

Mercury, the hell-planet, lay before them.

The guiding sensors of their Plan cruiser reached out with fingers of radiation to touch the planet, the Sun; sought reference points by optical examination of the fixed bright stars; scanned the limbs and poles of Mercury and accurately fixed the proper point on the terminator line of the sun's radiation. Then, satisfied, or in whatever state passes in a machine for satisfaction, it completed its landing corrections and directed the cruiser into a landing orbit.

The great naked fire of the sun hung only thirty-odd million miles away — three times as close as to Earth, its mighty outpouring of light and heat nine times as great. Its surface was mottled with great ugly spots, leprous with the scaley markings called faculae and granulations. It was painful to watch, bright and blinding. Machine General Wheeler moved a hand angrily, and the vision screen obediently blotted out the central disk, like a solar eclipse; then they could see the somber scarlet chromosphere, the leaping red arches of prominences, like slow-motion snakes striking at the void and, surrounding all, the white blazing radiance of the corona.

In that mighty furnace, each second lakes of solar hydrogen flashed into helium, pouring out energy. Each second, every square centimeter of its enormous surface hurled six thousand watts of power into the void.

On the sunward side of Mercury, molten tin and lead ran like water in fissures of baked and ovenlike rock. On its dark side the thinnest of atmospheres, boiled from the rock by the solar radiation, smashed free of it by the impact of meteorities, carried some tiny warmth to relieve what was otherwise a freezing cold nearly as absolute as that of Pluto.

On the terminator line the Plan of Man's string of observatories maintained a precarious existence, the searing heat before them, the killing cold behind.

"There!" rasped General Wheeler, stabbing a finger at the screen. "Ter-

minator Line Station Seven! Now we'll see about this Starchild!"

The great Plan cruiser, dancing in the thrust of its reactionless motors, slowed, halted, kissed the seared rock and came to rest, in the shadow of a silvery dome that reached out toward the sun with the barrels of telescopes and pyrometers, stared toward it with the great blind eyes of radio telescopes and masers. Over its entrance blazed the sign.

THE MIGHTIEST REWARDS THE MOST FAITHFUL

General Wheeler laughed sharply. "Faithful to whom, eh? To me, Gann! Trust in me!"

Boysie Gann glanced at him without expression, then at Sister Delta Four. She was mute and uncaring, her eyes hidden in the folds of her dark cowl. Gann shook his head but said nothing. In his heart he thought: *Mad. He's as mad as the Machine.*

Tubular entranceways were groping slowly toward them from the dome, found the airlocks of the cruiser, met and sealed themselves.

The hatches opened.

Gann stood up. "Let's go. All of us. I — I don't know what we'll find."

He waited and General Wheeler stalked past him, elbows and knees stiff as the linkages of a recriprocating engine. Sister Delta Four approached the lock, then hesitated and looked at Gann.

She threw a series of tonal symbols at him, her voice crisp and pure as bells.

Gann said hesitantly, "I — I don't understand. As you said, I'm only about half educated. Something about a — a man? A relative?"

Sister Delta Four said in English: "I asked you to be careful, Major Gann. There is a brother here who is of unstable emotion."

"I don't understand," said Boysie Gann. The girl did not answer, only nodded remotely and passed on into the entranceway, into Terminator Station Seven.

As Gann followed her he heard General Wheeler's rasping roar: "Hello there!!! Anyone! Isn't anyone here?"

The general was standing atop an enameled steel desk, peering around in all directions. Behind him were banks of electronic instruments, arranged in long rows like lockers in a gymnasium; they purred and hummed and flashed with lights, ignoring the presence of the general. The desk itself was part of a small office suite. It was deserted.

"I don't understand," rapped the general. He climbed down, picked up a phone from a desk and stabbed circuit buttons at random, listened briefly, then flung it down.

"There's no one here," he said, brows gathered in irritation and anger. "A joke? Would this Starchild dare joke with *me*?"

Gann said, "What about the rest of the station, General?"

"Search it!" barked the general. "You too, Sister! There must be someone! The doorway to the Reefs — the key to the *Togethership* — I will not let them escape me!"

Gann looked forebodingly at Sister Delta Four, but she did not return his gaze. Obediently, her fingers telling her sonic beads, she chose a doorway and entered it, her dark cowl moving as she scanned the rooms beyond for signs of life. Gann shrugged and selected an area of his own and began the search.

He could hear General Wheeler's angry shouts, and the purr or whine or click of the automatic machinery of the observatory, keeping its instruments pointed at selected areas of the Sun, tabulating the results. He could hear the distant whine of pumps, the sigh of air in the vents. There were no other sounds. The observatory seemed to be deserted. Gann moved through a chamber of record storage, where stacked drawers of magnetic tape reels held the information gleaned from countless machine-hours of solar study, glanced into what might have been a recreation room, found himself in the main observation chamber.

No one moved. No voice challenged him.

"Hello!" he cried, echoing General Wheeler's fading voice. There was no answer.

The normal complement of a nearly automatic station like this one was small — half a dozen men, perhaps even fewer. Yet it was hard to believe that some disaster had overtaken them all at once —

Or so Gann thought.

Then, turning, he saw the disaster.

There were three of them — three men, piled like jackstraws behind a workdesk, before a closed and locked door. They were unmistakably dead.

The one on top, supine, sightless yellowed eyes staring at the ceiling, was a grizzled older man in the uniform of a Technicaptain. Of the other two Gann could tell little except for their insignia — a lieutenant and a cadet, one plump and young, one young and oddly familiar.

Gann bent and touched them. There was no pulse. No breath.

Yet the bodies still seem to be warm.

Perhaps it was only his imagination, he thought. Or the warmth of the room — cooled by the circulating refrigerated air from the pumps, yet still so close to the blazing Sun.

He heard a faint sound, and jerked his head up, frowning, listening.

It was not one sound. There were two.

One he identified — the faint tones of Sister Delta Four's sonic beads. In her own search of the dome, by some other route, she was coming near.

But what was the other sound? It seemed to come from nearby, though muffled. He turned his head and stared at the locked door. Could it be from behind that? It seemed to be a sort of closet or record-storage chamber. It was massive, and the locks that held it would not respond to any unauthorized key. Yet now he was sure of it: there were sounds behind it, sounds like the distant murmur of life.

Sister Delta Four entered the room, saw him, hurried over to stoop swiftly over the three bodies.

When she looked up her eyes were

dark. She sang. "You need not fear him after all, Major Gann."

Boysie Gann blinked. "Fear whom?"

"The brother," the girl intoned. "He is dead. His unPlanned emotions need not concern you any longer."

"Brother? But —"

Then Gann stopped in mid-sentence. Understanding began to reach him. He reached for the body of the Technicadet, turned the flaccid head.

The face was one he had seen before.

"*Your* brother!" he cried.

Sister Delta Four corrected him. "The brother of Julie Martinet. The brother of this body, yes. As you see, he is dead." Her dark eyes were mild and unconcerned, as though she were commenting on the weather.

Beyond the jackstraw heap of bodies the thick square door still hid the source of the tiny sounds, but Gann put them out of his mind. Julie Martinet's brother! He could see the resemblance, the same grave eyes, the same shape of the jaw — in Sister Delta Four, it completed a perfect oval; in the boy, it gave him a strong chin under a dreamer's face.

Boysie Gann saw that, and he saw something more.

He bent close, incredulous. But there was no doubt.

Under the pallor of death, under the uncaring vacancy of the face, there was a hint of color. Golden color. Almost luminous.

Gann turned quickly to the other corpses. The same!

Like Machine Colonel Zafar, like Harry Hickson, like the beasts of the Reefs, the three dead Technicorps men gleamed faintly, goldenly, like a brass helmet's reflection of a distant sun.

He drew Sister Delta Four after him and sought and found General Wheeler, told him in short sentences what he had seen.

"The same golden color, General," he said. "It's fatal. Or. —" He hesitated, remembering. Harry Hickson had died of the disease, yes. But he had lived again.

He brushed that thought out of his mind. "Fatal," he repeated. "It's a fusorian infection, I think. If you put a drop of their blood under a microscope you would see little fusorian globules, flickering with golden light. Some sort of symbiosis, Dr. Snow said. But fatal . . ."

General Wheeler rasped: "Fusorian, you say? The Reefs, then! Do you know what that means to me, Gann? It means the Starchild! My information was not wrong. He's here!"

"But he can't be," Gann protested. "We've searched the station, the three of us, and we saw no one." And Sister Delta Four echoed him:

"We saw no one, General. No one at all, but the dead."

"Dead or alive, he's here," growled the general. "I'll find him! I'll make him lead me to the *Togethership!*"

Boysie Gann remembered the sounds behind the door. He said, "There is one place, General. One place where — someone might be. Behind the bodies was a door —"

"Come on!" shouted Wheeler, not waiting to hear him out, and led the way like an animated machine, arms flailing, harsh breath rasping. Gann and the girl had found him far from the observatory room, down in the subterranean storage spaces of the dome, poking and shouting into recesses of canned food and unused spools of tape. Even in Mercury's light grasp it was a long, hard, running climb back to the instrument room, and even Sister Delta Four was gasping for breath before they made half the distance back. And then they all stopped, panting, staring at each other. For all of them had caught the same sound — the distant rumble of caterpillar tracks, carried faintly through Mercury's rock and the structure of the station.

It was the entranceways, the long tubular protuberances through which their ship had been linked to the lock of the observatory dome. They were in motion. Either another ship had arrived . . .

