if

WORLDS OF SCIENCE FICTION

Returned from the stars . . .

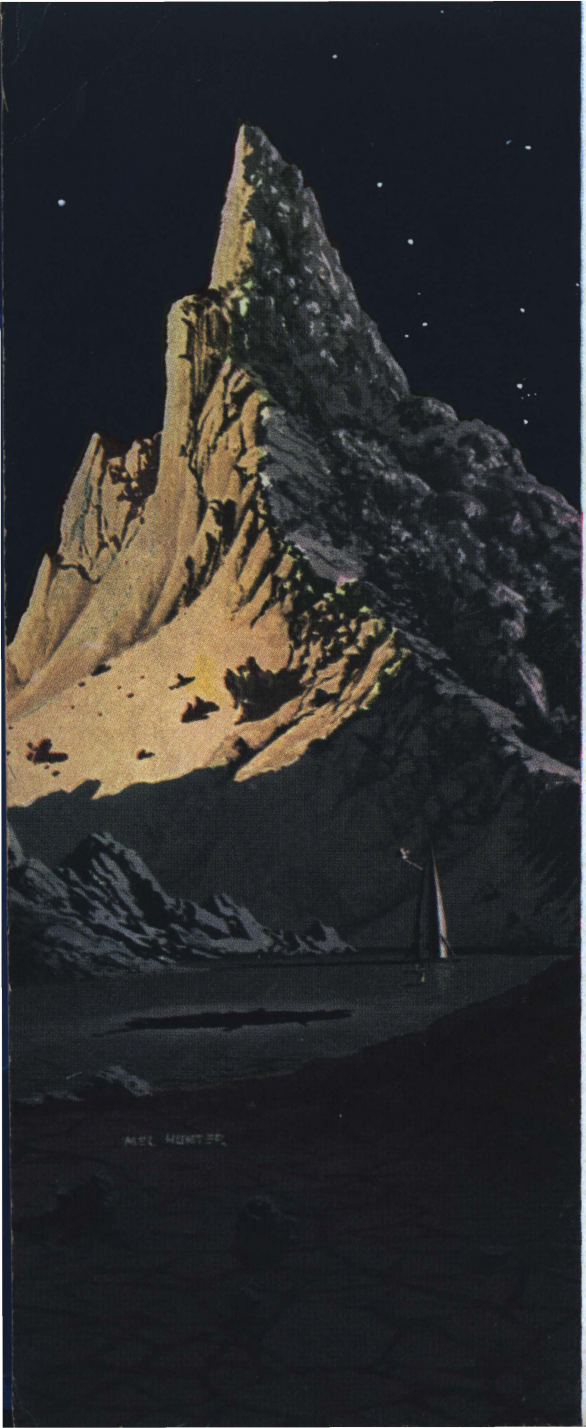
MAN ALONE

By DON BERRY

OCTOBER

35 CENTS

IND



THE SECOND WORLD OF IF

HERE ARE nine great novelettes from the first six years of IF Magazine! Like *The First World of IF*, which received such enthusiastic response from science fiction readers all over America, this is a volume of exceptional interest—distinguished examples of fine science fiction writing by outstanding writers. Stories that answer the age old question: "What would happen if—?" Stories that call into play philosophy, logic, facts and imagination to provide a diversity of entertainment that will appeal to all science fiction lovers, from astronomers to zoo keepers. Here you will find such authors as Charles Beaumont, James Blish, Phillip K. Dick, Gordon Dickson, Charles L. Fontenay, James E. Gunn, Raymond F. Jones, Bryce Walton and Robert F. Young in an exciting variety of mood, idea, theme and pace.

All newsstands—50 cents

WORLDS OF SCIENCE FICTION

OCTOBER 1958

All Stories New and Complete

Publisher: JAMES L. QUINN
Editor: DAMON KNIGHT
Assist. Editor: ELAINE WILBER

A SHORT HISTORY OF SPACE TRAVEL

DEPARTMENTS

COVER: "Moonquake" by Ed Valigursky

Illustrations by Ed Emsh, Kelly Freas, Paul Orban

IF is published bi-monthly by Quinn Publishing Co., Inc. Vol. 8, No. 6. Office of publication 8 Lord Street, Buffalo, N.Y. Entered as Second Class Matter at Post Office, Buffalo, N.Y. Subscription $3.50 for 12 issues in U.S. and Possessions; Canada $4 for 12 issues; elsewhere $4.50. All stories are fiction; any similarity to actual persons is coincidental. Not responsible for unsolicited artwork or manuscripts. 35c a copy. Printed in U.S.A.

EDITORIAL AND BUSINESS OFFICES, KINGSTON, NEW YORK

Next (December) issue on sale October 14th

A.D. 1950:

THE

The history of space-flight begins before man. While our planet still lay wrapped in its dream of isolation, other intelligences watched from above—minds pure, undying, noble—and pathetically vulnerable . . .

"Oh, he is dead!" my mind cried out.

PURE OBSERVERS

By B. J. ROGERS

NOVNA, MY DEAR, I am writing this as a release for my conscience. Those things which trouble me are not such as one exchanges with vigil companions, or indeed with anyone not bound by ties like ours.

If I were at home with you I would exchange with your soul in a moment the feeling of my own, but distance permits no such consolation and it is not suitable for me to exchange so familiarly with my colleagues.

I find myself questioning the value of our customary refusal to communicate thoughts of a delicate and sensitive nature. The Earth people, who speak their thoughts, perhaps are less primitive than we like to imagine. They seem to have no sense of the danger of overwhelming the soul of another with unwanted confidences. The purely vocal nature of their communication does not admit an excessive degree of emotion to their relationships. They do not have to erect any artificial barriers between each other, as we must who exchange on a mental level.

These doubts of mine never could have arisen if we men of Hainos had not presumed to observe the alien ways of those creatures on the third Earth, so like ourselves and yet so remote, though we have hovered above them, listening and watching, for twelve of their generations.

This vigil, though it is to last but one journey around the sun, has seemed longer and less fruitful than all the others. I think I shall not come again, but leave such work to those who can remain efficient and disinterested Observers, unmoved by doubt and anxiety. Novna, you must begin to think what we two shall do with the rest of our eternity, for now that I have spent some small portion of mine in fifty vigils, I find they have become distasteful. We might go to the Palace of Art and study to be poet-priests. My last vigil has convinced me that I am more fitted for that life than this.

When our mission left Hainos for the third Earth, there was aboard our ship the poet-priest Gven. You must remember the many nights we sat beneath the rocks by the ocean, listening as his soul gave ours his songs. Innocent they were, and filled with talk of purity and light, though Gven is as old as the rest of us, even if he is as different from

you and me as the Earth child is from its parents.

"You have never seen him, I think. He is smaller than I, slight of build and tender-faced. How out of place he looked among the ship's sturdy men of science, with their ages of discipline and austerity written indelibly into their features. They did not want him. They told the commissioner that they did not want him.

"Let him stay at home," they said, "and sing his songs to those who wish to listen."

But the commissioner himself, and, I suspect, the commissioner's wife, was as fond as any of Gven and his songs, so he said Gven was to come if he liked.

Poor Gven tried hard enough to make us like him. He offered us the only gift he had, that of his songs, but no one cared to hear them except me, and I was ashamed to say so. In the end he was reduced to sitting for hours, looking out into the night through which the ship bore us, saying nothing to anyone, for fear of our scorn. He would have liked us to tell him about the Earth people, for his studies at the Palace fitted him sadly for a scientific expedition.

Of the Earth people, however, we hesitated to speak freely, even among ourselves, for all of us feel strongly about them, in one way or another. Our exchanges on the matter have always been burdened with emotion; and we find we cannot share easily our thoughts about Earth people, unless we banter lightly and say little of what we really feel.

When our long-ship drew near the third Earth, we were transferred into the round-ship in which we were to carry on our observations. I could see Gven was limp with excitement, but as always, I would not exchange with him for fear of the others, not even to drain off that excess of feeling which was to prove so dangerous to him.

Perhaps he thought it would be different, once we had established ourselves in our designated area of observation. Then we might warm toward him, giving him the comforts of our experience. If such were his expectations, he was disappointed. Whatever he gathered from us was purely accidental, information that we exchanged among ourselves as we worked. Only in this way did he learn of those few bonds we had forged with the Earth people.

It is our custom, as you know, for each man to select one of the Earth people as his subject. This is not part of our work, it is only a device to drive away the tedium that descends upon men far from home and bound to exacting work in a confined place. We begin to feel quite passionately concerned with our subjects, and occasionally find it difficult to return to our primary concerns.

For some time I had been spending my free hours in the world of a gentle old merchant named Jacobs. I lived his life with him briefly, seeing his wife and children as he saw them, going with him to his store. His memories were good ones, filled with hard work and simple pleasures. One day, when I

had left the computing tables to prepare for dinner, I sought the mind of Jacobs. He was crossing the street and as he turned his head, he saw the shining lights of an automobile just before it struck him. I withdrew from his mind in a shower of pain and darkness.

"Oh, he is dead," my mind cried out to my vigil companions before I could smother the shock and emotion in it. They looked up at me, questioning. Then I exchanged with them more coolly, "My man Jacobs has been killed crossing the street."

Keven, the fuel technician, reached my mind first. "A pity, I lost a subject myself that way not long ago. It is a bad death for them, poor things. They might build overpasses, mightn't they? A pity."

It has never failed to unsettle me, the way my companions have come to accept the idea of death so easily. To me it is always a horror, unnatural and alien. You cannot quite see how it is, Novna, for you have never been in the mind of one who dies.

I withdrew for a little while to mourn my man Jacobs, for my sorrow was not to be shared with the others. It was while I sat thinking of the dead Jacobs that Gven approached hesitantly and sat near me.

"Is it possible," he asked, "that one can read the soul of an Earth man? Could I? Or perhaps that would not be permitted to me?"

His eagerness made me ashamed of the silence I had maintained between us. "It is certainly possible for you to try, though it cannot always be done. You need ask no one for permission."

The delight in his eyes made me forget Jacobs a little. "I may try anyone at all?"

"I advise you to search about a little. Don't seize on the first one you contact as a subject. You have less time than the rest of us for this sort of thing."

Gven thanked me shyly and went away. Later I saw him sitting at the open panels, looking down at the cloud-topped mountains and sandy valleys over which we circled. His face was still and pale as he concentrated.

The next day at dinner, Gven sat playing with his food, looking up at the rest of us frequently, as if his fear of our coldness were contending with his wish to open his mind to us. I was not the only one to notice his excitement, but the rest sat looking at their plates stonily. They liked Gven even less than they had at first, and preferred to ignore his presence altogether. At last I lifted my head defiantly and my thought streamed across the table into the mind of Gven with such energy and violence that the others raised their eyes from their food in quick surprise.

"It must be that you have found a subject. I should like to hear about it."

At once Gven let his thoughts explode in undisciplined profusion. The men drew back a little, shocked by the unfamiliar impact of another's passion on their minds.

"The very first mind I sought

was that of a girl who calls herself Maria Dolores. Often her mind turns in upon itself and she reflects like this, 'Maria Dolores, you have behaved badly to your papa today. Now you must go and ask him to forgive you and give him a kiss.' In this way she scolds herself for small misdemeanors. Her world is composed of happy, innocent trivialities, though as her purity touches on them and causes them to glow briefly before they are left behind, it seems that there are no more divine and lovely things in existence than those in the world of my Maria Dolores."

Gven blushed and paused for a moment, then rushed on. "I sense that her father and mother have barricaded her from everyone else. They are strict with Maria Dolores and sometimes she wishes she could go out to dances as the other girls do. But she is not sad for long, and goes to gather flowers for the dinner table. She sets them in long silver dishes, that reflect the pink and red glow of the sunset slanting through the window. This pleases Maria Dolores and she stands watching for a long time."

Gven would have said more, but all at once Corven, the cultural researcher, interrupted, looking at me. "Noven, what have you brought upon us by your curiosity? We are being buried in an avalanche of poetic fancies."

After this, Gven sat silent, his face burning, and the rest of us began to talk of the relation between the sites of mines and the locations of proving grounds.

For many days, I watched Gven covertly. He no longer seemed to care about our rebuffs, nor did he show any desire to ask us questions. He only sat by the panels, his expression withdrawn and intent, while the rest of us hustled busily and a little self-consciously around him. I came to notice a certain perplexity in his face after a time, and felt that I should ask if he needed any assistance. But I was awkward and unsure of myself, so I only watched him and said nothing. At last he came to me, having built up a powerful reserve of feeling that overflowed with the more violence for having been repressed so long.

"There is something that is to happen in the life of my Maria Dolores," Gven began directly.

Unaccountably, I tensed and tried to suppress the warmth I felt toward him. "Well, what is it then?" I answered.

He seemed not to notice the strain I was under. "They have told her she is to be married to a young man whom they have chosen for her. She is unhappy, but cannot tell them. Now they are making many preparations. Maria Dolores spends her time with her mother, sewing dresses and packing them away. Then her mother speaks to her of things that frighten her and me, things that seem to happen when men and women are alone at night. She does not understand and lies awake when her mother has gone, afraid and wondering. We are uneasy, Maria Dolores and I."

Here, Novna, I must attempt to explain the marriage of Earth people. While with us marriage is the spiritualized union of masculine

and feminine natures in one soul, it is to them a more concrete thing. Their junction is not only one of minds, but one of bodies as well.

The union seems not to be unpleasant for those who take part in it, but for us, who so jealously guard our bodies from another's touch, the marriage of Earth people is difficult to contemplate without revulsion.

I was rescued from having to answer Gven by the laughter of Corven, who had overheard the last of the poet's words. "Well then, poet, if she is unhappy, you must take her away, mustn't you? That's what you want, it seems, to take her away to Hainos and make her your Gvna."

Gven stood up and glared angrily at Corven. "Would it be so bad a thing to carry back one person of Earth? Why shouldn't we?" he flung at the other man.

Corven turned away in disgust. "You know we have no authority to intervene in their affairs. This is what comes of letting a poet-priest meddle in the concerns of science."

A sullenness came over Gven's face, and he withdrew from us again, turning back to the panels. I knew he was with Maria Dolores. Though I was uneasy over his ignorance, I could not help feeling relieved that I had not been forced to enlighten him.

My anxiety proved to be well-founded. It was only a few weeks later that we reaped the results of our long-cultivated conspiracy of silence against the poet-priest. We were deeply engrossed in our work at the computing tables when our nerves were shattered by a cry of anguish from the mind of Gven. In a moment we were standing around him, avoiding each other's eyes and scarcely daring to look at the man shuddering before us, his face in his hands.

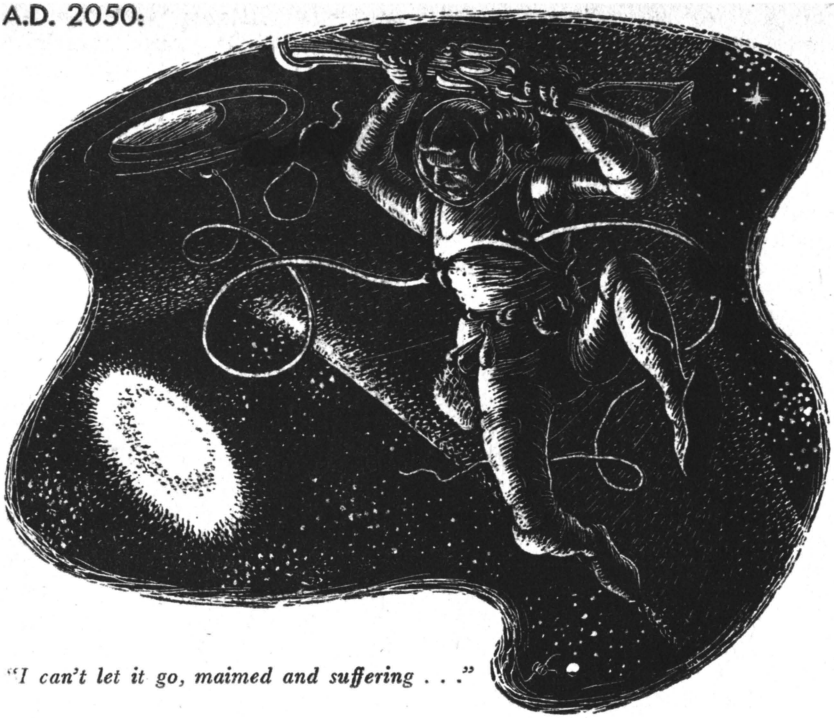
"It is done." Gven cast his anger at us like a stone. "It is as though she had been killed. Why couldn't you tell me? You, Noven, I asked you. Why couldn't you have spared me this?"

The men looked uneasily at me and back at Gven. Shaken, they drifted away, back to their work, still ashamed to meet each other's eyes. Gven sat there, grinding his fist into his palm, staring straight ahead.

He has been gone for some time now. At his request, a long-ship stopped for him on its homeward cruise. I have not tried to reach another subject, nor have any of the others. At least, if they have, they do not speak of it. We are reluctant to attempt any communion with these creatures whose alien nature has been so strikingly demonstrated to us. The game of Observation itself has become less a game, and we go about our work with a vague sense of unrest, as though the descent of catastrophe upon us were imminent.

Gven gave us one last gift before he left. He sang us a song that made us want to bend our heads to the ground in shame. If his songs are bitter now, and if there is no innocence in them, one needs not look far to find the reason. **END**

A.D. 2050:



"I can't let it go, maimed and suffering . . ."

ALBATROSS

He had hunted mud worms on Venus, and lions in the jungles of Earth. Now he was after bigger game—the shining beast that flies between the worlds.

BY A. BERTRAM CHANDLER

"DO YOU KNOW what it reminds me of?" asked Wilkins abruptly.

"No," said Layton. "What?"

"An albatross," said the passenger. "A great albatross, following

the ship for day after day, week after week. I made a voyage, once, in one of the windjammers owned by that crazy squarehead, Larsen . . ."

"He's not so crazy," said the mate. "My last long leave. I did the same—signed on as ordinary seaman—and it cost me plenty for the privilege. I never finished that voyage either—the ship was weeks behind schedule and the Commission had to send a long range copter to locate me and take me off, otherwise I'd have missed my own ship. As it was, they were already warming up the venturis when I scrambled aboard, nattily attired in dungarees, jersey and seaboots. That's how I got my nickname—you've probably heard it—'Sailor' Layton."

"I was talking about albatrosses," said Wilkins as Layton paused for breath.

"You were talking about Larsen's windjammers," said the mate. "But never mind—I still have the rest of my watch to get through and nothing to do but look at the stars and that thing out there. And when you've seen one, you've seen them all. Still, as you say, there *is* something of the albatross about them. Funny, isn't it, how so many people before the turn of the century used to think they were spaceships from Mars or Venus, or from outside the solar system altogether. It wasn't till we got out into space ourselves that we found they were life forms, attracted down into Earth's atmosphere by the release of certain kinds of energy. That's why our friend is following us now—he's hoping we'll fire the rockets (as we must, sooner or later) so that he can enjoy a free, radio-active meal . . ."

"Just as an albatross follows a surface ship, hoping for a free meal of garbage," said Wilkins.

"The story I heard was different," objected Layton. "I was told they followed surface ships to take advantage of the wind eddies around the hull, and the superstructure and sails; that way they can cover thousands of miles with no more than an occasional flick of their wingtips."

"They have to eat."

"Fish," said Layton.

"Garbage," insisted Wilkins.

"Or sailors' eyes," said Layton. "One of the seamen—one of the *real* seamen—aboard that windjammer told me a rather horrid story. A few voyages back a friend of his had fallen overboard. They were able to throw him a lifebuoy, get the way off the ship and lower a boat. It didn't take them long to get to the man in the water—but the albatrosses had got there first. They'd plucked out his eyes and torn his face to ribbons with their sharp beaks. Anyhow, this sailor, this A.B., had declared war on albatrosses from then on. He used to fish for them—a strong line, a stout hook baited with meat. But he never dared do it if the Old Man were on deck—the captain believed in every sailors' superstition going, as well as one or two of his own. According to *him*, killing an albatross brought bad luck."

"What rubbish!" said Wilkins.

"Yes, isn't it? As a matter of fact

that ship—*Greta Andersen* was her name—was lost with all hands a week or so after I left her . . ."

"Coincidence," said Wilkins.

"Of course," agreed Layton.

They both turned, then, to look out through the wide viewport. From this angle the sun was not visible—only the blackness of space, the cold, unwinking gleam of a myriad stars. Wilkins had no interest in the stars, no interest in the yellow planet among them, already showing an appreciable disc, that was Jupiter, to the satellites of which world the ship was bound.

Wilkins was a hunter. He loved the trade, and he made it pay. He had killed, or captured—according to the wishes of his clients—the giant mudworms of the Venerian swamps, the vicious sand tigers of the Martian desert. He had gone as far afield as Pluto to bring back to the Museum of the Institute of Extra-Terran Biology the only specimen of the dominant life form of that frigid world—one of the so-called "glass scorpions" —ever to be seen in captivity. That it did not live for long in its tank at the museum was not Wilkins' fault—he had warned the curator that light would kill the beast just as surely as would heat, and the curator had been fool enough to allow the press all the light they wanted for their cameras.

But here, he thought, as he looked out through the viewport, is something that can take all the radiation we care to throw at it and thrive. But what is it? (I suppose they'll find out after I get this specimen back . . .) A swirl, an eddy of charged gas—or a vortex of pure energy? And how did they ever come to call a thing like that a *saucer?*

"He must be hungry," said Layton, breaking into his thoughts. "That's all of six days, ship's time, that he's followed us now. When do you intend to try to capture him?"

"There's no point in delaying much longer," Wilkins said. "He might sheer off. I've been studying him, as you know, trying to decide what makes him tick. I'm no closer now than ever I was, and there's nothing in the books as a guide. When there is, it'll be I who've written it."

"What weapon will you use?" asked the Mate.

"The one I showed you. The energy pump gun."

"You're going to pump energy into the beast? I should think it would like that."

"No, no. The pump gun draws energy *out* of whatever the beam hits. I'm going to stun him by draining his energy."

"Hm. It does seem odd, enough, doesn't it? A weapon generally kills, or stuns, by pumping energy into the victim—kinetic energy of a bullet, or chemical energy released by one kind of explosion, or the binding energy released by another kind."

"But suppose your target lives on energy?" asked Wilkins.

"Don't we all," countered the mate, "directly or indirectly?"

"Indirectly. We don't take our energy neat. We use solar power, it is true, but it's been well proc-

essed by the time that it gets into our mouths and bellies."

"Talking of solar power," said Layton, "why doesn't that thing out there live on it? It—or its ancestors—must have done so before we started throwing energy away on such a lavish scale."

"Reverting to sea voyages," replied Wilkins, "consider the shark and the albatross. Both of them managed to subsist quite well before man started crossing the ocean in his ships. Neither of them starved—and yet each of them acquired the taste for ship's garbage. Then, getting away from the sea, there's the clothes moth. Its ancestors must have been carrion eaters at one time, living on the fur of dead animals."

"Could be," agreed Layton after a few seconds' reflection. "Could be . . . The energy that we throw out has been . . . processed, and in the processing has acquired a new and attractive flavor . . ."

"That's the way of it," said Wilkins. "At least—that's what I think." He stared out of the port at the thing that could have been, save for its fluctuating outline and shifting colors, a miniature spiral nebula. "Well, Layton, there's my tiger. All that remains now is to stake out the goat, wait until he comes in to take the bait—and then get him."

"He *was* an albatross," said Layton, "and now he's a tiger . . . But you're the expert. What are you going to use for bait?"

"The obvious thing. Energy. I've already talked it over with Captain Jones. I'm going out in a spacesuit and lash myself to one of the fins, right aft. The Old Man will feed the merest trickle of power into the drive. Our friend will sense it and come in to feed—and I get him. I hope. I don't know what will be left after my gun has drained him."

"When do you intend to use it?"

"I'll make it tonight," said Wilkins. "Faithful Freddy might get tired of hanging around—and it could be weeks, at least, before the next one picks us up. I'll see the captain right after dinner."

"As long as somebody lets me know. I'm only the mate, but I like to be kept informed of what's going on. Ah, here's the second. Must be almost dinner time now."

"Relieve the watch, sir?" asked the second officer.

"The pleasure," replied Layton, "is all mine." He waved a hand vaguely at the instrument board. "As you see, falling free. One saucer keeping station at three o'clock ahead—and little he knows what is going to happen to him within a couple of hours. Tonight's the night that Mr. Wilkins uses his fancy cannon."

"That should be worth watching," said the second.

"I hope so," the hunter said.

"Come on down," said the mate. "We've time for a blue gin before dinner—and as it's been the surgeon's turn in the galley today we shall probably need it!"

WILKINS CARRIED his own spacesuit—it was lighter and less rugged than the standard mod-

el, and the sacrifice of armor was more than compensated for by the increased ease of movement. He put it on in the privacy of his cabin, all but the gloves and helmet, and then, as was his habit, regarded himself carefully in the full-length mirror. All seemed to be in order.

His eyes strayed from the inspection of his suited body to that of his face.

He thought, You carry your years well, Hugh my boy. You look hardly older than you did when you went out for your first lion—and that was all of twenty years ago. There's a touch of gray in that carroty thatch of yours, and the plastic surgeons weren't able to do much about that scar down the left side of your face—but you've worn remarkably well, considering. And the best part of it is that you get as much kick out of every new hunt as you did from the first. . . .

He opened the locker beside his bunk, took out, one by one, the three cartridges, handling them with a slowness that was not altogether due to the great care that he was exercising. Each cartridge was no bigger than a table tennis ball—but each was enormously massive. He packed them into the pouch at his belt, then fastened on the tightly rolled electronic net in which he hoped to catch the stunned beast, and draw it into the specially prepared room aft.

He pulled himself out of his cabin and along the alleyway to the airlock. The captain was there, and the mate, and a half dozen of the other officers. They were looking curiously at the gun, which one of the cadets was holding.

It was not large. It was no longer than the high-powered rifle that Wilkins had used on the Venerian mudworms. But it was bulky and cumbersome around the stock, and its barrel flared out to a bell.

"He's still there," said Captain Jones. "I've just come from control. He's still there. Will you helmet up? You can test your suit radio with the officer of the watch."

"We'd better get back to control ourselves, sir," suggested Layton. "The second officer can look after the door."

"Yes, Mr. Layton. It'd be a pity to miss anything." Jones took Wilkins' hand in his. "Good luck."

"Thank you, captain," replied the hunter.

He shook hands with the mate, but did not trouble to watch the two officers depart for the control room. He put on his helmet, then his gloves. He tested his suit radio. Assisted by the cadet, he slung the energy pump gun over his shoulder.

It was rather cramped in the airlock—it had never been designed for the use of men carrying large and clumsy weapons. Wilkins had foreseen this—that was why he was deferring the loading of the gun until he got outboard; there was always the chance that a sudden jar might set it off. Wilkins stood there patiently, the magnetic soles of his boots holding him to the deck, watching the needle of the gauge creeping back against the illuminated dial. As the pressure

dropped he flexed his arms and legs—found, as he had expected, that the joints of his suit were in perfect order. When the outer door opened he was ready.

Cautiously, he made his way out of the ship. He stooped and clipped the end of his lifeline to the ringbolt just outside the airlock. He straightened, and looked forward. The space beast was still there, still keeping station on the ship abeam of the control room.

He was not happy as he made his slow, careful way aft. The ship was so small—a mere silver needle floating in immensity. He was so small—a microbe on the surface of the needle. He told himself that he was exposed to far less risk than he had been during his last hunt, the expedition to capture a Plutonian glass scorpion. He told himself that then he had been *really* alone, that if anything had gone wrong it would have taken the other members of the expedition days to find him, and that help, inevitably, would have come too late. Here, crawling along the outer skin of the ship, help was only minutes away.

"Wilkins," crackled Captain Jones' voice from the helmet speaker, "how does it go?"

"Fine, captain," replied Wilkins. "I'm almost at the tail now. I'll let you know when to fire the rockets."

The huge fin loomed before him—gleaming, yet dark against the stars, the shrunken sun. Wilkins found another eyebolt without any difficulty—at his suggestion these fittings had been painted white—and snapped the spring hook at the end of his second lifeline to it. He looked forward. The energy being was still there.

"Will you fire the rockets now, sir?" asked Wilkins.

"Are you secure?"

"All secure, captain."

"Good. Stand by for firing. I shall fire on the count of ten."

"Thank you."

"One . . . two . . ."

I hope the thing doesn't come aft too fast, thought Wilkins. But I should have time. I've practiced unslinging, loading and aiming this gun enough times, and I'd be a fool to have it unslung and in my hands when the ship starts accelerating. . . .

"Five . . . six . . ."

I hope the lifeline holds, he thought. But there's no danger. All the acceleration will do is press me back against the fin. . . .

"Eight . . . nine . . . *ten!*"

The acceleration was gentle, no more than a nudge. Wilkins felt the reassuring pressure of the base of the fin against his back as he unslung the gun with deft hands, took a cartridge from its pouch and slipped it into the breech. He did not look behind him—his attention was focused on the target. If he had looked behind he would have seen that the bight of his second lifeline—he had allowed far too much slack—had sagged directly into the incandescent exhaust.

Swiftly, hungrily, the glowing disc swept aft. Wilkins' gun followed it. There was no need for him to use the sights—the target was too near, too big. Wilkins pressed the trigger.

THE RECOIL took him by surprise. He had expected to be knocked backwards—and the vicious, forward tug of the gun pulled him off balance. He did not let go the weapon, but clung to it grimly. The magnetized soles of his boots broke contact with the hull and he found himself spinning out into emptiness.

He heard Jones' shout, "Wilkins! Your second lifeline has parted! You let it get into the exhaust!"

"How's my first one?" he demanded.

"It'll hold!"

"It'd better. What's happened to the target? I can't see a thing the way I'm spinning round!"

"It's still there—but you wounded it, I think. The colors are fading, the light is dying . . . But it's still alive."

I have to get it, thought the hunter. I have to finish it. I can't let it go drifting off into the darkness, maimed and suffering. . . .

He ignored the dizzying whirl of ship and sun and stars, concentrated on ejecting the used cartridge. The scientists at the Institute had been insistent that he bring back all expended ammunition. The spent charge he put back into the pouch. He reloaded the gun.

A jerk told him that he had reached the end of the first lifeline. Holding the gun in his right hand, he grasped the line with his left, tried to check his motion. He was only partially successful.

Even so, the stars were now stars—points and not undulant ribbons of light. The ship swam into his field of view—the ship and, close alongside her, the slowly pulsating, waning disc of pallid flame.

The hunter put the gun to his shoulder, fired again. He was ready, this time, for the reversed recoil, but not for the vibration, for the sudden heat that burned his hands even through the gloves of his suit. He threw the gun from him, towards the ship. It was the best thing he could have done, as it happened—the reaction slowed him down just sufficiently to allow him to fall against the metal hull without breaking every bone in his body. He was stunned and badly bruised, and it was all of ten minutes before he had recovered sufficiently to whisper into his helmet microphone; but he was alive.

"Captain Jones," he said shakily. "Captain Jones!"

There was no reply.

"Layton!" he cried. "Layton! Can you hear me?"

The helmet speaker was dead.

And so is the set, he thought. It's robust—but not robust enough to stand a battering like the one it just got. Even so—they must have seen what happened. They might have sent somebody out to fetch me in.

He got both hands on the lifeline, pulled in the slack. Hand over hand he hauled himself over the smooth surface of the hull until he had reached the airlock door. There was something wrong—the light had been burning in the little compartment when he left the ship; it was out now.

He pulled himself into the airlock. He waited patiently for the

outer door to close. He shouted into his useless helmet microphone. He managed to wedge his back against the frame of the outer door, and kicked the inner door with his heavy boots.

Fear he had known before—but no fear like the dread that paralyzed him now. He knew what he would find when he got inside the ship.

Almost he decided to kick himself out through the open door. It was stubbornness rather than hope that set him, at last, to the awkward task of manually closing the outer airlock door.

He managed it by making the end of his lifeline fast to the wheel that controlled the great disc, by making himself fast to the corresponding wheel on the inner door. When at last he got the door shut, the inside of his suit was streaming with perspiration. He cast off the lashings, turned the wheel—it was reluctant under his gloved hands—and sealed the outer hull of the ship.

By the light of the lantern built into the breastplate of his suit, he located the manually operated air valve. He opened it, looked at the intakes for the puffs of frozen moisture and gas that would tell him that the little compartment was being flooded. Nothing happened. He turned his attention to the pressure gauge. The needle was on zero—and it stayed there.

Wilkins doubted that he would have the strength to force open the inner door against the pressure of the air inside the ship—but he had to try it. The wheel turned easily enough, and the door opened through about twenty-five degrees, then jammed on something.

The hunter braced his back against the outer door, lifted his legs and pushed with his feet. Slowly the door moved—through another ten degrees. There was space enough for the man to squeeze through.

He saw what had jammed the door. It looked like a mass of icy snow. It was snow—but a snow whose constituents were solid oxygen and nitrogen and carbon dioxide as well as frozen water vapor.

