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# volume 1      NUMBER 1

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## Herbert George Morley Roberts Wells, ESQ.

by ARTHUR C. CLARKE

A couple of years ago I wrote a tale accurately entitled *The Longest Science Fiction Story Ever Told*, which Fred Pohl duly published on a single page of *Galaxy* (Because editors have to justify their existence somehow, he re-named it "A Recursion in Metastories." You'll find it in *Galaxy* for October, 1966). Near the beginning of this metastory, but an infinite number of words from its end, I referred to *The Anticipator* by H. G. Wells.

Though I encountered this short fantasy some twenty years ago and have never read it since, it left a vivid impression on my mind. It concerned two writers, one of whom had all his best stories published by the other — *before* he could even complete them himself. At last, in desperation, he decided that murder

was the only cure for this chronic (literally) plagiarism.

But, of course, once again his rival beat him to it — and the story ends with the words: "The anticipator, horribly afraid, ran down a by-street."

Now, I would have sworn on a stack of Bibles that this story was written by H. G. Wells. However, some months after its appearance I received a letter from Leslie A. Gritten of Everett, Washington, saying that he couldn't locate it. And Mr. Gritten has been a Wells fan for a long, long time — he clearly recalls the serialization of *The War of the Worlds* in the *Strand Magazine* at the end of the '90's. As one of the Master's cockney characters would say, Gor Blimey.

Refusing to believe that my men-



tal filing system had played such a dirty trick on me, I quickly searched through the 20-odd volumes of the autographed Atlantic Edition in the Colombo Public Library. (By a charming coincidence, the British Council had just arranged a Wells Centenary Exhibition, and the library entrance was festooned with photos illustrating his background and career.) I soon found that Mr. Gritten was right: there was no such story as *The Anticipator* in the collected works. Yet in the months since TLFSET was published, not one reader has queried the reference. I find this depressing; where are all the Wells fans these days?

Now my erudite informant has solved at least part of the mystery. *The Anticipator* was written by one Morley Roberts; it was first published in 1898 in *The Keeper of the Waters (and other stories)*. I probably encountered it in a Doubleday anthology, *Travellers in Time* (1947) edited by Phillip van Doren Stern.

Yet several problems remain. First of all, why was I so convinced that the story was by Wells? I can only suggest — and it seems pretty far-fetched, even for my grasshopper mind — that the similarity of words made me link it subconsciously with *The New Accelerator*.

I would also like to know why this story has stuck so vividly in my memory. Perhaps, like all writers, I am peculiarly sensitive to the dangers of plagiarism. So far (touch wood) I have been lucky; but I have notes for several tales I'm afraid to write until I can be quite sure they're original. (There's this couple, see, who land their space-

ship on a new world after their planet has been blown up, and when they've started things all over again you find — surprise, surprise — that they're called Adam and Eve.)

One worthwhile result of my error was to start me skimming through Wells's short stories again, and I was surprised to find what a relatively small proportion could be called science fiction, or even fantasy. Although I was well aware that only a fraction of his 100-odd volumes were S.F., I had forgotten that this was also true of the short stories. A depressing quantity are dramas and comedies of Edwardian life (*The Jilting of Jane*), rather painful attempts at humor (*My First Aeroplane*), near-autobiography (*A Slip Under the Microscope*) or pure sadism (*The Cone*). Undoubtedly, I am biased, but among these tales such masterpieces as *The Star*, *The Crystal Egg*, *The Flowering of the Strange Orchid* — and, above all *The Country of the Blind* — blaze like diamonds amid costume jewelry.

But back to Morley Robert. I know nothing whatsoever about him and wonder if his little excursion in time was itself inspired by *The Time Machine*, published just a couple of years before *The Anticipator*. I also wondered which story was actually written — not published — first.

And why did such an ingenious writer not make more of a name for himself? Perhaps —

I have just been struck by a perfectly horrid thought. If H. G. Wells's contemporary Morley Roberts was ever found murdered in a dark alley, I simply don't want to know about it. —*Arthur C. Clarke*



# All Judgment Fled

by JAMES WHITE

*The alien ship swung in orbit,  
outside Jupiter. Earth had to  
launch its tiny ships to meet it!*

Illustrated by  
MORROW

I

It all began with a small scratch on a time exposure of some star clouds in Sagittarius, and its presence was blamed on mishandling or faulty processing. But a second exposure of the same area showed a similar scratch which began where the first one had left off and traced a path which was unmistakably curved, indicating that it was altering its own trajectory and could not therefore be a natural celestial body.