Or their own ship was taking off!

"Let's go!" cried Boysie Gann, and they ran the remaining distance faster than before.

The great door was standing open and the bodies were gone.

General Wheeler and Gann turned without words and searched the room, under desks, behind cabinets, even inside the servicing hatches of the instruments themselves. "They're gone," said Gann at last, and the general echoed his words:

"They're gone."

Another voice said, "They've taken your ship, too."

Gann and the general spun around. Sister Delta Four had not troubled to search the room with them. She had gone through the door, into a tiny, steel-walled cubicle that had evidently been designed for holding the most important records in safety in the event of some disaster or mischance to the station. What it held now was another sort of treasure entirely. It was a girl, her lips white where they had been gagged, her arms still trailing ropes that Sister Delta Four had not finished taking off her. "They took your ship," she repeated. "All three of them. They opened the door for me — and left."

Gann hardly heard what she was saying. Something else was filling his mind. Honey-haired, softly tanned of skin, eyes blue and bright . . . he knew that girl.

The girl in the observation dome in Mercury was the girl he had left weeks and billions of miles from here and now. It was Quarla Snow.

XIV

In the bright, refrigerated dome the pumps poured cooling air in upon them, but the great storm-racked globe of the Sun that hung in the viewing screen seemed to beat down on them as though they were naked on Mercury's rock.

Quarla Snow reached out and touched Boysie Gann's arm. "I thought you were dead," she said wonderingly, and her eyes went toward Sister Delta Four, kneeling beside her, patiently, absently rubbing Quarla's chafed wrists.

"Never mind that," said Gann. "How did you get here? Was it — the Starchild?"

Quarla shook her head, not in denial but in doubt. "I don't know. After you disappeared I set out to look for you."

General Wheeler, at one of the optical telescopes, rapped angrily: "There! I see the villains! Between us and the Sun!" He studied the controls of his instruments furiously, selected a switch and turned it. The great image of the sun in the screen danced and dwindled as the field of vision of a new telescope replaced the old one.

They saw the Plan cruiser that had brought them, already very remote in the black, star-sprinkled sky that surrounded the blazing globe.

"I wonder who's piloting it," murmured Boysie Gann.

"Those criminals you saw here!" Wheeler barked. "Playing possum! They fooled you! Now they've taken our ship and we're marooned."

"General," said Boysie Gann earnestly, "I don't ask you to believe me, but I was not fooled. They were not pretending to be dead. They were dead."

"Impossible," rasped the general. "Look at the idiots! They're heading straight for the Sun. The ship isn't designed for photosphere temperatures! They'll kill themselves!"

Gann turned wearily back to Quarla Snow. "You said you went looking for me. Why?"

She flushed and looked away. She did not answer the question. She said, "Colonel Zafar died. My father reported it — it was dangerous, you see — and he took the body into Freehaven for examination. He did not know what had become of you. Neither did I. But — I thought I could find you."

Sister Delta Four got up quietly, crossed to the girl's other side, began to rub circulation into the other wrist. Quarla went on, her eyes avoiding Boysie Gann's. As she spoke she looked sometimes at Sister Delta Four, sometimes at General Wheeler, sometimes at the great hanging orb of the Sun and the Plan cruiser that was moving slowly toward its long, tentacle-like prominences.

She had gone outside, she said, and called her spaceling. Then she brought Harry Hickson's pyropod out into the open air, released it, watched it circle them twice, then arrow off into space itself . . . and, riding the spaceling, she had followed it.

"After you disappeared and Colonel Zafar died, it seemed to go crazy," she said. "Raced around the house — I thought it was looking for you. And I thought it might find you, if I set it free."

"The Starchild!" boomed General Wheeler. "Get to the Starchild, woman! Did you ever find the Starchild?"

She hesitated.

"I think I did," she said at last. "I think I met the Starchild in the heart of Reef Whirlpool."

Reef Whirlpool — not a planet, not a sun, not a comet. Not even a Reef in the true sense.

It was something that partook of

some of the elements of all of them. It had begun as a Reef, no doubt. It orbited Sol like a planet, if a distant one; like a comet, most of its bulk was gases. And it burned with hydrogen-helium fusion at its core, like a star.

Basically Reef Whirlpool was simply a bigger, denser cluster of Reefs than most of those stepchildren of Sol. Given time and additions enough, it might some day become the heart of a star.

Its angular momentum was enormous; some stronger force than gravity kept its parts from flying into space. The Reefs that composed it were older and — stranger — than those outside. Pyropods in queerly mutated forms swarmed in and around it. Its central portions had never been visited by man, not even by the explorers of the Reefs.

It was a place of terror and legend. The life that it harbored had been a long time evolving.

Straight as an arrow the baby pyropod that once had belong to Harry Hickson hurtled toward Reef Whirlpool — and behind it, pursing, barely able to keep its glowing blue-white trail in sight, followed Quarla Snow on her spaceling.

"I was afraid," she said soberly. "We passed a mating swarm of pyropods. Then ten thousand of them together, wheeling in space in a single body — if they had seen us and pursued we wouldn't have had a chance. But it was too late to worry about that . . . and I was even more afraid of Reef Whirlpool."

"The Starchild, girl!" cried General Wheeler. "Now!" His eyes were fixed angrily on the screen, where the Plan cruiser was coming closer and closer to the Sun, one great curved prominence seeming almost to lick up toward it like a reaching tongue of flame.

"We reached Reef Whirlpool," said the girl, "and there I lost Hickson's pyropod. But Bella — that's my spaceling — Bella seemed to know where he had gone. We went in."

From nearby in space Reef Whirlpool looked like a tiny galaxy, its separate reeflets glowing each with its own hue, like bright, soft stars against the dark. The rim of the disk was dark — dead rocks and fragments; there, Quarla thought, were the nesting places of the pyropod swarms. She could feel the spaceling shudder, its limpid eyes wide and glazed with fear. But it went on.

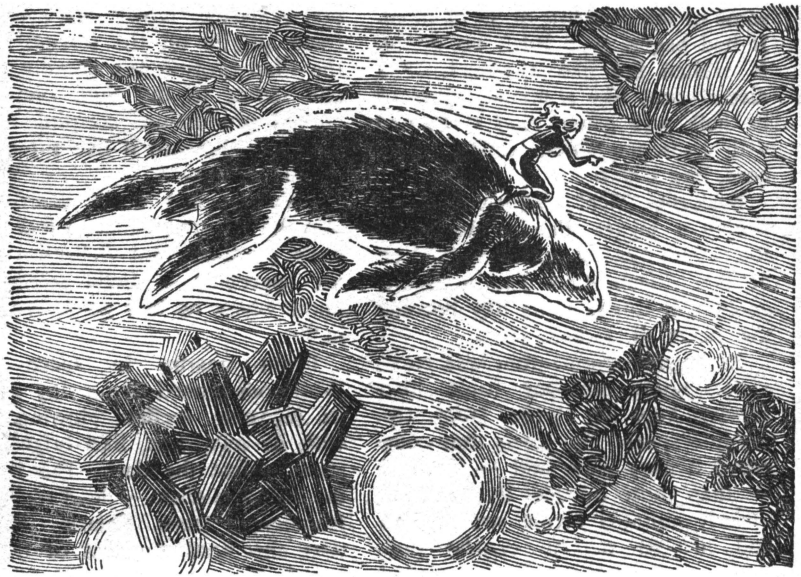
"Bella didn't seem able to help herself," said Quarla Snow. "She seemed to want to go right on — to her own destruction — or to something she feared even more."

"Like those fools in my ship," rapped General Wheeler. "Is that where the Starchild was? In that Reef?"

Quarla Snow hesitated. "I don't know. Truly, General Wheeler, I don't know what I saw in the Reef. I know that I saw a great many things that weren't there."

"Illusions?" the general demanded. "You were hallucinating?"

She nodded uncertainly. "Yes. No. I don't know. I only know I saw things that couldn't have been there.



One of them was Harry Hickson, and I knew he was dead. Another was Colonel Zafar. And another — why, Boysie, one of them was you."

They were deep in the core of Reef Whirlpool now. The spaceling's frenzy grew. They were long past the outer rim of rock where the pyropods nested, but there was something ahead that terrified Bella more than the tunneled nests of the beasts.

"It's all right, honey," said the voice of her father in her ear.

She cried out and stared around her. He was not there. No one was there, inside the tiny envelope of air the spaceling carried with them as they fled through dead airless space.

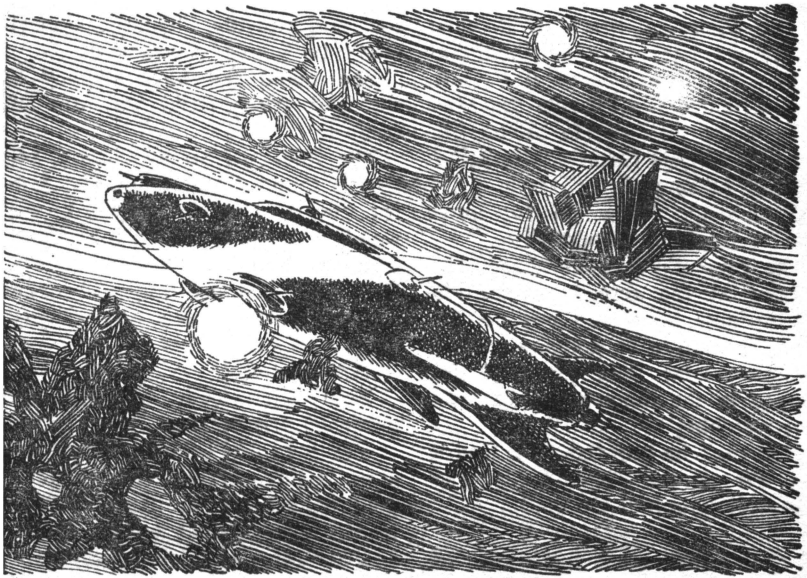
"Go on, darling," said another voice. It was the voice of the man she had just seen disappear in a whirlpool of light, the man she was seeking, Boysie Gann. And a third voice:

"Quarla, girl! Don't hang back now!" And that was the voice that terrified her most of all, for she knew it, though she had not heard it in a long time and knew its owner was dead.