Wilkins knew that in his eagerness to shoot the space beast, he had swept the ship with the beam of the energy pump gun. He knew what he would find—the bodies of the crew at their stations, the dead machines. He was not prepared, even so, for the absolute deadness of the ship. He had seen dead men before—but none so dead as these. It was not that corruption had set in (but a putrefying corpse is literally crawling with life)—that would be absolutely impossible unless the interior of the ship were warmed and the air thawed and the bacteria of decay released from his own body. It was that all the dead men were . . . drained. More had gone from them than life. More had gone from them than heat. More had gone from poor Layton (Wilkins was now in the control room) than his verbosity, than his hopes of a ferryman's job in the Martian system. More had gone from Captain Jones than the cock-sparrow jauntiness of the little man. They were like wax

dummies, and not very convincing ones at that. It was as though they had never been alive.

WILKINS WONDERED what had happened to the gun that he had thrown from him, to the weapon that now contained in its expended cartridge all the energy that had been in the ship—the lives of pile and storage batteries, of men and micro-organisms, of the algae in their tanks, of the yeasts in their vats, of the surgeon's Siamese cat and the chief engineer's aquarium of Venerian rainbow fish.

He reproached himself for his almost instinctive action in throwing away the gun—had he kept it he might, somehow, have restored life to the ship, to his shipmates—or, more possibly, the scientists of the Institute might have done so.

Perhaps the gun was not irretrievably lost.

It was this forlorn hope, the slim chance that the results of his own criminal carelessness might be undone, that stirred in him thoughts on the subject of his own survival, his own rescue.

He knew of the life-saving service maintained by the Terran Space Navy, he had been told of the little ships swinging in their lonely orbits around the sun, ready to respond instantly to a call for help. He had been shown the emergency transmitter by Layton and had been taught how to operate it.

He left the control room. He pulled himself through the alleyways—the beam of his lamp falling upon the crystals of frozen air, the dead men—and into the axial shaft. The transmitter was amidships, in the safest part of the ship. All that Wilkins had to do was to press the starting button. He pressed it—then cursed as he realized that the batteries were dead.

He thought again of the gun, with its load of precious energy, tumbling through the emptiness of space. He thought, suddenly, of the used cartridge in the pouch at his waist. With unsteady fingers he brought it out, stared at the little, gleaming ball. Power was there, the life-force of the thing that he had likened to an albatross. Power was there, energy that, if released, might save his life He pushed the cartridge into a mass of frozen air that bulged, like some grotesque stalagmitic formation, from the wall of the shaft. He pulled from his belt the axe that he always carried.

His first blow ruptured the casing, and the reaction slammed him back against the wall of the shaft. His second blow broke the shell. Nothing happened. Desperately, he beat at the little sphere until it was no more than a crumpled, shapeless mass.

Suddenly the cartridge came alive and the ice around it melted, puffing into a cloud of vapor. Suddenly it glowed, expanded into a whirling disc of pale fire. Suddenly there was life again in the ship—an alien life, not hostile yet, somehow, frightening. Wilkins tried to throw himself backwards as tendrils of cold flame brushed his

helmet. He shouted.

The space-thing swirled and eddied in the narrow confines of the axial shaft, like a huge butterfly beating itself against the hard transparency of a window. And then, suddenly, it was gone—and with its going the emergency lights came on, and the pilot lights on the panel of the emergency transmitter. Even through his helmet Wilkins could hear the hiss and crackle of thawing air.

I've done all I can do, thought the hunter. But have I? No. I must go to the control room and turn off the lights, the heaters. I must stay in my suit. I must regard the ship as a giant deep freeze, the contents of which must be saved from decay until such time as they can be restored to life. . . .

But it might well be, he knew, weeks before the arrival of the rescue ship, and to attempt to live in a suit for such a length of time would be a protracted, filthy and miserable means of suicide.

In the end he decided on a compromise; he was able to operate the manual controls of the air-tight doors and seal off a short section of alleyway, with cabins and a bathroom. The cabins, luckily, were empty—their occupants had been watching his last hunt from the big viewports in the lounge.

Here, then, was his little oasis of light and relative warmth and atmosphere that grew fouler with every passing day, in spite of the efficient little air purifier that he had taken from his suit.

Here was the place where he lay, strapped to his bunk, and brooded. Here was where he tried to read—he had never been a reading man—the books that had belonged to the owner of one of the cabins.

He had never been a reading man, although he had, now and again, usually during periods in hospital whilst recovering from a mauling, read novels of the trashier kind. Poetry was new to him—and there was nothing but poetry for him to read. Some of it, he had to admit, had a message for him—one poem in particular, one by a man called Coleridge, had a message.

He was reading the poem for the fourteenth time when he heard the clang of magnetic grapples on the hull.

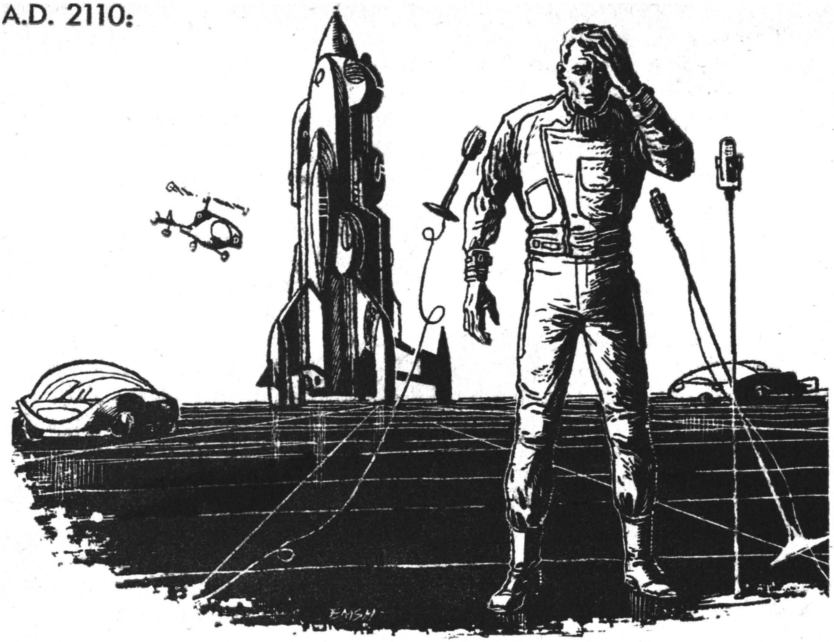
Instead of the Cross the albatross/About my neck was hung . . .

END

STOP! If you're the kind of magazine reader who starts at the back and works forward—or the kind who skips around from story to story—don't do it this time, or you'll miss half the fun. This is a special issue, designed to be read straight through from beginning to end. Each story is complete and separate in itself but, taken all together, they form an imaginative future history of space-flight, from A.D. 1950 *(The Pure Observers)* to A.D. 32,000,000 *(Brink of Creation)*.

If you enjoy this issue, and would like to see something similar done once in a while, be sure to let us hear from you.

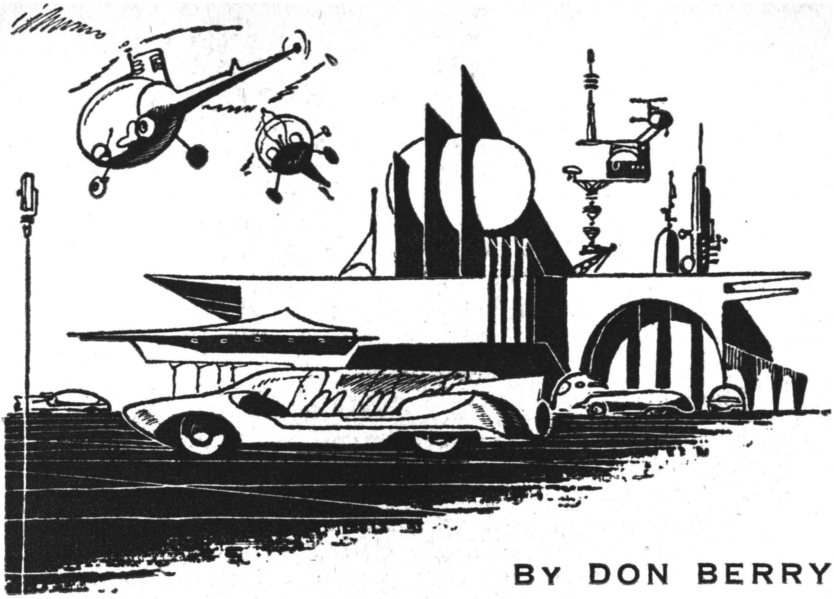
A.D. 2110:



The ship went out safely, came back safely. The pilot was unaware of anything wrong. Somewhere in the depths of his brain was locked the secret that made him

MAN ALONE

PHOENIX I belled out smoothly in the region of a G-type star. There was a bright flare as a few random hydrogen atoms were destroyed by the ship's sudden appearance. One moment space had been empty except for the few drifting atoms, and the next—the ship was there, squat and ugly.



BY DON BERRY

Inside, a bell chimed sweetly, signalling the return to a universe of mass and gravitation and a limiting velocity called C. Colonel Richard Harkins glanced briefly out his forward port, and saw no more than he had expected to see.

At this distance the G-type star was no brighter or yellower than many another he had seen. For a man it might have been hard to tell which star it was. But the ship knew.

Within one of the ungainly bulges that sprouted along the length of *Phoenix I,* a score of instruments mindlessly swung to focus their receptors on the nearest body of star-mass.

Harkins leaned contentedly back in the padded control seat and watched while the needles gradually found their final position on dials. A few scattered lights bloomed on the console ahead of him. He grunted once with satisfaction as the thermoneedle steadied at 6,000° C. After that he was silent.

He leaned forward and flipped up two switches, and a faint sound of a woodpecker came into the control room as the spectrograph punched its data on a tape. The end of the tape began to come out of a slot. Harkins tore it off when the spectrograph was finished with it, threaded it on the feeder spool of the ship's calculator, and inserted the free end in the input slot.

The calculator blinked once at

him, as if surprised, and spat out a little card with the single word SOL neatly printed in the center.

Harkins whistled softly to himself, happily. *I had a true wife but I left her,* he whistled. Old song. Old when he first heard it. *Had a true . . .*

He wondered vaguely what a "wife" was, but decided it probably didn't matter. *Had a true wife but I left her,* he whistled.

He was glad to be home.

The direction finder gave him a fix on Earth and he tried to isolate the unimportant star from the others in the same general direction, but he couldn't do it, visually. The ship would do it, though, he wasn't worried about that. He wished he could use the Skipdrive to get a little closer. It would take a long time to get in close on the atomic rockets. Several days, maybe.

Well, he had to do it. The Skipdrive wasn't dependable in mass-space. You couldn't tell what it was going to do when you got it too close to a large mass. He'd have to go in on the chemical.

Mass-space, he thought. *Molasses-space, I call it.*

Too slow, everything too slow, that was the trouble.

Reluctantly he switched off the Skipdrive's complacent purr. The sudden lack of noise in the cabin made him squint his eyes, and he thought he was going to get a headache for some reason. Abruptly, all the cabin furniture seemed very harsh and angular, distorted in some strange way so as to be distinctly irritating to him. He brushed his foot across the deck and the sound of his boot was rasping and annoying.

He didn't like this space much. It wasn't soft, it wasn't restful, it was all full of clutter and junk. He grimaced with distaste at the suddenly ugly console.

He looked down at the floor, frowning, pinching his nose between thumb and forefinger, flirting with the idea of turning the drive back on.

But for some reason he couldn't quite think of at the moment, he couldn't do that. He frowned more severely, but it didn't help; he still couldn't think of the reason he couldn't do it. That headache was coming on strong, now. He'd have to take something for it.

Well, well, he thought resignedly. *Home again, home again.*

He was sure he was glad to be home.

Home is the hunter, home from something something . . .

He couldn't remember any of the rest. What the hell was a hunter, anyway? They irritated him, these nonsense songs. He didn't know why he kept thinking about them. Hunters and wifes. Nonsense. Babble.

He keyed the directional instruments into the course-control and armed the starting charge for the chemical motors. When he had checked everything carefully, as he had been taught, he strapped himself into the control chair with his hand on the arm-rest over the firing button. He knew it was going to hurt him.

He fired, and it did hurt him,

the sense of explosive pressure, the abrupt thundering vibration. It was not the same as the soft, enfolding purr of the Skipdrive, comforting, assuring, loving . . .

What's that? Loving?

A wife is a Martha, he thought. *A Martha is a wife.*

It seemed to mean something, but he didn't have time to decipher it before he passed out.

WHEN HE CAME TO he immediately switched off the chemical drive. It had given him a good shove in the right direction, and that was all that was necessary. He would coast in now, and he had to save his fuel for maneuvering in atmosphere.

After that, he rested, trying to accustom himself to the harshness of things in mass-space.

His time-to-destination indicator gave him ten hours, when he began to feel uneasy. He couldn't pinpoint the source of unease at first. He was fidgety, impatient. Or something that resembled those feelings. It was like when he couldn't remember why he wasn't supposed to turn the Skipdrive back on. It occurred to him that he wasn't thinking clearly, somehow.

He noticed to his surprise he had switched on his transmitter. Probably while he was drumming his fingers or something. He switched it off.

Thirty minutes later he found himself toying with the same switch. He had turned it on again. This was getting ridiculous. He shouldn't be so nervous.

He grinned wryly to himself. The transmitter switch, indeed. If ever a useless piece of junk had been put in *Phoenix I,* that was it. Transmitter switch!

He laughed aloud. And left the switch open.

He found himself staring with fascination at the microphone. It was pretty interesting, he had to admit that. It was mounted on the back of the control chair, on swivel arms. It could easily be pulled into position right in front of his face. Just as if it had been meant to. He fiddled with it interestedly, swinging it back and forth, seeing how it moved on the swivel arms.

He was interested in the way it moved so smoothly, that was all. By coincidence, when he let go of it, it was directly in front of him.

There was something picking at him, something was nagging at the back of his mind. He whistled under his breath and knuckled his eyes. He scrubbed at the top of his head with his right hand, as if he could rub the annoying thought. Suddenly he heard his own voice saying:

"Earth Control this is *Phoenix I.* Come in please."

He looked up, startled. Now why would he say a thing like that?

And then, in the midst of his surprise, he repeated it!

"Earth Control this is *Phoenix I.* Come in please."

He flipped the Receive switch without volition. His hands had suddenly developed a life of their own. He began to breathe more rapidly, and his forehead felt

cool. He swallowed twice, quickly.

There was no answer on the receiver.

No what? Answer? What is "answer"?

"Estimate arrival four hundred seventy-two minutes," he said loudly, looking at the time-to-destination indicator.

There was a sudden flood of relief, washing away the irritation that had been picking away at the back of his mind. He felt at ease again. He turned off both transmitter and receiver and stood out of the control chair. He felt better now, but he was a little worried about what had happened.

He couldn't understand it. Suddenly he had lost control of himself, of his voice and his hands. He was doing meaningless things, saying things, making motions stupidly. Every movement he made, every act, was without pattern or sense.

He had a sudden thought, and it made his whole body grow cold and prickly, and he almost choked.

Maybe I'm going Nova.

He was near the edge of panic for a minute. *Nova Nova Nova Nova.*

Brightly flaring, burning out, lighting space around for billions of light years . . .

That was how it started, he knew. Unpredictability, variation without explanation . . . He sat back down in the control chair, feeling shaky and weak and frightened.

By the time he had regained his balance, time-to-destination told him 453 minutes.

HE GUIDED *Phoenix I* into an orbit around Earth. He circled three times, braking steadily with his forward rockets until he entered atmosphere.

On his fifth pass he spotted his landing place. How he knew, he didn't quite understand, but he knew it when he saw it. There was a sense of satisfaction somewhere in him that told him, "That's it. That's the right place."

Each succeeding pass was lower and slower, until finally he was maneuvering the ungainly bulk of the ship like a plane, wholly in atmosphere.

Like a what?

But he was too busy to worry about it. Fighting the *Phoenix I* down in atmosphere required all his attention. Absently he noted the amazingly regular formations of rock surrounding his landing place.

His hands flew over the console automatically, a skilled performer playing a well-learned fugue without conscious attention to detail. The overall pattern was clear in his mind, and he knew with absolute confidence he could depend on his hands to take care of the necessary small motions that went to make up the large pattern.

He did not think: Upper left button third from end right bank rockets three-quarters correct deviation.

He thought: *Straight.* And his hand darted out.

The ground was near below him, now. He could see parts of the landscape through the port, wavering uncertainly in the heat waves from

his landing blast.

Slower . . . slower . . . slower . . . The roar was reflected loud off the flat below . . .

Touch.

Perfect, he thought happily. *Perfect perfect perfect.*

He leaned contentedly back in the control chair and watched the needles of the console gauges fall lifeless back to the pins.

He whistled a little tune under his breath and smiled.

Now what?

Get out.

He couldn't think of the reason for it, but he would do it. While he waited for the hull to cool, he dropped the exit ladder, listened to the whine of the servomotors.

He opened the port and stood at the edge, looking out. His headache had come back again, worse than ever, and he grimaced at the sudden pain.

Before him stretched the flat black plane of the landing pad, ending abruptly in the regular formations he had noted before. They were mostly white, and contrasted strongly with the black of the pad. They weren't, he realized, rock formations at all, they were—

They were—buildings, they—

His mind shied away from the thought.

It was silent. His headache seemed to be affecting his vision, somehow. Either that or the landing pad wasn't cool yet. When he looked toward the—toward the white formations at the edge of the pad, they seemed to waver slightly near the ground. Heat waves still, he decided.

Nimbly, and with a pleasant sense of being home again, he scrambled down the ladder and stood on the ground, tiny beneath the clumsy shape of *Phoenix I.*

About halfway between the edge of the pad and his ship stood a tiny cluster of thin, upright poles. From their bases he could see black, snakelike cables twisting off toward the edge, shifting in his uncertain vision. He walked toward them.

The silence was so complete it was unnatural. It was almost as if his ears were plugged, rather than the simple absence of sound. Well, he supposed that was natural, after all. He had lived with the buzzing purr of the Skipdrive and the thunder of the rockets so long, any silence would seem abnormal.

As he drew closer to the upright rods, he saw each one was topped with a bulge, a vaguely familiar . . .

They were microphones! They were just like the microphone in *Phoenix I,* the one he had fooled with.

He was sincerely puzzled. All that transmit-receive gadgetry in the ship had been foolish, but what was he to think of finding it here on his landing pad? It didn't make any sense. He was getting the uneasy sense of confusion again. The headache was becoming almost unbearable.

He walked over to the cluster of microphones. That was probably the place to start. He took the neck of one in his hand and pulled it, but it didn't move smoothly, as the one on his control chair had. It simply tipped awkwardly toward him.

Suddenly he felt something on his shoulder, and looked around quickly, but could see nothing. The pressure on his shoulder remained, and he vaguely brushed at it with his hand. It went away.

He set the microphone back upright and looked back at his ship. There was another pressure on his opposite shoulder, sudden and harder than the first had been. He slapped at it, and stepped back, uncertainly.

One of the microphones tipped toward him, but he hadn't touched it. He took another step backwards, and felt something close tightly around his left arm. He snapped his head to the left, but there was nothing there.

He twisted sharply away to the right, and the motion freed him, but his shoulder hit something solid. He gasped, and his throat tightened again. He raised his hand to his head. The headache was getting worse all the time.

Something touched him on the back.

He spun, crouching.

Nothing.

He stood straight again, his eyes wide, panting from the fear that was beginning to choke him. His fists clenched and unclenched as he tried to puzzle out what was happening to him.

The air closed abruptly around both arms simultaneously, gripping so tightly it hurt.

He shouted and twisted loose and started to run back toward the ship. He stumbled against an invisible something, fell against another, but it kept him upright and prevented his falling. Several times as he ran, things he could not see brushed him, touched him on the shoulders and back.

By the time he scrambled up the ladder, his breath was short, and coming in little whimpers. The headache was the greatest pain he thought he could ever have known, and he wondered if he were dying.

He had to kick at invisible things that clutched at his feet on the ladder, and when he reached the edge of the port he stood kicking and flailing at nothing until he was certain none of the—creatures, things were there.

He shut the port swiftly and ran breathlessly up to the control room. He threw himself into the padded chair.

Finally he lowered his head into his hands and began to weep.

2.

NIGHT.

The land turned gray and silver and white under the chill light of the rising moon. The buildings of Gila Lake Base IV were sharp and distinct, glowing faintly in the moonlight as if lit somehow inside the concrete walls.

On the landing pad, *Phoenix I* squatted darkly, clumsily. The moon washed its bulbous flanks with cascading light that flowed down the long surfaces of the hull and disappeared into the absorbent blackness without trace. Tiny prickling reflections of stars glinted from the once-polished metal.

At the edges of the Base, where

wire meshes stretched up out of the desert dividing the things of the desert from the things of men, nervous patrols paced forlornly in the night.

One of the blockhouses at the inner edge of the landing area presented two yellow rectangles of windows to the night. Inside the blockhouse were two men, talking.

One of the men was in uniform, and his collar held the discreet star-and-comet of a staff officer, SpaServ. He was young for his rank, perhaps in his early forties, with gray eyes that now were harried. He sat on the edge of his desk regarding the other man.

The second of the two was a civilian. He was slumped in an oddly incongruous overstuffed chair, with his legs stretched out straight before him. He held the bowl of an unlit pipe in both hands and sucked morosely on the stem as the SpaServ brigadier talked. He was slightly younger than the other, but his hair was beginning to thin at the temples. He had sharp blue eyes that regarded the tips of his shoes without apparent interest. Colin Meany was his name, and he was a psychiatrist.

Finally General Banning finished his account of the afternoon, raised his hands in a shrug, and said, "That's it. That's all we have."

Colin Meany took his pipe out of his mouth and regarded the tooth-marked bit curiously. He shoved it in his coat pocket and walked over to the window, looking out across the moon-flooded flat to the looming, ominous shape of *Phoenix I*. He stood with his hands clasped behind him, rocking gently back and forth on his toes.

"Ugly thing," he said casually.

Banning shrugged. The psychiatrist turned away from the window and sat down again. He began to fill his pipe.

"Where is he now?" he asked.

"In the ship," the general told him.

"What's he doing?"

Banning laughed bitterly. "Broadcasting a distress signal."

"Voice?"

"Does it matter?" the general asked.

"I don't know."

"No, it's code. It's an automatic tape. The kind all passenger vessels carry."

Colin considered this for a moment. "And he didn't say anything."

"Absolutely nothing," said General Banning. "He got out of the ship, walked over to the reception committee, slapped a few people and ran back to the ship and locked himself in."

"It doesn't make any sense."

"You're telling me?" After a second the general added almost wistfully, "He knocked Senator Gilroy down."

Colin laughed. "Good for him."

"Yeah," the general agreed. "That bastard fought us tooth and nail all the way down the line, cutting appropriations, taking our best men . . . Then when we get a ship back, he's the first in line for the newsreels."

Colin looked up. "You have newsreels?"

"Sure, but I don't think they're

processed yet."

"Why didn't you tell me that in the first place? Check them, will you?"

The general made a short phone call. When he hung up he looked embarrassed. "You want to see them?"

"Very much."

'There's a viewing room in Building Three," Banning said. "We can walk."

When the lights had come on again, Colin sat staring at the blank screen for a long time. Finally he sighed, stood and stretched.

"Well," Bannnig said. "What do you think?"

"I'll want to see it again. But it's pretty clear, I think."

The general looked up in surprise. "Clear? It's just the same thing I told you."

"Oh, no," Colin said. "You left out the most important part."

"What was that?"

"Your boy is blind and deaf."

"Blind and deaf! You're crazy. The ship, he looked at the ship, and the microphone, and . . .

"Oh, it's pretty selective blindness," Colin said. He filled his pipe with maddening slowness and lit it before he spoke again.

"People," he said finally. "He doesn't see people. At all."

HARKINS FELL asleep leaning forward in the control chair with his head on his arms. When he wakened, the sky outside the viewport was turning dark. With a sense of sudden danger, he clamped down the metal shutters over the port. Methodically he climbed down catwalks the length of the ship, making certain all ports were secured both from entry and from sight. He didn't want to see outside.

When he had done this, he felt easier. Walking to the galley, he put a can of soup in the heater, and took it back up to the control room with him.

He sat there, absently eating his soup and staring ahead at the console. He noted he was beginning to get used to the harsh outlines it presented in this space. Suddenly he realized there was a red light on the board. He put the bowl of soup carefully on the deck and went over to the transmitter where a loop of tape was endlessly repeating itself, apparently broadcasting. He could not remember having inserted it. The empty spool lying beside the transmitter read AUTOMATIC DISTRESS CODE.

He understood all the words, all right, but put together they didn't seem to make any sense. AUTOMATIC DISTRESS CODE. What would it be for? Why would such a thing be broadcast? If you were in distress, you surely knew it without transmitting it.

He shook his head. Things were very bad with him. He was profoundly disturbed by his loss of control. Performing all sorts of meaningless actions without volition . . . And now, with this tape, he had not even been conscious of the act, could not remember it.

He went back to the control chair and finished his bowl of soup.

Thinking about it, his meaningless activities had all been centered around one thing, this odd transmit-receive apparatus, this radio. He had looked at it before, and he realized it was very carefully constructed, and complicated. The wiring itself confused him. And more than that, he could not determine any possible use such a thing might have.

Thinking about it gave him the same prickly sensation at the back of his neck as when he thought about the nonsense words in the songs he knew. "Wife." Things like that.

He rubbed the back of his neck hard, until it hurt. He realized his headache had almost gone away when he secured the ports, but now it was coming back again.

Another light flashed on the console, and a melodic "beep—beep" began to sound from somewhere behind the panel.

Automatically he reached forward and flipped a switch, and the "beep—beep" stopped. Without surprise, he noticed it was the switch marked Receive.

So. When the light flashed and the "beep—beep" sounded he was supposed to throw that Receive switch. Presumably, then, he should receive something. Was that right?

He looked around the control room, but nothing happened.

Just on the edge of his consciousness there was a faint sussuration, but when he turned his attention to it, it disappeared. There was no sound. But when he thought of something else, it came back again.

It was like an image caught in the corner of his eye. There was nothing there, but sometimes you thought you caught just a flash of something out of the corner of your eye. Like this afternoon . . .

He shuddered at the recollection.

In all his life, he could not remember anything that had driven him into such pure panic as the loathsome invisible touches he had felt. What kind of creatures were these?

This was Earth. This was his home, it was where he belonged, and he couldn't remember anything about invisible . . .

Yes! Yes, he did remember! But there was still something wrong because—he couldn't think why.

He remembered walking on a grassy meadow on a spring day. The grass was rich and luxuriant and the sun was hot copper in the sky. He was walking toward the top of a hill. Right at the top there was a single small, green tree. He was going to go up and lie down under that tree and look down in the valley at the meadow. And beside him there was—a presence. He remembered turning to look, and—nothing. There was nothing there.

But the feeling of the presence next to him made him pleased, somehow. It was right. It was not menacing, like this afternoon, it was more—comforting. As the sound the Skipdrive made was comforting. It made him feel fine. But when he turned to look, there was nothing.

He could not remember.

What kind of presence? Like the ship? No, much smaller. Smaller even than himself. Compared to

the ship, he was small, quite small. He was infinitely smaller than even planetary mass. And there were things on the ship that were smaller than he.

But he couldn't quite place himself with assurance on the scale of of size. He was larger than some things, like the bowl of soup, and he was smaller than other things, like planets. He must be of a sort of medium size. But closer to the bowl of soup than the planet.

A wife is a Martha.

He remembered thinking that just as the rockets had fired. It was in the song . . . He whistled a few bars. *I had a good wife but I left her, oh, oh, oh, oh.*

And it had something to do with the remembered—presence, when he was walking in the meadow.

But what was a Martha? You can't define a nonsense word in terms of another nonsense word. Or perhaps, he thought ruefully, you can't define it any *other* way.

A wife is a Martha. A wife is a Martha. A Martha is a wife.

Nothing.

But he felt the headache coming on again.

He went down to the galley again, and took the soup bowl with him. He put it in the washer, and rummaged around in the cabinets until he found the little white pills that helped his headaches. He took three of them before he went back up to the control room.

He had to make some kind of plans for—for what? Escape? He didn't want to escape. He was home. He wanted to stay here. But he had to deal with the—things, somehow. He wondered if they could be killed. There was no way to tell. If you killed one you couldn't see its body.

And he didn't have any weapons, at any rate. He would simply have to outsmart them. He wondered how smart they were. And how large. That would make a good deal of difference, how large they were.

He went to the viewport and cracked the shutter, just a little. It was dark. He didn't want to go out in the dark, that was too much. It would be too much risk. He would wait until morning.

In spite of the pills, the headache was getting worse, almost to the insane level it had been in the afternoon. He decided he'd better try to sleep.

3.

COLIN AND General Banning stood at the shoulder of the radio operator in Gila Base IV Central Control. It was just past midnight. Banning's fatigue was evident; Colin, having been involved a shorter time, still looked reasonably fresh.

Monotonously the radio tech droned: "Gila Control to *Phoenix I* come in please. Gila Control to *Phoenix I* come in please. Gila Control to *Phoenix I* come in please." After every third repetition of the chant, he switched to Receive and briefly listened to the buzz and crackle from the overhead speakers.

"Gila Control to *Phoenix I* . . ."

"Is he still transmitting the distress code?" Colin asked.

"Yes, sir," the tech said. "But he could still reply if he wanted to. Distress operates from a separate transmitter on a single fixed frequency. The ordinary transmitter isn't tied up."

"Is he receiving?"

"I think so. When we gave him the 'Message coming' impulse, he switched to receive. That was hours ago."

"Maybe he's tuned to the wrong frequency," Banning suggested.

The tech looked up in surprise, then resumed his respectful attitude toward the brass. "No, sir. His rig is a self-tuner. The signal automatically tunes the receiver to the right frequency. He's getting it, all right."

"In other words," Colin said, "your voice is being broadcast on the ship's speakers."

"As far as I can tell."

"Mm."

Colin leaned back against a chart table and pulled on his pipe for a few moments.

"Please go on, sergeant," he said finally. "Keep trying. But change the patter to 'please reply,' would you?"

"What difference does that make?" Banning asked. "That's what 'come in' means, anyway. Same thing."

"Just an idea," Colin said. "Why don't you get some rest? You look beat."

"What kind of an idea?" Banning said, rubbing his forehead.

"Can you get a couple of cots brought to your office?"

"Yes, but what's your idea?"

"Come on along and I'll tell you about it," Colin said.

They left Central Control, with the voice of the sergeant sounding behind them, *"Gila Control to Phoenix I please reply. Gila Control . . ."*

Reaching Banning's office, Colin sent one of the ubiquitous armed guards after two cots.

"You can't shoot all your energy at once," he pointed out, when Banning protested he didn't need the sleep. "If we're going to get Harkins out of that ship, we're going to have to stay in pretty good shape ourselves."

"All right," Banning grumbled. He made coffee on the hot plate from the bottom drawer of his desk, grinning at Colin like a small boy caught stealing cookies. "I like a little coffee once in a while," he explained unnecessarily.

When they had settled themselves with the coffee, Banning asked, "All right, now. Why'd you change 'come in please' to 'please reply'?"

"It's less ambiguous," Colin said. "'Come in please' could mean several things."

"So? Anybody with as much radio experience as Harkins knows what 'Come in please' means."

"You're going to have to get used to the idea you're not dealing with Harkins in this. Take the point of view, this is somebody you've never seen before. Somebody you have to figure out from scratch."

"Mm. I suppose so. Okay, why the change?"

"Well—" Colin hesitated. "First

of all, this—blindness is purely a functional block of some kind. There's nothing organically wrong with his vision."

"I'm still not sure I go along with your blind-deaf idea," the General said dubiously.

"I'm virtually certain, after seeing the film strip again. Your Colonel Harkins behaves exactly like a man being molested by something he can't see."

"For the sake of argument, then . . ." Banning nodded.

"All right. Presupposing he does not want to see human beings—for whatever reason—there are several mechanisms he could use."

"He didn't even have to come back," Banning pointed out.

"That's one of the mechanisms. But he *did* come back. Why? Problem one, for the future. Mechanism two: Catalepsy. Suspension of *all* sensation and consciousness."

"Obviously not the case."

"Right. Mechanism three," Colin went on, ticking the points off on his fingers, "*partial* disorientation. Loss of perception of a single class of objects, human beings."

"Even that isn't entirely true," Banning said. "He *felt* people."

"That's right. And I think this is our opening wedge. Of the possible means of avoidance I named, partial disorientation is the *least* successful of all. It involves too many contradictions. He was disturbed by the microphones, for example. Why? Because they are meaningful only in a context of human beings. Communication. He would have to do some fancy twisting to avoid the notion of human beings. The same goes for any other human artifact. Somehow, in order to make the world 'reasonable' in his own terms, he has to explain the existence of these things, without admitting the existence of people who made and use them."

"Impossible."

"Very nearly. It means that some facet of his personality must be continually making decisions about what can be recognized and what cannot. His censoring mechanism is in a constant scramble to prevent certain data from reaching his conscious mind. It has to justify and explain away *all* data which would eventually point to the existence of human beings."