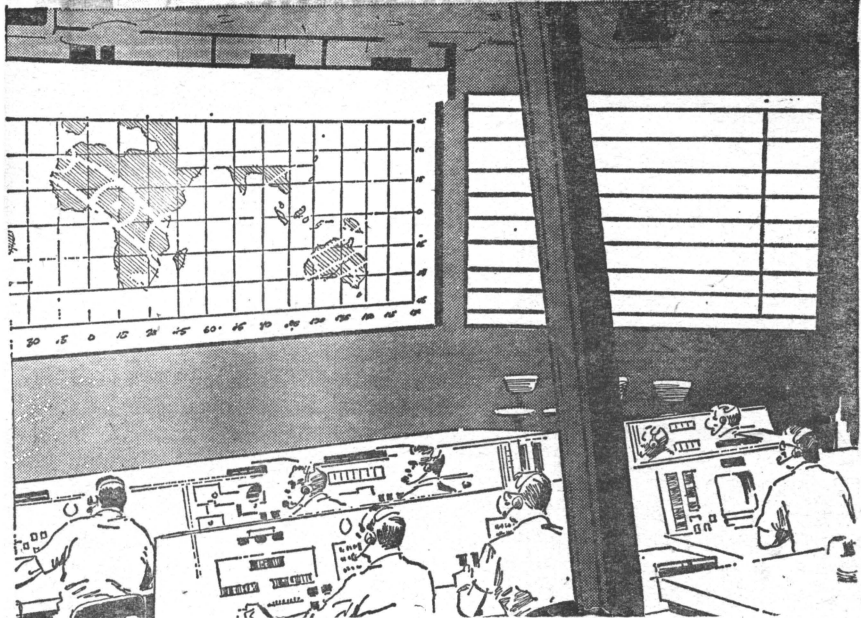
Immediately every instrument which could be brought to bear, was directed at the Ship.

The largest optical instruments showed only a point of light; spectro-analysis indicated a highly reflective surface suggestive of metal, and the great bowls of the radio telescopes

gathered nothing at all. By this time the Ship had taken up an orbit some twelve million miles beyond the orbit of Mars, still without making any attempt to communicate, and the decision was taken to sacrifice the Jupiter probe in an attempt to gain more information about the intruder.

As a result there was relayed back to Earth a low-definition picture of the vessel which orbited silently and, some thought, implacably like some tremendous battleship cruising off the coast of a tiny, backward island. It made no signal. Nor did it reply in any recognizable fashion to those which were being made. For the probe's instruments showed the object to be metallic, shaped like a blunt torpedo with a pattern of bulges encircling its mid-section and just under half a mile long.

Inevitably there were those who



wanted an even closer look, and two small, sophisticated dugout canoes were hastily modified and readied for launching.

“It seems to me,” said Walters very seriously, “that we have not gone far enough into the philosophical implications of this thing. At present that ship is a Mystery, but once we make contact it will then become a Problem. There’s a difference, you know.”

“Not really,” Berryman said in a matching tone. “A problem is simply a mystery which has been broken down into a number of handy pieces, some of which are usually related to problems already solved. And far be it from me to impugn the thought processes of a fellow officer, but your stand smacks of intellectual cowardice.”

“Advocating a greater degree of caution and prior mental preparation is not cowardice,” Walters returned. “If we’re to begin impugning minds it’s my opinion that too much confidence — you can call it bravery if you like — is in itself a form of instability which . . . .”

“What sort of twisted mind is it that can insult a man by calling him brave?” said Berryman, laughing. “It seems to me everyone on this operation wants to be the psychologist except the psychologist. What do you say, Doctor?”

McCullough was silent for a moment. He was wondering what insensitive idiot it had been who had first likened the horrible sensation he was feeling in his stomach to butterflies. But he knew that the other two men were verbally whistling in the dark and in the circumstances he could

do nothing less than make it a trio. He said, "I'm not a psychologist. Anyway my couch is full at the moment — I'm in it."

"*Sorry to interrupt, gentlemen,*" said Control suddenly. "*I have to tell you that Colonel Morrison's ship had a three-minute hold at minus eighteen minutes, so your takeoff will not now be simultaneous. Is this understood? Your own countdown is proceeding and is at minus sixty seconds . . . now!*"

"Command pilot here," said Berryman. "Understood. Tell the colonel last man to touch the alien ship is a —"

"*Don't you think you are all working a little too hard at projecting the image of fearless, dedicated scientists exchanging airy persiflage within seconds of being hurled into the unknown? Your upper lips must be so stiff I'm surprised you can still talk with them. Would you agree that you may be over-compensating for a temporary and quite understandable anxiety neurosis?*"

"*Minus twenty seconds and counting . . . Eighteen, seventeen sixteen . . .*"

"You're right, Walters," said Berryman. "Everybody wants to be a psychologist!"

"*Twelve, eleven, ten . . .*"

"I want off," said Walters.