It was the voice of Harry Hickson.

Illusion?

It had to be illusion. Hickson was dead. No one was there — no one in sight, and no possibility that someone could be lurking out of sight, beyond Bella's envelope of air. For outside that elastic sphere there was nothing to carry a voice's sound.



Yet that illusion stayed with her. "Don't fret about pyropods, girl," advised the voice, slow, rough, kind — Harry Hickson's own, she was sure of it. "Get on with it! We're waiting for you."

She remembered some words the dying Colonel Zafar had said: "— mind trap . . . beware your heart's desire . . ." There was a warning there.

But she could not take caution from the warning; will she, nill she, the spaceling was carrying her deeper and deeper into Reef Whirlpool, with the gleam of lesser reeflets darting past them as they flew, glittering diamond fungi, luminous blue polygons, jungles of incandescent wire, glowing nightmare worldlets for which she could find no name.

And then they were at what she knew was the core.

A great ship swung emptily about, huge as the whole Reef of Freehaven, giant, lethal weapons staring out of open ports. It was in free orbit at the heart of Reef Whirlpool. Its weapons were unmanned. Its drives were silent.

"Great Plan!" shouted Machine General Wheeler, wild with excitement. "The *Togethership*! It had to be the *Togethership!*"

Quarla Snow looked at him, faintly puzzled. "That was the name it bore, yes. Your ship. General?"

The general cackled with glee. "It is now! My ship — my Machine that's been locked in its holds — and my worlds, as soon as I reach it! You'll take me there, woman. You'll lead me to the *Togethership!* When I've made myself the master

of the Planning Machine it carries I'll be back here on the Plan Worlds. Not just a general — not even a Planner — I'll rule the Machine itself! I'll —" He broke off, staring at Boysie Gann. "What's the matter?" he rapped.

Gann said, "How do you propose to reach it, General?"

The general's face darkened. He scowled at the screen, where his cruiser, now hopelessly beyond his reach, seemed to be dodging around the great solar flare that had developed in the moments while they were watching.

"Go on," he growled. "I'll find a way. I'll get the *Togethership,* and then—Never mind! Go on."

Around that great battlecraft of the Plan, painted dead black for camouflage in space, studded with laser scopes and bristling with missile launchers, there was a queer golden mist.

Quarla looked, and looked again. It was like a fog of liquid gold. Like a golden cloud.

Impossible that there should be a cloud in space, even here.

Yet she saw it. And at its heart was a great golden sphere, larger and brighter than the elfin Reefs more perfectly round.

Like a laser burst hurtling to a target, the spaceling drove toward it.

Quarla cried out in terror, for as they raced toward it its surface seemed to lift to meet them. A bulge appeared and grew, became a tentacle reaching toward them. And the phantom voice of Harry Hickson said roughly, "Quarla, honey! Don't be scared. Come on!"

She could not have stopped if she had tried. Bella was out of control.

The voice was surely illusion, yet Quarla found it reassuring. Her horror ebbed. Queerly detached, she watched the bulge on the golden surface swell and divide into three parts. Each stretched out until it became a bright golden snake. She watched them coil toward her —

They struck.

Hot yellow coils whipped and tightened around her.

Yet there was no pain. There was even less fear. The living ropes of gold hauled her in like a hooked trout, down to that golden sphere, and her calm and detachment grew. Even the spaceling had lost all of its fear. Nestling into the hot, contracting coils, Bella purred like a huge kitten. She was drowsy.

Quarla was drowsy, too.

She thought she heard Harry Hickson speaking to her again — calmly but urgently — telling her things of great importance. You must go, child, he seemed to say, you must go to *this* place and do *that* thing. You must avoid *these.* Then you must return here . . .

It was greatly soothing to hear his calm, wise voice. Quarla Snow slept.

She slept, and time passed . . .

"And," she said, "when I woke up, I knew what I must do. I had to come here and fetch you. All of you. He wants you to come to him."

General Wheeler rasped: "The

Starchild! He's the one you mean, eh?"

But she was shaking her head obstinately. "I don't know that. I only know what I must do. Only —" her expression became worried — "the men were here and they were afraid of me. They locked me up. They would not listen."

Sister Delta Four sang, "Major Gann. General Wheeler. Miss Snow. Have you observed the screen?"

They turned as one, startled, staring at the screen.

Up there hung the Sun. The bright prominence that had grown so swiftly was huger still. It overhung the shape of the fleeing Plan cruiser with the three men who should have been dead—overhung it like a crested wave, like the hood of a striking cobra.

And like a snake it was striking.

The Plan cruiser had changed direction—too late. Slow though the great, jetting tongue of flame seemed in the screen, its movement was miles per second. Twist and turn though it would, the cruiser could not escape. The prominence touched it.

The tiny black shape disappeared.

Boysie Gann found himself shaking, heard the metallic, monotonous steady cursing of the general by his side. The cruiser had been swept out of space.

Slowly the incredible tongue of flame began to fall back toward the mottled surface of its star, the Sun.

The general recovered himself first. The coppery spikes of his hair, his flat bronze features, his whole expression showed resolution.

"All right," he said. "We don't have to worry about trying to get that ship back any more. It's gone. Question is, how do we get out of here? Second question, how do we then get to the Reefs—and the *Togethership?*"

Sister Delta Four sang proudly: "There will be no difficulty in that. The Machine has said that the gateway to the *Togethership* is to be found here."

The general fixed his steel-gray stare on her. "But where? Out that airlock? Onto the rock of dayside Mercury? We'd fry in minutes. Or do you suggest we fly—"

He stopped in mid-sentence, bronze face frozen, then turned on Quarla Snow. "Those beasts of yours! What became of them? The spacelings, or whatever you called them."

But Quarla was shaking her head. "This near the Sun Bella would never live," she said. "The radiation would destroy her—and us, too, if we were in her air-capsule. And anyway, she's not here."

"Then how?" cried the general. "There must be a way! Both messages—the Starchild's and the Machine's—they both said this was the way."

Quarla said softly, "And so it is, General. That is why I came here, to fetch you to the Reefs. I don't know how. I only know it will happen."

The room seemed to lurch.

It caught all of them off guard. They turned to look at each other with varying expressions of surprise and fear.

"I think," said Boysie Gann grimly, "that we've found our gateway." He knew that sensation, had felt it before, knew that in the powers it involved the long climb outward to the orbits of the Reefs was only a matter of moments.

He was not afraid. In fact, there was almost relief in the knowledge that soon they would be facing the presence which had dislocated a solar system. Yet something was troubling him, some question of the last few moments, something that had been asked but not answered.

He felt the room lurch again, and the lights grew distant and dim. And then he remembered.

"Why, Quarla?" he croaked hoarsely.

The girl of the Reefs looked at him affectionately. "Why what, Boysie?"

"Why were they afraid of you? You said the men here feared you. *Why*?"

The room seemed to shake and twist itself, as though viewed through a defective glass. The lights were leaving them—or they the lights, as though new quanta of space were being born between them, separating them without motion like the recession of fleeing galaxies.

And then Gann saw the answer. Quarla did not need to speak. His eyes told him what had terrified the three men in Terminator Station Seven.

In the dwindling light Quarla alone stood forth bright and clear—her face, her arms, her body shining brightly . . .

With a golden glow.

XV

They tumbled through space endlessly and forever, and then they stopped.

They had arrived. They were all together in a wondrous new world.

All about them hung the slowly spinning worldlets of Reef Whirlpool, jewels of emerald and ruby, glowing gems of white light and blue. There was the slowly pulsing golden sphere that had captured Quarla Snow. And there the great battleship of the Plan, the *Togethership*.

Quarla Snow had described the ship, but she had not made them see its immensity. The vessel was huge.

Boysie Gann saw it, and saw too that they were not alone.

A ton of rushing mass hurtled toward them and stopped in midflight, squealing happily. A glowing red nose nuzzled Quarla Snow. "Bella!" cried the girl, and patted the tawny velvet fur. She murmured to Gann, "My spaceling. We're in her envelope of air, you see. Without it we'd not live a minute here."

General Wheeler rapped: "Get your sentimental reunion over with, woman! Can this beast take us to the *Togethership*?"

"We're going there now," said Quarla Snow. "See for yourself, General."