"What the hell does he think *he* is?" Banning asked angrily.

"I have no idea. Maybe that's problem two for the future. At any rate, as you pointed out, this is an impossible job. It must be infinitely more difficult now that he's on Earth, where there are so many more things to explain away. This is going to set up a terrific strain inside. It may break him."

"What would do that to a man?"

"I don't know that, either," Colin admitted. "Our first problem now is to get him out of the ship. And to do that, we have to contact him."

"This is why you changed to 'please reply'? What good is it going to do if he can't hear it, anyway?"

"That's the point. I think he *can* hear it. He can't *recognize* it, but that isn't quite the same thing. His eardrums still vibrate, the data gets

in, all right. But it doesn't reach the conscious level. Fortunately, it isn't always necessary to be consciously aware of a stimulus before you can respond to it. Frequently a persistent stimulation just below the threshold of awareness will produce a response in the organism. Sub-threshold stimulation, it's called."

"Yeah," Banning said, "I've heard of it. Used it in advertising, didn't they?"

"For a while. Before Congress passed the Privacy Amendment."

"Okay. Now what?"

"Now we wait and see if it works. I'm going to take a nap. Wake me up if anything happens."

Colin stretched out on one of the cots, put his hands behind his head and soon was breathing deeply in an excellent imitation of sleep.

THE CLOCK on Banning's desk said 4:33 when his communicator chimed. Banning was off his cot and at the desk before the first soft echoes faded.

"Banning. Yes . . . yes . . . all right, right away."

"What is it?" Colin asked.

"They've got something from the *Phoenix* at Control."

When they reached the radio room again, a different technician was on shift. He was intently watching an oscilloscope face on the board in front of him.

"What happened, did he answer?" the general asked.

"No, sir. But a few minutes ago we started getting a carrier wave on his transmission frequency."

Banning sighed disgustedly. "Is that all? Dammit!"

"What does that mean?" Colin asked.

"Not a damned thing," Banning said angrily. "He just threw the transmission switch, is all."

"Look, sir." The radioman pointed to the oscilloscope. The smooth sine of the carrier was slightly modulated now, uneven dips and jogs appearing rhythmically. "There's something coming through, but it's awfully damned faint, Sir."

"Run your sensitivity up," Banning ordered.

The radioman slowly twisted a knob, and the hiss-and-crackle coming through the speakers increased in volume until each snap was like a gunshot in the radio room. Colin winced at the noise.

"Maximum, sir."

"Increase your gain, then."

The technician did. The speakers were roaring now, filling the room. Very faintly behind the torrent of sound another sound could be heard, more regular. The rhythm corresponded with the jogging of the oscilloscope.

"That's it," Banning said. "But what the hell is it?"

"I don't—wait a minute," said Colin. "He's whistling! It's a tune."

"You recognize it?"

"No—no, it's vaguely familiar, but—"

"I know it, sir," the radioman said. "It's an old folksong, *The Quaker's Wooing.*"

"Why is it so faint?" asked Colin.

"He must be a hell of a ways off-mike," said the tech. "Clear at

the other end of the control room, I'd say."

"Turn down that damned noise," said Banning. The radioman twisted his controls back to medium range, and the thunderous hissing roar of the speakers died away.

"Well," said Banning, "nothing. We shoulda stood in bed."

"I'm not so sure," Colin answered. "After all, he *did* start to transmit, and that's more than we've had since he landed. I think we'd better keep it up."

"All right. Keep at it, sergeant."

"Yes, sir."

As Colin and Banning turned away, the psychiatrist heard the sergeant begin to sing softly to himself. Suddenly Colin stopped and turned back to the man.

"What'd you say?" he demanded.

"Nothing, sir."

"What you were singing, that song."

"Oh, it was the one the colonel was whistling, sir. It gets to running around in your head. I'm sorry, it won't happen again."

"No, I want to know what the words are. What you just said."

"Well, it goes, I mean it starts out, I can't remember the whole—"

"Come *on,* man! Sing it!"

In an uncertain voice the radioman began to sing:

"I had a true wife but I left her, oh, oh, oh, oh.

And now I'm broken hearted, oh, oh, oh, oh.

Well, if she's gone, I wouldn't mind her,

Foldy roldy hey ding di do,

Soon find one—"

"That's enough, sergeant," Colin said, relaxing. He turned to Banning. "Well, General, that's it. The wedge goes in a little deeper."

"What do you mean?"

"Is Harkins married?"

"Yes, yes, I think so. She lives in the officer's quarters on base."

"Get her," Colin said.

"Now? My God man, it isn't even five—"

"Get her," Colin repeated. "Harkins has her on his mind. Maybe we can get to him through her."

Martha Harkins was a small brunette, too plain ever to be called pretty. Almost mousy, Colin thought. But intelligent, and quick to understand the situation, in spite of her nervousness. She sat on the opposite side of Banning's desk, her hands folded quietly in her lap, fingers twined, while Colin explained what they wanted her to do. Her still-sleepy eyes were fixed on her fingers while the psychiatrist talked.

"I—I think I see," she said hesitantly. "What it comes down to is that you want me to try to talk Dick out of *Phoenix I.*"

Colin nodded. "It may not be easy. I've told you as much as we know about the condition of his mind. He will not consciously hear you, in all likelihood. We hope to appeal to deep-seated emotions below the conscious level. Are you willing to try?"

"Of course," she said with real surprise, looking up at him for the first time.

"Good," Colin said warmly. He stood from behind the desk. "We'll

take you over to radio, now."

Banning was waiting for them in Central Control.

"Any change?" Colin asked.

"No. Same thing. Sometimes he comes closer to the mike. We can hear his footsteps. He seems to be wandering around the control room pretty aimlessly. Or maybe he's just carrying on the in-flight routine, we can't tell."

"This is Mrs. Harkins," Colin said. "General Banning."

"Thank you for coming, Mrs. Harkins," the general said. "I hope this isn't too difficult for you." He took her small hand in his own.

Martha Harkins smiled faintly. "A service wife gets used to just about everything, general."

"Unfortunately true. If you'll come with me, I'll introduce you to your technician. Has Dr. Meany explained what we want you to do?"

"Yes, I think so."

"Good."

"Just one thing, Mrs. Harkins," Colin put in. "This may take some time. It may be we'll want you to cut a tape with a request to leave the ship, if we can't get any response from live voice. Repetition is the important thing, and the sound of your voice."

"All right. I'll do whatever you say." She turned away briefly, but not before Colin saw the beginnings of tears in her eyes.

Banning led her over to the radio console, saw her seated and instructed in the use of the equipment, and returned to Colin.

"What do you think?" he said.

"She'll do."

"Will it work?"

"How the hell do I know?" the psychiatrist answered roughly.

They were silent for a moment, watching the small figure of the woman leaning forward tensely over the microphone, as if by her nearness she might make her husband hear.

"You know," Banning said musingly, "I get the feeling this is all the fault of SpaServ, somehow. Some little thing we overlooked. A little more training, maybe."

The woman's soft voice droned on, not quite carrying distinctly to the two men, though the warmth and urgency of it was evident in her tone.

"I think you did all right with your training," Colin said finally. "He came back, didn't he?"

4.

HARKINS SLEPT only lightly, turning restlessly in the large control chair. Finally the pain of his headache increased to the point he could no longer sleep at all, even lightly. Just before he wakened, he thought he heard a sound at once intolerably loud and somehow soothing. Which was impossible, of course.

Opening the viewport shutter a crack, he found the land outside lit ambiguously by the false dawn that was beginning to spread against the eastern hills.

He took several more of the white pills for his headache. Briefly he considered eating something, but abandoned the idea. The pain was

so intense, he didn't think he could keep anything down.

He found the illusion he had noted yesterday—the whispering sound he could not hear when he tried—was still there. It was even worse now.

All about him was the flickering shadow of a sound, demanding his attention, requesting. And still—when he tried to hear it, it was gone.

He pressed his knuckles against his forehead and clenched his eyes tightly shut.

If only he had something to do to take his mind off the headache and the elusive sound . . . But there was nothing to do. With neither the Skipdrive nor the atomics operating, he had not even the routine powerchecks to keep him occupied.

Then why am I here?

His function was to operate the ship. That much he knew without doubt. And he was well suited to operate it. His hands were properly shaped to manipulate the controls, and he could do it automatically, without thinking about it. He was Ship-Operator.

But the ship was not operating . . .

What was his function then, when the ship was not operating?

The other control devices, when not controlling, automatically shut off. Perhaps something had gone wrong in his shut-off relay.

That was not it, either. He was not the same as the other controlling mechanisms. He was different. Different materials, different potential functions in his structure, all kinds of differences.

But even if it were true that he was *not* intended to switch off when not functioning as Ship-Operator, what was he to do?

Think it out. Think this thing out very carefully.

Pain was a signal of improper functioning. All right. He was not functioning properly, then, and he knew it because of the level of pain in his head. If he could get rid of the headache, he would at the same time be finding his proper function.

Step one, then: Get rid of the headache. And he had to do that anyway, because he was unable to think clearly while he had it.

The headache had alleviated several times, then come back again. That meant he had performed properly, then drifted away into—into—Wrong was the word that came to his mind. Wrong. He had drifted into improper functioning, and the word for that was Wrong, and his headache had come back as a result.

All right. *When* had the headache alleviated?

He tried to think back. The first time, the first time was when he had found himself speaking the meaningless words into the microphone, announcing his estimated time-to-destination. And then, when he had closed the viewports. And throwing that Receive switch . . .

What did these actions have in common? What factor did they share?

Only one thing. Two, really. First, they had some connection

with the transmit-receive apparatus. Or two of the three did, at any rate. The other factor, shared by all three acts, was that they were done almost without his conscious will.

This, then, might be the critical factor. That he act without volition.

Relax. Completely. *Allow* yourself to act.

He leaned back in the control chair and tried to blank his mind, tried not to give his body any commands.

Without volition, without willing.

He closed his eyes.

For a long while there was nothing. Then he heard the whir of servomotors. He opened his eyes, delicately probed with his mind . . . and the headache had lessened.

He glanced up at the console, to see what he had done. A red bulb glowed over the label AIRLOCK. He had thrown the airlock switch, then. And it had been the "proper function" for him, because the headache had lessened. But the out-of-range whispering had not diminished.

The airlock? He shook his head in puzzlement. But the technique seemed to be working. What now?

He closed his eyes again, and this time the delay was shorter. He knew before he looked what had happened. He had lowered the landing ladder.

Well, this began to be obvious. He was to leave the ship.

And yet, the headache had been worst when he *had* left the ship. What did that mean? It seemed to mean leaving the ship was a Wrong function. But it was certainly indicated this time, from his opening of the airlock and lowering the ladder.

Well, what was Wrong function at one time might well be Right function another time. That could happen.

Leave the ship . . .

There was an edge of pleasantness and warmth to that thought, and the headache diminished.

"Please leave the ship, Dick . . ." It was almost as if he could hear a warmth in the air saying that to him.

Try the alternative. Deliberately he thought: *Stay in the ship.*

A flash of pain soared up the back of his head and across the top to settle swirling and agonizingly in his temples.

Leave the ship, he thought quickly, and the pain abated.

Clear enough.

He got to his feet and carefully made his way out of the control room down the catwalk toward the airlock that stood open and waiting to let him out of *Phoenix I . . .*

An excited non-com slammed open the door to the radio room and shouted, "The airlock's opening!"

Banning and Colin dashed to the broad window and stared out at the bulky shape of *Phoenix I,* resting monolithic on the landing pad. Banning took the proffered binoculars from the non-com, focussed them on the broad flank of the ship.

"It's open, all right," he said. "Here." He handed the binoculars to Colin.

After a long delay, the landing ladder slid down the side of the ship.

"I think he's going to come out."

"There he is."

"What's he doing?"

"Standing in the airlock, looking around. Now he's starting to come down. Now he's at the bottom of the ladder, looking around again . . . Now he's walking this way."

"Give me the glasses," Banning said. He looked for a long moment, making sure the colonel's direction did not change. "Still coming this way," he said, putting the glasses carefully on the table by the window. He turned to look at the psychiatrist. "What now?"

Colin shrugged. "Get him."

"Sergeant!" Banning called. "Sergeant, take five men . . ."

THE ROOM in which they put him was comfortable and secure. Very secure. The bed was firmly welded to the wall, the table bolted to the floor. There was nothing movable or detachable in the room.

The three microphones picked up little but the shuffle of feet; cameras dutifully imprinted on film the image of a man pacing restlessly back and forth, examining the fixtures of the room without apparent anxiety or curiosity.

"No trouble at all," Banning answered Colin's question. "He didn't even see the patrol. Spray shot of Somnol in the arm and that was it."

"He doesn't seem particularly upset," Colin mused, watching the screen on which the lean figure of Colonel Harkins paced.

"Nervous," Banning said.

"Not as badly as the situation would warrant. I don't think it's getting through to him. He's apathetic."

"How did he react to seeing his wife?" Banning asked.

"Bewildered him. Gave him a hell of a headache."

"That all?"

"That's all."

"What now?"

Colin sighed. "Get through to him some way." He tamped tobacco in his pipe, his eyes still on the spyscreen. Harkins was now sitting on the bed, his hands immobile on his knees, staring straight ahead.

"How do you intend to do that?"

Colin reached for a pad of paper and began scribbling, talking as he wrote. "How are you feeding him?"

"Double door compartment. Put the food in, close the outside door, open the inside."

"Put this on his tray next time, will you?" Colin handed the general a slip of paper. On it was written a single sentence: *Richard Harkins, I want to talk to you.*

"All right," Banning said, reading it. "He's due for lunch in about an hour."

On the screen, Colin could see the light come on over the food compartment, and the microphones

picked up the sound of a bell. Harkins, who had not moved from the bed since his initial examination of the cubicle, looked up. The inner door of the compartment opened, revealing a tray with several steaming dishes, a pitcher of milk and a pot of coffee on a self-warm pad.

Harkins stood up. He looked at the food, walked over to the tiny open door and picked up the tray. Calmly he carried it over to the table, sat down, unfolded the napkin and put it in his lap.

"My God," Banning whispered, "you'd think he'd eaten this way all his life."

"Apathetic," Colin said shortly. "He refuses to admit anything unusual."

"How the hell could he rationalize losing consciousness and waking up in a windowless room?"

Colin shrugged. "Brain's a funny thing," was his only comment. His eyes were fixed intently on the screen. Suddenly Harkins noticed the slip of paper tucked under the corner of one of the dishes.

Colin leaned forward, took his pipe out of his mouth.

Harkins withdrew the paper and looked at it. Even on the screen, Colin could see the writing, almost make out the words.

Harkins stared briefly at the paper, turned it over and looked at the other side in puzzlement. He rubbed the back of his neck and frowned.

Finally he gave a little shrug, put the message back on the tray and resumed eating.

Colin sat heavily back in his chair. He sighed.

"He didn't even see it," Banning said disgustedly.

"He saw the paper, not the message."

"Why?"

"Personal communication. It implies the existence of another communicating—entity. He won't admit it." Colin re-lit his pipe.

"Ah, hell!"

"I guess we'll have to take the direct approach," Colin said thoughtfully.

He lay relaxed on the bed in the little room, his eyes closed, his face calm and quiet. Pulse normal, temperature normal. Above and in the walls recorders and cameras purred almost silently with the bland indifference of omniscience.

Harkins.

Yes.

Can you hear me?

. . . *no* . . . The strain of the question twisted the man's face into a grimace of pain.

Pause. Then:

You are Richard Harkins.

Yes.

Colonel . . .

Yes.

Can you hear me?

I . . . No. Anxious contortion. *All right. It's all right.*

The man's face returned to relaxation.

How old are you?

Thirty-two.

Have you always been thirty-two?

. . .

Have you always been thirty-two?

. . . no . . . Hesitantly.

You were once younger.

Yes.

You were once a child and grew to be a young man and grew to be thirty-two.

. . . yes . . .

Why do you hesitate?

I don't understand all the words you say.

What words don't you understand?

Well—Man. The expression of pain and anxiety flitted across his relaxed features.

I will explain the words later. Don't worry about them now.

All right.

Richard Harkins, we are going to move back to a time when you were nineteen. You are nineteen years old. You are nineteen.

How old are you?

Nineteen.

What are you doing?

I—I'm a cadet, I—

What kind of cadet?

. . . SpaServ . . .

All right, now we'll move ahead two years. You are twenty-one years old. Twenty-one. How old are you?

Gradually Colin brought Harkins forward in time, carefully, feeling his way gingerly along the dark corridors of his mind. He brought him through cadets, graduation, his marriage to Martha (touchy: gently, gently)—his service in the planetary fleet.

Then: a mysterious phrase; rumors—Phoenix Project.

—nobody seems to know. Something secret, but no telling. Everything's secret this year. Testing officers right and left and up and down. But nobody knows what for . . .

. . . card waiting for me at breakfast . . .

Months of testing. Still nobody knows, but the rumors are running fast and heavy. Whole base preoccupied with the misty Phoenix Project. Secret construction hangar, security precautions to the point of absurdity . . .

. . . I'm it! . . .

. . . it's faster-than-light drive, that's what Phoenix Project is. Faster-than-light. The big dream, the dream of the stars . . .

Training. Slower through the two years of intensive training. This may be a critical phase. Two years, endless repetitive drill, drill practice drill drill drill . . . Colin's forehead feels cool as he sits beside the bed. Perspiration. A glance at his watch shows him two hours since they began.

How did you take to this intensive training?

All right. It was all right. Dull, you know, but it was all right generally. After the first year it was pretty automatic. Conditioned response, I didn't have to think. If and when such and such happens, press this button, throw that switch. Automatic.

Automatic, Colin thought. That's why he came back then. Without volition, responding to given signals according to training.

. . . walking toward the ship. She's big and bulky, but we're friends by now. Now I'm climbing

the ladder up to the lock . . .

. . . listening to the count down . . . two . . . one . . . fire! . . .

Harkins grunted as the re-lived acceleration slammed him back in the control chair with a relentless and unabating pressure. He was silent for thirty seconds.

. . . blacked out, not long. Report in to Gila Base, launching successful. They acknowledge, give me course. I'm moving "up", at right angles to the plane of the ecliptic. Fastest way to get away from large mass bodies . . .

Time then on atomic rockets, almost a full day. Colin brushed over this phase, which was routine. As far as he could tell, Harkins' duties had been designed principally to keep him from getting bored before it was time to cut in the Skipdrive, and this corresponded with what General Banning had told him.

As he approached the time of the Skip, he moved more slowly, taking in detail.

. . . three minute bell. The bell is a pretty sound. I am checking the controls again. Everything is fine. I am sitting down in the control chair with my hands relaxed over the ends of the arms. When my fingers brush against the buttons, they tingle, or seem to. We're all ready. There's the two minute bell . . .

Pause.

One minute bell . . .

Suddenly Harkins sat stiffly upright on the bed. His eyes snapped open, staring with fear and disbelief at something Colin could not see.

Oh, my God, he whispered.

What is it?

But there was no direct answer. Harkins repeated:

Oh, my God, my God, my God . . .

What do you see? What is there?

Oh Jesus the stars the stars the stars God in heaven I can't Jesus make them go make them go make them go . . .

His voice had risen almost to a scream, his eyes open wide and staring, his body rigid.

With a whimper, he clenched his eyes shut and fell back on the bed. He drew his knees slowly and jerkily up to his chest, as if resisting the movement, clasped his arms around his legs tightly.

He began to rock back and forth, gently, gently, as if immersed in water, his breath making an involuntary whining sound as it passed his constricted throat.

Move forward in time. Move ahead. You are coming out of the Skip. You are coming out of the Skip. You are returning to normal space.

Colin's voice was steady and calm over the high-pitched whines coming from the throat of the man on the bed. Suddenly his face relaxed. The eyes remained closed, but closed as if in sleep, rather than anguish. His arms and shoulder released their clenched grip around his knees.

Evenly, smoothly, his legs straightened on the bed, his feet digging into the covers and pushing them into a roll at the bottom. He finally lay as he had begun, stretched straight with his hands

beside his thighs and his face relaxed. When he spoke, it was in a normal, almost conversational tone.

. . . belled out. I like the sound of that bell, it is relaxing. It's a good signal and I'm glad it happens that way. I stand up from the control chair and stretch. I have the strong notion something very pleasant has happened.

How do you feel? Do you feel strange?

No, I feel fine. Everything is fine. I check the instruments, and they show that a Skip has been completed. That's good. I don't— I don't—somehow I can't remember why I wanted to . . .

His voice broke off, puzzled. Colin waited, and in a minute Harkins began to speak again.

. . . hear the sound of the Skip-drive. It comforts me. Funny, I don't remember ever hearing it before . . .

Go back before. Go back. You hear the one minute bell. You can hear the one minute bell and you are ready to make your Skip. You are getting ready to make your Skip.

Harkins snapped upright again and repeated his actions. He shouted and screamed, his body was forced into the foetal position jerkily . . .

OH GOD THE STARS THE STARS THE STARS

Whimpering.

Go forward. You are returning to normal space . . .

I feel fine, everything is fine. I check the instruments . . .

Go back . . .

There was no lessening.

Colin's shirt was slick on his body with sweat, his face looked old, older, his breath came in almost imperceptible quaverings, but his voice remained calm and assured, in violent and distinct contrast to the strain that showed plainly as age in his face—

Move ahead . . .

Move back . . .

Twenty-three minutes later, Colin closed his eyes and said:

In ten minutes from this time you will waken feeling refreshed and relaxed, as after a good sleep. You will be alert and fresh when you waken. You will feel as if you have just had a pleasant nap. You will remember nothing of what has happened while you were asleep, but you will feel fresh and relaxed when you waken ten minutes from this time.

He finished the waking-formula mechanically and left the little room. He walked slowly and deliberately to his quarters on the base, as though holding himself rigidly in control. He did not answer Banning's excited questions except to say, "I can't talk about it now."

Reaching his room he fell full length on the bed and was asleep nearly before the swaying of the bed had quieted.

5.

SEVERAL HOURS later he was again in General Banning's office.

"Look," Banning said, "I'm sorry to press this, and I know you

took a hell of a beating in there. But we've got to know."

Colin nodded morosely. "I know. I'm sorry about the delay."

"You looked more dead than alive when you came out."

"I'm afraid I'm too long on empathy and too short on objectivity to fool with that kind of thing. One of the reasons I don't often trigger these big discharges in my own practice. I get—inside, I guess, somehow. No detachment, or not enough."

"What was there? Inside, if that's the way you want to put it."

Colin sighed, absently pulled his pipe from his jacket pocket. "Specifically, I don't think I can tell you. He saw—or experienced as seeing—something when he went into the Skip. It was something so damned big it stripped him of his orientation as a human being."

"The films show him assuming a foetal position. That what you mean?"

"Well—basically this kind of regression is a denial of responsibility. 'I'm not a man,' he says. 'I'm just an unborn child. Take care of me.' The individual wants no part of the problems and responsibilities of adulthood. Harkins came out of that, or he never could have got the ship back. But he couldn't face being a man. The only way he could carry out his responsibilities, and survive, was to abolish the category, man."

Colin leaned back and sighed. "You know," he said thoughtfully, "Harkins must be the loneliest human being that ever lived. God!"

After a moment he looked up. "Ever read any Emerson?"

"The philosopher Emerson? No, not much. Some maybe, when I was in college. Why?"

"Nothing in particular. I was just thinking of an essay of his on Nature."

"No, haven't read it. Well," he continued, standing, "where do we go from here?"

"More of the same, I'm afraid. We have to find out what he saw. What was so—immense, that it could make a man deny the existence of other men."

Night came to Gila Base IV; the second night after the *Phoenix I*'s landing. Darkness climbed out of the eastern hills and spread itself upward into the sky and across the plane of the desert. *Phoenix I* was still on the landing pad, but its sides were hidden by a webwork of ganties and scaffolding as base technicians clambered over it, testing, checking, examining.

Colin insisted on leaving the base, making the twenty-mile drive into town and his home. Banning was too tired to argue about it. He gave the psychiatrist a security gate-pass and went to bed in his own office.

Colin's car buzzed down the wide concrete toward the little cluster of lights that marked Gila City. He slowed when he reached the outskirts, watching the blue glare of the overhead sodium lamps slide along the hood and up over the windshield.

Reaching his apartment, he flicked on the lights and went in. It was a single room, two walls covered

with floor-to-ceiling bookcases; there was a desk, one overstuffed chair. Automatically his eyes swept the room with the questioning glance of a man returning home; they lingered apprehensively on the neat stack of unopened mail the cleaning woman had put on the exact corner of the desk. He sighed. No matter how preoccupied a man got, the rest of the world went on just the same.

He went into the little kitchenette and made himself a cup of instant coffee, returned to the main room stirring it absently. He seated himself heavily in the overstuffed chair.

Struck by a sudden thought, he put the coffee down on the edge of his desk and went over to one book-wall. He scanned the multicolored spines until he found the thin paperback he was looking for. He took it down and went back to the chair. "Nature," the cover said, "by Ralph Waldo Emerson."

Laying the little pamphlet open in his lap, he pulled pipe and tobacco out of his jacket pocket, tamped the bowl full and lit it. He shifted himself easily in the chair, settling himself.

Our Age is retrospective, the introduction began. *It builds the sepulchers of the fathers . . .*

He read on, gliding over the familiar words with a pleasant sense of acquaintanceship, the sense of sharing an idea with a respected friend.

To go into solitude, a man needs to retire as much from his chamber as from society. I am not solitary whilst I read and write, though nobody is with me.

The next line of the essay made him sit up straight in the chair. He read it over twice, then closed the pamphlet and carefully put it back in the bookcase with a vague feeling of having been either betrayed or helped, he couldn't tell which.

As he was turning out the lights to go to bed, his com buzzed. Answering it, he recognized the voice of Banning's secretary.

"Mr. Meany, can you get back to the base right away? Something's happened."

"What is it?" Colin snapped.

"The Colonel has gotten back into *Phoenix I.*"

". . . understand exactly *how* it happened," Banning said. "He seemed to be sleeping peacefully, and one of the men went in the room to take out his garbage, for Christ's sake. When the door opened, he made a dash for it."

The two men stood in the control room before the wide window-wall looking out on the landing pad. *Phoenix I,* still surrounded by scaffolding, was brightly lit in the glaring beams of a dozen searchlights playing from the Gila Base buildings and trucks on the field.

"Can he take it off?" Colin asked.

"I don't think so," Banning said. "Sergeant, is there fuel in those tanks?"

"Yes, sir," said one of the men in the group that crowded in front of the window. "But the feed valve is off. It can't get into the firing chambers."

"What would happen if he

tried?" Colin asked.

"Nothing," Banning said. "It wouldn't fire. Unless—unless he didn't pay any attention to the board, and left his hotpoints on after he saw it wouldn't fire."

"What are hotpoints?"

"The ignition elements. They'd melt down under continuous heating and—well, then we wouldn't have any more problem. The tanks would go."

"You'd better clear the field," Colin said quietly after a minute. "Sergeant," he said to the radioman, "would you give the *Phoenix* a 'message coming' beep?"

The radioman did, then said to Colin, "Go ahead."

"Is he receiving?"

"Yes, sir."

"Colonel Harkins," Colin said. "Colonel Harkins, can you hear me?"

The loudspeakers buzzed.

"Colonel Harkins, please reply."

The speakers snapped once. The sound of Harkins' whistle came over, loud at first, then drifting away. He was whistling the same tune as before.

". . . had a true wife but I left her, oh, oh, oh, oh . . ."

"Do you want her back again?" Banning asked, recognizing the melody.

"Colonel Harkins, please reply," Colin said. Switching the mike off, he turned to Banning. "Better get her," he said. "We may have to go through the whole thing again."

It took twelve minutes by the control clock before they heard the door of the room open, and the light tapping of Martha Harkins' feet. Banning and Colin turned away from the window to greet her.

Suddenly their shadows were thrown violently ahead of them, leaping across the floor and up the opposite wall like frightened animals trying to escape.

They swung back to the window, their words of greeting still unspoken. For perhaps a half second they could make out the upper part of *Phoenix I,* standing above the ugly glare like the nose of a whale thrusting up through a sea of boiling flame. Then it disappeared, and the fire-ball climbed suddenly into the night sky, rolling and twisting in on itself. A gantry tipped and fell out of the flame with ponderous slowness, twisted and melted before it crashed to the pad. Then the unbearable glare died, and the searchlights played on an opaque black column of smoke, redly lit from within, standing where *Phoenix I* had stood.

The roar that shook the building seemed to come much too late.

COLIN SLUMPED disconsolately in the control room, staring blankly out at the clusters of beetle-like trucks clustered around the landing pad, with their feathery antennae caressing the stack of still-burning wreckage. Washed down by the foam trucks, the fire would soon be out. But there would be little advantage to it, except to clear the pad.

"How's Mrs. Harkins?" he asked without turning as he heard foot-

steps behind him.

"Under sedation," General Banning said. He came to stand beside the psychiatrist, looked with him at the firecrew's activity, so disorganized and insect-like at a distance.

"They'll have it out pretty soon," he said unnecessarily.

"Mm."

Both men were silent. After a while, Colin tamped in fresh tobacco and lit his pipe, sending up cottony puffs of smoke.

"What do we do now?" he said absently.

General Banning sighed.

"See that hangar?" he asked, gesturing to a tall building perhaps a quarter mile away down the edge of the field.

Colin nodded.

"Phoenix II," the General said, and his voice was flat and expressionless.

"Send another man into it, knowing no more than we know?"

"We have to know," Banning said. "Men have died before without as good reason."

"I'm going home. Call me if you need me."

Colin stood, and the general made a silent gesture of helplessness. They wouldn't need him. Not until *Phoenix II* came home. Then they would need him.

Colin spoke, quietly, as if thinking of something else.

"I didn't hear you," Banning said.

"Quoting Emerson. The essay on Nature I mentioned."

"What did he say?"

" 'But if a man would be alone,' " Colin quoted, " 'let him look at the stars.' Good night, General."

"Good night."

Colin walked outside into the cold desert air. The night was clear and crisp, and the Milky Way hurled itself like a mass of vapor across the sky.

. . . if a man would be alone, let him look at the stars . . .

He looked up, and was alone in the night. **END**

"Is this a trick?"

A TOOTHACHE ON ZENOB

BY BOYD ELLANBEE

Strange to think that from twenty-odd light-years away, other eyes see our own Sun blazing in the middle of a familiar constellation . . .

PEHN KARN sat in the signal dome, idly waiting while his friend adjusted the dials of the receiver. The recording tape spilled over the table in loops of aluminum.

"Doesn't this job get dull?" he inquired.

Nautunal turned the fifth dial

a few degrees, and glanced up. "Depends on your interest. It's true this is just routine space-sweep, but noise from space is amazingly variegated. Just one more sector to scan tonight, and I'll be through. What's matter with you, Pehn? Your face looks little lopsided."

Pehn tried to grin, and fingered the slight swelling on his cheek. "My face will never be my fortune, I guess. I don't know what's matter. Just ache."

Even at his best, as Pehn's family loved to remind him, he was an ugly young man; he had none of the rounded placidity of feature which was the ideal of his race. His olive skin stretched too tightly over his cheekbones, and his black eyes peered too intensely from their deep sockets. It helped very little that he happened to be extremely intelligent.

Pehn covered the aching place with his hand, and tried to concentrate on the emerging spills of tape. As a matter of fact, he had been having severe periodic toothaches for six months now, but had never spoken of it.

Suddenly he bent forward. "Hold it! Just minute. Let me see that."

Nautunal raised one eyebrow. "Don't let it get you, lad. Listening to space is apt to make you jumpy. Your friends over at Atomics wouldn't like that. More than once I've thought I was finding some sort of sense in all this chatter, but it never pans out. It's just noise. There may be other inhabited planets besides Zenob, just as Bidagha claims, but if so, they aren't talking."

"Stop, watch tape," said Pehn. Nautunal shrugged his shoulders, but he picked up the tape and watched as it trickled through his fingers.

The machine was recording short bursts of energy, separated by distinct pauses: ". . . . ."

"Two and two," remarked Pehn, "are four. Three and three are six. Four—"

"I know. I've been to kindergarten too. Four and four are eight. Has your aching face affected your mind? You ought to submit yourself for treatment."

He reached to shift the scanner, but Pehn grabbed his hand.

"Can't you see? Somebody is trying to show us they know how to add. Someone out in space. Keep watching. I wonder if they use duodecimal system, or what? Where is it coming from?"

Nautunal dropped his skeptical pose, and watched the emerging tape in silence. The growing table of symbols built all the simple additions up to 10 plus 10, by the laborious accumulation of dots. Then it began again, systematically, "One and one are two, two and two—"

Pehn turned his wondering eyes on his friend. "Is this trick? Joke you rigged up for my benefit?"

Nautunal shook his head, and his voice was hardly a whisper. "No. That stuff is really coming through space—through phase space."

Twice more, the table of additions appeared. Then, after a

brief pause, came simple multiplications. Hour after hour the signals continued, endlessly repeated, and shortly after midnight the two could recognize the periodic table of chemical elements, with atomic weights and numbers of isotopes.