"*At minus seven seconds? Are you kidding? Four, three, two, one . . .*"

The acceleration built up until McCullough was sure his body could take no more, and still it increased. Even his eyes felt egg-shaped. His stomach seemed to be rammed tightly against his backbone. How anything

as fragile as a butterfly could survive such treatment surprised him, but they were still fluttering away like mad — until accelerating ceased and his vision cleared, that was, and he was able to look outside.

Only then did they become still, paralyzed like himself with wonder.

Control and guidance during this most critical stage of the trip was the responsibility of brains both human and electronic on the ground. Their short period of weightlessness ended as the second stage ignited, its three G's feeling almost comfortable after the beating he had taken on the way up. With his head still turned toward the port McCullough watched the splendor of the sunset line slide past below them to be replaced by the great, wooly darkness that was the cloud-covered Pacific.

Against this velvet blackness a tiny shooting star fell away from rather than towards Earth — Morrison's ship. We knew it was the colonel's ship because its flare died precisely three minutes after their own second stage cut out.

If everything had gone as planned — a very big if, despite the advances made since Apollo — they were now on a collision course with the sixty-million-miles-distant Ship. A period of deceleration, already pre-calculated, would insure that the collision would be a gentle one — if they managed to collide with it at all. For the alien vessel was a perfect example of a point in space. It had position but no magnitude, no detectable radiation, no gravitational field to help suck them in if their



course happened to be just a little off.

The thought of missing the alien vessel completely or having to use so much fuel finding it that they might not be able to return home worried McCullough occasionally. Usually he tried, as he was doing now, to think about something else.

He could no longer see Morrison's ship. Either it was too small to be picked out by the naked eye — at least by McCullough's middle-aged, slightly astigmatic naked eye — or it was hidden by the glare from the monsoon-season cloud blanket covering Africa and the South Atlantic. But suddenly the colonel was very much with them.

*"P-One calling P-Two. Come in, P-Two. How do you read?"*

"P-Two here," said Berryman and laughed. "Almost deafening, sir, and as clear as the notes of a silver trumpet blowing the Last P . . . I mean Reveille . . ."

"Freudian slip," murmured Walters.

*"Loud and clear is good enough, Berryman. Purple passages waste oxygen. Have you completed checking your pressurization and life-support system?"*

"Yes, sir. All are Go.

*"Good. Take off your suits and all of you get some sleep as soon as possible. Use medication if necessary. At the present time I consider it psychologically desirable for a number of reasons, so go to sleep before your nasty little subconsciouses realize they've left home. That's an order, gentlemen. Good night."*

A few minutes later, while the

other two were helping him out of his suit, Walters said drily, "Even the colonel wants to be one."

And Berryman added, "The trouble, Doctor, is that your psychologist's club is not sufficiently exclusive."

But the command pilot was wrong in one respect at least. McCullough now belonged to the most exclusive club on Earth, membership in which was reserved for that very select group of individuals who at some time had left the aforementioned planet. And like all good clubs or monastic orders or crack regiments there were certain rules of behavior to follow. For even in the present day members could find themselves in serious trouble, very serious trouble.

When this happened they were supposed to follow precedents established by certain founder members who had been similarly unfortunate. They were expected to talk quietly and keep control of themselves until all hope was gone, then perhaps smash their radios so that their wives and friends would not be distressed by their shouting for the help which nobody could possibly give them when their air gave out or their vehicle began to melt around them on re-entry.

During the five and a half months it would take them to reach the Ship they would eat, sleep, talk and sweat within a few inches of each other. McCullough wondered if their club's rules of behavior, or *esprit de corps* or whatever peculiar quality it was that made a group of individuals greater than the sum

of its parts, would keep them from suiciding out of sheer loneliness or tearing each other to pieces from utter boredom or disintegrating into madness and death for reasons they could not as yet even imagine.

McCullough hoped it would. He was almost sure it would.

## II

**T**he Prometheus Project was either the result of some very devious thinking, or there had been introduced into it such a multiplicity of objectives that its planners did not know where they were.

Even allowing for the hasty mounting of the operation — the original purpose of the two ships was to have been the setting up of a manned lab and observatory on Deimos — McCullough's instructions were a mish-mash of insufficient data and ambiguous language.

He could follow their reason and even feel sympathy for their problem. The alien vessel beyond the orbit of Mars was an enigma. To solve it they had two small, fragile ships, a double payload which was hopelessly inadequate and six men. If the solution was to be as complete as possible the abilities of the six men must cover the widest possible spread of physical and social science. Since the Ship was obviously the product of a highly advanced culture, the knowledge possessed by the six men should be complete and extensive.