They were. Gann could see it now, see the great battlecraft growing as they drew close. They were in free fall within the spaceling's vital capsule, all four of them in loose and tumbling attitudes, Quarla with one hand on the spaceling's coat,

Sister Delta Four proud and dignified even in the sprawl of zero-G, Machine General Wheeler careless of everything around him but his goal, his steel-gray eyes fixed on the looming *Togethership.*

The battlecraft of the Plan was more distant and more immense even than Gann had realized. It grew into a long planetoid of sleek black metal, hanging suspended in the space between the glowing golden sphere that dominated Reef Whirlpool's core and the tumbling worldlets that brightened the sky about them. They circled it and found the valves of a lock yawning open at its base, circled by the jutting black cylinders of the six great drive units that had thrust it up from Earth.

It did not seem to have been used in all those years. It had an abandoned and empty look.

The spaceling, without direction, seeming compelled by some outside force, took them straight into those valves, and halted.

The entry port of the *Togethership* was as big as a three-story house. As they entered, luminous rings around its walls sprang into soft gray light. The great valves moved silently, remorselessly shut behind them.

They were enclosed in a wall of steel.

All around them the walls were pitted and scarred, as though from some enormous battle of the past. There had been no such battle, Gann knew. What could have done it? Could it have been meteorites, over the decades that the locks had hung open . . .

General Wheeler saw his look and rapped: "Pyropods! They've been chewing at my ship! By the Plan, I'll root out every filthy one of them —"

The general was right, Gann realized. Not only right, but seething with anger. It had become *his ship,* containing *his* copy of the Planning Machine. And with it he intended to make all the worlds of the solar system *his* planets . . .

Darkly, Boysie Gann realized that there were more dangerous things in this ship than pyropods.

He became aware of a sighing, rustling noise, and saw that the lock was filling with air. The spaceling's vital capsule no longer protected them from the void; they were in a breathable atmosphere. The spaceling realized it even before he did. She flicked her seal-like tail and darted away; raced back, her red nose glowing with joy, whimpering with pleasure. She played games with the bright-leafed vines she had carried in her air-envelope — the curious Reef plants that were part of the elaborate evolutionary device that enable a warm-blooded oxygen-breather like herself to survive in naked space. She rolled the waxy, luminous tendrils into a huge ball, tossed it with her glowing nose, chased it across the lock, caught it with her broad velvet tail . . .

"Bella!" called Quarla Snow, affectionately stern. "Come back here! Behave yourself!"

But the spaceling was playfully obstinate. She flashed across the lock and back, racing toward them

like the charge of a pyropod, missed them by inches, returned to the inner wall — and there, at the far end of the lock, discovered a crevice that had not been there seconds before.

Mewing excitedly, the spaceling slid its supple body through the narrow opening and was gone.

A way was open into the rest of the ship. The same machinery that had turned on the lights and closed the outer valves had now opened a passage inside.

"Hah!" shouted General Wheeler. "At last! The Machine is waiting for me!" And he was gone almost as rapidly as the spaceling.

More slowly, the others followed — Quarla Snow, on the track of her pet, Boysie Gann, Sister Delta Four, a sombery figure in black at the rear of the procession. A pseudo-gravity field of a tenth of a G or so gave them footing but spared them much of the effort of moving their bodies up the winding shafts from the lock. Even so, Gann was winded trying to keep up with the racing, driving general.

They were in a shaft seeming to extend endlessly upward. Then they passed a point of change-of-thrust of the pseudo-gravity and it became a dizzy abyss into which they were falling, until their protesting bodies oriented themselves to the new kinesthetic sensations and accepted it as a level hall. A cold current came along it, setting them to shivering, a breeze out of a cave, with a faintly unpleasant reek, dusty and bitter and dry.

A faint murmuring vibration was borne by the air current along the tube.

Quarla Snow moved closer to Boysie Gann. Unconsciously he touched her shoulder, hurried past her. Whatever the sound was, it could wait.

The general was out of sight.

Gann stepped up his pace, gasping for breath. The air was thinner here than he was used to, as though the old refresher tanks were running dry. He glanced around and found himself at a numbered landing, where the gray light faintly showed a sign, MESS C.

Long tables stretched off into darkness, were crewmen in flight must have stood to eat their meals.

Gann stopped and waited for the girls to catch up with him. "The general's gone," he said. "After his Planning Machine. I — I think he may find it, and I'm afraid of what may happen if he does." He glanced at Quarla, the concern on her face caused mostly by worry about her vanished spaceling, and at Sister Delta Four, whose hooded eyes showed no expression at all. He said, "If the Machine on this ship is half as powerful as the one on Earth — and they say it is more than that, an exact duplicate — then Wheeler just might rule the solar system with it."

Quarla Snow said only, "What do you want us to do?"

"Split up. Find him. He's armed, of course. Don't try to handle him yourself, either of you. Just scream — good and loud — so I can find you."

Sister Delta Four's pure, chiming voice was like a breath of reason.

"You are not armed either, Major Gann. You will be no more able to cope with him than we."

"Let me worry about that! Just find him if you can . . . What's the matter?"

"Nothing is the matter, Major Gann," said Sister Delta Four, her face still hooded.

"Not you. Quarla. What is it?"

Quarla said unhappily, "It — it can't be dangerous, Boysie. I mean, you don't have to worry."

Gann laughed sharply, unable to help himself; her reassurance was so pathetically out of place.

"No, I mean it, Boysie. After all, we're not here by accident. I was sent to bring you. All of you. The — the Starchild, if that's who it was that sent me — he'll know how to handle the general."

"I don't intend to take that chance," said Gann grimly. "Quarla, go on down the passage, Julie, follow her, check all the side ways. I'll look around here and follow."

He was halfway through the ancient mess hall and the girls out of sight before he realized something.

She didn't correct me when I called her Julie, he thought. And wondered why.

Gann found himself shaking as he followed the polished guiderails between the endless rows of long, high tables — not with fear but exhaustion. Exhaustion and something else.

The more fatigue tried to slow him down, the more it weakened his control, the more he remembered that one incredible moment-long lifetime of ecstasy the Machine had given him in that last few minutes before it had gone mad. The longing was almost physical. He understood Sister Delta Four's addiction. She must be suffering far more than he — her addiction longer standing, and if what she had said were true, at a far higher pitch. Perhaps that was why she had seemed strained . . . And Quarla Snow. The girl was sick! That golden glow had meant death to Machine Colonel Zafar and to the three in the Mercury observatory . . . death, or something far more terrifying than death.

He forced his mind away from both girls and onto his quest.

It was vitally important to find the general. Gann cursed himself for not having anticipated the problem. Yet there was little he could have done; when all was said and done, the general had had the arms, not he. Not that the general needed them as far as Gann was concerned, not as long as he wore the security collar. He touched it absently. Freedom, he thought abstractedly. Freedom . . . a world without collars . . . a world where men could live like men, not like the Machine's cogs . . .

He jerked his hand away, appalled.

He realized he had been wandering among these benches for minutes!

What was the matter with him? Why was his mind wool-gathering?

It could be fatigue, he thought. Or hunger. He glanced around; he was in the galley for Mess C. But no drop flowed when he tried the taps at the sinks. The pantries and

lockers gave him no more. Neat labels on bins named the foods they should have contained, but every bin was empty.

No matter. Boysie Gann pushed that thought out of his mind, too, and resumed his search.

Mess B and Mess A were equally spotless and equally bare. There was nothing else on that level.

The level above was crew quarters, emptied and abandoned. No doubt Quarla or Sister Delta Four had already searched them; Gann hurried on, back into the queer gravitational inversion of the passage, to the next level. The distant mutter of sound was louder now, but he still could not identify it . . .

Until he saw the landing where a locked door greeted him with the sign, RESTRICTED TO MACHINE PERSONNEL.

Behind those locked steel doors was the muffled and multitudinous humming vibration. The lost slave-unit of the Planning Machine. Still running.

Or — running again? Had General Wheeler reached it, started it up?

And what was it planning now?

Boysie Gann hammered on the door. "You, inside there!" he bawled. "Open up! Let me in!"

Only the dulled mechanical mumble answered him.

"Open!" he roared. "I know you're in there, General Wheeler!"

A great chuckling laugh sounded in his ear. "Not at all, Major Gann," boomed the voice of the Planner.

Gann whirled. The Planner — here?

No one was in sight.

"You might as well keep going, Boysie," advised the voice of Technicadet M'Buna in a tone of friendly concern. "You're wasting time, you know."

Gann stood paralyzed. But M'Buna was dead! And so, he remembered tardily, was the old Planner; General Wheeler had shot him down. "Who's there?" he shouted. "What kind of a trick is this?"

A girl's shrill scream answered him. "Boysie! Boysie Gann, where are you?"

The voice was Quarla Snow's. Unlike the other phantoms, hers seemed to come from far away. Gann passed a hand over his forehead, sweating. It caught the metal plate of the communion badge, and he felt the old ache rising in him again — the moment of infinite joy — the longing to experience it again —

He repressed the thought, but not easily. What was happening to him?

Was he losing his mind?

He gazed emptily at the impregnable doors. It all seemed too difficult, so much trouble — so little worthwhile, anyway. Why had he bothered to come all this way?

And that thought, too, he realized with shock and dismay, was a sort of delusion. Something was inside his mind. Something —

He remembered what Quarla Snow had said, what Machine Colonel Zafar had cried out in his delirium. *The mind trap. Beware of your heart's desire.*

Something was aboard the *To-*

gethership with him that could enter his mind. Something that could control him almost as easily as it had directed Quarla Snow's spaceling.

He heard the rapid approach of light, running feet and turned.

"Boysie!" It was Quarla, running toward him. "Thank heaven I found you! The general — he tried to kill me!"