"If those numbers which follow atomic weights are abundances," said Pehn, "composition of their planet is not quite same as ours. Look how rare 235 is. Where do you suppose this is coming from?"

"You guess," said Nautunal. He waved his arm towards the transparent dome through which the stars shone, and grinned. "From little data I have so far, signals might be coming from somewhere in Weaver, perhaps from neighborhood of Topaz, but it's too early to be sure of anything."

Suddenly a marked change occurred in the pattern of the signals. The clear symmetry of mathematics ended and was replaced by a formless jumble, but a jumble whose repetition suggested that it, too, contained a pattern if it could once be glimpsed. Meters and meters of tape piled up, and the young men stared at it in frustration.

Nautunal stood up in sudden decision. "Bidagha is right. There must be intelligent life in another part of galaxy. We need help, Pehn. We can't decipher this stuff, and yet it may be key to basic vocabulary. We need mathematicians, linguists, semanticists. I'll put out call to director." He lifted a finger to activate the visiphone in his wrist band, but before touching it he glanced at his friend in some concern.

"But you don't look well. Perhaps you ought to go home and get some sleep?"

Pehn shook his head. "No, pain will probably be gone by morning, and at time like this sleep would be only gift from Evil Ones. I'm going to get Bidagha. He'll be more use to us than dozen semanticists."

"Call him on visiphone."

"You know he can't wear one. He's at Cave tonight, holding Ceremony. I'll go after him."

"All right, Pehn. But remember, government will probably disapprove of this business. Whatever you do—don't tell your father!"

Pehn grounded his copter at the outskirts of the city, then turned his back to the glowing lights and walked north across the darkened fields towards Cave. The early morning sky blazed with stars, and ahead of him, low on the northern horizon, gleamed the sprawling constellation of Weaver. He had never been able to force his imagination to see many of the constellations in their completeness, and in the patterns of stars which his pastoral ancestors had conceived as Weaver, Sower, Horned Toth, he could see only random clusters of suns. He watched it now, as he walked over the rutted earth, and suddenly the pattern took shape, so that he could discern the old lady's Shuttle, and at its tip that brilliant yellow star, Topaz, which might that very moment be sending its signals through the galaxy. How many planets revolved around Topaz?

He stopped, for the field ended in a sharp bluff which descended

to a narrow valley. Across the valley's floor was the entrance to Cave. He could see the bobbing lights of candles, down there, and hear a muffled chant of many voices. He hoped Ceremony would end, soon, so that he could consult his friend. Once again he felt impatient that Bidagha should have to be met in person just because, as a Healer, he could not wear a visiphone into Cave. Bidagha was really more progressive than many scientists. But the culture of Zenob still had a strongly anti-materialistic, one might almost say anti-scientific tinge, and no machine of any kind could ever be brought into any of Sacred Places. Cave had been the chief place for the ceremonies of those living in Lahzen area for so many thousands of years, that even the historians did not know of a time when it was not in use. It was so old, some heretics said, that it had outlived its usefulness, and was not even a safe place to be in.

The stars were fading, and the northern sky was paling when the chanting stopped in Cave below. People filed out silently, extinguishing their candles as they reached the opening, and last of all came the Healer.

"Bidagha!" Pehn called softly. "Up here!"

The tall figure paused, then ran lightly up the steps out in the sloping hill.

"Has something happened?"

"Hurry. My copter is waiting back there, and I'll take you to signal dome. Then I'll have to go home. If I'm not there for breakfast, my father will begin another lecture on depravity of youth."

Bidagha's eyes twinkled. "Premier Karn *is* pretty conscious of his responsibilities to nation, Pehn, but perhaps eighteen years ought to be more respectful of fifty. I am nearly lafter myself, you know. But what has happened?"

Pehn raised his arm and pointed towards Weaver. "We're getting signals. We think maybe they come from some planet of Topaz."

Bidagha clasped his strong hands on his breast. His black hair, curling over a high, olive forehead, was held in place by the narrow green band of his calling. Under his little mustache his mouth was firm and serene, and his gray eyes were exalted as he stared at the fading yellow star.

"At last!" he said.

THE BLUISH SUN of Zenob had risen by the time Pehn got home. He sat through the family breakfast with his parents and his sister, thankful that his night's absence had apparently not been noticed.

Pehn's father, old Premier Karn, represented, the old man liked to think, the ideal of Zenobian maturity. The placidity of his mind was reflected in the soft roundness of his unlined face, and his full lips curved at the corners in perpetual contentment. Like most of his countrymen, he had never felt any conflict between his own impulses and the customs of his society, and never in his life had he needed the ministrations of a Healer.

In his usual benevolent mood this morning, Premier Karn entertained his family with his meditations on his favorite theme, the glories of Zenob's history and the perfection of her knowledge. They listened to his remarks in patient silence. As he sipped at his last cup of fragrant *akhlai*, he tried to make a kindly remark to his son.

"And what progress is your institute making towards practical atomic power, Pehn? Foundations of this work were laid down more than two hundred years ago, and government would be glad to have demonstration at any time."

"We're little uncertain, sir, when that will be. We want to be sure, before our first trial, that we have checked against even vaguest possibility of starting widespread chain reaction."

The Premier frowned, set down his cup, and touched his napkin to his lips. "But how could this occur?"

"It is not at all likely. But if, for example, as has been suggested, crust of our planet should contain large quantities of some heavy element with properties we don't know about, something related to 235 or 238 for instance, and easily fissionable, our very first trial might prove disastrous."

"Nonsense, nonsense!" said the Premier. "Complete chemistry of our planet was worked out and tabulated more than three hundred years ago. There were great chemists in those days, and since then no further research has ever been necessary. There could not possibly be any elements which we don't know about. It is not seemly for you young men to be questioning work of great geniuses of past."

Pehn's sister, Soma, had been silent, as befitted a woman. Now she said, "Father, I have been told that long time ago, Sarkar Talat, after life spent in philosophical research, gave Warning to government—"

"Trouble with you, my dear," and the Premier patted his pretty daughter's arm, "is that you don't realize women usually lack spiritual insight necessary to interpret veiled words of Ancients. Of course I admit our Healers can foresee future, but they don't always describe it in unambiguous language. Actually, Sarkar issued *two* Warnings, but they obviously did not mean what they seem to at first glance. First was, that we are in danger because we only think we have mastered all basic knowledge. Second was, that there are undoubtedly other worlds in universe, and one of them will one day affect destiny of Zenob. Taken at face value, these are obviously both false. As to first, no new knowledge has been added to our sciences for generations, in spite of fact that Ainta ages ago showed us how to use faculty of precognition. As to second, it is clearly foolish to think Sarkar meant other worlds in physical sense. He must have meant spiritual worlds." He turned again to Pehn, who had risen from the table and was waiting politely.

"When can we have that demonstration? Within month?"

"I'll speak to director today,

sir." The throbbing in his cheek was becoming evident again, and he touched his face gently.

"What's matter, Pehn?" said his mother.

"Nothing. My face hurts, little."

"Ignore it!" his father ordered. "I won't have any maladjustment in Lord Karn's family!" He picked up the gold-headed cane which was his badge of office, and strode out of the room.

Pehn managed to spend a second night with the sleepless group of experts at the signal dome, but fatigue, and the growing pain in his cheek sent him home again just before dawn. Softly he ran up the ramp to the second floor and into his bathroom, to the medicine closet.

In Pehn's family, a transient illness was an embarrassment, a persistent illness a disgrace. It had always been his mother's pride, and his father's boast, that in the Karn household the contents of the medicine shelves were never needed, and that the doors of the cupboard remained closed from one year to the next.

It was with a sense of guilt, then, that Pehn pressed a spot on the green-tiled wall to slide back the cupboard doors, and picked up an ivory box, from which he took a bolus of pain-killing plant extract.

He swallowed the huge pill, then took another. A double dose, this time, for he knew the pain would never yield to anything less. He stood shivering for a few moments, waiting for the drug to take effect. He looked up, and realized that his sister was standing at the open door, watching him sympathetically.

"Pehn," she said, "you're ill. Won't you talk it over with me?"

"I would talk it over with one of Evil Ones if I thought it would help this pain. It grows worse and worse."

"Have you told Father yet? He could arrange for Healer—"

"No!" he shouted. "I don't want him to know. He'd only begin lecture on his shame, his gray hairs, how all pain comes from unruly mind, why don't I put myself in tune with group—old familiar story. But I know this is something different."

"But Pehn! You know yourself, surely, that since you've got into Atomics Institute, you h a v e changed. You aren't perfectly adjusted, any more. You worry about things."

He touched his swollen face and smiled at her placatingly.

"Don't worry, Soma, or you'll get lines in your forehead, and Father could never bear shame of having *two* maladjusted children in family. I'm stronger than you think. Last year when I passed Fire Test, I stood flames longer than any of boys in my class, longer even than Nautunal. But this is different. Trouble with Zenob is that we don't have any biology or any real medicine."

"Pehn! How can you say such things? Your best friend is Healer."

"You know I haven't anything against Healers. But only ailments they can cure are those that originate in mind, and they can't really do anything for purely physical

ailments. Bidagha has admitted as much to me. He wants to change all that—he thinks time is ripe."

"But Pehn, our Healers can foresee future. You know that Ainta Penab proved that, five centuries ago."

"Ainta was worst disaster that ever befell Zenob," shouted Pehn. He put out his hand to restrain his sister, who was attempting to struggle to her feet in horror.

"Oh, Soma, I guess I'm just heretic. But listen to me. Sure Ainta Penab proved conclusively that such phenomena as telepathy and precognition are real. And what was result? Members of Cult used it as argument and launched campaign to stop scientific research completely. They nearly succeeded, too. Medical research has never been resumed on any large scale, and chemistry and physics only in last century."

Soma sighed. "You shouldn't get all excited, Pehn. Come down into living room, and stretch out on couch. I'll rub your forehead. You may be ugly old atavism but you're only brother I have, and I want to keep you."

In the big living room, Soma drew the curtains from the lucite walls that looked over the white city. The early sunlight came in, warm and faintly blue, soothing. She put foam pillows under his aching head, and drew up a footstool beside him. She stroked his forehead and he was beginning to doze, lightly, when a muted chime roused him.

He activated his wrist dial, to find Nautunal's grave face looking at him. Pehn sat up.

"What have you found?"

"Something. Can you come here, now?"

Pehn struggled to his feet. "Just give me minute to clear my head."

"Don't go, Pehn!" cried Soma. "You're not well! It's nearly breakfast time, too. Don't go. What will I tell father?"

But the door had closed, and from the window Soma watched Pehn's copter rise above the rooftops and glide out of sight.

IN THE SIGNAL DOME Pehn found the specialists still at work, pale and tense from lack of sleep. Some still conferred over pages of mathematical equations, some watched the tape which monotonously continued to record the symbols.

Bidagha strode forward to meet him.

"We've finally found key to vocabulary, Pehn, and others are at work now on main body of message. Signals are undoubtedly coming from one of planets of sun we call Topaz. It has system of nine planets, and waves are being sent from third. All my life I've believed that there were other planet systems like ours, and other intelligences in galaxy, but now that one of them is signalling us, I can hardly make myself believe it!"

From the top gallery, high in the dome, Nautunal ran down the spiral ramp.

"We're getting it now, Bidagha! Planet of Topaz, is signalling this entire sector of galaxy, hoping to

find planets with intelligent life on them. They wish to communicate, to exchange information, and they offer to visit any planet which would welcome them."

"Then they can travel through space?"

"Yes. They say they are only twenty-seven light-years away."

Bidagha's shoulders drooped in disappointment. "But if these signals have been twenty-seven years on way, it would take us another twenty-seven years to answer them. I shall never live to see their visit!"

"But you don't understand, Bidagha. I forgot this isn't your field. These waves are coming through phase space, and they go much faster than speed of light. They reach us almost instantaneously."

Pehn began to laugh. He felt light-headed, and for some reason amused. "I suppose you all remember my father's Jarlu lecture, in which he demonstrated mathematically that life or intelligence on any planet except Zenob was impossible. He pointed out that unique properties of carbon compounds of which we are composed could never be duplicated on another planet. And how remarkable circumstance of our having Ice I, only form of solid water that can float, had allowed life to evolve on Zenob, alone. Poor father! This will be hard on him. Of course, you are not going to send answer?"

Bidagha had seemed to be in meditation, but now he spoke in a commanding tone. "Of course we must reply!"

Nautunal gasped, and stepped away. "But we haven't right! That would be heresy!"

"I claim right. Centuries ago, Healers dreamed of this day, and as Healer I dare to claim right. We will reply to these signals and tell people of Topaz planet that intelligent men do exist on our own world."

Nautunal's eyes had become dreamy and speculative. "I am not certain that we *could* reply, even if we dared," he said. He looked uncertainly at the other microwave technicians, to see fear looking from their faces, too.

At last one spoke. "*I* think we could change over to transmission through phase space in about half hour—if we had orders." He hastily turned away, afraid of his own thoughts.

"Responsibility is mine," said Bidagha. "I speak with authority of my calling. We will send same set of mathematical tables we have received, and then periodic table of elements as they exist here."

Pehn felt confused, battered with warring emotions, and too tired to think or speak. But Nautunal moved with abrupt decision.

"If you order it, Bidagha, we will try." He turned to his technicians. "We'll start work immediately."

Nearly an hour had passed before the wave modulator was reported ready. In the highest level of the dome, they watched nervously as Nautunal turned up the power and worried the dials.

"All set?" he said.

There was no reply. In a dead silence he touched the button, and started an impulse driving towards

the star Topaz.

The door behind them opened with a crash and Premier Karn strode in, his face contorted with an anger he had never shown before in his life.

"Despicable traitors!" he shouted. "Turn off that instrument!"

White-faced, one of the technicians obeyed, and the power indicators dropped.

"Can it be true, what has come to my ears—what I see now with my own eyes—that you would dare to reply to message that comes from foreign planet?"

Bidagha's commanding figure grew even taller.

"Premier, I speak now, not as Bidagha man, but as Bidagha Healer, and I must give you my Warning: Zenob cannot escape contacts with other worlds!

"In my opinion, Zenob has reached fateful turning point in its history. We must face fact that our knowledge of physical science is not adequate. Our fossil fuels are nearly gone, and we must have atomic power. But frankly, our physicists don't know enough to design safe atomic reactors. And at rate science progresses on Zenob, they won't know enough for centuries. All of this could be remedied by exchange of information with this other world."

As he faced Bidagha, the Premier trembled with rage, and his usually placid face was contorted. "Bidagha, you could be unfrocked for that! Zenob would be better off if Healers would confine their opinions and activities to healing, and leave politics to those whose business it is. Government will not base its decisions upon visions of dreamers who have dwelt too long in Cave."

Pehn closed his eyes as a wave of agony broke over him. The voices receded; dimly he was aware that he was falling. Pain and shouting together faded away into darkness.

ON EARTH, at the listening post on Long Island, Joe Weber sat before his recorder, intent on the noise from space.

The chief anthropologist studied the star map on the wall as he asked his question. "Have you got anything at all, Joe?"

The technician shook his head. "Nothing but noise. I've only been beaming them for four days, and our schedule calls for a week on each sector. I'll keep on as planned, but I'm positive that the star systems in the Lyra sector are not inhabited in any sense we would recognize, or, if there is life there, it hasn't developed enough of a science for them to know they're being signalled."

The anthropologist sighed. "It may be a hopeless task. It may be several lifetimes before we locate systems similar to ours. I had hoped to find some in my day."

"Don't be discouraged, professor. I'll start hitting Cygnus for you, and maybe we can find something there. Yesterday, for a minute, I thought had something in Lyra. In the middle of the random noise, suddenly I came across what looked like 'dot dot, dot dot, dot-dot- dot- dot, dot dot dot, dot dot

dot—' It was clear as crystal, and much louder than the noise, but then it lapsed into the usual nonsense. Pure chance at work, of course, but for a minute there, my hair stood on end. Well, it's all in the day's work. I'll just keep sending our stuff—"

"Of course," said the anthropologist, "there might be intelligent people in the sector you're working right now, but they might be like the Zuni."

"The Zuni?" asked Weber.

"The Zuni are a large village of American Indians who live in New Mexico. Right next to what used to be a big Indian reservation for the Navahos. A typical inward-looking culture. Now the Navahos, although they still keep their own language and religion, are an outward-looking culture, interested in the rest of the world. The Zuni are not. For them the boundaries of the world are the walls of Zuni village. They wouldn't bother to listen to a message from outer space, much less reply."

"Can't be very bright." said Joe.

"On the contrary. Some of them have made the highest scores on the Tromovich intelligence test that have ever been recorded. It's not a matter of intelligence, but the attitude of the culture."

"Well," said Joe, "let's hope most of the worlds of space have outward-looking cultures." He turned back to his transmitter.

PEHN FOUND himself lying on a couch. He tried to get up, and felt his father's hands at his shoulders restraining him.

"Don't move, Pehn," said his mother. "You fainted, and they brought you home." She lifted his head, and let him sip a cup of the hot *akhlai.*

After a time his father addressed him with unusual kindness.

"We cannot delay any longer, Pehn. Your mother and sister and I are all agreed. You must undergo Ceremony. What is proper thing to do for you, I don't know, but Bidagha believes he can help you. This crisis in our world is making us all ill, and it is no wonder that you, being young, should suffer more acutely than rest of us."

Pehn tried to laugh. "Would you trust me to Bidagha?"

"Yes, I would. Although his views on world affairs are perverse and dangerous he is good Healer, and he has your best interests at heart."

"Your son is very ill, Lord Karn. If I am able to help him, would you be willing to consider possibility, at least, that wisdom of Healer is not confined to human body alone?"

Premier Karn brushed his hand across his eyes. In the last few days he had suddenly become an old man, and his mouth was drawn and tense. "I cannot tell, Bidagha. I am tired, and confused. I no longer seem to be sure what is true, and what is right."

Pehn opened his eyes to speak to Bidagha. "Do you think you can cure me, by Ceremony alone?"

"I have cured people who were much more ill than you are, but your case is serious because you

have delayed so long. It may be that we should not rely on ritual alone, and that it would be wiser to use knife."

Lord Karn gasped with horror. "Never! Have you lost faith in your own art?"

"Of course none of us like to use knife, since very few minds are skilled enough to control infection likely to follow. No, first we shall hold Ceremony just as our traditions counsel us. Tonight."

The muted chime of the visiphone interrupted them. The Premier touched his wrist and the gaunt face of Nautunal appeared in the dial.

"Signals have entered new stage, sir. Message coming at present states that Topaz planet wishes to visit any planet inhabited by intelligent race. They say they have phase space drive for spaceships, but in all their searching have not found even one inhabited world. They say they want to know that they are not alone in universe."

The Premier's face worked. "I cannot say what is right. Later. I will decide after Ceremony. Are you ready, Pehn?"

Pehn covered his face with his folded arms.

"All right," he whispered. "Sooner, better."

Deep in the valley north of the city, Cave yawned. For thousands of years its narrow mouth had been open to the Healers and the participants in the ceremonial ritual. The age of Cave was unknown, some said as old as the planet itself. Great rocks formed the inner walls, which ascended to a low domed ceiling, and occasionally a handful of gravel trickled down the walls to the bottom where a small stream still worked at hollowing out the stone.

At the back of Cave was the hearth, and across the floor were ancient stone benches waiting for the friends and family of the patient, for by tradition, only patient and Healer approached the hearth itself. The others, whose wills and hearts were to unite, for one brief night, to heal the sickness, sat apart in a broad circle, where they could see the ceremony, and the chant of their voices could float back to the ears of the sufferer.

As the sun set, Pehn was carried into Cave on a litter.

His father and mother, his sister, his father's collaborators in the government, and representatives of the whole community filed down the valley to the entrance where Bidagha stood, and each person, clad for this occasion only in a robe of animal fur, as he approached the opening extended his hands to show that he had removed his wrist band, and lifted his arms to show that no material product of modern technology was being taken inside to profane Cave. They all respected the ancient proverb, "What Immortals want new, they make new." Each one lit his candle at Bidagha's flame, and silently took his place in the circle.

Pehn had not been inside Cave since his early childhood, but it seemed a familiar place, since its description formed a part of many of Zenob's myths, and was part of

all her history.

The age-old figures scratched on the walls and filled in with colored earths, had been made by his remote ancestors at a time when their only weapons were the bows and arrows pictured there, and the stone-tipped spears with which they hunted their game. In the flickering light of the fire he could recognize the lithe *toda,* and the great-tusked *khalmat,* animals which had been extinct for many ages. How vividly Old Ones had portrayed these animals, and the ritual of their hunts! The wood fire, which Bidagha had kindled with a primitive wooden drill, burned on the hearth, and above his head through a rift in the ceiling, Pehn could see a narrow band of sky and a sprinkling of stars.

"Keep your head pointed towards fire," said Bidagha, "and lie quiet. Ritual has no value unless we observe it strictly." He gave Pehn a warm potion from an earthenware cup, which made him feel sleepy.

Bidagha began to chant, his bass voice reverberating from wall to wall, each syllable a sonorous musical note which was answered at intervals by the watching group of well-wishers.

A wooden bowl filled with coarsely ground grain was passed from one person to another, and each one placed a few grains on his tongue, some on his forehead, and threw a token pinch of the flour over his left shoulder.

An hour passed, two; the stars above shifted their position, and still Bidagha chanted, never hesitating, never stumbling over the archaic words. Midnight passed and the stars grew pale.

Through the roaring in his ears, Pehn heard the Healer kneel on the rock floor beside him; then he felt Bidagha's strong fingers on his shoulder.

"How is it with you, my son?"

Pehn groaned, unable to speak. The pain was not alleviated—it was greater then ever.

The soles of Bidagha's sandals scraped as he stood up again.

"Bring knife!" he called.

In his roaring darkness, Pehn stirred. Vaguely he sensed the murmuring of the watchers. Then someone else came near, and Bidagha's voice rose again. "Immortals, bless knife!"

Fingers pried open his jaw, probed at the misshapen gum, sending fiery flashes of agony into his brain. Then a hard edge of pain struck, cutting, releasing a flood of warm wetness in his mouth. Yet it all seemed to be happening far away.

He sensed Bidagha bending near once more. "Boy is going fast. Infection is deep."

Another voice: "Move him to experimental hospital?"

"He would not live to get there." A pause. "Go, bring forceps and bone knives. Hurry."

A long roaring darkness. Then new movement around where he lay: and a sudden voice that he dimly recognized as his father's.

"Stop! What is that tool in your hand?"

"A new device for extracting teeth," came Bidagha's calm, reso-

nant voice: "with which we may save your son's life."

Shocked murmurs all over the hall, topped by his father's shout of outrage, "In Cave—in hands of Healer?"

Bidagha replied, "What Immortals want new, they make new! Here and now, in my hands, they end our years of darkness! Let Immortals confound me if I lie!"

THE MULTITUDE in Cave roared their approval, and Premier Karn hesitated. He appeared to be struggling within himself. As the echoes died away, a pebble rolled from a ledge, dislodged by the sound, and fell at Bidagha's feet. A second pebble fell, and a boulder which had rested above the hearth for untold centuries shifted its position.

With a shout, Bidagha flung himself over Pehn's body as the boulder trembled and fell, crushing the life from the bodies of both men.

Dust rose, and a rumble began near the ceiling.

"Run!" cried Premier Karn. "Run for your lives!"

As the others ran from Cave, Lord Karn rushed to the huge rock lying upon his son, but he had no hope. Neither Pehn nor Bidagha would ever move again.

A trickle of sand pattered to the floor, and with a last backward glance Lord Karn ran from Cave. Boulders rained from the ceiling. The Premier had just reached the outside when a huge slab of rock crashed to the floor against the entrance. On the slope nearby, Pehn's mother and sister wept silently.

Lord Karn stood motionless a long while. At last he spoke.

"Cave is sealed," he said. "Let it never be opened again. Immortals have willed that my son should rest here forever, with impious Bidagha." Turning his face to the sky, he shook his fist at the bright spark of Topaz in the paling north. "So much for new things and foreign stars!" he said between his teeth. "This day's evil is enough."

They extinguished their candles and went slowly up the valley path towards the city.

Twenty-eight years later, on Earth, an astronomer comparing recent plates taken of the constellation Lyra noticed that Vega, its brightest star, had increased in brightness by a slight amount. The event was not especially remarkable—there are on the average, twenty-five novas reported every year in our galaxy—but Vega was one of the stars to be visited during the next decade by one of the Survey ships now in mid-voyage.

"There's one place they won't have to stop, now," he said to a colleague, showing him the plates.

"I don't suppose it matters. What's one star, more or less, when they all turn out to be the same—no planets, or barren ones—no stopping place for man."

"I suppose you're right," said the astronomer, staring glumly at the waste immensity of the photograph in front of him. **END**

A.D. 2150:

SHANDY

BY

RON GOULART

"He wants me to read to him, Ken."

Shandy was a teddy bear, a lion, an ape, a rival for Nancy Tanner's affections . . . But what else *was he?*

HOLMAN CAME down out of the forest of giant orange-woods and trudged across the plain toward the place where Nancy Tanner lived. It was late afternoon and the woods beyond Nancy's home were already growing dark and dim.

The door of the old spaceship was open and a dark flowered rug hung over the rail of the gangway. Late sun glazed the round window near the door, but Holman thought

he had seen Nancy behind the strawberry-patterned curtains.

Wearing a pale blue cotton dress, tan and slender, Nancy came out of the ship and into the low-trimmed grass. She held up one arm and waved once, smiling. "Ken," she said and turned to roll up the rug.

Holman said, "How you been?" as he came near, walking at his usual pace.

Setting the rug carefully on the bottom step, Nancy looked up at him. "Fine. Yourself?"

"Not bad. Had a cold last week." Holman put his suitcase down next to the neatly rolled rug.

Nancy frowned. "You still don't eat enough greens. That's why."

Holman kissed her, his hands gentle on her back. "Well, here I am," he said.

"Well, come in and we'll talk." She stepped slowly away from him and went up into the ship.

Holman gathered up his suitcase and the rolled rug and followed her.

He looked in and all around the kitchen before he entered.

Nancy watched him over her shoulder while she got two china cups. She grinned at him as he stepped into the room.

"I left the rug and my grip in the hall," Holman said and sat down in a straight-backed chair. Stooping to retie his hiking shoes, he glanced under the table. "Made it from the settlement in under four hours. Of course, I took big steps."

"Would you like rum or whisky or something like that in your coffee?" Nancy asked, touching the handle of the coffee pot.

"School teachers don't drink before sundown."

"You're on vacation."

"I'll wait. You go ahead, though."

Nancy set a cup in front of him and backed away. "You really have a tent in that little suitcase? You're not trying to get me to put you up here?"

"It's one of those monofilm ones." He pulled the cup closer to him and it rattled in the saucer. "I told you my intentions in my letter. And you said okay. So here I am to court you." Holman started to rise.

Nancy nodded him down. "I supposed it will be all right. I don't know." She went back to the stove.

Holman stood and started toward Nancy. He was distracted by a clicking sound in the hallway outside. As he turned to the entranceway, a large tan lion came in, its black-tipped tail swishing slowly.

Holman stopped as the lion crossed the kitchen between him and Nancy. "Don't panic, Nancy," he said in a calm voice. "If nobody moves, it'll go away."

Nancy smiled. "Why should he go away? It's only Shandy."

The lion nuzzled his head over the backs of Nancy's knees and made a growling, purring sound. The tip of his tail flipped against the smooth white stove.

Holman frowned at the lion and dropped back into his chair. "Shandy? The last time I saw him he was a St. Bernard dog."

Nancy rumpled the lion's mane. "Well, you know how Shandy is. He doesn't stay one thing for long. He saw a picture of a lion on a

sack of meal last week and off he went."

"When you're through fondling him I'd like my coffee. And where's the rum?"

Gently pushing the leaning lion away from her legs, Nancy said, "I'll get it, Ken." She patted Shandy on the back. "Go outside and play, Shandy. That's a nice boy."

Without looking at Holman, the lion left the kitchen.

"That's ridiculous," Holman said, turning from the empty doorway.

"Damn it, Ken. He's my pet and I like him." The rum bottle made a hard flat sound as she put it in front of Holman. "You might try to accept him. He's a very nice pet."

Holman unscrewed the bottle cap. "Love me, love my whatever the hell he is."

"For somebody who came by to court me you're not being very pleasant." She poured out two cups of coffee.

Looking at the red bottle cap, Holman said, "Okay. I'm sorry."

"You know Shandy's been with me since I was just ten or so. And since dad died, Shandy's been a real help."

"You don't have to live out here." Holman poured some rum into his coffee. "Just because your father was a naturalist and all."

"We don't have to talk about my father. I like living here. We've always lived here. Since we came out to Enoch."

"All right." He paused to look across the table at her. "You want to keep arguing or will you let me propose now?"

Nancy shook her head. "Don't now, Ken. Later sometime."

"You do know, though, that I want you. And you know I want you with me at the settlement."

Nancy folded her hands on the white tablecloth. "Oh, yes."

Holman drank the hot coffee fast. "And, really, Nancy, I don't see how we could keep something like Shandy in the settlement."

"Come and have dinner with me tonight and we'll talk then."

Putting down his empty cup, Holman said, "I'll go set up my tent at a safe distance."

Outside it was nearly night. A few yards from the ship, the lion was rolling on his back in a patch of yellow flowers and growling to himself.

Holman kept his back to the lion while he assembled his tent. And when he had it finished he went inside and didn't come out until Nancy called him for dinner.

The sky, up through the yellow-green leaves, was clear. The afternoon was warm, with a slight feel of coming rain. Holman locked his hands behind his head and half-closed his eyes. "And living alone by the woods is dangerous," he said.

Nancy laughed. "You've just eaten lunch in it."

Holman closed his eyes. "And how do you know what Shandy is? Maybe he's why this place got a bad name in the first place."

"He's a harmless pet. I'm very fond of him."

"Didn't your father have any ideas about him?"

"Dad couldn't figure Shandy out. He made all kinds of tests. Shandy's the only one of his kind we ever saw. But, see, dad wasn't sure what he was originally. He's a mimic, an over-done chameleon. I don't know. I like him."

Sitting up, Holman said, "Okay." He touched Nancy's shoulder. "Look, we've known each other, what? over a year now."

"Since you made that ridiculous field trip with your pupils and trampled all over everything." She tucked her legs under her and leaned toward him.

"Yeah. So let's not argue or anything. But, really, Nancy, I would sort of like to marry you."

"I know."

"Have you any idea if you're nearing a decision?"

"Oh, yes."

"And?"

"Well, I think we can."

"Marry?"

"Uh huh."

"Fine." After he'd kissed Nancy, Holman became aware of a shambling off in the trees beyond their picnic spot.

Twigs crackled and a medium-sized gorilla crashed into the open.

Holman let go of Nancy and asked her, "Shandy?"

The gorilla was carrying a large book in one paw.

"Yes," Nancy said, smiling. "He's been nosing through the storeroom again. Must have been in one of my old picture books."

The gorilla came up near their picnic basket and held out the book.

"He wants me to read to him, Ken. He gets that way now and then." Nancy took the book and opened it to the title page. "Earth fairy tales. This is one of your favorites, huh, Shandy?"

Bobbing his gorilla head, Shandy squatted down among the fallen leaves and smacked his paws together.

"Is he *intelligent?*" Ken asked incredulously. His scalp began to crawl.

"Oh, no . . . Well, let's start at the very beginning again," Nancy said.

Shandy rested his head on one clenched paw.

"Once upon a time," Nancy started.

Holman stood and grabbed up his windbreaker. "I've heard this one before. I'll drop by your place in the evening. Be finished by then?"

Nancy half closed the book with her finger as a marker. "You're angry?"

His coat seam jammed and Holman decided to wear the coat open. "No." He walked away into the woods. He was only a few steps into the trees when Nancy started the story again.

THE FIRE FLARED up, brightening the ground around Holman's tent. Nancy hugged her knees up close to her and rested her head on them. "He would be out of place at the settlement," she said.

Holman dropped a log on the campfire and came back to sit beside the girl. "He'd probably be

happier running around out here in the woods."

Nancy nodded slowly. "Probably."

The stairs out of the old ship rattled once off in the darkness. Holman looked away from the fire and toward the ship.

Coming across the grass toward them was a giant teddy bear.

Laughing, Nancy rose. "It's Shandy." She glanced at Holman. "Be nice to him."

Holman watched Shandy approach and didn't answer.

The teddy bear sat down, like a dropped rag doll, next to Nancy. He rubbed his fuzzy brown paws over his black nose and blinked his button eyes at her.

"Nice old Shandy," said Nancy, pulling one of Shandy's round ears. She smiled at Holman. "This is what he was being when dad and I first found him."

Holman, tilting forward, flipped a flat stone into the fire and scattered sparks. "That's a coincidence."

"I was just, you know, about ten," Nancy said, patting Shandy's head. "What had happened was I'd been playing in the woods. And, anyway, I left my own teddy bear out there. Lost it. And I told dad, because it was almost night when I remembered. Well, he found it and right beside it there was big old Shandy. Dad and I both decided after looking at him for awhile that his name should be Shandy."