**Picking the men — six healthy, stable, intelligent men capable of surviving the longest journey in hu-**

man history and asking the right questions at the end of it — was not an easy task, because they had to choose men capable of collecting the bacon and bringing it home safely. Despite the thousands of scientifically eminent people who demanded to go on the trip, it was the space medics who had, as usual, the final say.

Instead of six of the world's acknowledged scientific geniuses there had been chosen four experienced astronauts and two under training who were not even known in scientific circles and were respected only by friends. All that could be said for them was that they had a fairly good chance of surviving the trip.

McCullough, according to Berryman, had a subconscious which was dizzy from watching people go around in centrifuges; while Hollis, the supercargo in Morrison's ship, was a physicist working on the development of nuclear power plants for space vessels. All four of the astronauts had in their individual fashions told Hollis and McCullough that they approved of the choice which had been made — even though they may have been lying diplomatically — and that the two scientific unknowns should not worry about the things certain green-complexioned, ivory-tower types were saying about them. When they returned home they would all be as famous as anyone could hope to be.

Berryman cleared his throat loudly, bringing McCullough's mind back to present time with a rush as he said, "I suggest we do as the man said, Doctor. It's been thirty-one

hours since we slept. Besides, it will still be there when you wake up."

"What will?" asked Walters.

"Nothing," said Berryman. "Millions of miles of nothing."

"I fell for that one," said Walters. He sighed and with great deliberation closed his eyes.

When they were quiet again, waiting for the sedatives to work, McCullough's mind returned to the almost laughable problem of these people who insisted, quite wrongly, that they were his charges. He liked to think that his professional qualifications were necessary to the success of this trip, that he would spend his time making detailed observations and evaluating data gathered on extra-terrestrial physiology, sociology and even psychology although he was not himself a psychologist. But apart from five names, faces, tones of voice and military insignia, McCullough knew very little about his colleagues and self-elected patients.

Basically they were well adjusted introverts. An astronaut had no business being anything else. Both Captain Berryman and Major Walters had shown great thoughtfulness and consideration in their dealings with him.

Where Colonel Morrison was concerned he had less to go on. The colonel was polite but reserved, and there had been very little prior social contact between them. The same applied to Major Drew. The third member of Morrison's crew was the physicist, Captain Hollis. His rank, like that of McCullough's, did not mean very much and had probably

been given in order to simplify Army paperwork and make it easier for them to be ordered to do things. Hollis did not talk much and when he did it was in shy, low-voiced polysyllables. Apparently he got his kicks from playing chess and fixing his friends' TV sets.

Then there was Lieutenant-Colonel McCullough, of course, a complex personality whose motivations McCullough had thought he understood until he found himself volunteering for this job. He had been undergoing training for MOL service, the idea being to have him share one of the orbiting laboratories with a number of lab animals and make a study of life processes in the weightless condition. Like the others he was unmarried. And this was probably a good thing, despite the generally held belief that marriage gave added strength and emotional stability to an astronaut, because Prometheus might very well become a suicide mission.

McCullough wriggled on his couch even though all positions were equally comfortable in the weightless condition. Beyond the port Earth was in darkness, with the Moon just about to slip over the sharply curved horizon. Cloud masses and continental outlines were gray and indistinct, with the stars above the horizon and the cities below it shining with the same intensity, so that the whole planet seemed transparent and insubstantial, like a world of ectoplasm.

It was as if the final war had started and finished while he wasn't looking and the whole world had died, McCullough thought rather

**fancifully** as he slipped over the edge of sleep, and a planet-sized ghost pursued its orbit around the Sun . . . .

But when he awakened some hours later the Earth was again solid and condensed into a bright sphere which was just small enough to fit within the rim of the port.

Berryman and Walters were already awake. When they saw that McCullough had joined them the command pilot passed out breakfast. They were squeezing the last of it from their tubes when there was an interruption.

*"This is Prometheus Control. Good morning, gentlemen! If you have nothing better to do, and we are sure you haven't, we would like you to take your first lecture. We have now decided to increase the frequency of these lectures from two to three per day. The first one, which should prove very helpful when you reach the Ship, deals with multi-dimensional geometry."*

"Ugh," said Berryman.

"Drop dead," said Walters.

"No comment," said McCullough.

*"Thank you for your cooperation, gentlemen. If you will have pencils and paper ready —"*

"Negative, negative!" the voice of Colonel Morrison broke in. *"F-One to Prometheus Control and P-Two. I advise against taking written notes. Paper is limited and may be needed for purposes of communications and supplementary sketches for the photographs taken at the Ship."*

*"A good point, Colonel. Very well, mental notes only until a decision has been taken in this matter. And now, if you're ready to begin . . . ."*

There was a short silence broken by two bursts of static and an apologetic cough. Then a new voice said:

*"Well, now. The subject of this lecture may itself need an explanation, and it is this: from our observations of the approach, physical mass and general appearance of the alien ship, we are convinced that some method of faster-than-light propulsion is being used. Since Einsteinian math holds FTL travel to be impossible in this spacetime continuum we must fall back on those vaguer theories which suggest that the physical laws governing this continuum may be in some fashion side-stepped by travelling along or within some highly speculative hyperdimension. But as things stand you would very probably not know a hyperdimensional propulsion device if it stood up and bit you. And neither in all probability would I."*

There was a small, dry, academic cough. Then the voice went on.