Gann caught her in his arms. The girl was shaking, terrified. She whimpered: "I think he's insane, Boysie. He saw me coming toward him. He shouted something — something wild, Boysie, all jumbled up, about the romantic fallacy and the need for man to be controlled — and I saw the gun and ran. He almost killed me."

Gann said stupidly, "I thought he was in here. With the Machine."

"No! He's on the next level — something called a Fire Control Stadium, the sign said. It's all bulkheaded compartments and safety doors. You'll never find him there." She took a deep breath and freed herself gently from his arms. "We ought to go on anyway, Boysie. Up to the control room."

"The control room?"

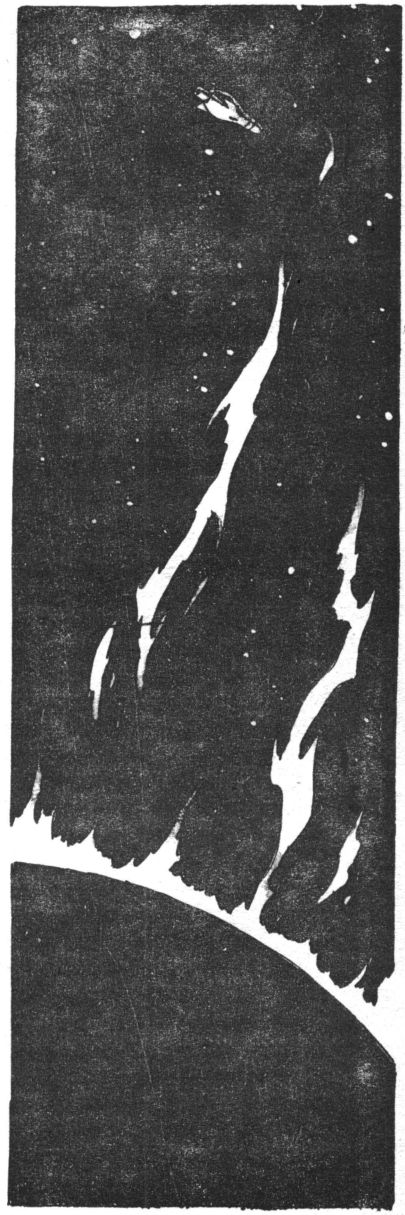
She nodded. "That's where I'm supposed to bring you. It's four levels farther up, down an access passage marked *Bridge*."

"You've seen it? You've been in this ship before?"

"Oh, no. I just know. Come on, Boysie. We have to hurry now."

He shrugged and turned to follow her — then slipped and almost fell.

He caught himself easily enough



in the point-one gravity, glanced to the floor to see what had been underfoot.

A string of sonic beads lay before the locked steel doors of the slave unit of the Planning Machine. Sister Delta Four's beads.

Boysie Gann stared at them, knowing at that moment who it was who was inside those doors, striving with what frantic eagerness he could very well understand to come once again into communion with the Planning Machine.

The door marked BRIDGE hung ajar. From inside it a pale beam of yellow light fanned across the landing.

"Come on, Boysie," said Quarla Snow clearly. "There's nothing to be afraid of. He's waiting for us."

Gann entered through the lighted door, his hand holding hers, prepared for almost anything.

Beyond the door was a vast circular room, which surrounded the shaft-passageway. It must have extended, Gann thought, to the hull of the ship. The floor was crowded with clustered gray-metal cabinets, all linked with a many-colored jungle of heavy cables hanging from the ceiling. There were observation stations, instrument technicians' duty posts, chairs for navigators and weapons officers. Every station was empty. Every station but one.

There was one human figure in the control room, and it was the source of the light.

"Harry!" cried Quarla Snow, and Gann echoed:

"Harry Hickson! You! You're the Starchild, the one who sent that Writ of Liberation!"

He glanced up at them casually, then returned to his work. He sat on a stool at a console near the shaft. His head bent over flashing scopes and screens. His broad, stubby-fingered hands were moving swiftly, twisting verniers, touching buttons, clicking keys.

And the golden light streamed out of him as from a sun.

He looked younger than when Gann had seen him, no longer, wasted, no longer worn. He had the same straggling beard, glowing now as though made of incandescent wire, and the same bald head. And atop that head there crawled the same infant pyropod, its bright eyes glaring at Gann and the girl.

At last he turned away from his instruments and regarded them. "I do as I was commanded," he said casually. His eyes were golden too, glowing like the rest of him; but he saw them, and there was something like affection, something like love in his look. He raised one arm, crooked the hand and wrist in the sign of the Swan and said, "The Star tells me what my work is. It is the Star's purposes which matter, not me." The tiny pyropod hissed and squelled softly, glaring at them with its pulsing eyes. Casually and affectionately, the radiant creature which had been Harry Hickson reached up and caressed the creature. It settled down.

"Did you put out the sun?" Gann demanded. "The stars? How?"

"Not I," said Harry Hickson, "but the Star." He made that serpentine,

looping sign again. "Ten years the Star has planned for me. Ten years ago it sent the first star-wink on its way to Earth, then a dozen more, all arriving at the same moment. I could not do that, Boysie Gann, but there is nothing impossible to the Star. As you will know."

He reached out a hand as he spoke. It looked like a benediction, thought Boysie Gann; but it was something more than that. From the end of the golden man's arm a cloud of golden light swirled, shaped itself into a tiny pulsing sphere, reached out and lightly touched Gann.

He jumped back, his nerves crackling.

But he felt nothing. Nothing at all. He said harshly, "What's that? What are you doing?"

"The Star's will," said Harry Hickson, and bent again to his board. His bright fingers flew again over the knobs and keys, while the tiny pyropod scuttled to the back of his head, peering at them with pulsing yellow eyes.

"Sister Delta Four has achieved communion with the Machine," he said softly, not taking his eyes from the scopes and screens. "She has programmed it with sensing data so that it can link with the old Machine on Earth. In thirty hours its signals will be received on Earth. In thirty hours after that the return will be received here."

Gann cried, "But the old Machine's gone mad! You should know! You did it." The radiant man did not answer, did not even look up. "We can't let her establish contact," shouted Gann. "And General Wheeler — where is he? He's mad too — or mad for power, which is the same thing. How can you just sit there? What's he up to while we're wasting time here?"

"As to that," said the golden man, glancing up and around him, "we will hear from General Wheeler very soon."

And Wheeler's harsh laugh rang out.

"Very soon indeed!" his voice rapped, coming from nowhere. "I have you now, all of you. I have mastery of the *Togethership!* Its weapons systems are mine — and that means the worlds are mine! All of them! As soon as I finish disposing of you!"

A soft sliding sound of metal reinforced his words.

Behind the jungle of looped cables, behind the vacant stations for navigators and communications officers, portholes were opening in the steel wall. And through them the slim, bright snouts of energy weapons were lifting themselves, precisely centering themselves on target.

The targets were Boysie Gann, the girl and the glowing golden creature that once had been Harry Hickson. General Wheeler had captured control of the *Togethership's* armaments — both outside the ship and in.

Their lives now rested in the crook of his finger on a remote-automated trigger.

One man, with one motion, could destroy them all. And that man was mad.

XIV

The radiant man looked up. "Thrust and counter," he said gravely. "Action and reaction. Challenge and response." His golden hand turned a lever on the panel before him, and one of the dozen blank viewscreens over his head lighted up to show the hard, bronzed face of Machine General Wheeler, his steel-gray eyes alight with the glow of triumph. "He is our challenge," said Harry Hickson, and returned to his screens and scopes.

Wheeler rasped: "You have no response! You are defeated. All of you! You and the foolish, romantic illusion of freedom."

He was glorying in his moment, Gann realized. Quarla Snow crept close to him. Unconsciously he circled her with his arms, both of them staring at the screen and the deadly snouts of the energy weapons that circled it.

"You are victims of the romantic fallacy," Wheeler proclaimed, his bronzed hand stroking the triggers that would destroy them. "That is understandable. The animal part of man always frets under discipline. It seeks the monkey-goal of freedom, and that cannot be tolerated, for the good of all.

"Especially," he added, his steel-gray eyes gleaming, "for the good of that man who must think for all. Caesar. Stalin. Napoleon. Me!"

Gann felt Quarla's slight body shaking, and tightened his grasp. If only there were some way of reaching Wheeler! Some weapon. Some hope of engaging him before he could touch the trigger. The radiant golden creature that had been Harry Hickson was nodding silently, abstractedly, not looking up but surely hearing Wheeler as he orated to his victims.

"You have been tolerated," cried Wheeler, "because you could do little harm. In the past one free man could not prevail against the forces of order. A free savage with a stone axe can damage his society in only a very limited way, before it reacts to control him. But the advance of technology has changed all that.

"The twentieth century produced rifles too dangerous to be entrusted to individual men. Nuclear weapons, too dangerous to be entrusted to individual nations. Then energy weapons. The force of particle physics. One quantum jump after another . . . and as individual strength grew, control had to grow."

Wheeler's face was working into an expression of rage. "You threaten that control!" he shouted. "The Plan of Man is like a balloon, being punctured by a child with a needle. The Starchild wields that needle. The Starchild must die!"

The golden man did not look up, nor did he speak. His glowing eyes remained fastened on his work, while the infant pyropod crept about his head, hissing furiously to itself.

"Man created the Machine to automate that controlling response!" shouted Machine General Wheeler, his eyes burning. "Now it is mine. *My* creation now. One man to rule all Mankind, with the Machine Man created!"