Shandy blinked his eyes and clapped his paws.

Holman's left heel jammed hard against the ground as he shot up. "God damn, Nancy, will you knock off all this maudlin, banal, boy and his dog stuff. We're not taking that monster away anywhere."

"I know, I know, Ken. Don't talk about it now." She kept patting the teddy bear gently. "Nice Shandy."

"And you, Shandy," Holman shouted. "I'm doing the courting around here. Go hibernate or something, dammit."

Shandy's eyes stopped blinking. Nancy's hand slipped from his head and trailed down his woolly back as he rolled over and away. Without turning Shandy started off for the ship, slowly, on all fours.

Finally Nancy looked at Holman. "That wasn't nice, Ken."

Holman knew that. He could find nothing to say back to Nancy. He frowned and went into his tent, slamming the flap behind him.

After closing the storeroom door, Holman carried the two old suitcases down the bright corridor to Nancy's kitchen.

Nancy smiled at him and then at the brown, scuffed luggage. "Oh, sure, those will do," she said. "I guess the movers will be able to take care of the heavy stuff."

Holman agreed and picked up his half-finished cup of coffee. "And we can leave lots of the stuff here. If we're going to use this as sort of a summer place. I don't think we'll have to worry about vandals."

From the doorway Nancy said, "Not many girls bring a spaceship as a dowry."

Holman took her shoulders and turned her back into the room. "We can make Shandy sort of a watchdog."

"If he ever comes back."

"It's only little more than a day he's been gone."

"You were unkind to him."

"I know. I'm sorry."

Nancy edged around him and went to stand by the stove. "More coffee?"

"Okay." Holman was halfway to her when the knock sounded on the spaceship door.

"Maybe it's Shandy," Nancy said, partly surprised, partly relieved.

"Maybe. I'll get it."

When Holman opened the door a tall, slender young man, wearing a conservative suit, stepped out of the darkness and into the light of the corridor. He had a neat black mustache and was carrying a big bunch of red and gold forest flowers. "Is Miss Nancy at home?"

"Who are you?" The young man was standing close to him but Holman didn't move back.

The young man bowed slightly and smiled. "Tell Miss Nancy it's Shandy. Or better, Mr. Shandy."

"Christ," said Holman, backing now.

Shandy bowed again politely and walked to the door of the kitchen, knocking on the wall before he entered.

Holman jerked himself together when he heard Nancy gasp, and ran back to her.

Shandy was sitting in a kitchen chair, his legs crossed. "It's a rather interesting story, Miss Nancy," he said, smiling evenly.

Nancy reached out and turned off the stove. "I imagine."

Shandy brushed each side of his mustache. "Well, to begin then. I was in the wood and suddenly I tripped, carelessly, over a fallen log and was knocked unconscious. When I recovered I found myself in this state." He paused to rub his head. "And, of course, I remembered."

Looking straight at him, Nancy said, "You'd had amnesia."

"Yes. You see, Miss Nancy, many years ago, I'm not sure how many, my people lived here and I was quite a prominent member of the ruling class. But I incurred, unfortunately, the wrath of an evil scientist."

"And?" asked Holman. For somebody who'd recently been a teddy bear, Shandy looked pretty dapper.

Shandy smiled. "She put a spell on me which caused me to change shape, and also made me forget what I had originally been."

Nancy laughed softly. "Well, it's good to have you back."

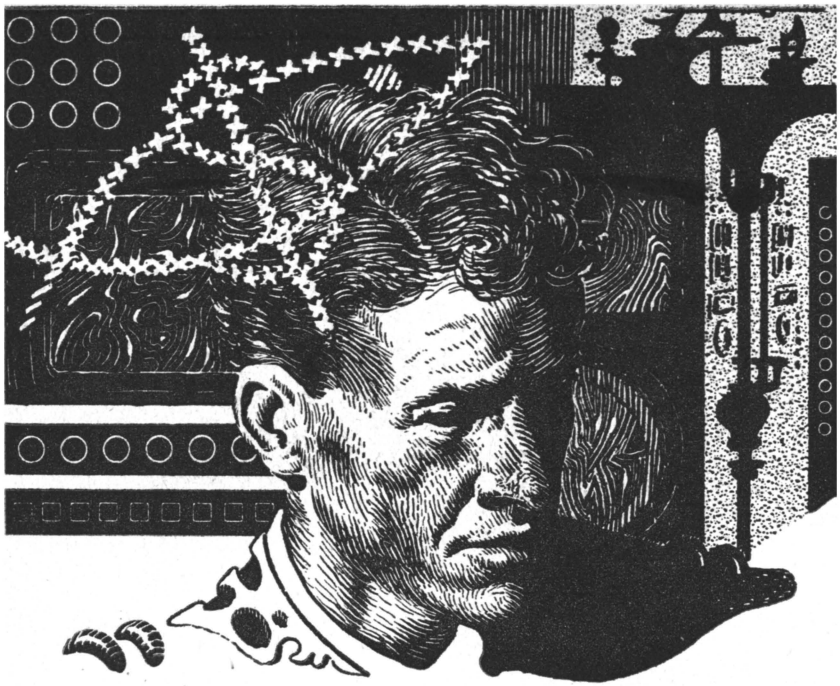
With a faint flourish Shandy held out the wild flowers. "For you, Miss Nancy."

"Why, thank you, Shandy."

Holman leaned against the wall under the clock and eyed Shandy. "You back to stay?"

"Well," Shandy said. "I've known Miss Nancy quite a while. And am really quite fond of her. I hate to see her go." He looked at the flowers Nancy held against her chest. "I have come to ask

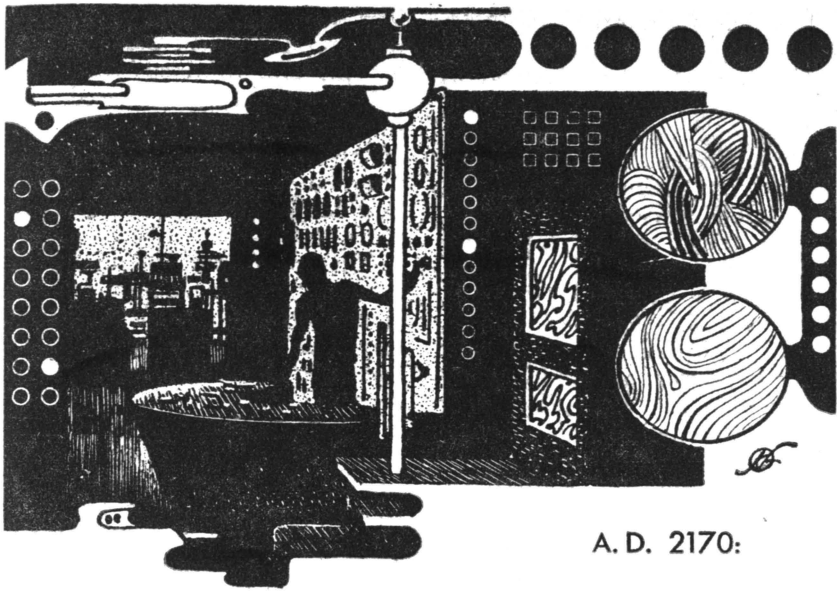
(Continued on page 106)



THE FISHDOLLAR AFFAIR

BY R. M. McKENNA

With more courage than prudence, the ensign followed his star to the final (and delectably feminine) test of a young officer's honor . . . A tender, ironic and funny story, by a new name you'll be seeing again.



Thoughts came unbidden to watch officer Welnicki.

SUBSPACE CRUISING never bored Ensign Stephen Welnicki. The ship's computer rotated skew-quadro fields, inscrutably altering by threes the twenty-seven positional variables—leaving the watch officer idle. Thoughts were to be had for the thinking.

Thoughts came unbidden to watch officer Welnicki. What if the never-found alien intelligence, feared so absurdly in official policy, was *subspatial?* Weird things, eating mathematics, fighting with music. They'd attack . . . Captain Kravitz and the others nerve-frozen somehow . . . command of Galactic Patrol Ship *Carlyle* devolving upon Ensign Welnicki . . . triumph . . . muster at Prime Reference . . . medal of honor. . . .

His pale blue eyes gleamed and his short blond hair bristled even more at the thought. His quartermaster broke in.

"That emigrant ship is a minute late calling in, sir. Shall I buzz it?"

"No. We are senior. I will reprimand her at five after."

That ship in synchro with *Carlyle* was S.S. *Rubberjack,* carrying twelve hundred colonists and equipment to found a settlement on a yet nameless planet of Kappa-9 Carinae. From some democratic planet in Vela sector, to be settled athwart an autocratic trend coming down from Columba. Ensign Welnicki,

aged twenty-four, was already helping make galactic history.

G.P.S. *Carlyle* would stand by until the settlement was viable. Adventure . . . a flyer forced down among nameless mountains . . . hardships . . . mineral deposits . . . tremendous cliffs and chasms . . . forever after, on the maps. the Welnicki Mountains. . . .

"Five past, sir."

"Very well."

Ensign Welnicki brought his slight form erect and strode across to the subspace voder, hardening his lips. Forestalling him, the light blinked on and the neutral machine-voice said, " . . . *Carlyle*. S.S. *Rubberjack* calling G.P.S. *Carlyle*. . . ."

The ensign pressed his transmitter bar and snapped, *"Carlyle* here. Go ahead, *Rubberjack."*

Too bad there was no visual transmission in subspace, to carry his hawklike stare to that sloppy merchant officer. Too bad his crisp voice would be wasted in the neutrality of *Rubberjack's* voder.

"This is Wendrew Fishdollar, President of the Republic of Fishdollar Five," the voder said. "Our forces now control S.S. *Rubberjack*. We wish to negotiate a standard treaty with the Galactic Patrol."

Welnicki's long, thin nose twitched in dismay. "What . . . where is Fishdollar Five?" he gasped. *Are they human?* his thoughts ran.

"Our present seat of government is in S.S. *Rubberjack's* tender," the neutral voice replied. "We have seceded from the main body of settlers. We wish to arrange for settlement on a different planet."

"Oh! Oh. Mutinous settlers?"

Welnicki's eyes narrowed. He smiled grimly. He glanced down at his blue and gold tunic and punched on the photo-recorder. Best have a record for the historians.

"Fishdollar, this is mutiny in subspace. In the name of the Galactic Patrol, I command you to surrender yourself and your accomplices to Captain Glover at once!"

"I am chief of state of a sovereign nation and I will not be spoken to like that," the voder said. "If necessary, we will cast loose the tender and enter space to find our own planet. We are holding the tender crew at their stations, even as I speak."

"I forbid it absolutely!" the ensign barked. "If you inspace at random, you will likely be far beyond the sphere of permitted exploration. You may betray humanity to an unknown enemy. Moreover, you will all be pirates and slavers. President Fishdollar, consider what you do!"

"National survival is at stake. My first loyalty is to my nation."

Ensign Welnicki arched his neck. "I warn you, President Fishdollar," he said vibrantly, "if you take those *Rubberjack* crewmen into space, I will follow and free them if I must pursue you to the uttermost ends of the galaxy!"

"We will defend our sovereignty to our last drop of blood," the voder replied pleasantly. "We had hoped for Patrol cooperation, but

we are prepared to carry on in the teeth of Patrol hostility. Our determination, Captain Kravitz, is unshakable. Goodbye, sir!"

The light blinked off. That parting speech must have been sonorous and magnificent in old Fishdollar's natural voice, the ensign thought. Then an echo of it nagged at him and he jumped.

"Oh my," he said, and punched the captain's emergency signal.

Captain Kravitz played back the photo-record and cocked a grizzled eyebrow at Welnicki. He sounded the general alarm and snapped orders: ready Scout Vessel Two and boarding party. Sleepy men manned battle stations. Captain Glover came on the voder to report his tender gone and trouble with lost-mass aberration. He was almost inaudible at full gain. "Prepare to regress," Captain Kravitz ordered.

"Proceed to destination and wait in orbit for me," he shouted into the voder. "I will regress and send a party after your tender. Give me the break coordinates."

Whispered data passed until Kravitz said abruptly, "That's enough, captain. I want a short regress. Good luck."

Welnicki thought about regression. The nine canonical threes vary independently in subspace; when a ship inspaces between the initial and terminal points set up in her computer, she may be anywhere. To find the Fishdollars, *Carlyle* would have to regress to the tender's breakaway point without changing computer settings. It is a mode of living backwards, and indescribably unpleasant.

"Stand by to regress!"

Howls of dismay arose. Ensign Welnicki stood at attention and raised his chin.

PALE WITH nausea, Ensign Welnicki faced Captain Kravitz after *Carlyle* inspaced. The tall, graying captain looked shaken also, but his eyes burned. His voice was ironically gentle.

"Given the chance, I might have persuaded Fishdollar to take another Carina planet, avoided all this . . . four thousand parsecs beyond the frontier of exploration . . . dangerous security breach . . . you command the search party, Ensign Welnicki . . . field-search each system in turn, buoy each as you leave . . . I know I can count on you for the last full measure of devotion, Ensign Welnicki. . . ."

Welnicki opened his eyes wide.

"I shall not fail you, sir," he said as firmly as he could.

The captain stroked his clipped gray mustache with two fingers. "I expect you to pursue the Fishdollars to the uttermost ends of the galaxy, Ensign Welnicki," he said solemnly.

G.P.S. *Carlyle* had ghosted back into subspace. Welnicki in blue and gold faced his subordinates across a green table in the tiny wardroom of Scout Vessel Two. They wore gray coveralls. Sergeant Chong, dark, stocky, impassive. Chief Quartermaster Rutledge, plump, florid, voluble. Chief Drive Tech

Kihara, small, dark, reserved. The ensign cleared his throat.

"This is a council of war, gentlemen. Here is our situation. . . ."

Five Sol-type stars lay within the tender's range. They would visit and field-search each system in turn, regain control of the tender and its crew when found, then wait for *Carlyle*. Under the treaty they were agents of the settlers' parent system, Sigma-3 Velorum, and bound by its constitution.

"So, gentlemen, it is really intersystemic war. Now the enemy population is about fifty—Captain Glover's estimate, he hadn't time to muster the settlers before we regressed. We have twenty marines and nine spacers. We are outnumbered and must attack prepared positions, but courage and imagination—"

"Won't some settlers be women?" Chong broke in gruffly. "We may not be so overmatched. How are they armed?"

"Body weapons only, sergeant. Nothing heavy. We mustn't hurt women, of course."

Chong coughed and subsided.

"One thing more. Our inspace separation from *Carlyle* is great enough so that, under article fourteen of Patrol Regulations, our scout is an independent ship. I now declare this ship in full commission."

He took glasses and a bottle of Earth whisky from a bag at his feet and poured drinks all around.

"Stand, gentlemen," he bade them. "To our ship and her christening: gentlemen, I give you G.P.S. *Fishdollar's Bane*."

The men choked a little on the fiery liquor. Ensign Welnicki wiped moisture from his eyes and looked on them with kindly gravity.

"Hereafter you may address me as 'Captain Welnicki,'" he said. "And now stand by to outspace."

Arrowing through the fourth system like a hundred-foot rapier probing enemy vitals, G.P.S. *Fishdollar's Bane* finally sniffed out the tender's ID pattern on an inner planet.

"Pinpoint the enemy and orbit his horizon. Compute physical data and report," Captain Welnicki ordered Rutledge.

Next ship-day he briefed his subordinates. A single continent lay athwart the planet's equator, with major volcanic activity in its galactic north. The enemy base was on the southwest coast. Gravity was point nine, the day twenty-six standard hours, and the season spring in the southern hemisphere. They would achieve surprise by landing in the north and staging the landing party south in the atmospheric flyer. What did they think?

"It's a laugh, the way we outgun them Fishdollars, Mr.—I mean Captain Welnicki," Chong growled. "Why not take—this ship—right over 'em and call on 'em to surrender?"

"They'd defy us, sergeant. They're ready to die to the last man—oh, you should have heard old Wendrew Fishdollar's parting speech! And remember, they have hostages."

"Oughta be some way we could

use the ship's armament."

"You're a tough fighter, sergeant, but you lack creative imagination. No, my decision stands. Have your marines roll field packs."

Spiralling in, Captain Welnicki thought the continent spectacular. Volcanoes and fissure flows welled forth seas of molten rock. Seas of rain slashed into them and roared skyward again as atmospheres of steam. The shrewdest enemy would never expect attack from this quarter.

G.P.S. *Fishdollar's Bane* grounded at dusk in a wooded region of low hills. The air was sulfurous but good, the sky a smoking glory. Occasionally the ground trembled. Singing birds in the strap-leaf foliage and furry ground rats were curious and unafraid. Captain Welnicki walked apart and listened to the shouts of his marines getting groundworthy.

Kihara and the spacers were assembling the flyer. The marines were playing grabtail, except two armed sentries. Keen fighting men all, spoiling for a fight or a foot-race. The captain winced when he heard one refer to his ship as G.P.S. *Fishbait*. But then, enlisted men were that way, hiding their nobler sentiments under such rough endearments. Underneath, however, hearts of oak. . . .

Early in the flaming dawn Kihara flew the marines south. He returned in midafternoon from the four-thousand-mile round trip. Then Captain Welnicki and the spacers flew south with equipment to complete the camp. There seemed to be no large animal life, so he left the ship closed but unguarded.

Chong's position lay behind a hill fifty miles north of the enemy. Great strap-leaf trees concealed tents and sentries. The captain, wearing the gray working uniform for the first time, called a council of war in his command tent.

Eve of battle, gentlemen. Stout hearts, now. Chong, Crespi and Swenson would be landed in darkness to scout for the attack. They would plant a guide beacon and hide until the full party joined them the next night. Tomorrow the flyer would move reserve rations and the heavy blaster ammo down from the ship.

Sgt. Chong, in accordance with Patrol Regulations, would direct the actual fighting. He, Captain Welnicki, would resume command when the diplomatic phase opened, that is, when President Fishdollar offered to surrender. Questions?

No questions. When Kihara returned from dropping Chong, he came again to the dark command tent and brushed past the orderly.

"Captain, wake up. The ship's guide beam don't register on the flyer's screen. Noticed it coming back just now. Something's wrong."

"Do you suppose the Fishdollars —" Captain Welnicki came full awake. Never betray doubt to a subordinate . . . the lonely leader. . . .

"Locate it visually tomorrow, then," he said calmly. "Take Rutledge to help. But you can't miss that big T-shaped lake."

"Oh, I guess we'll find it, if—"

"Of course you will. Turn in now, Kihara. Get some rest."

The captain did not sleep. He paced uneasily next day until the flyer returned, then almost forgot himself and ran to meet it.

"Gone forever," Rutledge said excitedly. "One of them fissure flows, must've been . . . miles of boiling rock right where we was . . . updrafts like to tore us apart and fried us too . . . now what, captain?"

Captain Welnicki stood very erect and lifted his chin.

DARKNESS UNDER the two small moons. Captain Welnicki stood apart and thought. Nothing but hand weapons and pack rations for two days. A fanatic enemy sitting with enormous reserves in a prepared position. So . . . attack, of course . . . always the audacity . . . out of this nettle danger I pluck this flower . . .

Kihara landed the party, minus the useless blasters, by Chong's beacon. Chong, sulfurous in disgust, drew his corporals aside to improvise a new plan. Captain Welnicki hovered near, saying nothing. He heard Chong tell Swenson to use the spacers for support fire.

"Soon's it's light enough I'll pass the word," Chong finished. "Scatter now."

"Come on, you spacers," Corporal Swenson growled.

He moved off, followed by the spacers. After a moment Captain Welnicki trailed along.

The enemy base lay on high ground across a small stream. One large unfinished building of slagged earth stood near the tender. The land was uneven and wooded. The roar of the sea came faintly through night air as Swenson briefed his spacers.

"Sleep if you can," he ended. "I'll watch."

"I want to scout in closer, corporal," the captain said.

"Not past the stream, if you please, captain. We spotted infrapickups over there. That's why Chong wants daylight and cover fire."

Minutes after he crossed the stream the captain's throat communicator prickled. It was Chong.

"Swenson tells me you're prowling, captain. Don't tell me where you are cause I'm scared to know. But freeze there. That's a military order in the field."

"Aye aye, sergeant," the captain said glumly.

He slept fitfully on the hard ground. Long time until dawn like thunder . . . Corporal Swenson stunned, command of the spacers devolving upon Captain Welnicki . . . ask no quarter, give none . . . red dawn streaks now, an omen . . . LISTEN: *footsteps in the brush!*

Over his flame pistol Captain Welnicki saw a tall man appear. He wore a merchant spacer's leather jumper and carried a small shovel. At the captain's terse command he dropped the shovel and faced the leveled pistol, hands at shoulder height.

"Quiet now! Who are you?" Welnicki whispered.

Eyes squinted above the loose

mouth. "I'm Jonas Cobb, that was third officer in *Rubberjack*. Are you a Patroler?"

"Captain Stephen Welnicki, commanding G.P.S. *Fishdollar's Bane*. I have come to liberate you."

"Well now, cap'n, that's right good of you. I'd be pleased to help." The hands dropped.

"You can, Cobb. I can use help. I've lost my ship, you see. I have only twenty-eight men with nothing but body weapons and two days' rations. I *must* win on my first assault."

"Here's an idea, cap'n. Them Fishdollars are still sleeping aboard. Suppose I sneak back, close the bunkroom collision doors and pull the fuses? I'll jam the hull doors too, so the guards can't close 'em."

"*Good* man, Cobb! Would you dare try?"

"I would, cap'n. Suppose they closed up the tender on you? All the chow's still aboard, and you can't eat native protein here without it's bio-fielded. Them Fishdollars could just sit and guzzle while you poor Patrolers all starved, and then who'd liberate us? Handguns won't noways touch that plating."

Chong came on the communicator. "Military order, captain. Stay put and keep your head down. We attack in one minute."

"No! Oh *no,* sergeant," the captain protested. "I've taken a *Rubberjack* prisoner . . . he'll jam the hull doors for us—"

"Don't trust him nor you neither. The both of you stay put. Here goes—"

"*No,* Sergeant Chong! I relieve you of command. Article thirty-seven, Patrol Regulations. Stand fast, now!"

He smiled apologetically. "My field commander is impatient. But hurry, Cobb. My marines are straining at the leash."

Cobb moved off hastily. Moments later came a subdued clamor of voices, scurrying feet, grating noises. Captain Welnicki peeped through the screening shrubbery just in time to see the ramp pull in and the ponderous cargo doors swing shut.

He called Chong: "Enemy alerted . . . fortunes of war . . . stiff upper lip . . . resume command, Sgt. Chong."

Chong exploded. Situation militarily hopeless . . . stop playacting and surrender . . . your baby, captain, and look to its napkin.

Captain Welnicki stood stiffly erect and raised his chin.

THAT DARKEST hour . . . inexorable hunger on this star-lost planet . . . guile now . . . keen intelligence of the spaceways. . . . Captain Welnicki called his subordinates to a council of war.

They had one idea—to surrender. "Somebody, you, captain, go bang on that personnel port," Rutledge urged.

"Never! Death before dishonor!"

"Hey! They're sending out a flag," Chong said.

The tender's personnel valves were ajar and between them a white cloth dangled.

"I'll go in and parley," Captain Welnicki said crisply. "Deploy and

cover me, sergeant. If they try to overpower me, blast us all down."

Sgt. Chong snorted nervously. The captain walked toward the ship . . . lonely, gallant . . . ashes of defeat . . . guile now. . . . The ramp poked out and a lanky figure, bearing the flag, descended. It was Cobb.

"Cobb! What happened? Did they—"

"General Cobb to you, cap'n. General of the Army of Fishdollar Five. I come out to take your surrender."

The captain stared.

"President Fishdollar says tell you we'll treat you real good if the marines'll help with the settlement. If so be you've a mind to, the foreign minister will work out a Patrol treaty."

The hangdog features gloated in mean triumph. Degrading . . . proud wings drooping . . . unless . . . yes . . . restructure the gestalit. . . .

"I come not in war but in peace, general. Commanding a Patrol vessel empowers me to act as Patrol ambassador. My men will aid you, in accordance with standard Patrol policy. Tell President Fishdollar I will make my official entry shortly after noon."

"I'll do that, cap'n. Say, you're a slippery one too, ain't you?" the general asked admiringly.

He turned away. Ambassador Welnicki rejoined his aides in stately dignity. Rutledge was secretary, Kihara chauffeur and Chong commander of the honor guard, he told them. Then he ordered a retreat to the flyer.

In the flyer he donned his blue and gold uniform. He had meant to wear it when he took President Fishdollar's surrender. Oh well, he had not disgraced that ancient, mystic bird-and-anchor symbol . . . diplomatic triumphs, now. . . .

Kihara landed the flyer before the large single building. No one was about. Eight marines got out and lined up. Ambassador Welnicki watched while a pretty young woman came out of the building and looked doubtfully at the flyer.

She was small, dark haired and wore a high-girded chlamys of clinging white cloth. Squinting, he saw above her left breast an emblem worked in red. It was an outlined fish with the ancient, mystic dollar symbol inscribed. She approached the marines hesitantly.

"Here now, young woman, those men are on duty," the ambassador warned. "You mustn't molest them. Please inform the foreign minister—"

She smiled. "I am the foreign minister," she said, bobbing a curtsy. "Lindrew Fishdollar, at your service, Mr. Ambassador, and welcome to Fishdollar Five. The president is waiting in the state reception hall."

"Thank you, Madame Minister." He stepped down with dignity, saluting, and followed her into the building. She danced ahead with vivacity unbecoming a foreign minister.

The hall was large, with bare slag walls and rough wooden furniture. Coming to meet him was another pretty young woman

in another white chlamys that molded itself to her walking. He stopped short.

She was smiling . . . milk white skin and jet black hair . . . thick eyebrows, black eyes . . . small, sweetly curvesome . . . holding out a hand. . . .

"Oh my God!" he said shakily "You! You are Wendrew Fishdollar!"

"Wendy to my friends, Captain Wennocky, and I hope you will be one. We do so want a Patrol treaty. Won't you sit down?"

The ambassador sat down, head whirling.

"How many of your officers of state are women, may I ask, Madame President?"

"All of us," she said brightly. "Our charter population, fifty-two in all, is entirely feminine. Since our founding we have naturalized eleven men."

"Well, Madame President . . . you must realize . . . most unusual. . . ."

"I understand, Captain Wennocky. Perhaps you're tired. Quarters are ready for you upstairs and the minister of the interior will show you to them if you wish. General Cobb will berth your men in the tender."

"My name is Welnicki," the ambassador said, rising. "Captain Stephen Wel-nicki."

"Oh, forgive me, Captain Welnicki. General Cobb—but there, poor man, you're tired and I won't keep you. Will you and your aides attend an informal dinner tonight with my cabinet officers?"

"Yes . . . delighted . . ."

The minister of the interior skipped along apologizing prettily for the crude furniture. She was Wandrew Fishdollar, call her Wanda, and she would see him again at dinner. His bedroom was also the Fishdollar National Library.

The ambassador called a council of state. His aides were equally overcome. Who'da thought it? . . . all women, all named Fishdollar . . . cute as crystals, too . . . always liked them Sigma Velorum planets . . . hey, Chong, you old goat? . . .

Dinner . . . elfin faces with white skin and black eyes . . . short, kilted skirts, sleeveless blouses . . . Cindrew, Rondrew, Sandrew, Dundrew . . . minister of this, minister of that . . . the ambassador was still dazed.

His aides did well. Kihara talked slaggers and nuclear furnaces to the minister of public works—Cindy, was she? Rutledge, expansive, held a group bright eyed and breathless with his account of the volcanic north. Chong was saying, "No offense, General Cobb, but in a fight the marines. . . ." Defense Minister Bondrew listened admiringly.

The ambassador felt better. Born diplomats, these men. That came of roaming the starways . . . a cosmoplanetary polish . . . charm no provincial could resist— "What did you say, Madame President? My mind wandered."

"Let's take our teacups into the next room where it's quiet. I want to tell you the story of the Fishdollars."

"Of course." The ambassador

rose with courtly, cosmoplanetary grace.

She sat beside him on the single cloth draped bench, and smoothed her short red skirt.

"In the second century After Space, Stephen—may I call you Stephen?" she began. He nodded indulgently.

The eighty-fourth planet colonized from Earth, she told him, was Fishdollar One, so named for Andrew Fishdollar, who founded the settlement and brought along many kinsmen. The settlement prospered but the planet had a strong Rho effect. Did he understand?

"Yes, Madame President. An excess of female over male births until a certain population density is reached."

"It may take *centuries*. It's terrible. Stevie, I've actually heard the Patrol sometimes sends ships . . ." She blushed prettily and looked down at the teacup on her rounded knee.

"Yes. Yes, Wendrew. There is a special clause—oh, most delicately worded—in the standard Patrol treaty with Rho effect planets. Spacers call them good liberty planets." He felt warm, tugged at his tight collar and kept his gaze on the president's teacup.

She took up her story. Genetic strains varied in susceptibility to the Rho effect, of course he knew, and it was terribly severe on Fishdollars. The clan became immensely wealthy through pioneer land holdings, but the name was dying out. Male Fishdollars were recruited from Earth and the other planets until the name was extinct elsewhere, but it was no use. Sex control was no good—bad psychic effects in the resultant males. Finally, in the fourth century, the Fishdollars settled a new planet, seeking a reduced Rho effect.

"But Wendy, why not adopt boys, change names and so on?"

"Against the laws, Stevie. People with low-Rho names believed the effect worked through the name and not the gene pattern. Silly superstition of course, but they had the votes."

It was the same story on Planets Fishdollar Two and Three. Fishdollar wealth grew and Fishdollar males dwindled in inverse ratio. On Fishdollar Four, in the Sigma-3 Velorum system, they vanished altogether. A few hundred women still bore the name.

"It's pitiful, Stevie, when a name dies after thousands of years," she said softly. She put down her teacup and smoothed nervously at her brief skirt.

"I can imagine. Ten generations of Welnickis have served the Patrol."

"We tried hard to keep the name alive," she went on, vainly tugging the pleated skirt lower on the smooth white legs. "Stevie, some of us here are haploid and some are illegitimate."

Her head drooped. Wordless, he watched her hands. She raised a rosy face to him impulsively.

"You mustn't think I'm one," she said rapidly. "My father was the last Andrew Fishdollar, the last man. He died two years ago."

The younger Fishdollars, she continued, planned one last effort to

settle a new planet, to be named Fishdollar Five. They recruited a group meeting Patrol standards and got sponsorship. It cost them a great deal of money. Their constitution and legal codes were those of the parent system, with minor changes correcting the unfair laws against high-Rho names.

"And then—oh Stevie, those superstitious, ungrateful, low-Rho settlers! While we were still in subspace they began amending the laws and the constitution. They even changed our planet's name to Rewbobbin, the ugliest, lowest-Rho name among them!"

"Rewbobbin!" He shuddered.

"We were just frantic, Stevie. We wanted to scratch their eyes out and we wanted to die. Then we thought about seceding. We learned that *Rubberjack's* tender was preloaded to care for an advance party of two hundred. We talked to General Cobb—you know the rest."

"Yes, Wendy. How imaginative . . . a random inspacing into unexplored vastness . . . Wendy, I salute your courage!"

"We weren't really so brave. The tender was a last resort, to force Captain Kravitz to settle us on another Carina planet. But when he reacted so violently—oh, Stevie, you should have *heard* the language he used to me—we knew we must go. We really had no choice, now did we?"

The ambassador coughed and licked his lips. "No, I suppose not, Wendy. Captain Kravitz is unimaginative. . . . aging. . . ."

"Stevie, did we do wrong? Do you think we did?"

"No, Wendy. Not you, whoever else may have. You were magnificent. I will use all my influence to see that your settlement lives."

"I'm so happy, Stevie. I feel safe now. Tomorrow Linda can work out a treaty with you. Shall we join the others?"

The smooth white legs stood up.

The ambassador could not sleep. His own copy of Patrol Regulations was lost, but providentially he found a copy in the Fishdollar National Library beside his bed. He thumbed it.

He was, indeed, still captain and therefore ambassador while his crew was intact. But that other article . . . here it was:

"In exceptional circumstances involving galactic security the commander of a ship or squadron may assume plenipotentiary status and execute finally rather than provisionally binding agreements . . . as soon thereafter as practicable he shall report to Prime Reference for plenary court martial."

So. If he dared. . . . He remembered old Borthwick's lectures in Patrol Jurisprudence at the academy. Only two men, both squadron commanders, had ever used that article. One had been shot, one cashiered. . . . The ambassador slept.

Over coffee next morning the foreign minister produced copies of the Patrol treaty with Sigma-3 Velorum, with appropriate name changes, and proposed they sign them.

"These won't do, Madame Minister," he protested.

"Why not, Stephen? We have almost the same constitution."

"Your planet, Lindrew. Almost four thousand parsecs beyond the sphere of settlement. Do you know why we *have* a frontier?"

"Oh, Patrol policy . . . no, why?"

"Other intelligent beings may be settling the galaxy just like we are. We're afraid to meet them too soon."

"Why?"