*"So the purpose of this lecture is, by outlining current thinking on this subject together with our speculations and supporting math, to give you a slightly better chance of recognizing a hyperdimensional generator if you should happen to see one."*

*"Subsequent lectures on a wide range of subjects are expected to include . . . ."*

McCullough was beginning to feel concern for a future which now promised to be positively rather than negatively boring. He hoped the Prometheus people knew what they were doing and had taken pains to pick the right kind of lecturer. When



the idea had been first mentioned they had agreed that without visual aids or textbooks the process of learning new and difficult subjects would be anything but easy. If handled properly, the lectures would help negate boredom by engendering a competitive spirit among the two ships' crews. This would be a very good thing — provided it did not cause some people to appear less bright than their fellows, a situation which could open the way to all sorts of conflicts and emotional disturbances. But all this had been taken into consideration, the Prometheus astronauts had been told, and any harmful side effects would be guarded against.

Probably time alone would tell, McCullough thought. At least this lecturer possessed a rudimentary sense of humor.

He was saying, *"To give you an example, our knowledge of extra-terrestrial biology, physiology and sociology is nil. But in future lectures we will prepare you to a certain extent for whatever you may meet by considering in detail the sexual mores of certain isolated cultures on our own planet and the exotic reproductive mechanisms of our more alien terrestrial animals, insects and plants, and by formulating the type of social system these creatures might be expected to develop were they to rise to a human level of intelligence.*

*"All this is simply an indication of what you may expect from the various specialist lecturers who will follow me.*

*"Before I commence my series of lectures it might be better if I introduced myself. I am Doctor — of*

*Philosophy, not Medicine — Edward Ernest Pugh, Professor of Mathematics at the University of Coleraine and Director of its Department of Extra-Mural Studies."*

Berryman turned to stare very solemnly out of the Earth-side port. He said, "Just how extra-mural can a student get?"

Walters and McCullough laughed, and Professor Pugh asked them to begin by considering a tesseract.

### III

Time passed.

Their education grew while Earth and the apparent size of their vehicle shrank. When the bulkheads pressed in on them too closely they took turns going outside, treating incipient claustrophobia with threatened agoraphobia. At least that was how Berryman described the process. But he talked that way, as they all did, to hide his real feelings. The simple truth was that on the end of a long safety line, with their vehicle looking like some surrealistic toy five hundred yards away, the whole of Creation was spread out around them in sharp focus and perfect 3-D, and it was not a sight which could be easily talked about.

With the increased distance from Earth and Prometheus Control, communications difficulties also grew. Not only did periodic solar interference make incoming messages barely intelligible, the time-lag between outgoing questions and incoming answers was more than eight minutes. When it became necessary to turn up the gain on their receiver because

a whisper of intelligence was trying to fight its way through a thunder of mush, the time-lag was more than simply irritating. Finally even the colonel could stand it no longer.

*"You may be transmitting a lecture on production methods in the aircraft industry,"* Morrison enunciated slowly and with sarcasm, *"but it sounds like a tape of Omaha Beach on D-Day. You are fighting a losing battle. Give up until these blasted sunspots have gone back to sleep, at least!"*

Eight minutes later a tiny voice fought its way through a barrage of static to say, *" . . . Your message incompletely received . . . do not have battle tactics . . . Operation Overload immediately available . . . loss to understand this request . . . ."*

*"You misunderstood my message, Prometheus Control,"* the colonel's voice returned, louder but with less clarity of diction. *"I requested that you cease transmission . . . ."*

*" . . . A lecture scheduled on Games Theory, but must warn you . . . Alien conception of military tactics may not agree . . . Eisenhower . . . ."*

*"Don't talk when I'm interrupting, dammit!"*

For perhaps five minutes Control battled against the static with a complete lack of success, then the colonel's voice came again.

*"P-One to P-Two. You may break contact with Control without their permission. I take full responsibility."*

For a long time they simply luxuriated in the peace and quiet, then Walters said angrily, "You know, that noise was bad. You, sir, were

practically tying yourself in knots and the doctor had his eyes squeezed shut and all his teeth showing. This is not good. Noise, any loud or unnecessary or unpleasant noise, especially in a confined space like this, makes me irritable. I'm beginning to dread these lectures three times a day. Somebody should do something about them. Somebody with authority!"