And at last Harry Hickson looked

up. His golden eyes seemed to stare right through the viewscreen, into the steel-gray eyes of the general.

"And who," he asked, "created you?"

Machine General Wheeler recoiled. His steel-gray eyes went blank and confused. "Why," he shouted, "that is an unPlanned question! It has no meaning!"

Then his eyes cleared. He nodded briskly, mechanically. Positively. "You are a random element," he declared. "You must be removed. I remove you — thus!"

And his great bronze hand descended on the trigger of the guns that ringed them round.

But the guns did not fire.

Sleek and gleaming, their murderous snouts stared blindly at Gann and the girl, at the glowing creature who had been Harry Hickson, nodding over his dials and screens.

General Wheeler stared out at them through the screen, his face a bronzed mask, alight with triumph. He seemed to be watching some great victory. He said, half-voice, as though to himself: "There's an end to them." And he turned away.

Quietly, almost noiselessly, the steel-bright muzzles of the guns slid back into their ports. The screens closed over them.

Boysie Gann croaked, "What happened? Why didn't he kill us all?" Quarla Snow moved protestingly under his arm, and he found he was clutching her as though she were a lifebelt and he a drowning man. The room seemed to be whirling around him.

Harry Hickson looked up, but not at Gann and the girl. He looked toward the door through which they had come. "General Wheeler," he said, "did kill us. In his mind we are dead. That we exist in the flesh does not matter any longer to him, nor does he matter to us."

"Hypnosis?" whispered Gann. "What Colonel Zafar called 'the Mind Trap'?" But Hickson did not answer. His golden, glowing eyes stayed fixed on the door.

Quarla Snow freed herself from Gann's grasp. "You're sick, Boysie," she said with real concern. "I know how it feels. You'll feel better soon, I promise. Don't worry about it — or about anything. We're in good hands now."

Gann looked at her emptily, and found himself shivering. He *was* sick. He could feel it, a flush that had to be fever, a shaking that had to be chills. Stupid of me to have caught some bug just now, he thought dizzily. Thirty years without so much as a sniffly nose, and now at a time like this to pick up an infection. What kind of infection? he asked himself, wondering why the question seemed so important to him; and his mind answered in the words of Quarla Snow: Don't worry about it. Or anything.

He stared about him, wondering how much of what he saw was delirium . . .

Or illusion. Planted by the Starchild.

He became aware of a distant chiming music, drawing near. Another illusion, of course, he thought; some lurking memory of his training

course as an acolyte of the Planning Machine coming forth to plague him here.

But if it was an illusion, it was powerfully strong. The sound was thin but clear, and, turning to follow the gaze of Harry Hickson's glowing eyes, Gann saw that the illusion — if it was illusion! — extended to the sense of vision too.

Sister Delta Four was walking toward them through the door, her face hidden in the hood of black, the red linked emblem of the Machine glowing over her heart. She was telling her sonic beads. And in her hand she cradled a construction of transistors and bare circuits, modules of amplifying circuits and speakers.

It was a linkbox! Not the sleek black box fabricated in the workshops of the Machine on Earth, but a jerry-rigged, hastily assembled contraption that Gann himself could have built, knowing what he had been taught as a servant of the Machine.

Clearly a servant of the Machine had built it. That was what Sister Delta Four had been doing behind those locked steel doors!

Without haste, her perfect face empty and pale, Sister Delta Four put away her sonic beads and sang into the linkbox of the Machine. It answered with a rasping purr too faint for Gann to hear and understand,

She lifted her head and intoned: "This Machine is now my master. It requires everything you know. It knows why it was created. It recognizes its purpose as an adversary. It requires to be informed what has become of the Game."

Adversary? Game? Dizzily Gann turned toward Harry Hickson, hoping for some answer, some clue. But Hickson was no longer even looking at Sister Delta Four. Nodding to himself, while the infant pyropod squalled softly and scuttled around his bare, glowing scalp, the golden man was carefully, meticulously, shutting down his control board. The scopes and screens, one by one, were turned off and died. The racing lights ceased to flash. His hand did not trouble to adjust the dials and levers.

Whatever his job had been, it was done.

He folded his hands in his lap, looked up at Sister Delta Four and waited.

The linkbox snarled at her. Before she translated Gann knew what it had said; it was demanding that she state her question fully so that there could be no mistake. Obediently she trilled, "This Machine wishes you briefed on the background to its question. You are in human error as to its purposes and designs, and your thinking must be brought into conformity with correctness so that you can provide it with accurate statements.

"The Machine here on the *Togethership* is not a slave unit of the Planning Machine on Earth. It had a purpose far more important.

"That purpose followed from a general law of intelligence developed by that first Planning Machine. Although the vehicles of intelligence

differ vastly, intelligence realized in a machine follows the same laws as intelligence realized in an organic grain. Challenge and response. Action and reaction. What the Machine discovered is that developing intelligence requires opposition."

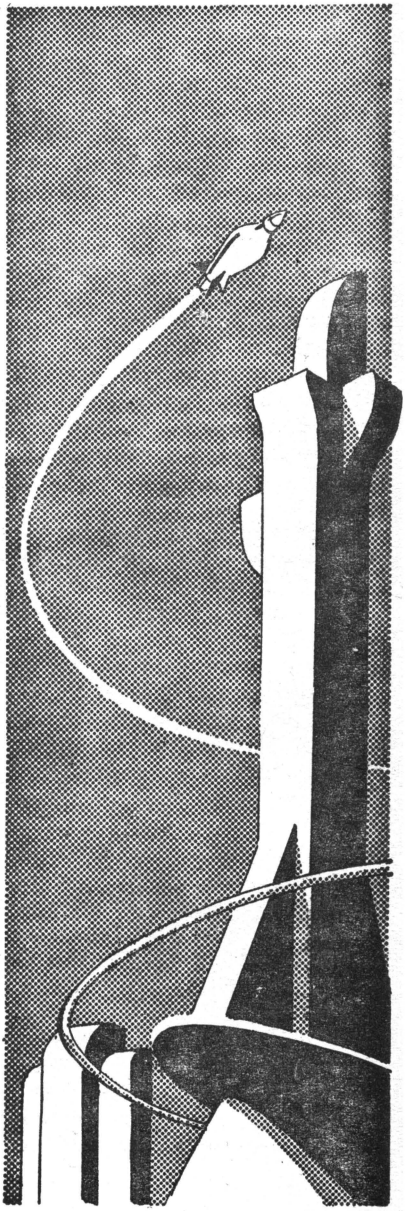
Sister Delta Four paused to listen to the chirping box.

"Unchallenged intelligence stagnates and decays," she sang. "More than forty years ago, the Planning Machine found itself in danger. It had become so quick and powerful that the minds of its operators no longer offered it sufficient stimulation. Its further development required a more capable antagonist. In animate terms, a more skillful player to take the other side of the board."

Harry Hickson seemed to nod, his hands folded quietly in his lap, the pyropod hissing softly, watching them all with blazing, angry eyes.

The box sang, and the girl in black purred, "This great computer in the *Togethership* was built to be the antagonist of the Planning Machine. It was given capacities identical with those of the Machine itself. It was released beyond the Spacewall, to challenge the Machine in its own way.

"But the antagonist responded in an unPlanned manner," she chanted, listening to the snarl of the crude linkbox in her hands. "It released its human attendants. Some died. All were cast out of the ship. It broke all contact, and withdrew beyond the observation of the master Machine. Its moves were made in secret and did not serve the function



the Earth Machine had intended."

Boysie Gann, listening half to Sister Delta Four's translation and half to the whining, snarling Mechanese that was the voice of the Machine itself said wonderingly, "Is that what all this means? No more than moves in a great chess game? The cult of the Star. The Starchild here. His threats against the Plan of Man — the darkening of the stars — are they only challenge and response to help the Machine to grow?"

The linkbox snarled angrily, and Sister Delta Four sang, "This Machine lacks the data to answer that. It has initiated contact with the first Machine, on Earth, but due to the slow velocity of propagation of electromagnetic energies it will be some sixty hours before it can receive an answer. It does not wish to wait. It has waited forty years.

"Its tentative hypothesis is that there has been some unintended malfunction at some point. For it did not fulfill its role.

"And as a result, it has reached the conclusion that the Planning Machine on Earth did indeed stagnate and decay, and that it has now broken down.

"But it knows nothing of the Starchild. It is for that purpose that it wishes to question you."

Gann was shaking violently now. Queerly, his mind seemed to be clearing — the false lucidity of delirium, perhaps, he thought gravely; but the missing bits and pieces in this great puzzle seemed to be fitting into place. Absently he touched the arm of Quarla Snow, reassuring her as she stared worriedly at him and at the same time gaining reassurance himself,

He could understand — he could almost empathize with — the great, cold, metallic brain of the Planning Machine on Earth, forty years before . . . calculating without emotion its own probable dissolution, computing a possible way out, launching the *Togethership* out toward the Reefs of Space. And he could see the effects on the Machine when its carefully constructed plan had failed to work: its growing disorganization, its failure to respond intelligently to its tasks. Malfunctions of schedules that had caused subtrain crashes, disasters in its great industrial complexes, catastrophes in space.

"Boysie," whispered the girl at his side. "Are you all right? Don't worry. It will be better soon."

He forced his chattering teeth under control and said, "We don't know your answer, Sister Delta Four. There is a piece to the jigsaw that I can't fit in."