"Maybe hostile. Lindrew, just because the Patrol prevents interplanetary wars, it's the only deep space fighting force humanity has. But with no wars, and support of the Patrol voluntary, it isn't very big. Not big enough for galactic war."

"Will it ever be?"

"We hope so. We add a new ship for each new planet. We increase as the cube of the radius and our frontier only as the square, as long as we enforce the sphere of settlement concept."

"The Patrol enforces it?"

"Yes, by denying sponsorship and protection to non-treaty settlements. We can't actually use force against a sovereign planet, except blockade under certain conditions."

"Do settlements ever defy you?"

"Not for long. They give up and we move them to a settled planet that wants them, wiping out all traces of their stay."

"Oh. Stephen, do you approve of that policy?"

"No, Lindrew, I never have. It's —it's unimaginative. But they'll tear their beards at Prime Reference about your planet."

"But you'll help us, won't you Stephen? How must we change the standard treaty?"

"This is an outpost planet and the aliens, if they exist, will surely find it first. We'll need a Class I base. You must in time support extra-planetary defenses."

"You make the changes, Stephen. Whatever you say. Then we'll sign."

He shuffled his feet. "I'm afraid I can only initial it, Madame Minister. Prime Reference must ratify. I will urge most strongly—"

"Oh Stephen," she interrupted, pretty face stricken, "might we lose our treaty after all?"

"There's a chance, I can't deny it."

"Oh dear! I haven't the heart to tell Wendy."

"I need to think," the ambassador said. He excused himself unhappily.

DAYS PASSED and the settlement grew. The ambassador put away his blue and gold and worked with his hands. The native strap-leaf vegetation flowered riotously through long, warm days, and so did Earth plants in the test plots. The shapely Fishdollars became golden-tan and more charming than ever.

The Patrolers worked like fiends erecting buildings and plants, striving to outdo the merchant spacers. The girls helped where they could and bubbled admiringly at the prodigies of labor. The minister of public works told Chong privately

that one marine equalled two merchant spacers. The latter, as if unware of their lesser worth, worked like fiends too.

Kihara and his two petty officers were the engineers. Corporal Crespi, with a gang of marines and Fishdollars, milled fragrant lumber from native hardwoods. Houses went up and were filled with furniture rough-styled by General Cobb. The ambassador worked on the power plant, the materials converter, and then the air conditioning. The men became hard, deeply bronzed, strongly alive as the native trees.

With his aides, the ambassador worked out treaty revisions.

"PR will never ratify," Rutledge said.

"Look. Maybe the aliens don't exist," the ambassador argued. "If they do exist, they may respect boundaries. Then Fishdollar Five stakes a huge claim for humanity. If it's war, we make our fight around an outpost planet, far from settled regions."

"We ain't Prime Reference," Chong growled. "Who you trying to convince?"

Fishdollar Five ratified the treaty. Ambassador Welnicki looked unhappily at his initials and told the foreign minister, "I'm sorry, Linda."

"We understand, Stephen. We know you're doing all you dare for us."

Resting one day from pipefitting, the ambassador asked Kihara, "You know math, chief. Isn't it true this damned, sacred 'sphere of settlement' really takes in the whole galaxy in subspace?"

"Yes, in a way."

"It's fossilized, Einsteinian thinking. Damn the admirals!"

"The admirals think Einstein is God. You better think the admirals are God," Kihara warned.

The ambassador thought. The outpost planet . . . last, loneliest, loveliest, exquisite, apart . . . one man with imagination . . . serve humanity and be damned for it now, canonized later . . .

One afternoon he walked with Wendy to their favorite spot on a headland above the sea. She climbed before him up the steep, narrow way, and the sea wind fluttered her skirt. The outpost planet . . . democracy . . . daughter planets teeming with pretty girls like Wendy and stalwart young men like . . . really imaginative galactic ecology. . . .

Sunset neared and half the sky, as usual, flamed gorgeously. The sea sent back the color and beat hypnotically against the cliff base. Wendy stood on tiptoe, arms raised, skirt wind-molded, sweetly rounded form outlined against the sky.

"Stevie, Stevie," she whispered, "isn't our planet beautiful? I would rather die than leave it. I feel . . . fulfilled, somehow."

"Wendy, I haven't told you, but —"

She came to him in quick concern, her hand on his arm. Then it came out of him in a rush.

"Regulations permit me to assume plenipotentiary status. If I

do and then sign that treaty, it will bind the Patrol absolutely. Wendy, I'm going to do it!"

"Can you really, Stephen? Won't they find a way . . ." Her face was grave.

"I can, for sure. I'll undergo court martial after. But the treaty will stand. The pledged word of the Galactic Patrol is sacred. Only the Patrol binds humanity into any kind of unity, and its very existence depends upon planetary trust in Patrol good faith."

"It's so much power for one man."

"Not every man is made a Patrol captain. Believe me, Wendy, your planet will live. And I'm glad."

Then she was in his arms and they were kissing, and Captain-Ambassador Welnicki trod on air back to the settlement feeling that the game was worth the candle if they took his head for it. He signed with a flourish, Stephen Welnicki, Captain, GP, subscribed Ambassador Plenipotentiary. Then he called his aides into council and assumed the status formally, just for the record.

DAYS PASSED, shorter and warmer, fruits forming on the native plants. Basic installations were complete. Exploring and mapping teams brought in mineral and biotic specimens for testing. It was midsummer of the four-hundred-two-day year. President Fishdollar brought up a delicate subject with the ambassador plenipotentiary.

Four of her citizens were, well, you know, and they wanted to marry four of his marines. Could he authorize it?

"Of course, Wendy. Enlisted men may marry on any treaty planet."

He spoke to Chong.

"I told 'em hell no," the sergeant said. "Us marines depend on higher authority to protect us from that. You're gonna back me up, ain't you, captain?"

"No I'm not! What's so terrible about marriage?"

"Ask Corporal Hodges that, captain. He's married and the Fishdollars *know* it."

Chief Justice Sandrew married the four couples in a mass ceremony. President Fishdollar wept and the ambassador plenipotentiary comforted her.

She was distrait and melancholy in the days that followed, and the ambassador plenipotentiary was himself obscurely troubled. Eight more couples married. Then one evening they were again on the headland in a flaming sunset and she began crying softly. She didn't know why, unless it was because the sunset was so beautiful.

So he held her and they talked in low voices until, as the sun's red disk touched the sea rim, he had to tell her that no Galactic Patrol officer could marry until he reached the rank of commander.

"But you're a captain already, Stevie."

"Only in a special, temporary way—"

"But your heroism, finding us, losing your ship—surely they'll

make it permanent."

"Wendy, they'll want my head for all that. I . . . I've tried to think that way myself, but I can't. I do believe, in the far future the name Welnicki will be honored by what I have done, but now—when Captain Kravitz comes—I have no right—"

"Every man has a right to happiness, Stevie. What if you married anyway?"

"Cashiered, automatically. Ten generations of Welnickis have given their lives to the Patrol with not one dishonorable action—"

"Stevie, you make me furious! How can marriage be dishonorable? We'll keep it secret and you can command the base here until you make commander. It's all so simple, really."

"I need to think," he said sadly. She laid her dark head on his shoulder and cried.

He thought: make her happy . . . secret . . . impassioned speech before the admirals . . . galaxy to fill . . . creative imagination confirms me now, gentlemen, time will vindicate me . . . so tearfully anxious . . . in for a copper, in for a solar . . . make her happy . . .

"Wendy," he said in a low, halting voice, "let's do get married."

"Oh *yes,* Stevie! Yes, yes, yes!" She melted into his arms.

The crimson sun dropped below the sea rim and the sky faded to somber red. They walked back hand in hand, the president chattering gaily, the ambassador plenipotentiary oppressed under the cumulative enormity of his command decisions.

The wedding was beautiful. The bride wore her chlamys of state and the groom stood very erect in blue and gold. Chief Justice Sandrew wept but managed to get the words out clearly enough through tears and sniffs. All the Fishdollars wept. Even hard, unsentimental Sgt. Chong snorted nervously.

Married life was wonderful. The president melted with affection and the ambassador plenipotentiary loved it. Never had diplomatic relations between the Patrol and any planetary government been so cordial.

Even the weather reflected it. The days, cold and rainy as winter came on, turned clear and warm again. The native trees were deciduous and their long strap-leaves became a blaze of color carrying the dawn glory through softly bright days, carpeting the ground with sunset. Thinking and worry were fantastically unnecessary.

Then one beautiful morning after an intimate breakfast, the ambassador plenipotentiary learned that maybe, just maybe now, darling, he was going to be a father. A few tearful moments later an excited quartermaster called him to his door. G.P.S. *Carlyle* was in orbit and would ground next day. Captain Kravitz instructed Ensign Welnicki to report aboard as soon as grounding was secured.

All along her six-hundred-foot length, ground shores probed out to equalize tensions as G.P.S. *Carlyle* eased her lift. The shriek died with the slowing generators, and the starboard personnel port

swung open. Beyond the zone markers Ensign Welnicki looked into his wife's face, then marched toward the ship. He wore his blue and gold.

Carlyle's passageways seemed more cramped than he remembered. He felt foolish in his dress uniform, exchanging greetings with coverall-clad shipmates. He ducked past the saluting orderly into the captain's office almost with relief.

Captain Kravitz, behind his gray desk, had never looked more austerely forbidding. As the ensign made his report, the grizzled eyebrows raised, then two fingers stroked the gray mustache. When the ensign reported his binding signature of the treaty, the captain raised his hand.

"Very well, Ensign Welnicki. Remain in your room incommunicado until further notice."

Ensign Welnicki stood very erect and raised his chin. Then he walked directly to his stateroom in the bow, ignoring greetings from former shipmates. He clanged the door shut, and never before had the tiny room seemed so microscopic.

A long week's pacing, three steps each way. Thoughts . . . defense at Prime Reference . . . first the grave statement of facts, for the record and for unborn historians . . . for some future Welnicki burning to vindicate his triple-great grandfather . . . then the exhortation to courage and imagination, powerfully restrained emotion almost breaking through . . . deep, ringing sincerity . . . then the gray courtyard and the firing squad . . . I die without resentment . . . my short life justified, its meaning found in action . . .

Thoughts about his planet . . . *his* planet? . . . Wendy, the child . . . a boy, of course, the Welnickis were quite low-Rho . . . never to see his son . . . knowing that in the gray courtyard. . . . He wanted to cry.

ENSIGN SOTERO, armed and brassarded, came to conduct him to the captain on the eighth day.

"Damn orders, Steve," Sotero said, standing in the door. "We know most of the story and we're all for you. Your wife and the skipper have been going round and round for days, beating each other over the head with that treaty, Patrol Regulations and the constitution of Sigma-3 Velorum. Somebody heard him say she's the smartest space lawyer this side of Earth. Don't let him stampede you, Steve!"

"Thanks, Juan, I won't." Ensign Welnicki's own voice sounded strange to him after the silence.

The captain was disconcertingly un-fierce. He looked tired and sad behind the gray desk.

"Sit down, Stephen," he said dully. "Let's talk about this mess we're in."

Ensign Welnicki sat down gingerly, his back stiff.

"My head falls too, of course," the captain went on. "You're too little a goat. They may even chop down Sector Admiral Carruthers."

He sighed and looked at the

overhead. The ensign opened his mouth.

"I see my error now," the captain forestalled him. "You are not mature enough for command. But I was ensign under your grandfather Welnicki in the old *Ashburton* before you were born. I thought I sensed in you the same intangible that made him great. Well, spilt milk, Stephen. What can we do?"

Ensign Welnicki suggested unsteadily that the Fishdollars might consent to removal to an approved planet.

"First offer I made, Stephen. They voted it down unanimously. Bluster was no good, pleading no good. With that treaty they've got us cold and they know it."

Ensign Welnicki wished he were dead but did not see how that would help. After a long silence the captain spoke again.

"I have one last hope, Stephen. Something you've overlooked. I got it from Rutledge."

The ensign looked his question.

"You didn't formally assume plenipotentiary status until *after* you signed, so technically your signature is not binding. Now if it was a forced subterfuge to counter logistic pressure, your ship being lost and all, we can repudiate the treaty without breaching faith. Only you can really know."

Ensign Welnicki breathed deeply. "The Fishdollars with no treaty, how they can survive, I don't know, captain . . ."

"We'll leave message capsules. When they call for help we'll dump 'em on Rewbobbin."

"I . . . I don't know, captain."

"We can fix everything else, save your career."

"No, sir. The treaty stands."

"You signed falsely and you know it."

"I can say—I hereby do say that I signed second copies afterward. The treaty stands, sir!"

Ensign Welnicki stood up, suddenly feeling good.

Captain Kravitz stood up too, face tautly impersonal.

"All right," he said, shuffling papers on his desk. "I want to lift out as soon as possible." He pulled out a paper and looked coldly at the ensign.

"As you may or many not know, your marriage makes you a citizen of Fishdollar Five," he went on. "As you may or may not know, your precious treaty forbids removal of a citizen to another planet without governmental consent. I doubt the admirals at Prime Reference would choose to come all the way out here just to court-martial one small ensign. But as you *certainly* know, your marriage means the automatic revocation of your commission. You will save me trouble and delay by signing this resignation."

He shoved the paper across the desk. Ensign Welnicki looked at it stupidly. His inner song was muted.

"Sgt. Chong will stay to command the temporary base force," the captain was saying. "Within a year you may expect a Patrol construction fleet to open your communications and start work on the base. Your pay accounts can be settled then. There! Sign it!"

Ensign Welnicki bent and signed. The captain looked at the paper and handed it back.

"Use your right name," he said.

Ensign Welnicki looked blank.

"Stephen *Fishdollar!*" the captain roared.

The ensign looked blanker still.

"Ensign Fishdollar, some day you really must read through the legal codes of your adopted planet," the captain said mock-earnestly. "One of the changes made by the Fishdollars in the Sigma-3 Velorum codes was to make marriage and descent matrilineal. That way their name escapes Rho-death."

Ensign Fishdollar sagged. His inner song faded to a whisper.

"Very, very clever of the Fishdollars," the captain said musingly. "To link their name with the X-chromosome rather than with the Y. So it becomes as low-Rho as it was high before. Very clever indeed.

"Ensign Fishdollar, you utter lamb, did you honestly not *know* that?" he finished with roar.

Ensign Fishdollar swung his head dumbly.

"You know, Ensign Fishdollar, that the Patrol regards as null any marriage with a citizen of a non-treaty planet," the captain said softly.

The savage self-biting of his autonomic nervous system almost made him grimace as he bent wordlessly to the paper and signed "Stephen Fishdollar." The inner song was dead.

"You may go home now, Mr. Fishdollar," the captain said. "I will send your personal effects, less uniforms, ashore before I lift out."

Mr. Fishdollar turned away. Captain Kravitz came around the desk and laid an arm across his shoulders.

"Sit down again, Stephen," he said soberly. "I had to play it out to the end, but I don't want you leaving on that note, lad."

They sat down, on the same side of the desk.

"Stephen," the captain said gently, "all youngsters worth their salt chafe at the policy of restricted settlement and exploration. I did and I still do, but I never had the courage to act directly."

He paused and closed his eyes, then continued.

"Graybeards in conclave never make the important decisions for our species. They are always afraid. The decisions well up from the four-dimensional life-continuum that *is* our species, and the graybeards accept, with what grace they can muster." He tilted back his head, eyes still closed.

"The decisions always come through crooked, unmapped channels, through poets and prophets and dreamers, to enter the consciousness of man. Dreamers drove man to be free when he feared freedom. A few centuries later they drove him into space, shrinking and trembling. Now this. Dreamers, giving vent to that will of our species which no graybeard can gainsay."

The captain opened his eyes and looked again at his companion.

"There is an old saying, Stephen: 'Beware of the dreamer who dreams concretely.' Perhaps the

Patrol version should be 'Never put a dreamer in the way of dreaming concretely.' I will never know for certain how much I have really had to do with this. I will be in grave trouble before it ends. But I know, as you have just learned, that dreams can be merciless."

Mr. Fishdollar smiled weakly. Captain Kravitz stood up and so did Mr. Fishdollar. The captain held out his hand.

"Goodbye, Stephen," he said. "Good luck, lad, and I'm proud of you."

They shook hands and Mr. Fishdollar turned to the door. He rather thought that, just as he turned, the captain snapped him a salute.

MR. FISHDOLLAR stumbled toward the settlement. People passed and he did not see them. He was not thinking. Someone ran squealing. Then Wendy was running toward him, crying.

"Stevie, Stevie, I'm so glad!" she sobbed against his shoulder. "They tried to browbeat us into taking another planet, but we remembered and fought for your dream of an outpost planet. We've won, haven't we won, Stevie?"

"Yes, Wendy, we've won," Mr. Fishdollar said slowly.

She pressed closer and he hugged her convulsively.

"Let's celebrate tonight," she cried. "A Thanksgiving—"

"All right, but let me go now, sweetheart. I need to think." He hugged her convulsively again and released himself.

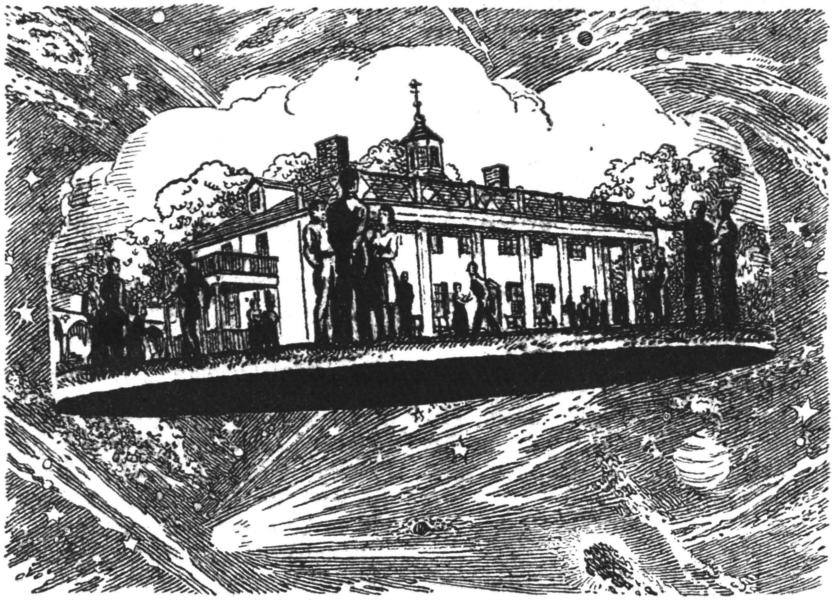
Alone on the headland, he looked out over the sea for a long time. He took off his blue and gold tunic, folded it neatly, and thrust it deep into a crevice of the rock. The day was gray-chilly and he shivered in his undershirt.

Evening drew on, red-gray over the water. He stood very erect with his chin up. He heard the signal gun and then the roar as *Carlyle* lifted out, and his chin rose higher. Finally thoughts began coming through the hurt. Thoughts were still to be had for the thinking.

President-consort Fishdollar walked through ghostly, tentative snowflakes toward the settlement on the lonely outpost planet . . . standing like a great rock in the way of the aliens . . . or in the way of the sickly pale cast of conscious thinking . . . aliens both, to the unsearchable mind of the species . . . aliens, then, war or negotiation . . . President Fishdollar down with nervous strain . . . the First Gentleman in *de facto* control . . . triumph . . . reception at Prime Reference . . . medal of honor . . .

With a spring in his step and warmth inside him, Stephen Fishdollar came home. **END**

SOLACON—the 16th World Science Fiction Convention—will take place August 29th to September 1st at Hotel Alexandria in Los Angeles, California. Write Len J. Moffat, 10202 Belcher, Downey, California, for information and reservations.



The Burning of the Brain

BY CORDWAINER SMITH

As the ship's power failed, coldness and blackness and death would crush in on them. And that would be all, all of the Wu-Feinstein, *all of Dolores Oh . . .*

1. *Dolores Oh*

I TELL YOU, it is sad, it is more than sad, it is fearful—it is a dreadful thing to go into the Up and Out, to fly without flying, to move between the stars as a moth may drift among the leaves on a summer night.

Of all the men who took the

great ships into planoform none was braver, none stronger, than Captain Magno Taliano.

Scanners had been gone for centuries and the jonasoidal effect had become so simple, so manageable, that the traversing of light-years was no more difficult to most of the passengers of the great ships than to go from one room to the other.

Passengers moved easily.

Not the crew.

Least of all the captain.

The captaincy of a jonasoidal ship which embarked on an interstellar journey was a man subject to rare and overwhelming strains. The art of getting past all the complications of space was far more like the piloting of turbulent waters in ancient days than like the smooth seas which legendary men once traversed with sails alone.

Go-Captain on the *Wu-Feinstein,* finest ship of its class, was Magno Taliano.

Of him it was said, "He could sail through hell with the muscles of his left eye alone. He could plow space with his living brain if the instruments failed. . ."

Wife to the Go-Captain was Dolores Oh. The name was Japonical, from some nation of the ancient days. Dolores Oh had been once beautiful, so beautiful that she took men's breath away, made wise men into fools, made young men into nightmares of lust and yearning. Wherever she went men had quarreled and fought over her.

But Dolores Oh was proud beyond all common limits of pride. She refused to go through the ordinary rejuvenescence. A terrible yearning a hundred or so years back must have come over her. Perhaps she said to herself, before that hope and terror which a mirror in a quiet room becomes to anyone,

"Surely I am me. There must be a *me* more than the beauty of my face, there must be a something other than the delicacy of skin and the accidental lines of my jaw and my cheekbone.

"What have men loved if it wasn't me? Can I ever find out who I am or what I am if I don't let beauty perish and live on in whatever flesh age gives me?"

She had met the Go-Captain and had married him in a romance that left forty planets talking and half the ship lines stunned.

Magno Taliano was at the very beginning of his genius. Space, we can tell you, is rough—rough like the wildest of storm-driven waters, filled with perils which only the most sensitive, the quickest, the most daring of men can surmount.

Best of them all, class for class, age for age, out of class, beating the best of his seniors, was Magno Taliano.

For him to marry the most beautiful beauty of forty worlds was a wedding like Eloise and Abelard's, or like the unforgettable romance of Helen America and Mr. Grey-no-more.

The ships of the Go-Captain Magno Taliano became more beautiful year by year, century by century.

As ships became better he always obtained the best. He maintained

his lead over the other Go-Captains so overwhelmingly that it was unthinkable for the finest ship of mankind to sail out amid the roughnesses and uncertainties of two-dimensional space without himself at the helm.

Stop-Captains were proud to sail space beside him. (Though the Stop-Captains had nothing more to do than to check the maintenance of the ship, its loading and unloading when it was in normal space, they were still more than ordinary men in their own kind of world, a world far below the more majestic and adventurous universe of the Go-Captains.)

Magno Taliano had a niece who in the modern style used a place instead of a name: she was called "Dita from the Great South House."

When Dita came aboard the *Wu-Feinstein* she had heard much of Dolores Oh, her aunt by marriage who had once captivated the men in many worlds. Dita was wholly unprepared for what she found.

Dolores greeted her civilly enough, but the civility was a sucking pump of hideous anxiety, the friendliness was the driest of mockeries, the greeting itself an attack.

"What's the matter with the woman?" thought Dita.

As if to answer her thought, Dolores said aloud and in words: "It's nice to meet a woman who's not trying to take Taliano from me. I love him. Can you believe that? Can you?"

"Of course," said Dita. She looked at the ruined face of Dolores Oh, at the dreaming terror in Dolores' eyes, and she realized that Dolores had passed all limits of nightmare and had become a veritable demon of regret, a possessive ghost who sucked the vitality from her husband, who dreaded companionship, hated friendship, rejected even the most casual of acquaintances, because she feared forever and without limit that there was really nothing to herself, and feared that without Magno Taliano she would be more lost than the blackest of whirlpools in the nothing between the stars.

Magno Taliano came in.

He saw his wife and niece together.

He must have been used to Dolores Oh. In Dita's eyes Dolores was more frightening than a mud-caked reptile raising its wounded and venomous head with blind hunger and blind rage. To Magno Taliano the ghastly woman who stood like a witch beside him was somehow the beautiful girl he had wooed and had married one hundred sixty-four years before.

He kissed the withered cheek, he stroked the dried and stringy hair, he looked into the greedy terror-haunted eyes as though they were the eyes of a child he loved. He said, lightly and gently,

"Be good to Dita, my dear."

He went on through the lobby of the ship to the inner sanctum of the planoforming room.

The Stop-Captain waited for him. Outside on the world of Sherman the scented breezes of that pleasant planet blew in through the open windows of the ship.

Wu-Feinstein, finest ship of its

class, had no need for metal walls. It was built to resemble an ancient, pre-historic estate named Mount Vernon, and when it sailed between the stars it was encased in its own rigid and self-renewing field of force.

The passengers went through a few pleasant hours of strolling on the grass, enjoying the spacious rooms, chatting beneath a marvelous simulacrum of an atmosphere-filled sky.

Only in the planoforming room did the Go-Captain know what happened. The Go-Captain, his Pinlighters sitting beside him, took the ship from one compression to another, leaping hotly and frantically through space, sometimes one light year, sometimes a hundred light years, jump, jump, jump, jump until the ship, the light touches of the captain's mind guiding it, passed the perils of millions upon millions of worlds, came out at its appointed destination and settled as lightly as one feather resting upon others, settled into an embroidered and decorated countryside where the passengers could move as easily away from their journey as if they had done nothing more than to pass an afternoon in a pleasant old house by the side of a river.

2. *The Lost Locksheet*

MAGNO TALIANO nodded to his Pinlighters. The Stop-Captain bowed obsequiously from the doorway of the planoforming room. Taliano looked at him sternly, but with robust friendliness. With formal and austere courtesy he asked,

"Sir and colleague, is everything ready for the jonasoidal effect?"

The Stop-Captain bowed even more formally. "Truly ready, sir and master."

"The Locksheet in place?"

"Truly in place, sir and master."

"The passengers secure?"

"The passengers are secure, numbered, happy and ready, sir and master."

Then came the last and the most serious of questions. "Are my Pinlighters warmed with their pinsets and ready for combat?"

"Ready for combat, sir and master." With these words the Stop-Captain withdrew. Magno Taliano smiled to his Pinlighters. All Pinlighters were telepathic. Through the minds of all of them there passed the same thought.

"How could a man that pleasant stay married all those years to a hag like Dolores Oh? How could that witch, that horror, have ever been a beauty? How could that beast have ever been a woman, particularly the divine and glamorous Dolores Oh whose image we still see in four-di every now and then?"

Yet pleasant he was, though long he may have been married to Dolores Oh. Her loneliness and greed might suck at him like a nightmare, but his strength was more than enough strength for two.

Was he not the captain of the greatest ship to sail between the stars?

Even as the Pinlighters smiled

their greetings back to him, his right hand depressed the golden ceremonial lever of the ship. This instrument alone was mechanical. All other controls in the ship had long since been formed telepathically or electronically.

Within the planoforming room the black skies became visible and the tissue of space shot up around them like boiling water at the base of a waterfall. Outside that one room the passengers still walked sedately on scented lawns.

From the wall facing him, as he sat rigid in his Go-Captain's chair, Magno Taliano sensed the forming of a pattern which in three or four hundred milliseconds would tell him where he was and would give him the next clue as to how to move.

He moved the ship with the impulses of his own brain, to which the wall was a superlative complement.

The wall was a living brickwork of locksheets, laminated charts, one hundred thousand charts to the inch, the wall pre-selected and preassembled for all imaginable contingencies of the journey which, each time afresh, took the ship across half unknown immensities of time and space. The ship leapt, as it had before.

The new star focused.

Magno Taliano waited for the wall to show him where he was, expecting (in partnership with the wall) to flick the ship back into the pattern of stellar space, moving it by immense skips from source to destination.

This time nothing happened.

"Nothing?"

For the first time in a hundred years his mind knew panic.

It couldn't be nothing. Not *nothing*. Something had to focus. The locksheets always focused.

His mind reached into the locksheets and he realized with a devastation beyond all limits of ordinary human grief that they were lost as no ship had ever been lost before. By some error never before committed in the history of mankind, the entire wall was made of duplicates of the same locksheet.

Worst of all, the Emergency Return Sheet was lost. There were midstars none of them had ever seen before, perhaps as little as five hundred million miles, perhaps as far as forty parsecs.

And the locksheet was lost.

And they would die.

As the ship's power failed coldness and blackness and death would crush in on them in a few hours at the most. That then would be all, all of the *Wu-Feinstein*, all of Dolores Oh.

3. *The Secret of the Old Dark Brain*

OUTSIDE of the planoforming room of the *Wu-Feinstein* the passengers had no reason to understand that they were marooned in the nothing-at-all.

Dolores Oh rocked back and forth in an ancient rocking chair. Her haggard face looked without pleasure at the imaginary river that ran past the edge of the lawn. Dita from the Great South House

sat on a hassock by her aunt's knees.

Dolores was talking about a trip she had made when she was young and vibrant with beauty, a beauty which brought trouble and hate wherever it went.

". . . so the guardsman killed the captain and then came to my cabin and said to me, 'You've got to marry me now. I've given up everything for your sake,' and I said to him, 'I never said that I loved you. It was sweet of you to get into a fight, and in a way I suppose it is a compliment to my beauty, but it doesn't mean that I belong to you the rest of my life. What do you think I am, anyhow?' "

Dolores Oh sighed a dry, ugly sigh, like the crackling of subzero winds through frozen twigs. "So you see, Dita, being beautiful the way you are is no answer to anything. A woman has got to be herself before she finds out what she is. I know that my lord and husband, the Go-Captain, loves me because my beauty is gone, and with my beauty gone there is nothing but *me* to love, is there?"

An odd figure came out on the verandah. It was a Pinlighter in full fighting costume. Pinlighters were never supposed to leave the planoforming room, and it was most extraordinary for one of them to appear among the passengers when the ship was in flight.

He bowed to the two ladies and said with the utmost courtesy,

"Ladies, will you please come into the planoforming room? We have need that you should see the Go-Captain now."

Dolores' hand leapt to her mouth. Her gesture of grief was as automatic as the striking of a snake. Dita sensed that her aunt had been waiting a hundred years and more for disaster, that her aunt had craved ruin for her husband the way that some people crave love and others crave death.

Dita said nothing. Neither did Dolores, apparently at second thought, utter a word.

They followed the Pinlighter silently into the planoforming room.

The heavy door closed behind them.

Magno Taliano was still rigid in his Captain's chair.

He spoke very slowly, his voice sounding like a record played too slowly on an ancient parlophone.

"We are lost in space, my dear," said the frigid, ghostly voice of the Captain, still in his Go-Captain's trance. *"We are lost in space and I thought that perhaps if your mind aided mine we might think of a way back."*

Dita started to speak.

A Pinlighter told her: "Go ahead and speak, my dear. Do you have any suggestion?"

"Why don't we just go back? It would be humiliating, wouldn't it? Still it would be better than dying. Let's use the Emergency Return Locksheet and go on right back. The world will forgive Magno Taliano for a single failure after thousands of brilliant and successful trips."

The Pinlighter, a pleasant enough young man, was as friendly and

calm as a doctor informing someone of a death or of a mutilation. "The impossible has happened, Dita from the Great South House. All the Locksheets are wrong. They are all the same one. And not one of them is good for emergency return."

With that the two women knew where they were. They knew that space would tear into them like threads being pulled out of a fiber so that they would either die bit by bit as the hours passed and as the material of their bodies faded away a few molecules here and a few there. Or, alternatively, they could die all at once in a flash if the Go-Captain chose to kill himself and the ship rather than to wait for a slow death. Or, if they believed in religion, they could pray.

The Pinlighter said, "We think we see a familiar pattern at the edge of your own brain. May we look in?"

Taliano nodded very slowly, very gravely.

The Pinlighter stood still.

The two women watched. Nothing visible happened, but they knew that beyond the limits of vision and yet before their eyes a great drama was being played out. The minds of the Pinlighters probed deep into the mind of the frozen Go-Captain, searching amid the synapses for the secret of the faintest clue to their possible rescue.

Minutes passed. They seemed like hours.

At last the Pinlighter spoke. "We can see into your midbrain, Captain. At the edge of your paleocortex there is a star pattern which resembles the upper left rear of our present location."

The Pinlighter laughed nervously. "We want to know can you fly the ship home on your brain?"

Magno Taliano looked with deep tragic eyes at the inquirer. His slow voice came out at them once again since he dared not leave the half-trance which held the entire ship in stasis. *"Do you mean can I fly the ship on a brain alone? It would burn out my brain and the ship would be lost anyhow. . . .*

"But we're lost, lost, lost," screamed Dolores Oh. Her face was alive with hideous hope, with a hunger for ruin, with a greedy welcome of disaster. She screamed at her husband, "Wake up, my darling, and let us die together. At least we can belong to each other that much, that long, forever!"

"Why die?" said the Pinlighter softly. "You tell him, Dita."

Said Dita, "Why not try, sir and uncle?"