"I agree," said McCullough.

"Of course you agree!" Walters's voice was high-pitched, almost shrewish. "You always agree, but that's all you do!"

"I think Morrison intends doing something," Berryman said quickly. He looked worriedly from Walters to McCullough and back, then went on. "And the doctor is a rather agreeable man, if a little hard to pin down at times. Myself, I expected him to look clinical occasionally and perhaps talk a bit dirty. At very least he should have spent a few days mentally dissecting us, explaining the real truth about our relationship with our first teddy bear and generally showing us what monstrous perverts we are under our warm, friendly exteriors. But he doesn't talk like a psychologist, or look like one or even admit to being one."

Berryman was trying hard to smooth things down. And he was succeeding, but with his eyes he was asking the doctor for a little help.

"Well, now," said McCullough gravely, "you must understand firstly that, if anything, I would be an Eysenckian rather than a Freudian psychologist and so would never have had an occasion to use a couch professionally. But there was one period

when I did some valuable research, if I do say so myself, on the behavior and psychology of worms.

"There were some quite intriguing incidents," McCullough went on. "They had numbers instead of names, so there is no question of an unethical disclosure of privileged information, and they had such a low order of intelligence that to get through to them at all we had to stimulate the clitellum with a mild electric . . . ."

Berryman shook his head.

"Well, I did try," said McCullough, projecting a hurt expression. He went on, "As for making noises like a psychologist and pushing your mental buttons, this would be a waste of time. You are both well adjusted, self-aware, intellectually and emotionally honest and already well versed in the terminology, so that any problem which arises is immediately recognized, classified and dealt with by the person concerned. So there isn't anything for me to do even if I was supposed to do it."

For perhaps a minute there was silence, then Walters said, "I'm sorry I blew up at you, Doctor. If I'd been using my head at all I should have realized that anyone who turns nasty with a psychologist ends up being flattered to death."

"My point exactly!" said McCullough to Berryman. "He can even see through my subtle attempts at manipulation by flattery!"

Berryman nodded and said, "Now if only the aliens on the Ship are worms . . . ."

**B**ut on a wider, more objective level the situation was definitely not

normal. The space inside P-Two not taken up with control, communications and life-support systems, left very little room for either movement or privacy. Their total living space was a hollow cylinder seven feet in diameter and four deep, and this was further reduced by couches, control consoles and instrumentation which projected into it. Nobody could move more than a few inches without sticking an elbow or a knee in someone's face or stomach. Even the sanitary arrangements gave visual privacy only. And because their tanked oxygen was restricted, trips outside the ship were kept down to a total of two hours per week, and they just could not be alone for the length of time required by normal introverts. Instead they lay strapped loosely into their couches, exercising for an hour or so each day by pitting one muscle against another, talking or not talking, listening to incoming signals and smelling to high heaven.

In living quarters which compared unfavorably with the most unenlightened penal institutions, the crew of P-Two — and P-One, presumably — shared a not always peaceful co-existence. They tried to be polite and considerate to each other, but not too much so. The efforts of guarding one's tongue continually, of *always* being polite, would have been so much of a strain that the emotional backlash would have led inevitably to violence.

Instead they were normally bad-tempered or sarcastic, while remaining at all times sensitive to potentially dangerous changes of atmosphere. If they sensed that the subject of their

displeasure or sarcasm was becoming too strongly affected by it, the remarks were allowed to grow to ridiculous and laughable proportions. They became adept at walking this psychological tightrope. But they were subject to severe external pressures as well.

Earth had decided to investigate the Ship with a group of trained astronauts rather than a cross section of the best scientific brains, and all things considered it had been a sound decision. But Earth desperately wanted things to go right at the Ship. They wanted a smooth social and cultural contact, and they badly wanted to find out everything they possibly could about alien science and technology. As a result, they were trying to cover themselves both ways by doing everything possible to make scientific investigators out of their astronauts.

The low signal to noise ratio during some of the lectures was merely an added irritant. The real trouble was that the lectures themselves were a constant reminder to every one of them of what lay at the end of the trip.

Any well adjusted person could face up to a problem once it was defined. But when nothing at all was known about it other than that it was in the life-and-death category and that it *must* somehow be solved, even the sanest personality could show signs of strain.

They were now three weeks away in time from the alien ship . . . .

After one lecture so speculative that it was almost pure science fiction, Walters said, "It would be nice if we could simply hold our hands

out in the universal gesture of peace. But what *is* the universal gesture of peace to an octopus or an intelligent vegetable?"