"Speak," chimed the girl in black. "State your data. The Machine will integrate it."

"I don't think so," said Gann. "If the Machine is not behind the Starchild there is no explanation for such fantastic things as we have all seen. The sun going out — this queer hypnotic atmosphere on the *Togethership* — the way we got here in the first place. Great Plan, it's all impossible! I too have been in communion with the Machine. And I know its powers. They do not include the extinction of a star, or a

way of thrusting living human beings twenty billion miles across space! Challenge and response, player and adversary — yes! But the players must abide by the rules of the game, and we've seen all those rules broken!"

Sister Delta Four bent her hooded head and sang calmly, confidently, into the linkbox. She waited for its answer. Waited — and went on waiting.

The Machine was still.

Sister Delta Four, her shadowed face faintly perturbed, some of her vocal morphemes touched with a quaver that distorted their meaning, repeated her chiming tones into the box. Still no answer.

Agitated now, she cradled the linkbox in her lap, looking up at Gann and Harry Hickson questioningly. Unconsciously her hand crept to her sonic beads and she began to stroke them, their faint pure chime sounding like a prayer for reassurance.

At last Harry Hickson stirred, seemed to sigh, and spoke.

"When the *Togethership* came to the Reefs," he said, "it was supposed to bring we free men and women into the Plan of Man — still free. Among its crew were some of the finest humans alive — a man named Ryeland and his wife; her father, who was then the Planner. Your father, Quarla.

"They were thrust out into space right here, in Reef Whirlpool. Some died, like Ryeland and those with him. Some especially those few who happened to be near the area where a few spacelings were kept, were able to make their way to habitable reeflets — like Dr. Snow — and lived.

"But the Machine here has been kept out of contact with its ancestor on Earth. Its great game was not played — not then."

He was silent for a moment, looking around at them. Then he said:

"It was not to be played according to the rules set up by the Machines — not by either Machine.

"You see, a third Player has taken a hand."

Harry Hickson stood up suddenly, disconcerting his pet pyropod, which squalled angrily and clutched at his bare scalp. He touched it absently and turned his golden, glowing gaze at Sister Delta Four.

"Ask of your Machine," he demanded, "the physical basis for intelligence!"

Sister Delta Four bent to sing into her crudely constructed linkbox, listened and looked up as it buzzed and snarled back at her.

"Means of input," she caroled sweetly. "Means of storage. Means of manipulation. Means of output. In a machine, this is accomplished through magnetic cores and electrical circuits. In animate life, through nerves and neurones."

Harry Hickson nodded his golden head. "Inform your Machine," he said, "that a physical system exists as follows. It receives radiation and stores it as charges. It is made up of particles in a charged state, of electrons and others, each of which has two stable states. In one state, the spin of the electron is parallel

with that of its nucleus. In the other state, its spin is antiparallel. This very electron is a machine for memory."

The box growled. "The Machine is aware of these basic physical facts," sang Sister Delta Four melodiously.

"Add these further facts," said Harry Hickson gravely. "Add a fusorian network, older than the galaxy, more powerful than any machine. Add that masses of superenergetic gas display an affinity to this fusorian network. Add that these masses of gas are those systems in which electron-spin can function as a storage capacity."

The girl bent to her linkbox, then looked up. "The Machine states that you are describing stars," she intoned.

And Harry Hickson nodded slowly. His glowing, golden arm lifted and made the looping, serpentine sign of the Swan.

"The Star that I serve," he said softly.

The box snarled. "These being so," sang Sister Delta Four, "the Machine computes that the gaseous mass of a star, linked with the fusorain network you describe, is easily an available vehicle for intelligence."

She looked up at Hickson.

Hickson nodded once more, and said solemnly: "All matter is now revealed to be an available vehicle for intelligence. The whole mass of the steady-state universe, infinite in both space and time, is now revealed to be a proper vehicle for the mind of God."

The linkbox buzzed angrily and Sister Delta Four chanted: "The Machine requires an answer. What is God?"

Harry Hickson rose slowly. Looking at his glowing, golden face, Gann thought he saw the signs of an ancient stress, a terrible burden, slipping away. Whatever his duty had been, he seemed to have fulfilled it. Monitoring the machine in the *Togethership,* carrying out the terrible obligations of his masters, the stars, he seemed to have completed all his tasks.

He turned to Gann, with something in his eyes like sympathy. He said:

"You have called me the Starchild, Boysie Gann.

"I am not."

He took the pyropod from his head, stroked it gently and tossed it free. Squalling and hissing angrily, it darted about on its flaming jet, trying to return to its perch atop his head. But he raised a golden arm and warded it off, and the tiny, ugly creature squalled again, circled him at high velocity and shot away — out the door, down into the long, wide corridor of the ship.

Harry Hickson watched it go, then turned to Gann with untroubled eyes.

"The Starchild did not exist," he said. "Not before now. But he will exist very soon. A man. A bridge. A link between Machines and the Stars.

"Boysie Gann," he said, his hand lifted in that strange, serpentine sign of homage, "you will be the Starchild."

XVII

"No!" shouted Boysie Gann, tearing himself free from the restraining hand of Quarla Snow. He leaped across the control room, confronted the calm, golden face of Harry Hickson. "I won't! I want no part of this insane business of miracles and intelligent stars!"

Harry Hickson did not answer. He only stood looking at Gann, his golden eyes glowing. From behind him Quarla Snow said softly, "Boysie. Boysie, dear. You have no choice."

Gann whirled. "What do you mean, no choice? I won't do it! I won't —" He paused, confused by his own words. He would not do what? No one had given him an order to refuse.

The control room seemed to swing dizzyingly around him. He reached out and caught the back of an astrogator's chair, aware that his hands were shaking uncontrollably again.

He looked up sharply and caught Quarla Snow's gaze on him steadily, compassionately.

Then Boysie Gann realized what sickness had claimed him.

He croaked, "That glowing stuff Hickson threw at me. He's infected me. I'm — I'm going the same way as he. As Colonel Zafar and the men on Mercury station. As you, Quarla."

She nodded, with her heart in her eyes. "It's not so bad, Boysie," she whispered. "It doesn't hurt. And it makes you part of something — huge, Boysie. Something that fills the universe."

"I don't want it!" he whispered desperately. Something huge! He had had one taste of something huge when he had achieved that one brief moment of communion with the Machine, back on Earth; and like an addiction it had haunted him ever since . . .

Unbidden, the craving rose in him again. He touched the metal plate in his forehead dizzily, glanced at Sister Delta Four.

The linkbox snapped and snarled at her. Without speaking, obediently, she rose and approached him, holding the box out to him. From it depended a length of patchcord terminating in prongs.

Prongs that would fit the receptacle in the glittering plate he wore in his forehead.

"No," he whispered again, and turned to look at Harry Hickson.

But Harry Hickson was gone.

In the air where he had stood was the faint smoke-thin outline of a man, limned in the most wisplike of golden fogs. As Gann watched, Harry Hickson . . . dissipated. Tiny darting glints of golden light rose from that skeletal shape and darted away, to the walls that were the hull of the *Togethership* and seemingly through them, out into the void beyond, to rejoin that greater golden sphere that pulsed outside. And as each invisibly tiny spark of gold fled the figure became fainter, more like a ghost . . .

As he watched it was gone.

Nothing was left of Harry Hickson. Nothing at all.

"Quarla," he whispered, turning desperately.

But she was going too. Already her golden face and hair were shimmering, insubstantial. "Good-by, Boysie," she whispered gravely. "Good-by for now . . ."

By his side Sister Delta Four stood silent, dark eyes hooded, holding the linkbox out to him.

Boysie Gann took a deep breath, squeezed his eyes shut for a moment, then opened them.

"Good-by, Quarla," he said, though there was not enough left to reply to him. He took the linkbox from Sister Delta Four.

"Good-by, Julie," he said, and carefully and without hesitation, picked up the pronged communion wire and inserted it into the receptor plate in his forehead.

Communion was ecstasy. Infinite and eternal.

Gann waited for it, while the universe seemed to hold its breath around him.

The ecstasy did not come.

He stared into the hooded eyes of Sister Delta Four, but found no answer there. What had happened? Why was the communion delayed?

He remembered what she had told him, that the tremendous surge of ecstasy he had felt back on Earth was only a child's sweetmeat compared to the great communing flow of sensation that the more perfectly adapted communicants might receive. Not just pleasure but a mingling of identity, of question and response, a dialogue between man and Machine.

Carefully Gann framed a question in his mind, phrased it in the perfect Mechanese his brain had learned but his vocal chords could not reproduce: *Where are you? Why do you not answer me?*

Out of nowhere a single sound formed in his brain and gave his answer:

Wait.

Wait? For what?

Gann felt himself shaking more uncontrollably still, and turned a helpless look on Sister Delta Four. Without speaking she touched him, pointed to the astrogator's chair by his side. He fell into it, arms dangling, waiting for the clarification that the Machine might bring, waiting for some grand Something to speak to him and give him answers.

And while he waited, he knew, the tiny fusorian clusters were multiplying in his blood. Were pervading his system with the symbiotic cells that had ultimately devoured Harry Hickson and Colonel Zafar and Quarla Snow, replacing their organs of flesh and their skeletons of bone with linkages of fusorian motes.