Slowly Magno Taliano turned his face toward his knees. Again his hollow voice sounded. *"If I do this I shall be a fool or a child or a dead man, but I will do it for you."*

Dita had studied the work of the Go-Captains and she knew well enough that if the paleocortex was lost the personality became intellectually sane, but emotionally crazed. With the most ancient part of the brain gone the fundamental controls of hostility, hunger and sex disappeared. The most ferocious of animals and the most brilliant of men were reduced to a common level—a level of infantile friendliness in which lust and play-

fulness and gentle, unappeasable hunger became the eternity of their days.

Magno Taliano did not wait.

He reached out a slow hand and squeezed the hand of Dolores Oh. *"As I die you shall at last be sure I love you."*

Once again the women saw nothing. They realized they had been called in simply to give Magno Taliano a last glimpse of his own life.

A quiet Pinlighter thrust a beam-electrode so that it reached square into the paleocortex of Captain Magno Taliano.

The planoforming room came to life. Strange heavens swirled about them like milk being churned in a bowl.

Dita realized that her partial capacity of telepathy was functioning even without the aid of a machine. With her mind she could feel the dead wall of the locksheets. She was aware of the rocking of the *Wu-Feinstein* as it leapt from space to space, as uncertain as a man crossing a river by leaping from one ice-covered rock to the other.

In a strange way she even knew that the paleocortical part of her uncle's brain was burning out at last and forever, that the star patterns which had been frozen in the locksheets lived on in the infinitely complex pattern of his own memories, and that with the help of his own telepathic Pinlighters he was burning out his brain cell by cell in order for them to find a way to the ship's destination. This indeed was his last trip.

Dolores Oh watched her husband with a hungry greed surpassing all expression.

Little by little his face became relaxed and stupid.

Dita could see the midbrain being burned blank, as the ship's controls with the help of the Pinlighters searched through the most magnificent intellect of its time for a last course into harbor.

Suddenly Dolores Oh was on her knees, sobbing by the hand of her husband.

A Pinlighter took Dita by the arm.

"We have reached destination," he said.

"And my uncle?"

The Pinlighter looked at her strangely.

She realized he was speaking to her without moving his lips—speaking mind-to-mind with pure telepathy.

"Can't you see it?"

She shook her head dazedly.

The Pinlighter thought his emphatic statement at her once again.

"As your uncle burned out his brain, you picked up his skills. Can't you sense it? You are a Go-Captain yourself and one of the greatest of us."

"And he?"

The Pinlighter thought a merciful comment at her.

Magno Taliano had risen from his chair and was being led from the room by his wife and consort, Dolores Oh. He had the amiable smile of an idiot, and his face for the first time in more than a hundred years trembled with shy and silly love. **END**

A.D. 32,000,000:

They saw the same disaster overtake the Andromeda galaxy.

BRINK OF

When the planets die, when the friendly stars grow cold, man the ephemeral will still be searching for new habitations, and new adventures of the spirit. . . . Then comes the day when he stands at the edge of the darkened Milky Way, and looks across the million-year gulf between galaxies. . .

BY DEAN McLAUGHLIN

NO LIVING MAN remembered the beginning of the cataclysm. It had lasted a million years—far too long even for a people whose science had extended the average life span to three thousand years. But of all the living things in the galaxy, only men and those creatures protected by men survived.

The invader galaxy had approached the home galaxy in the plane of its spiral arms. It was obscured from men's early civilizations by the clouds of dust and hydrogen that clogged the spiral arms. Its coming was unheralded.

It struck like the blast of a thousand supernovae. Yet, strangely, not one star of the invader crashed into a star of the home galaxy. Even in the crowded central globe, a galaxy is mostly empty space. The two star systems interpenetrated. Their stars slipped past each other—rarely close—deflected each other's motions into new paths, and went blindly on.

But the gas and dust clouds of the two colliding galaxies—which comprised fully half their mass—*did* meet. Carried on by the momentum which they shared with their respective galaxies, they smashed into each other and erupted with incandescent fury. Fearful radiations were generated. Everything died within a hundred light years of the impact.

And, as the invader plunged unopposed through the galaxy in macroscopic slow motion, its interstellar clouds came with it. Impeded by the home galaxy's own interstellar clouds, the wave front of impact fell behind the invader. But it drove on irresistibly across the

CREATION

galaxy, radiating death ahead of it —leaving behind it worlds stripped of life, and the tragic artifacts and cities of a million civilizations never known by men.

The human race was luckier than most. The invader was almost a million years crossing the galaxy, and the sight of its forward-leaning spiral arm arched up over the Milky Way like a scorpion's fang was sufficient forewarning to allow a fraction of humanity to escape.

Necessity and human ingenuity have been the parents of progress since the first protohuman—physically puny and beset by enemies—discovered a use for tree limbs not anticipated by the laws of natural selection. So it was that again human genius found a way to salvation.

It would have done no good to flee ahead of the advancing conflagration. The edge of the galaxy was only ten thousand light years away, and when the invader closed in they could go no further. There would be no place to go.

Nor could they plunge through the bath of deadly radiation.

So men invented transposition, by which they could arrive at any point without the need of passing through the space between. It fell short of the lost ideal of travel faster than light—for a ship moved by transposition could not arrive any sooner than light from the same point and instant of origin—but it was enough to meet the needs of the time.

It allowed the survivors to pass beyond the deadly wave front without passing *through* it.

In arks—some well equipped and some equipped not at all—a small part of the human race escaped to the already devastated parts of the galaxy. There, on planets void of life—but full of the relics and leavings of life—they found refuge. Some did not survive, for men are dependent for life on many other living things, and all the living things they had at their disposal were the ones they brought with them. Some—in the effort of staying alive—retreated into savagery, even cannibalism. Many forgot their heritage, their history, their science, and their gods. Some chose the wrong worlds, and were carried back into the conflagration by the galaxy's slow rotation.

But some did survive, and a few even kept their knowledge of the transposition way of travel. In time, there arose a loosely-joined confederation among the stars. And commerce. And the exchange of ideas and knowledge.

By then, the invader was long since gone on its blundering flight through the cosmos—and men looking up at the night sky saw the same disaster overtake the Andromeda galaxy—saw a cataclysm that had happened a million and a half years before, the sight of which was only now coming to them.

For the invader was only one rogue of a cluster of rogues. Men traced the incredibly slow passage of the cluster through the sky—knowing that although they were seeing them now, by light that had left them millions of years before,

the galaxies themselves had already passed and gone on—perhaps toward other cataclysms which, for all they knew, might have already happened.

But that was not all the disaster, although men went a long time before they discovered it. And when they discovered it, they were slow to realize it was a disaster—for it seemed a very unimportant thing. Not for almost a hundred thousand years did they realize how fatal it was.

It was a simple thing: the dust and gas clouds were gone from the sky. In smashing its way across the galaxy, the invader's gas and dust clouds had imparted to the clouds of the home galaxy a new proper motion. The two sets of clouds merged—became a single mass which coasted through the home galaxy, gobbling up all the clouds in its path. And carried on by inertia, the great cloud—having swept the home galaxy clean—drifted onward into intergalactic space.

It was possible, with the gas and dust gone, for men to see from one edge of the galaxy to the other, even through the central globe. They found it difficult to imagine a time when that had not been possible. So they did not realize it was a disaster.

But astronomers rediscovered that the universe was expanding—as though from an explosion which was finally calculated to have taken place six billion years before. They discovered that, while the stars of the central globe and of globular clusters might be nearly as ancient, many stars of the spiral arms could not possibly have burned for that long—long since, they would have used up their hydrogen, and their helium . . . would have transmuted all their available atoms into heavier elements, and died.

But instead they burned fiercely—the brightest stars in the night.

Therefore, they were of a later creation.

Loose clusters of stars were discovered—stars whose proper motions, traced back, showed them to have come almost simultaneously from the same region. Many were obviously young stars, only a few million years old. They must have been created in those regions.

But there was nothing there that could have created them.

With that, the matter rested until study of extragalactic nebulae—the only kind known any more—revealed that other galaxies possessed thick clouds of black dust, and astronomers were reminded that the home galaxy, also, had once had such clouds. And those nebulae which did *not* have these clouds, did not have spiral arms.

The lesson was plain. The home galaxy would never bear another new star. And, with the passage of time, the existing stars would burn out. Men would have no place to live—not one world fit to live on.

That fate was still a hundred million years in the future. But now, men with foresight argued, was the time to make provision for that time. For the only hope of escaping the fate of the galaxy was to move to a galaxy which—

with hydrogen and dust clouds—was replacing its burnt-out stars just as a living body replaces dying cells.

Since the nearest promising galaxy was millions of light years away, and because there would be, in addition, the problem of locating its present position—an exploratory ship would certainly use up tens of millions of years in the course of scouting a galaxy and returning with a report.

The nearest galaxies were studied. Some—the small ones and the ones void of dust—were rejected at once. The others were marked for close-hand study.

Ships were built, equipped, and staffed. They were sent out, each to its assigned galaxy. The men aboard them went, knowing that before they returned even planets and stars they had known would have vanished—that they could not come back to anything they had left behind.

GRIFF HAD LEFT behind everything—the homes he had known, the friends, and family, and property, and every small familiar thing. Before he returned, the most lasting of these would have rotted and crumbled and mixed with the dust of tens of millions of years. Even the stars would have changed.

And—though he steadfastly doubted it—the human race might be gone from the universe.

It was the starjumper's fate, of course. A little of it happened every time he transpositioned stellar distances. But the leaps were short—rarely more than a dozen or a score of light years, and when he returned not much had really changed.

But this time, in one great leap, Fikret Griff had forever separated himself from all his former life. By his own choice, he was here aboard the *Royan,* storming the brink of eternity itself.

In the telescope blister, strapped in a chair in darkness, Griff monitored the *Royan*'s slow, deliberate, spiralling needle sweep of the entire celestial sphere. Before him, the large globe-chart slowly turned, and on its face, always toward him, a flickering small square of light gradually crept downward from pole to equator. Now and then a faint, shrill peep announced the end of a film reel. The chart stopped turning, and the square of light steadied and held its position.

Griff twisted around to the telescope camera and refilled its magazine with a new spool of film. Slotting the exposed reel in the storage rack, he touched a control. The globe began to turn again. The bright square edged toward the equator.

It was like looking at the universe from the outside. But, to his eyes, it was a very poor universe—blackness broken by only the feeblest of gleams. Only one galaxy was near enough to be even a smear of misty, cold light. A few more were flecks of pale luminescence. All the rest—nor were there many—were tiny, faint sparks.

The illuminated square crossed the equator and continued downward. At each revolution of the

globe, it descended not quite its own width. Griff watched, and changed reels, and watched again.

To see the universe this way—seemingly outside looking in—was not the fearful thing that seeing it the other way had been. Just after the *Royan* emerged in this region of space, he had climbed the ladder to the observation bubble. There, breathlessly frozen, he had found himself in the presence of a vast, blotting blackness which seemed so near and solid that, if he reached out, its hard, reflectionless surface would stop his hand. Nowhere in that blackness was there anything his eyes could fix on.

He was a mote in the wastes of endlessness.

Numb and tranced, he had come back down the ladder. Where he wandered in the ship, or how long he walked, he afterwards could not remember. But for hours, only the hard deck underfoot assured him that anything was real.

The globe was different. It was a size his mind could comprehend, and it was a thing he looked into from the outside. It did not bear down on him the knowledge of his infinite smallness.

It continued to turn. The lighted square continued downward. Finally, it reached the pole. The globe stopped turning. Griff removed the film spool from the telescope camera. Taking the other reels from their rack, he sealed them in a lightproof case. Then he allowed the lights to come on.

The first step of the job was begun.

Back in his quarters, he put the film through the treatment machine. He checked it for flaws, but it was flawless. Then he rested.

The next day he gave Shipmaster Amiro a set of guidance chits, and the *Royan* transpositioned to its second station, a hundred light years away. There, Griff again recorded the celestial sphere.

Another day passed before he made his report to the shipmaster, and it was with a feeling of inadequacy—of bewilderment in the face of unanticipated difficulties—that he opened the door to the shipmaster's quarters.

He stopped on the threshold, cold. Standing there, waiting with the shipmaster—his broad back to the computer console—was Bron Klystro, the survey captain.

"Well, have you found it, young man?" the survey captain demanded.

Full of misgivings, Griff made himself walk over to the study desk. He unclipped a pack of photo plates from his board and laid them in a row. Shipmaster Det Amiro and the survey captain bent to examine them.

"It is one of these seven," Griff said, swallowing uncomfortably.

Each plate showed a galaxy. Three were normal spirals, but all of them crude—their sprawling, tentacular arms like misshapen swastikas. Two more were elliptical, with totally featureless, egg-shaped bodies. Of the remaining two, one had no shape; the other was a barred spiral whose fat-elbowed, thin, threadlike arms trailed clockwise from its knob-centered,

rod-like nucleus.

Klystro straightened up. "It is none of these," he said evenly. "Young man . . ."

"The parallax check showed all the others are more than fifteen million light years away," Griff said.

"Have you a plate of Likert's Nebula?" Amiro asked.

Griff unclipped it from his board and laid it on the desk. The galaxy was a beautiful, symmetrical whorl of snowy light. It looked not at all like any of the seven.

"In thirty million years, it could have changed," Griff said without conviction.

"Not this much," Klystro said. "In fact, it could never have evolved into any of these. Never in all the time since the universe began."

He gestured down the row of photo plates. "Young man, you have made a mistake."

Griff had checked and rechecked, but the comparitor had doggedly shown only the seven as having parallaxes which placed them less than fifteen million light years away. Finally, he had reset the machine to select all the galaxies within thirty million light years, and had winnowed through the dozens that came out.

The conclusion was the same. Likert's Nebula had to be one of the seven.

Doubting everything, Griff had rechecked the *Royan*'s position. He identified the home galaxy, a not very difficult task, because the *Royan* still shared the home galaxy's proper motion. Careful study of fixed galaxies showed that the *Royan*'s position was along a line drawn between the home galaxy and the place where Likert's Nebula had been thirty million years ago. Examination of the fixed galaxies in the opposite direction had confirmed that the *Royan* was on that direction line, and a parallax reading on the home galaxy had shown that the *Royan* was fifteen million light years away.

The conclusion was inescapable. The *Royan* was exactly where it was supposed to be. Likert's Nebula, therefore, had to be one of the seven.

"Either it has disappeared entirely, or it is moving faster than light," Griff argued. "Or else—it is one of these seven."

"Impossible," Klystro said, and shut his jaw hard.

"I disagree," Shipmaster Amiro said. "It is one of those seven."

"Nevertheless, it is not," Klystro insisted. "Perhaps, young man, you would care to explain how Likert's Nebula—a third stage symmetrical galaxy—could have evolved into any one of these seven."

Griff stiffened speechlessly. He had no answer.

Amiro said, "You, Survey Captain, are the authority on galactic structure here. If anyone must make an explanation, you are he. The fact is, Survey Captain, that Likert's Nebula was here thirty million years ago. These seven, by reason of their positions, are the only ones that could have been here then. All others are too far away. Therefore, one of these is Likert's Nebula." He turned to Griff. "Can you decide which one?"

"I think I can, Shipmaster," Griff said. "But not without moving ship."

"Then we shall move it," Amiro said. "What displacement?"

"We need a second set of parallax sightings," Griff told him. "From the same positions, but after a thousand-year lapse."

"How do you propose to do that?" Klystro demanded.

Griff explained. By transpositioning away in any direction five hundred light years, and then returning, they would arrive one thousand years later.

With the second set of parallax sightings, it would be possible to compute the proper motions of the seven galaxies. Knowing both the direction and speed of each—and making allowance for the time elapsed since the light now seen had left them—Griff could determine which of them had been Likert's Nebula thirty million years before.

It should have been simple.

IT WAS A GOOD thing the shipmaster was on his side, because when he reported his analysis of the two sets of parallax sightings, Survey Captain Klystro nearly kicked a hole in the deck.

The results maddeningly indicated that *none* of the seven galaxies had passed through the region where Likert's Nebula had been. But *two* had passed close—both within a million years of the proper date. Griff laid photo plates of the two galaxies on the study desk. One was an elliptical; the other was the barred spiral.

That was as far as he got. Klystro turned his narrow face and burning eyes to him. "Young man," he said bitterly, "your bungling has now lost us completely. We will be lucky if we ever find our way home."

Griff's mouth opened, but Klystro went on without a pause. "Shipmaster, I suggest you assign the duties of your guidance department to my staff—since your own staff has proven incompetent. I further suggest that, as we now have no hope of finding Likert's Nebula, we should select the nearest of the crude spirals as an alternate objective."

Amiro listened patiently. He rubbed his jaw and strolled over to the plotting sphere. The colored lights that represented the seven galaxies gleamed steadily. He leaned his weight on the broad, concave pedestal, peering down. Then he turned.

"It was my understanding," he said slowly, "that crude-form galaxies such as those would not have livable planets for another billion years."

"That is so, according to a theory of galactic evolution to which I have never subscribed," Klystro said acidly.

Amiro nodded. "My charter," he said patiently, "directs me to deliver you and your staff to Likert's Nebula, and to coöperate with you in your survey. I will not violate that charter. Furthermore, I am not convinced that we cannot find Likert's Nebula. My guidance officer has already limited it to one

of two possibilities."

"Those two?" Klystro demanded. "The elliptical is worthless, and the other is almost as bad." He gestured to the photo plates. "Look at them—practically no dust clouds in either."

"If it is either one, it has changed considerably in thirty million years," Amiro pointed out. "Can you predict how they will change in another few million?"

"Hardly at all," Klystro said. "With no dust clouds, they cannot form planets. A few stars might condense out of gas clouds, but it is doubtful, and any planets would be large, sub-stellar bodies with low density. Completely unlivable."

Amiro nodded patiently. "We were assigned to survey Likert's Nebula," he repeated. "We will find it and go there." He glanced at Griff significantly. "Can you determine which one was Likert's?"

"I *think* I can, shipmaster," Griff said. "I believe it's the barred spiral."

He wished he could speak with more certainty; but the facts were not entirely conclusive.

The factor that cast doubt on everything was that the two galaxies must have passed close to each other. Griff could not be sure exactly how close, because that depended on their masses—which he did not know. Certainly, though, they had passed each other close enough to warp their flight paths, and to temporarily increase their velocities. The degree of these alterations would depend on the closeness of the encounter, on the distribution of their masses, and the rate of propagation of a gravitational field.

Moreover, the tidal forces of the two galaxies, acting on each other, could have changed their structure and their mass distribution, further complicating the analysis.

But, Griff pointed out, the closeness of the encounter might explain how Likert's Nebula had changed so radically. And, of the two possible galaxies, only the barred spiral bore any resemblance to Likert's.

Amiro listened and nodded. "Your judgement is sound. Prepare a set of chits to place us twenty-five thousand light years from the center of its nucleus, perpendicular to its plane." He said to Klystro, "We will begin our survey there."

"That galaxy is not Likert's Nebula," Klystro repeated.

"I believe that it is." Amiro said. "And we shall go there."

"Shipmaster, I protest." Klystro squared his shoulders and looked up at Amiro venomously. "Let that be in the record."

From eighteen thousand light years above its roundly bulging crown, the barred spiral galaxy filled almost a whole hemisphere of the sky. The close-packed stars of its nucleus blended into each other, seemed a solid mass of glowing matter, grained and blotched with a dull ruddy light. From that center, the bar arms tapered outward, arched backward like scimitar blades, then bent sharply to become the trailing spiral arms. Out there, bright stars clustered

together, blazing with a white, fierce brilliance that limned the black, dark dust clouds in which, endlessly, they were formed.

But Griff had only a glimpse of it. He found himself shut out of the telescope blister, nor was he welcome in the observation bubble. Survey Captain Klystro's crew was everywhere, looking stern and efficient, and resentfully dissatisfied with the galaxy to which Griff had guided them.

Gradually, Griff was made to realize how shamefully unsatisfying the galaxy was. Its nucleus was worthless, of course, being composed of prime-origin stars—stars created at a time when there was almost nothing but hydrogen in the universe. Any planets they had would be gaseous blobs, totally useless for human settlement. And the stars themselves were old now, their hydrogen nearing exhaustion. Fever-hued red giants, most of them, they were swollen things slowly guttering down to extinction.

That much they had expected. But the bar arms were no better. Only in the spiral arms, where the dust clouds were black flecks against the brightness, were there signs of renewal. There, young stars burned with the fury and fierceness of youth, newly born from the dark, light-blotting clouds.

But the spiral arms were cut short, trailing after them fainter, misty streamers of old and aging stars.

The galaxy, probably, had hospitable worlds and pleasant stars. But they were few, and would be fewer with the passing of time.

Nevertheless, the survey would go on. Though the conclusion was already obvious, they might as well be thorough. Men would likely never come this way again.

Somewhere in the ship, Klystro's men were preparing test spheres to be transpositioned into the galaxy. If their automechanisms failed to bring them back, or if they returned with micro-pitted, radioactive hulls, the galaxy would be proven seetee —totally destructive to men and vessels alike.

But if they returned—or most of them—from their forty thousand years of transposition and their month-long stay inside the galaxy, the *Royan* would go in where they had gone, to study and survey at closer range.

IN THE WEEKS that followed, while the *Royan* transpositioned deeper and deeper into the galaxy, and from region to region within it, Griff spent all the time he could in a study of the bar spiral galaxy's flight path. It was tedious work, and he was constantly interrupted to confirm guidance chits which were always right, or to take his turn in the telescope blister for new observations of the home galaxy, before the *Royan* transpositioned to a new station.

The encounter of the two galaxies was difficult to analyze. Besides the question of their masses, there was the problem of whether there had been an exchange of mass between them. And, too, the slight gravitational force of other,

neighboring galaxies—immeasurable and, because of their movements, constantly changing—tended to warp the flight paths of the two galaxies he was studying.

But he had to keep at it. It was his only hope now, for he had failed miserably in his attempt to study the bar spiral galaxy's present structure as a clue to its metamorphosis.

The trouble was, he did not know enough—he could not interpret with confidence the puzzling data the films revealed.

He had expected the galaxy's nucleus to show the same general mixture of star types as the nucleus of the home galaxy. For, according to theory, the primary origin stars of all galaxies came into being at nearly the same time—not quite six billion years in the past.

But the stars of the nucleus did not conform to that pattern. There were too many red giants not yet expanded to maximum size, and too many variable stars, just beginning their climb from the main sequence. The older, declining red giants were not present in anything like their proper numbers, nor was Griff able to find as many as he had expected of the white, cooling corpses of stars.

As if the galaxy was inexplicably younger than it had any right to be.

That was nonsense. Everyone knew that all galaxies must have originated at about the same time—that the vast gas clouds must have condensed almost simultaneously. For in that ancient, unknowable time, the universe had been much more closely packed than now, and those clouds which failed to contract at once would have been torn apart by the conflicting tidal forces of galaxies already formed.

Griff frowned at the graph he had made, shrugged, and gave up. He did not know enough to fathom its meaning. Or perhaps he had made a mistake—some tyro blunder—and the graph was ludicrously wrong.

So it had to be analysis of the galaxies' flight paths. And, as the weeks passed, even that hope faded, wilted, and finally died.

"I have absolute proof," Klystro said precisely, "that this is not Likert's Nebula."

They were in the shipmaster's quarters. The big plotting sphere blazed with swarming brightness of thousands of infinitesimal star-sparks, in replica of the heavens surrounding the *Royan*. In the center of the sphere, a green spark denoted the *Royan*'s location, and near it—gigantic—a fist-like black mass poised in abeyance, its dark textures limned by the internal glow of stars in the torment of being born.

"Give it," Amiro told the survey captain. He turned to Griff. "I want you to hear this."

Griff nodded woodenly. He had expected something like this ever since his analysis of the galaxies' flight paths had shown—impossibly—the gravitational influence of an invisible, galaxy-sized mass.

"Yes," Klystro said heartily.

"Young man, before we set out from the home galaxy, we obtained an estimate of the mass of Likert's Nebula. You did not know that, did you?"

Numbly, Griff shook his head.

Klystro smiled. "Granted, it was only an estimate. But the error could not have been more than five percent. Now, young man—*now* we have measured this galaxy's mass to within one thousandth—and it is only a little more than half the original figure. Even granting that its structure has radically changed—which of course is impossible—it could not have lost *mass*. Therefore, young man, this is *not* Likert's Nebula."

It was a heavy indictment, and Griff should have smarted under it. But something in the middle of Klystro's statement, some random fragment of thought, suddenly filled him with a stunned excitement.

He did not speak. He crossed the room and sat down at the computer board. His hands darted over the keys.

"Young man, what are you doing?" Klystro demanded. Griff scarcely heard.

"Do you hear me?" Griff made no answer. He frowned over the report screen, his fingers poised tensely over the keys. Then he was busy again, and the screen flashed and trembled and changed. Griff watched, his lips pressed into a thin, bloodless line. At last he nodded wordlessly, satisfied.

Abruptly, he stopped. He stood up—turned back to Klystro and the shipmaster.

"Shipmaster," he announced, "this is Likert's Nebula—what remains of it."

"I did not doubt it," Amiro said calmly.

"I suppose you can justify this preposterous claim?" Klystro asked.

"I think so, Survey Captain. You see, the two galaxies passed through each other—Likert's Nebula and the elliptical galaxy we observed. And both of them lost almost all of their interstellar matter—it was swept right out of them. We . . . we could expect Likert's Nebula to have lost almost half its mass."

He paused, then went on. "And the elliptical galaxy was smaller, so it did not take the clouds in the outermost parts of the spiral arms—it left a little on each side. And the regions where the clouds were left had twice the mass density of the rest of the galaxy. That upset the galaxy's gravitational stability. The arms drew the stars toward them, wrecking the original spiral structure. The result was . . . well, you have seen it, Shipmaster. A bar spiral."

"Interesting," Klystro said. "And can you support with proof this odd conglomeration of assumptions?"

"I think I can," Griff said. He bent over the computer and extracted its tape, spread it on the study desk.

"These are only approximations," he said. "But I think a complete analysis will confirm them. When I tried to analyze the galaxies' flight paths, I discovered that I had to assume the existence of an invisible, galaxy-sized mass to account

for their motions. But, in the presence of that mass, *neither* of the galaxies could have passed through the region where Likert's Nebula was."

"Neither is Likert's Nebula," Klystro put in. "I have said that from the beginning."

"This barred spiral is Likert's Nebula, Survey Captain," Griff answered deliberately. "You see, if I postulate that the two galaxies interpenetrated, and that their interstellar matter became a separate body as a result, all their motions can be accounted for—and if I trace this barred spiral backward to a time before the encounter, we find that it passed through the position Likert's Nebula occupied, at the time we know Likert's was there. And it is so unlikely that more than one set of conditions could place anything within a million light years of the place, we must conclude that this is what happened."

He was right and he knew he was right. His rightness was a blaze of pleasure and excitement in him. No longer was he intimidated by this man named Klystro—no more did he feel compelled to doubt everything he himself thought and said and did.

And no longer did he have to think of the *Royan*'s expedition as a wasted effort or a failure. Because . . . because . . .

"You forget, young man," Klystro said slowly, "that a gas cloud detached from a galaxy in this manner would be torn by violent turbulences. I very much doubt that any such cloud would remain intact for long. It would disintegrate from its own internal instability."

"No, survey captain," Griff replied. "A cloud like that *can* hold together."

"Young man, you are impertinent," Klystro snapped.

"Survey Captain," Griff repeated, "It has happened."

"Nonsense."

"It has happened to this galaxy—to Likert's Nebula, Survey Captain," Griff said. "To the dust and gas cloud out of which it evolved. You must know it yourself."

"I know nothing of the sort."

"But you must admit that the primary-origin stars of this galaxy are younger than those of our home galaxy by at least two billion years."

"Well, what if they are?" Klystro demanded.

"Why, how else can you explain it?" Griff demanded. "If the universe as we know it began as an exploding super-atom, then all the galaxies must have condensed at approximately the same time. Therefore, the cloud which became this galaxy did not exist at that time. So where did it come from? It must have been the gas and dust cloud separated from its parent galaxy by a collision. I can think of no other explanation."

Klystro smirked coldly. "A pretty theory. However, it does not affect our mission in the slightest. This galaxy is practically useless, which after all—"

"But it *does* mean something, survey captain," Griff insisted. "Why, it means that right now there must be galaxies evolving out

of dark clouds. The cloud from Likert's Nebula will be a galaxy some day, and so will the cloud which the invader swept out of our own galaxy! And there will always be new galaxies. Always."

"A fabric of suppositions," Klytro said angrily.

"Can you prove this?" asked Amiro.

"We can try, Shipmaster," Griff said. "If this is a galaxy of secondary origin, the planets of its primary-population stars should be similar in composition to the planets of secondary-origin stars such as we are already familiar with. If I am wrong, they will be gaseous bodies, as we assumed until now. It should be simple to select a few solar systems in this galaxy's nucleus. If we find that the planets are gaseous, I will be shown wrong."

Amiro nodded to Klystro. "Well?"

"It is hardly worth investigating," the survey captain said contemptuously.

"Is your survey completed?"

"Very nearly."

"If you have no objection, then," Amiro said, "I will instruct my guidance officer to prepare us chits to place us in this galaxy's nucleus, so we may conduct the survey he suggests."

He waited then, but Klystro, glowering, said nothing. The shipmaster turned to Fikret Griff. "Prepare the chits."

"Yes, Shipmaster," Griff said. "Yes. And thank you, Shipmaster."

"And I hope you are right," the shipmaster said.

Griff went back to his quarters. He felt good. He knew he was right and the survey would prove it.

But it was more than that: much more. He saw, opening out before the vision of his mind, a truly infinite future for the human race.

For there would always be new galaxies. *Always.* Even if every galaxy were gutted by collisions, men would still have always a place to go.

That was the big thing, the important thing. Creation was endless. And deathless. And ceaseless. And forever.

And Man? Man's fate? **END**

SHANDY

(Continued from page 63)

Miss Nancy to allow me to court her. With all due respects to Mr. Holman."

"Damn it to hell," Holman said, straightening.

Nancy placed the flowers on the table and smiled at Shandy. He stood as she approached him. Nancy laughed and put her arms around the young man.

With her head against Shandy's chest Nancy said, "Poor Shandy. Poor Shandy." She made him sit down again. Then she patted him fondly on the head. "Stay right there, Shandy." Nancy hurried from the room.

Holman followed her. "Listen, are you *sure* he isn't intelligent? Because, my God, the scientists down at the settlement—"

Nancy said, "Oh, no, Ken. He just copies things he's heard people say. Wait a minute." She disappeared into the storeroom. When she returned she was holding a dusty album in her hand. Holman followed her back into the kitchen.

Shandy looked at the album for a moment and then smiled. "I meant well," he said.

"I knew I recognized you," Nancy said, turning a third through the book. "My Uncle Maxwell when he graduated from Mars-Yale." She slid the picture out and held it toward Holman, but he didn't take it.

Shandy said, "Hated to see you go."

Come to think of it, Holman thought, he does just repeat things people are always saying.

Setting the book beside the flowers, Nancy said, "What are you really, Shandy? I've never had a chance to talk to you before, except in a one-sided sort of way."

Shandy folded his hands and uncrossed his legs. "I don't remember just now, Miss Nancy. I used to know. I don't think there are many of us left now." He touched his mustache again, smoothing it. "Maybe in the mountains there are some more. I don't remember."

Nancy patted his head. "I'm going to marry Ken, Shandy. And live in the settlement."

"You'll enjoy that."

"You think you'll stay this way?" Holman asked.

"I might. I don't know."

Holman held out his hand to Shandy. "Anyway, we want you to stay here and keep watch over things."

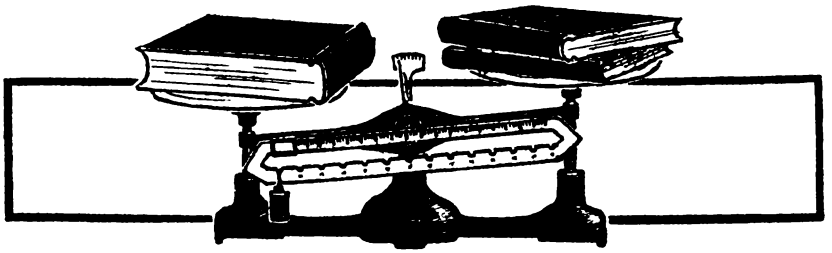
Shandy hesitated and then shook hands. "I might as well."

Holman and Nancy left for the settlement the next morning, with the suitcases.

Shandy, still in the shape of Uncle Maxwell, they left on the front steps of the ship. He waved goodbye to them. When they were gone, he changed slowly into a large teddy bear. Then, with a moist gleam in his eye, he went back to reading the thick, red-leather, picture encyclopedia in his lap. **END**

Give me a place to stand, and I will move the earth.

—*Archimedes*



IN THE BALANCE

Book Reviews by the Editor

OF THE TWENTY stories in *Mid-Century,* edited by Orville Prescott (Pocket Books, 35¢), only four are fantasy in the general sense, and of these only one superficially resembles science fiction—"The Hour of Letdown," by E. B. White. But it is a distinguished collection of contemporary short stories, and I thought it might be fruitful to inquire why there is no science fiction in it.