McCullough said, "We don't usually make gestures of peace at animals or vegetables, so their gestures towards us are either defensive or hostile. Tortoises retreat under their shells, octopuses squirt ink at us and plants grow thorns if they are able. Offhand I'd say that if an animal or being behaves normally when it is approached by a stranger — that is, if it doesn't take any offensive or defensive action — then it is either peacefully inclined or suffering from an impairment of sensory equipment or brainpower. But this is an unsatisfactory answer, since it may involve a being whose normal reactions will be just as strange to us as its abnormal ones. I don't know."

"Let us suppose," Berryman said, "that the Ship is solidly packed with a vitamin-enriched sandy substance — except for certain hollowed-out areas for power and control systems — with provision made for renewing the food element and eliminating wastes. Furniture, bedding and so on would be virtually non-existent and control levers and . . . and push pads, they would have to be, rather than push-buttons . . . would be positioned all the way around and perhaps inside the mechanism they were designed to control. This being would curl itself around and insinuate itself into the machine it was operating . . . ."

"Not worms again!" said Walters.

"I'm talking about an intelligent, wormlike life-form," the command pilot went on. "A worm who stayed



out of its burrow long enough to look up and wonder at the stars."

"Oh, very poetic," said Walters.

"Shaddup, you. A worm who developed intelligence and the degree of cooperation which made possible civilization and technological progress. And now, Doctor, suppose you were confronted by a member of such a species. With your specialist knowledge of the physiology and motivations of what amounts to the aboriginal ancestors of these beings, could you arrive at an understanding with them?"

McCullough thought for a moment, then said, "An analogy would be that of an alien being able to understand a human being from data gained while examining a baboon. I don't think it is possible. In any case the intellectual and evolutionary gap between your star-travelling worms and mine is much greater than that between a man and a baboon. This is why we are being subjected to these lectures on the mating habits of armadillos and things."

"Things, he says." Berryman made a face and began passing out lunch.

They nearly always ate after a discussion about the beings on the Ship, but Berryman and Walters had stopped mentioning the psychological connection between feelings of insecurity and eating. The only person to speak at all during the meal was Walters. "You know, Doctor, there must be *something* you can do!"

Three days later something came up which the doctor could do. Something, apparently, which *only* the doctor could do.

"Morrison here. Put the doctor on, please."

"Yes, sir," said McCullough.

"Captain Hollis is having trouble. A . . . a skin condition, among other things. He won't sleep without heavy sedation and we're running out of that. I realize it is a lot to ask, but I'd prefer you to see him rather than prescribe from where you are. Can you come over to P-One, Doctor?"

Instinctively McCullough looked out at the stars. He could not see P-One because it was visible only on the radar screen. The last time anyone had seen it was when they were being inserted into orbit above Earth. He cleared his throat and said, "Yes, of course."

"At this distance there is an element of risk involved."

"I realize that."

"Very well. Thank you."

When the colonel had signed off Walters gave McCullough a long, steady look, then held up three fingers. He said, "One, you're stupid. Two, you're brave. Or three, you've been brainwashed."

#### IV

The personnel launcher was a light-alloy rigid pipe fifty feet long, built up in sections and slotted together without projections of any kind. It was assembled forward so as to form a continuation of the center line of the ship, and the charge which tossed its human missile into space was matched by an equal thrust directed aft so as to avoid the necessity of course corrections. On this occasion the whole ship had to be aimed

at the target on a radar bearing rather than a visual sighting.

Berryman threaded the launching harness onto the first section of pipe and, while Walters completed the erection, the command pilot harnessed McCullough to the stupid contraption. It was a little odd that McCullough regarded it as a contraption now, when on Earth, after studying drawings and operating principles and seeing the demonstration films, he had considered it an ingenious and fool-proof device.

The harness itself was a somewhat lopsided fabrication of thin metal tubing built around the hollow cylinder which fitted over the launching pipe, with the bulky oxygen and reaction tanks grouped on one side and the body webbing on the other. But when a man was attached to the harness and his arms drawn back and joined behind him and his legs bent vertically at the knees — there were special cuffs and stirrups fitted so that this could be done comfortably — the device began to assume a degree of symmetry. With the man added, the center of thrust roughly coincided with the center of gravity, so that the system had only a slight tendency to spin after launching.

"The push will send you off at just under fifteen miles per hour," Berryman told him for the third or fourth time, "so if our shooting is very good and you hit P-One at this speed it would be like running into a brick wall. You would hurt yourself, you might damage or rupture your suit and the impact could wreck the other ship."

*"Don't joke about things like that,*

*Berryman! Besides, you'll make him nervous."*

"I wasn't joking, Colonel," the command pilot replied. Then to McCullough he went on, "I was trying to make you cautious rather than nervous, Doctor. Just remember to check your velocity with respect to the other ship in plenty of time. Start decelerating when you are about a mile off, come to a stop not too close, then edge in on your gas motor. You have a good reserve of reaction mass, your air will last for six hours and the trip will take roughly three and a half hours since P-One is over fifty miles away."