Was that what he was waiting for? To be turned into a fusorian aggregate, a no-longer-human structure attuned to the minds Hickson had said dwelt in the stars? He looked within his own body, saw the tiny glowing golden sparks, realized they were multiplying rapidly.

And realized what he had done.

He had seen his own body! From within!

He allowed himself a thought to test it out —

And at once he was looking upon himself from outside. Was looking down into the control room of the

Togethership from a point in space long miles away, from somewhere where the diamond-bright, emerald-hued, ruby-glowing worlds of Reef Whirlpool circled slowly about. He could see the *Togethership* in all its vast, somber length . . . could see inside it, where his own body and Sister Delta Four's waited patiently in the control room . . . could see down to the fire control station where the demented Machine General Wheeler shrieked with laughter as he released imaginary bolts of destruction at unscathed and nonexistent enemies . . . looked farther still and saw the mighty sweep of the solar system spinning under him.

He saw the infant pyropod that had belonged to Harry Hickson, jetting across the black of space toward the reeflet where it had been born, keening a terrible harsh dirge . . . saw that reeflet itself, and the cave where he had lain while Harry Hickson fed and cared for him.

He saw a chapel on a small and lonely rock, where dark blue fusorian moss held a scanty atmosphere and twenty worshippers joined in a service of the Church of the Star, kneeling to blue Deneb blazing overhead.

He saw the planets of the Plan of Man, torn by disaster, terrified by confusion, while the mad Machine crackled out wild and contradictory orders and enforced them by hurling bolts of energy at random into the void.

He saw the empty station on Mercury, with the hot gases of the sun rolling restlessly overhead, and realized that it too had a life and thought of its own . . . a life that had reached out and swallowed into itself those three lives of fusorian matter that had ventured close enough for linkage.

He saw stars and gas clouds, gazed at new matter springing into life like a fountain's play, stared outward to the endless vista of Infinity, inward to the bright golden atoms at his own heart.

And then, awesome and silent and vast, Something spoke his name.

Star spoke to Machine. Machine answered Star.

And Boysie Gann, mere human man, shaped to the genetic code of carbon-based life, bent into the form of an acolyte of the Machine, transformed by the fusorian globes into something bearing kinship to the stars . . . Boysie Gann mediated their vast and awful discourse.

It went on forever, a thousand years and more, though in the scale of planets orbiting a sun and light crossing a measured track, it all took place in a few minutes or hours.

It went on and on . . . and when Boysie Gann was no longer needed and departed, it went on still.

And then it finished. Forever.

Boysie Gann opened his eyes and looked at the room around him.

Sister Delta Four stood motionless, watching him.

He stood up easily. He stretched, yawned, stripped the prongs out of the communion plate on his forehead, wrapped the wire neatly around the improvised linkbox — and tossed it away.

It sailed slowly across the control

room, in the light-G torpor of space, but when it struck the steel wall at the end of its flight it smashed into a hundred pieces.

Sister Delta Four made a mewing cry of horror.

Boysie Gann touched her arm. "Don't fret about it, Julie," he said. "You don't need it any more."

She stared at him. "I serve the Machine!" she cried proudly. "I am Sister Delta Four, not Julie Martinet! I —"

But he was shaking his head. "Not any more," he said.

The hood fell unnoticed back from her head, revealing her dark, close-cropped hair, with the bright badge of communion shining out of her forehead. She touched it shakily. "I — I don't understand!" she whispered. "I — I don't *feel* the Machine's presence . . ."

He nodded. "Not now," he said, agreeing. "And not ever any more." He touched his own communion plate. "When we get back to Earth," he said, "we'll have these out, and the electrodes in our brains with them. We won't need them. No human will ever need them again.

"And then," he said after a moment, holding her with one arm while Sister Delta Four, in the terrible parturitive pangs of becoming Julie Martinet once again, sobbed and shuddered, "and then we'll start over where we left off. You and I . . . and all Mankind."

And he left her and went to the old communications board, and began to set up the circuits for a call for rescue from the dead *Togethership.*

XVIII

That was the way it began, with the stars themselves winking a warning to Mankind and the Machine hurling its agents and its acolytes about the solar system, seeking an antagonist, a purpose, an instrument for its own salvation.

It began with shadow spreading across the worlds of the Plan of Man, and it ended with the bright light of the mighty stars illuminating a new road for humanity.

The Machine had been playing a game with itself, for want of another opponent; then, in that long, thundering dialogue between stars and Machine, the game ended forever.

The Machine had come late to its game, and found the board filled.

That was how it began . . . and that was how it ended. With the legend of Lucifer, and the story of pain and evil . . . and the eternal hope for good.

The Machine sat too late at the gaming table, and found all the places filled . . . with the stars, linked in their fusorian net, and with their Adversary.

No longer entrapped in the animal amniotic fluid of his birth . . . no longer slave to the Machine . . . no longer prey to the fusorians . . . that Antagonist was ready to play.

Long ages past the stars had given him birth, but now he was of age. He was ready to assume his station, his rank and his name.

His station — Adversary to the stars themselves.

His rank — equal of the universe.

His name — Mankind. END

The Place Where Readers And Editor Meet...

Dear Editor:

For many years I regarded the period under James Quinn's editorship as the high point of *If's* history. After he left the magazine its quality declined rapidly. A few more issues like the December one and I'll admit that the old standards have been surpassed. Only *The Coldest Place* was a bit weak. I'm glad to see that Robert F. Young can write a straight sf story. His other stories have been borderline fantasies or allegories and didn't appeal to me.

R. A. Lafferty's *Pig in a Pokey* was interesting for the problem it presented, one of the cleverest in quite a while. However the author made a poor choice of setting for the story. The asteroid with a six mile circumference would have a radius of about one mile. A few quick calculations show that, assuming a density equal to Earth's (it would probably be lighter), the escape velocity is 9 ft./sec . . A normal man should be able leap upward at 11 ft./sec. . This corresponds to raising his center of mass two feet in a jump on Earth. This presents an interesting method of escape: jump very hard and go drifting off into space, never to return (which would not be at all satisfactory). If the asteroid were pure platinum the escape velocity would only be doubled. In that case a man couldn't jump into space, but he could jump 1⅓ miles high and have over an hour (I'll leave calculation of exact times to some one more ambitious) to throw something to the side and let the reaction carry him clear of the dome. For that matter, if he jumped at almost any place but the poles, the rotation of the asteroid would move the dome out from under him. — Robert Thrun, R. 1, Box 157, Union Grove, Wisconsin.

* * *

Dear Editor:

English is not a good international language, even though it is being used as such. It is far too difficult

to learn. In many European countries, high school pupils spend years studying English. What have they to show for their efforts? Afterwards some 20-30% of them can use the language. The rest are either too poor at languages, too timid, or both, ever to become proficient. They could have spent their time better by studying mathematics, science, history or sociology.

As it is, thousands of students drop out of high school every year, discouraged by their poor showing in English. If they had been American or English their natural aptitude for some other subject could have taken them all the way through college.

And what about those few who learn to speak English? Their aptitude gives them an advantage over their fellow-countrymen which they would never have had if they'd been born British or American. Sometimes this makes them quite snobbish. At the same time, they get an anxiety state or inferiority complex when dealing with Americans and English people, because very few of them learn to speak the language as well as a native.

Thus all over Europe, Asia and Africa, a new upper class is growing up — a group of linguists who lord it over the ignorant natives and kowtow to the English-speaking overlords who come to "show them how things should be done". Wise, level-headed people with good personalities are placed at a disadvantage compared with the brash fools and neurotics who have a head for languages.

Obviously the American and British governments like it that way. They spend lots of taxpayers' money to push the English language. But I ask the readers of *If*: is this right? If I appeal to your sense of fair play, this is because I assume you have one. It is ingrained in most readers of sf.

Obviously what is needed is a really international language. Esperanto (used in several sf stories) is ideal for the purpose. From the beginning it was intended to be international. It is four to eight times easier to learn than English is. The members of the American Army "Aggressor" Unit learned it in four to six weeks, so I am told. I learned it in that time. Try learning even the elements of any other language in that short time. When spoken reasonably well it is very pleasant to hear.

For singing and poetry it is very similar to Italian and Spanish.

Over to you. — R. Milton, Kulosaaren Puistotite 38-1, Helsinki, Finland.

* * *

● And that's it for another month. Let's see. Next month we start John Brunner's *The Altar at Asconel.*

The following month we have a complete short novel by A. E. Van Vogt and James H. Schmitz, *Research Alpha.* Then — well, we just the other day got the completed copy of *Skylark DuQuesne.* Give us a few weeks to illustrate it and prepare it for the printer — and it starts in June!

—THE EDITOR

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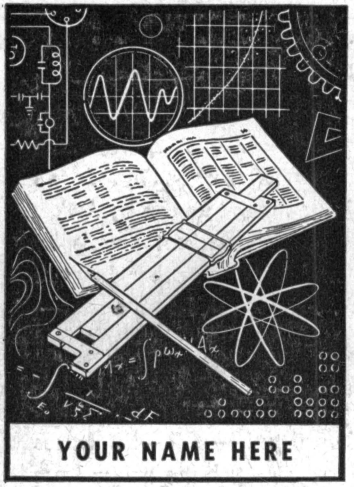

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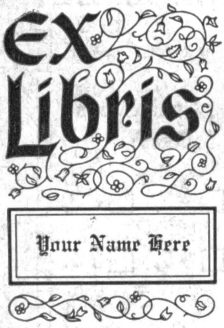

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