The immediate answer is, of course, that Prescott didn't like any s-f story well enough. But this is begging the question: it could have been predicted that he wouldn't like any s-f story enough, because he is a respectable critic, and respectable critics don't.

What I wanted to know is: why not? What are the deficiencies in science fiction, or in its critics, that make it the forgotten child of American letters?

A representative story from this collection, and a very good one, is John P. Marquand's "Lunch At Honolulu." The five main characters, casually sketched in, are a job lot assembled by chance at one luncheon—an OWI man just arrived from the States, two senior naval officers, a brash young naval aviator, and the host, an oldtimer in the islands.

The background, on the other hand, is assembled with care, and drips with local color. Even the dialogue is largely devoted to building up background information; the host is a local patriot, with a hobbyist's enthusiasm for anything Hawaiian, and a bore's persistence: This is a lanai, not a verandah. Those are kukui trees. This is one-finger poi. And so on, inexhaustibly.

The admiral, his aide, and the OWI man react to this politely; the young aviator is rude. He hums under his breath. He interrupts, with brutal reminiscences about action he has seen. (" 'Now this first one that hit us— . . . he came in from the port side. We gave him

everything we had. You could see the 40s going into him like red-hot rivets. That kid must have been dead, but he still kept coming in. . . . It was a very rugged feeling.' ") And he drinks too much.

After he leaves, the host apologizes for him; but the admiral says: " 'Every now and then they act that way. You and I would, too. . . . It's only that boy was glad —and that's natural—just glad he is still alive.' "

That's all there is to the story. At first it seems like an awful lot of setting for one small pearl. Then, as it sinks in, you realize that Marquand has used the story as a device to contain something much larger than itself—the whole great tragedy of the war in the Pacific.

This is one of the standard tricks of the short story; when it's well done it's enormously effective; the sudden widening of view at the end seems to satisfy some human hunger.

In this story, and in Shirley Jackson's "The Lottery," and half a dozen others in the volume, the author uses careful, elaborate, evocative detail of setting, to prepare you for a sudden illumination about people.

The setting is made to seem interesting in itself, like the motions of a magician's hand, only to distract your attention and catch you off guard.

Now this is something that s-f can do. "The Lottery," "Cyclist's Raid," by Frank Rooney, and Shirley Ann Grau's "The Black Prince" are allegorical fantasies, with obvious parallels in such s-f stories as Harry Bates' "Farewell to the Master," "The Yehudi Principle," by Fredric Brown, and George Orwell's "1984." The best s-f stories frequently depend on just this effect—producing out of a needle's eye something vast and altogether astonishing.

Because Prescott chose the four fantasies (and wrote an appropriately loving introduction to the 1952 edition of *The Worm Ouroboros*), we know he is not one of those who think a story must be naturalistic to be taken seriously. Whatever his standards are, they are fine enough to admit fantasy and yet exclude science fiction.

It might be an instructive exercise to rewrite "Lunch At Honolulu" as science fiction: at least it would be remarkably easy to do. Where the text reads "koa" or "poi," substitute some equally exotic but invented word; for "Japanese" substitute "Barsoomian," or what have you; for "battleship," "spaceship," and there you are.

The resulting copy, if carefully written, would have all the values of the original: and yet you can see immediately that such a story would never wind up in a collection like this one.

Why not? Because the Marquand original has a real background, whereas the copy would have an invented one?

Nonsense. Every writer gives his characters names as if they were real people, and calls his setting "Kentucky" or "Hollywood" as if it were a real place; but one is as

much invented as the other.

But let's not quibble: is it because a place called Honolulu does actually exist?

So does a place called Mars.

Then is it because a story about Honolulu has to be carefully researched, whereas you can say anything you like about Mars?

Neither half of this plausible formulation happens to be true. There is so much readily available material about Honolulu, that any writer with an hour to spare could dig out of a guidebook all the facts Marquand used in his story.

Information about Mars exists, but is scantier and harder to come by; to write a logically consistent story about Mars, taking into account all that is known about the planet, is not the easiest job imaginable.

Now, as far as the average reader is concerned, the trouble may well be one of a lack of confidence in the authors. The backwoods Southern landscape of "The Black Prince" is as much a fantasy of Miss Grau's as the things she makes happen in it; but never mind, the reader knows Miss Grau is a Southerner, so there must be some fact in the mixture.

Even though the Kentucky of "Land of Our Enemies" is a moody charcoal drawing, all shadows and moonlight; even though the bar, in "The Hour of Letdown," is like no New York bar the reader was ever in, never mind: Stuart is a Kentuckian and White a New Yorker.

We have no Martian writers. Hence, probably, the exaggerated respect paid to s-f writers who are also working scientists, even though it almost always turns out that the biochemists write space opera, and the astronomers write biochemical fantasy.

Where the critics are concerned, however, I have a hunch that the trouble is something more resembling a lack of self-confidence. By and large, our literary critics are not educated in science; they grew up in a tradition that has made a physicist as alien to them as a plumber. I think they are embarrassed to find themselves unequipped to distinguish accurate science fiction from twaddle. And I think most of them have fallen back on the assumption that if the traditional critical standards won't fit it, it can't be art.

THE DIFFICULTY of defining science fiction is that, like the Indian Ocean, it has no natural boundaries. There is a central area which everyone agrees is science fiction; then as you go farther out you meet disturbing similarities to other forms of fiction; and finally, at the edges, the most puzzling things happen.

Take time travel, one of the staples of science fiction since H. G. Wells wrote *The Time Machine* in 1895. It accounts for perhaps one out of fifty science fiction stories, year in and year out; more in the case of some writers. In 1951, I was rash enough to express a belief that the time travel story was dying out; since then, eight of the thirty-six stories I've written

have been time travel stories.

Time travel has also been a staple device of the historical fiction writer, certainly since Rudyard Kipling's *Puck of Pook's Hill* (1906), and perhaps earlier. Two recent examples are delightfully hard to classify: *Pawn of Time,* by Robin Carson (Holt, $4.95) and *Curtain of Mist,* by M. Pardoe (Funk & Wagnalls, $2.95).

Pawn of Time is a big, sprawling, robust novel about a young New Yorker with the improbable name of Heitman Urban, who gets himself back into Renaissance Italy by the crudest sort of parlor hocus-pocus: "'Simple,' the Pernod drinker told him. 'Concentrate on Venice in that period. Then clear the mind of every thought and image for about three minutes. Let the mind go blank, and then —'"

And then Urban finds himself in Venice, in his own physical body, but wearing Renaissance clothes, and carrying a whacking big pouch of gold. Carson's explanation: "He thought he knew why he was in possession of a fortune. It represented the mechanized and collective services of his own age, which had been exchanged for the all-embracing commodity of money."

Swallow this, and the rest follows with logic enough, and with such vividness and good-humored impudence that you would forgive greater offenses. Carson obviously loves his period, and he makes it come alive—16th century Venice and Rome, full of Spanish adventurers talking about their *cojones,* virtuous whores and available nuns, filth and velvet, piety, pillage and manslaughter.

Carson is a Swede, and writes with occasional unidiomatic awkwardness (the first sixty pages or so are full of blunders like "to ignore that" and "to really lose grip"; later they almost disappear, as if the author had perfected his English while writing this book). He is also a master of the telling phrase: "and the blood shot out like a black arm over the stones."

Urban (who, not unpredictably, turns out to be an accomplished fencer) saves a young Spaniard, Don Manuel Ordóñez de Talavera, from armed attack; acquires a new name, and spins a wonderful C. S. Lewisish tale to account for his ignorance of local events and personages: reared among the savage New World Indians by his mother (who taught him all the niceties of civilized conduct), he floated across to Europe on a tree. His hosts innocently take all this for gospel, and in fact the head of the household, Don Isidro de Bahamonte Mendoza y de Beltrán, puts a secretary to work at writing it down as an edifying chronicle: *The Marvelous Life and Astonishing Adventures of the Most Excellent Señor and Very Magnificent Cavalier Don Jaiman Urban de Biqueman; How by Unwavering Faith and with God's Help He Escaped from the Land of the Heathen; With Special Maps and Explanations by the Author.* ("'I think we have hit on a very snappy title,' said Urban.")

The one really curious thing

about Urban is that he has no past history of his own; beyond the fact that he lived on Beekman Place in New York, the author tells us nothing about him; and he is described so sparsely that it isn't until nearly halfway through the book that we can even form any clear idea of what he looks like.

In contrast, all the other characters are drawn with loving clarity and precision. Nearly all of them are rogues of one degree or another, and the more rascally they are, the better the author makes us like them.

What makes the book so absorbing to read is the author's seemingly deep and genuine love for the people of the period—not the great personages, who do not appear; but the ordinary, everyday men and women of the Renaissance.

Now Urban, being a time traveler, has the virtues of both an observer and a participant. He is immersed in the story, but sees it freshly. To this extent, the time traveling element may be considered a purely formal device; but Carson has also made use of it in several unexpected ways for its own sake, with uneven success.

The broad theme of the book is that of Urban's slow cultural assimilation, until at the end he is completely a man of the time. The last vestige of his attachment to the 20th century takes the curious (and plausible) form of a dress fetishism, practiced with one of his mistress's servant girls. In quirky episodes like this one, Carson plays the two cultures off against each other with brilliant effect; but his tentative efforts to use the time-traveling element in a more science-fictional way are clumsy and weak.

The purchasing-power-to-gold transformation, already mentioned, is one example; another is Urban's six-year pursuit of gold, under the persuasion that he has to earn as much as he came with, before he can go back. Again, the minor character who turns out to be another time-traveler is implausible throughout; this is in striking contrast to the strength of the other minor characters.

Although Carson has Urban introduce modern fencing a hundred years early, it doesn't seem to occur to him to wonder what changes in the history of modern Europe and America this would inevitably cause. Finally, the metaphysical surprise with which he ends his story is a pure opportunism, a shocker without any structural link to the rest of the book.

Let me add at once that these defects, which would no doubt be fatal in a pure science fiction story, are unimportant flaws here: the book is coherent, vital and satisfying, with all its imperfections, from one end to the other.

Curtain of Mist is an uncommonly good juvenile, about four 20th-century people set down in pre-Roman Britain. Like Carson, Miss Pardoe evidently knows and loves her subject; and like his, her narrative is written in a forthright, no-nonsense style. (As a rule, it's the author trying to cover up his ignorance who writes with stuffy

erudition.) Here again, there is no attempt to provide a scientific rationale for the time-travel experience: in spite of some talk about Dunne's *An Experiment With Time* (listed in the bibliography, along with twenty-odd scholarly works on ancient history and archaeology), it's Polynesian magic that gets the four travelers into the past at the beginning of the story, and Celtic magic that returns them at the end. Now, clearly, this is nothing more than a convenient trick to get two otherwise incompatible things together —the modern protagonists, and the ancient setting. The time-traveling experience itself is not of the essence; Miss Pardoe has used it to get to the real heart of her story, just as Selma Lagerlof used the device of a miniature boy who traveled with the wild geese and spoke their language, to write a kind of story-geography of Sweden.

But authors' intentions often go astray. H. G. Wells was under the impression that in *The Food of the Gods* he had written an allegory of changing transportation systems in Britain, and he was quite put out that no one got the point. Authors' intentions aside, *The Food of the Gods* is a science fiction novel in which the good story-telling entirely overshadows the bad allegory; and *The Wonderful Adventures of Nils* is surely more fantasy than geography.

At any rate, *Curtain of Mist* is mostly an historical novel, but the elements of fantasy in it, even of science fiction—for instance, the very careful use of telepathy to get over the translation problem—make it impossible to exclude it from the field altogether.

To meet the ancient Celts, some in their "wheelhouses" and brochs, some in Romanized villas with central heating—not just blue-painted savages, but people with a high culture of their own—is a fascinating experience in this novel. What's the difference between that and reading a story about an imaginary barbaric culture in the future, or on another planet? Technical differences there certainly are, but the pleasure, it seems to me, is exactly the same.

BALLANTINE has been publicizing John Wyndham's *The Midwich Cuckoos* ($3.50), for reasons I cannot fathom, as a comic novel. Certainly the plot sounds comic enough. Something like a flying saucer descends on a sleepy English village; there is a 24-hour blackout during which nobody from outside can get in, and the inhabitants slumber; and a few months later it becomes evident that every fertile woman in the village is pregnant.

In the hands of a French writer, like the author of *The Scandals of Clochemerle,* I suppose this idea might actually have turned out to be funny; but Wyndham is nothing if not English, and his treatment is deadly serious, and I'm sorry to say, deadly dull.

The book opens promisingly, with a phlegmatic parade of Britons imperturbably vanishing into Midwich, and other Britons being

sent to hunt for them. There are glimmers of humor later on, as when a character refers to "the Obstetrics Division of Military Intelligence." But about page 90 the story begins to bog down under layers of polite restraint, sentimentality, lethargy and women's-magazine masochism, and it never lifts its head long again.

To begin with, the narrator is purely an observer; he continually gets in the way of the story, without contributing anything of his own. The central events of the story, partly for this reason, never emerge. The golden-eyed, hypnotic super-children grow up to a nasty teenhood and are then bombed to bits by a patriotic villager, which is just about what you would expect to happen. (In 247 pages, the book reaches the point at which van Vogt's *Slan* begins.)

Who the "cuckoos" in the flying saucer were, and what the *hell* they thought they were up to, we never learn. Presumably the author was at a loss, too.

Wyndham's unbearably leisurely preparation consumes 145 pages before we get our first first-hand glimpse of a super-child; we do not hear one speak more than a couple of syllables until page 210, and the effect then is one of fraud —it's too late to convince us now that they can talk like anyone else.

In Wyndham's *Out of the Sea,* this same kind of arm's-length treatment was highly effective, because in that one, the invaders were at the bottom of the ocean, and we could only speculate about them. But in *The Midwich Cuckoos,* the children are here; to keep them always half a mile in the background, as Wyndham does, is indefensible.

Vanguard to Venus, by Jeffery Lloyd Castle (Dodd, Mead, $3.00) is another astonishing combination of brilliance and foolishness by the author of *Satellite E One.*

The brilliance: a circumstantial description of the departure of the first Venus ship, which for vivid imagery and plausibility ranks with anything done in the field.

The foolishness: Venerians, or, if you like, Venusians (Castle, alone in the entire world, calls them "Venutians") descended from a space shipload of ancient Egyptians, and practicing black magic along with nuclear physics.

The "Venutian" part of the story is nonsense, and thirty-year-old nonsense at that; but Castle's handling of space travel is not only technically admirable, it is lyrical too. Here is a man who if he chose, and if he would get a few maggots out of his head, could write the *Moby Dick* of space-flight:

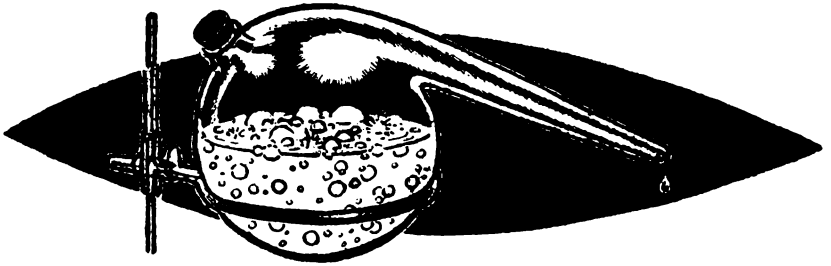
Less than a mile away the Satellite itself, permanent-seeming as the Moon, revolved about its central tower with majestic and unvarying smoothness, a mighty ring of gold suspended in space, half floodlit in the Sun's strange unrefracted light, half deeply shadowed and invisible against the equal black of the sky. Like those grotesque processions of saints that sometimes mark the striking of cathedral clocks, the assorted masts and antennae, telescopes and scan-

ners, marched round and round eternally, from light to darkness and from darkness into light.

The Joy Wagon, by Arthur T. Hadley (Viking, $3.50) is a farcical novel about a political campaign. It gets enormous mileage out of one simple but blood-chilling device: substituting for the human candidate a Machiavellian computer named Microvac—and as far as possible, letting the plot proceed exactly as if he were human.

The first twenty pages of the book, for some odd reason, are written in primer-sized sentences, and as awkwardly put together as possible—a line of wooden dialogue, then a paragraph of background material, then another line of dialogue, like a man trying to start a balky Model T. On page 21, the engine catches when Hadley turns to the unorthodox love problems of a young university professor and a night telephone operator. ("The room could be locked from the inside, but there were only two small swivel chairs with upright backs. Interruptions from the board, though infrequent, were of a disturbingly random pattern. Kay, hinting at some past experience, was nervous about cleaning men with pass keys . . . .") And away we go. Hadley, who went through the 1956 Presidential campaign as a member of Stevenson's staff, has met all the gorgeously varied fauna of a Presidential year—and here they are: Bryant W. Dangle, the egghead candidate, "who never split an infinitive or joined an issue"; Congressman Bates Hewball, "the sheep's friend"; mad Nora Claggett ("In her hands she bore a nine-foot pole from whose top fluttered a gigantic green and blue pennant with a gold radio tube on it. Beneath the tube were embroidered in scarlet the words, 'Prepare for Doom.' "); TV camera crews everywhere (Two heaving roustabouts were snaking a heavy cable across the room. They flipped it over a line of chairs, fetching the ladies in the next row an oily smack. 'Hands off dat cable!' they yelled crossly."); Indians (" 'See, Microvac got no head. All world know machine got no head. You give bonnet to machine that got no head, you look silly to whole world, Chief.' "); hustlers, advance men, managers, and above all, Mike itself.

Mike is a political manager's dream. It works tirelessly, knows all the answers, has a dynamic handshake (engineered with "delicate electronic pads" in its hands), never loses its temper, never makes the same mistake twice. As thousands cheer, you cheer, too: the best part of the joke is that you find yourself wanting Microvac to win, because it's a more likable guy, a greater American, a more forceful and intelligent leader than either of the two regular candidates. It ought to win, too, if logic means anything: instead, the book ends with a last-minute disaster which is clumsily contrived and abrupt; if, as I half suspect, this "happy" ending was forced on Hadley by an editor, the latter ought to be shot.



THE RETORT

"IF" anyone asks when science fiction, as a literary form, is going to attain maturity, I shall refer them to Frank Riley's *A Question of Identity* (April '58). Of course, craftsmanship and precision of detail make it a smooth-flowing, suspenseful yarn, but standing proud and tall in front of all other such considerations is the concept around which the story technicalities form the body substance.

It takes skill to treat dignified subjects in a dignified way. Too many of us take the easy way out, and hide behind the ubiquitous "light touch" when we have something serious to say. All well and good, the light touch is a fine thing, but I wonder how often it is used as a shield for embarrassment at having something significant to say and no decent way to say it. Frank Riley has shown us that he can say something decent without embarrassment.

—Willard D. Nelson
Portland, Oregon

A "Bravo" and also a "Tch-tch" to the housewife who authored the last letter in your April issue letter dept. I'll bet that every sci-fi fan agrees with most of her letter, but bristles at the last part when she says she has to defend it when caught reading science fiction.

"Defend it!"—she should be proud she can appreciate it! Most adults feel contemptuous of those who read "scandal, and/or love" type publications (and Nothing Else). One of the best ways to turn a scoffer into a "fan" is to loan him a few pre-selected books or magazines—it has never failed me yet in producing converts, but is a wee bit hard on the library—mine is practically a "circulating" library—but then I always seem to find a story which will really interest the doubter—possibly because I belong to a book-club of science-fiction editions, and also buy every magazine on the market.

By the way—there's only one thing wrong with IF—I can't put it down until I've read it cover to cover and am disappointed that there isn't just one more story!

—Mrs. Chester A. Ladd
San Jose, Cal.

First, some statistics for your survey: I am 24, married, no children, and am an IBM operator of five years' standing. Have been reading science fiction since 1950, and have managed to collect since that time some 4,000 science fiction books and magazines—and I'm just beginning! So much for the statistics.

Now I have a most vehement and violent complaint against your change of type for the "IF" on the cover and contents page. I don't like it! The old one was stylish, distinctive, and very pleasant to look at. But this new monstrosity is coarse, formless, and utterly undistinguished. It doesn't say anything, it's just—there. Very characterless. *Please* change back to the old style. I also think it was better when you had "World of" above the "IF," in the little square. It gave your magazine a very distinctive personality. How about it?

I like your stories in general, though I notice a slight similarity in some of them, as if it were the same theme being treated slightly differently. But still, it ranks in the top few, and is usually well worth reading.

In conclusion, keep up the good work—but please change that "IF", it doesn't become you!

—Burnice F. Wyszkowski
Toronto, Canada

I am 24, B.A.Sc. in Chemical Engineering from University of Toronto, married. I have been reading science fiction since 1940. Currently I have to be extremely selective with regard to my reading matter, because of limited time. I read practically nothing else but ASF and occasional stories by my favorite authors (Asimov, Heinlein, Clement, and an assortment of lesser names) published elsewhere.

So much for statistics for your survey.

In spite of what I have stated above, I have always held IF to be one of the four best science fiction magazines. If I have neglected it recently, it is only because of time demands. As your former steady and currently occasional reader, I want to protest most vehemently against the atrocity wrought upon the appearance of the cover of your magazine. I don't know whose idea it was to change the cover to its present design, but only a soap commercial writer could have conceived it. From a distinctive and elegant design, you have changed to a common, hackneyed, utterly uninspired one. There is nothing now to distinguish your magazine from a dozen others with similar covers.

Furthermore, while the present nearly square format of the color illustration on the cover no doubt costs considerably less than a full page illo, I would like to see IF return to the original full page color cover if at all possible. I would also like to point out here, that magazines with predominantly monochromatic covers have a much greater eye appeal than the ones whose covers are a jumble of colors light and dark. Especially predominantly black or predominantly white covers with a simple shape standing out in sharp con-

trast are most eyecatching. You might consider these points in choosing your illos and your cover design. Another point: I would like to see the lettering on the cover kept to a bare minimum, and placed in an unobtrusive place. In addition, each illustration should be purposely designed to form a balanced whole with the lettering, something that is seldom seen on the covers of s-f magazines these days. Some of your covers, I notice, are guilty in this respect too, *e.g.* the February issue.

—Paul Wyszkowski, S.E.I.C.
Toronto, Canada

Will anybody who (like me) prefers the new logotype please speak up, and balance the equation?

I had to write and tell you how much I enjoyed reading Arthur C. Clarke's *The Songs of Distant Earth.* This is definitely the best science fiction story I have read in years. What I particularly liked about the story was the way the author made everything seem *real* and somehow ordinary, at the same time that it was all wonderful and strange. I don't know if I am expressing this right, but it seems to me that most writers don't know how to do this. Either they are always oh-ing and ah-ing over how wonderful their inventions, etc., are, or else they take everything for granted so that the reader is bored before he starts.

I think people will go on living their ordinary day to day lives in the future, but that doesn't mean they will lose their sense of wonder. The two things have to go together, it seems, or else the story just is not believable. This is a pet gripe of mine, so I wanted to let you know you hit me just right with *The Songs of Distant Earth.* More!

—Robert W. Grundy
North Bend, Washington

I have been a reader of science fiction for over twenty years, but this is the first time I have ever written a letter to a magazine. By profession I am an Electrical Engineer, and enjoy reading science fiction for mental stimulation, even though the stories are frequently implausible.

The reason I am writing now is because my attention was caught by the method Arthur C. Clarke used, in his story *The Songs of Distant Earth,* for insulating the interstellar space ship from the heat released by contact with interstellar dust, etc. This certainly is a spectacular idea, carrying an iceberg a mile ahead of the space ship to act as a "bumper." But let's see how it would work out.

To start with, we will take the case of the space ship moving at a comparatively modest speed—one thousand miles a second, or 1600 km./sec. This sounds like a lot, but is actually quite slow as cosmic speeds go. Now the mass of the iceberg "bumper," Clarke tells us, is about 1,000,000 tons. Converting this into metric tons for convenience, we have 907,441 m. tons. We don't know what shape the "bumper" is, but again for convenience will suppose it is a cube, about 97

meters on a side. (This gives a volume of 912,673,000,000 c.c.'s, which is pretty close.) As the space ship travels in a forward direction, the leading face of the cube, with an area of 94,090,000 square centimeters, will be contacting whatever cosmic dust is in the way (mostly hydrogen). Taking the distribution of hydrogen atoms in interstellar space at about one per c.c., we find that the "bumper" will be hitting some 15,040,000,000,000,000 (fifteen quadrillion, forty trillion) atoms every second. The combined mass, at rest, of these atoms, will be in the neighborhood of .00000046 grams. Figuring for kinetic energy, which equals one-half the mass times the velocity squared, we get the respectable sum of 5,888,000,000 ergs.

Now the amount of energy needed to raise one gram of water one degree C. is one joule, or 10,000,000 ergs. In other words, to raise the whole mass of ice one degree C. would require roughly 900,000,000,000 times 10,000,000 or 9,000,000,000,000,000,000 (nine quintillion) ergs. Dividing this by our figure of 5,888,000,000, we find that 1,500,000,000 seconds—about 4,800 years—would be required to raise the mass of ice one degree C. (This is simplifying, of course; in actuality, the ice molecules would be heated to vapor point and would boil off into space along the leading face of the cube, gradually reducing its depth; however, this method gives us a good approximation of the problem.)

So we see that at these moderate speeds, the "bumper" would work nicely.

But now let's examine the case of the space ship moving at speeds near the speed of light—which is what Clarke's space ship does. That is a different case altogether.

According to relativity theory, mass becomes infinite as velocity approaches the speed of light. Suppose we assume the space ship is traveling at nine-tenths *c*, or about 27,000,000,000 cm./sec. This is really moving! And I want to know how Clarke propels such a mass, but that is a different problem.

At this speed, the leading face of the ice "bumper" would be contacting on the order of 2,000,000,000,000,000,000 (two quintillion) hydrogen atoms every second. The "rest mass" of these atoms would be about .00006 grams: but their mass with reference to the moving space ship would be 37 grams! And the kinetic energy released by contact with the "bumper" works out to the astonishing figure of 33,000,000,000,000,000,000,000 (thirty-three sextillion!) ergs per second. That would be enough to blow the "bumper" to hell and gone in less than one-tenth of a second—and spread it around over a lot of interstellar space too!

The oddest thing of all when you come to look at it is that this "bumper" of Mr. Clarke's seems to be held in place by some kind of force beam or "gravity field," such as was used to raise it from the planet Thalassa. Now if you have a convenient thing like that, why use a "bumper" at all? Presumably the field would be propagated at the speed of light, and so it could

push the H atoms out of the road quick enough for the space ship to get by.

Anyhow, I enjoyed the story!

—E. M. Wallingford
Newton, Miss.

I am 22 years old, a housewife and the mother of a 10 month old girl who leaves me breathless from her constant bounce. I was a chemistry major in college and worked for a year at an airplane plant in the design department. Both of these heightened my enjoyment of science fiction, but I have been reading it since I was 10. I'll always be grateful to the druggist who ignored the plump little girl eagerly devouring his magazines while picking at her sandwich so it would last a long time. I read each copy from cover to cover, week after week between my flute and piano lessons every Saturday. Since I arranged for a two-hour lunch period and because I was a very fast reader, I had no trouble finishing several a week. Occasionally I brought one home, but the lurid covers brought down my father's wrath. He still doesn't appreciate this type of literature, but restricts himself to an occasional headshake.

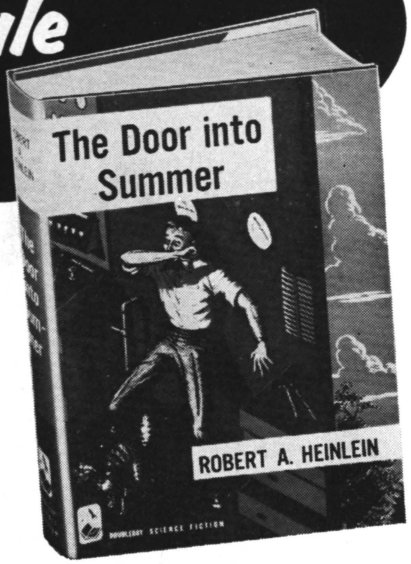
My husband fortunately shares this enthusiasm for s-f. I had saved my copies from '50 on, and he had a field day catching up. This left me twiddling my thumbs several times during our dating days, but I think now it was worth every minute. Now we sit and read magazines together and this cozy scene is broken only by a chuckle or some other approving or disappointed monosyllable and an occasional "Hey, did you read this one? If you're done, I'll trade." We find ourselves discussing stories we especially enjoyed months later. This has been handicapped somewhat for the last five months since he is working in an isolated spot in Alaska as a communications technician. We expect to be reading *If* and all our other favorites together again in September.

Arthur C. Clarke is one of my two favorite authors, Isaac Asimov being the other.

—Janice K. Rodes
Richmond Heights, Mo.

Yes! YOURS FOR ONLY 10¢ WITH MEMBERSHIP

THIS *Thrilling Tale* OF TOMORROW



—*Continued from Back Cover*

And if you DO go back, will you ever be able to return to your 21st century paradise? In short, can you actually live your life *twice?*

Read this Whole Amazing Story—Yours for Only 10¢

Science-fiction fans, get set for a real challenge to your wits! THE DOOR INTO SUMMER by Robert Heinlein—one of today's topnotch science-fiction writers—is a thriller crammed with new turns and new twists. You'll find your everyday thought processes turned topsy-turvy by it. It's selling everywhere right now for $2.95. But as a new member of the Science-Fiction Book Club, you can get this new book for only one dime! Read, below why the Club is making this amazing offer—then rush in the coupon (with only 10¢) at once!

Why We Make This Amazingly Generous Offer

WHY DO we offer you this brand-new, full-length Science-Fiction thriller for only 10¢? Simply to introduce you to the SCIENCE-FICTION BOOK CLUB, a wonderful idea in bringing you the best of the new science-fiction books—*at a mere fraction of their usual cost!*

Each month the Club brings you only the finest, brand-new, full-length books FOR ONLY $1 EACH (plus a few cents shipping charge)—even though they cost $2.50, $3.00 and up in the original publisher's editions.

Each month's selection is described in advance in the Club's free bulletin. You take only those books you want—as few as 4 a year. No money in advance. No membership fees. You may cancel membership at any time. Recent selections have included such books as *The End of Eternity* by Isaac Asimov, *The Isotope Man* and *Earthman, Come Home.*

The Club also brings members the best in *factual* scientific books, such as *Satellite!, The Report on Unidentified Flying Objects* and *Exploring Mars.*

Mail Coupon with only 10¢

Simply mail the coupon with only a dime. Your copy of THE DOOR INTO SUMMER will be sent at once, together with the current selection, for which you will be billed only $1, plus a few cents shipping. If not delighted return both books, owe nothing, and membership will be cancelled. Rush coupon with 10¢ to: **SCIENCE-FICTION BOOK CLUB, Dept. 8-FM-0, Garden City, N.Y.**

SCIENCE-FICTION BOOK CLUB
Dept. 8-FM-0, Garden City, N. Y.

I enclose only 10¢ for which please rush my copy of THE DOOR INTO SUMMER by Robert Heinlein, together with the current selection of the Club for which you may bill me only $1.00 plus a few cents shipping, and enroll me as a member. Every month send the Club's free bulletin, describing coming selections. For each book I accept, I will pay only $1, plus shipping. I need take only 4 books during each year I am a member and may resign at any time thereafter.

NO-RISK GUARANTEE: If not delighted with the books, I may return them in 7 days, pay nothing, and membership will be cancelled.

Name_____
(Please Print Clearly)

Address_____

City_____ Zone_____ State_____

Same offer in CANADA. Address 105 Bond Street, Toronto 2.
(Offer good only in U. S. A. and Canada.) S53

Imagine Yourself Shanghaied Into the 21ST Century

...AND WAKING UP 30 YEARS YOUNGER THAN YOUR SWEETHEART!

JUST put yourself in Daniel Davis' place. It's the year 1970. You're a young engineer, about to sell a million-dollar invention. You're sitting pretty—until your passionate friend, Belle Darkin, upsets your apple cart. First she steals your invention. Then she slips you a hypo; puts you in a new kind of deep freeze called "The Long Sleep."

You wake up *30 YEARS LATER*, in the year 2000—and you're still only 29 years old! But time has passed while you were in "cold storage," and Belle, your *ex*-sweetheart, is now 30 years older than you are! Well, you've lost interest in her anyway, after the way she two-timed and future-timed you.

The Fascinating World of 2000 A.D.

But there are other attractions in that world of 2000: its women in "sticktite" clothes they just throw away after wearing...its honeymoon trips to the moon... its remarkable new conveniences ...its brand new words of love and ways to live. No more menial labor. Robots take care of all that. Soon you're enjoying life as never before! You're glad to be out of that miserably backward world of the 20th century.

But unfortunately you *must* get back to the year 1970, to take care of one last urgent mission. You only hope that you can come back to the 21st century by taking "The Long Sleep" again. The big question is: Can it be done?

—Continued on other side

Yours FOR ONLY 10¢

WITH MEMBERSHIP

This Spine-Tingling Science-Fiction Novel

"THE DOOR INTO SUMMER"

by Robert Heinlein