"Suppose it isn't there after three and a half hours," said McCullough. "It's a very small ship and . . ."

"Such morbid imaginings," said Walters severely, "ill behoove a psychological gentleman."

"You're ready to go, Doctor," said Berryman. "Give me ten minutes to get inside and check the radar bearing again. Walters, keep clear of the launcher."

The launch itself was an anticlimax, just a comfortable, solid push that reminded McCullough of the first few seconds in an express elevator. Then he cleared the guide tube and was tumbling very slowly end over end.

Quickly he withdrew his arms and legs from their retaining clips and, when P-Two came into sight again, spread them out to check his spin. Walters and Berryman did not talk, although he could hear the sound of their breathing in his phones, and McCullough kept silent as well. The ship dwindled in size very slowly — it did not appear to move away from him,

just to grow smaller — so that the launcher was dismantled and the tiny figures of the two pilots had re-entered the lock before distance made the finer details of the vehicle run together into a silvery triangular blur.

Just before it disappeared completely McCullough rotated himself until he was facing his direction of travel and began searching for an identical blur which would be Morrison's ship, even though the soonest he could hope to see it would be in another two hours.

The colonel had suggested that he sleep on the way over, leaving his receiver switched on at full volume so that Morrison could wake him when it became necessary. McCullough had refused this suggestion for two reasons. The one he gave the colonel was that he did not want to be half asleep when he closed with P-One — making contact might be a tricky enough job with him wide awake.. The other reason he did not tell anyone. It was his fear of waking up with no ship in sight, beyond all help or hope of help, alone . . . .

He was very much aware of the safety line coiled neatly at his waist, and of the fact that the other end of it was not attached to anything.

But that was just the beginning . . . .

**I**n the weightless condition no muscular effort was required to keep arms and legs outstretched, and in that attitude spin was reduced to a minimum. But gradually the position began to feel awkward and ridiculous and, in some obscure fashion, unprotected. All around him the stars hung bright and close and beau-

tiful, but the blackness between them went on and on forever. He told himself truthfully that he enjoyed being out here, that there was nothing to threaten him, nothing to be immediately afraid of and nobody to even see his fear if he should show it.

He was all alone.

His rate of spin began to increase slowly, then rapidly as his outstretched arms and legs contracted until his knees were drawn up against his stomach and his arms, with the elbows tucked in as far as his suit would allow, folded tightly across his chest. But it was not until he realized that his eyes were squeezed shut that McCullough began to wonder what exactly it was that was happening to him.

He badly needed to straighten himself out, in both senses of the word.

But for some odd reason his body had passed beyond the control of his mind, just as the various layers of his mind were no longer under the control of his will. He was feeling rather than thinking. It was as if he was an enormous, dry sponge soaking up, being saturated in, loneliness. The purely subjective loneliness of being unknown and unnoticed in a crowd, the actual loneliness of being on a deserted beach where the uncaring natural phenomena of wind and wave press all around and the awful, lost feeling of the child in the night who believes, whether rightly or wrongly, that he is unwanted and unloved. The feeling which was welling up inside McCullough was loneliness distilled, concentrated and ultimately refined. Anything in his previous experience was like comparing a slight over-ex-

posure to the sun with third degree burns.

He crouched into himself even more tightly while the unseen stars whirled around him and the hot tears forced their way between his squeezed-together lids.

Then the awful feeling of loneliness began to withdraw, or perhaps he was withdrawing from it. The weightless spinning was oddly pleasant. There was a timeless, hypnotic quality about it. The sensation was like the moment after a tumble into deep water when it is impossible to tell if one is upside down or not, and yet the warm salt water is supporting and protecting and pressing close . . . .

"Say something!" shouted McCullough.

"Something," said Berryman promptly.

"Anything wrong, Doctor?"

"Not . . . not really, sir," said McCullough. "Whatever it was . . . I'm all right now."

"Good! I thought you were sleeping after all — you haven't made a sound for over two hours. We should be just about visible to you now."

McCullough straightened and slowed his spin. The stars rose majestically above the upper rim of his visor, reached zenith and then slowly set between his feet. When the sun came around he covered it with his hand so as not to be blinded, and he searched the sky. But the two bright objects he picked out were too brilliant to be P-One — they were probably Sirius and Jupiter, but he was so disoriented that he could not really be very sure.

"I can't find you."

There must have been an edge of panic in his tone because Morrison said quickly, "*You're doing fine, Doctor. Our radar shows a solid trace for P-Two. If you were off course to any large extent there would be two traces, so any divergence is minor. Look around you carefully.*"

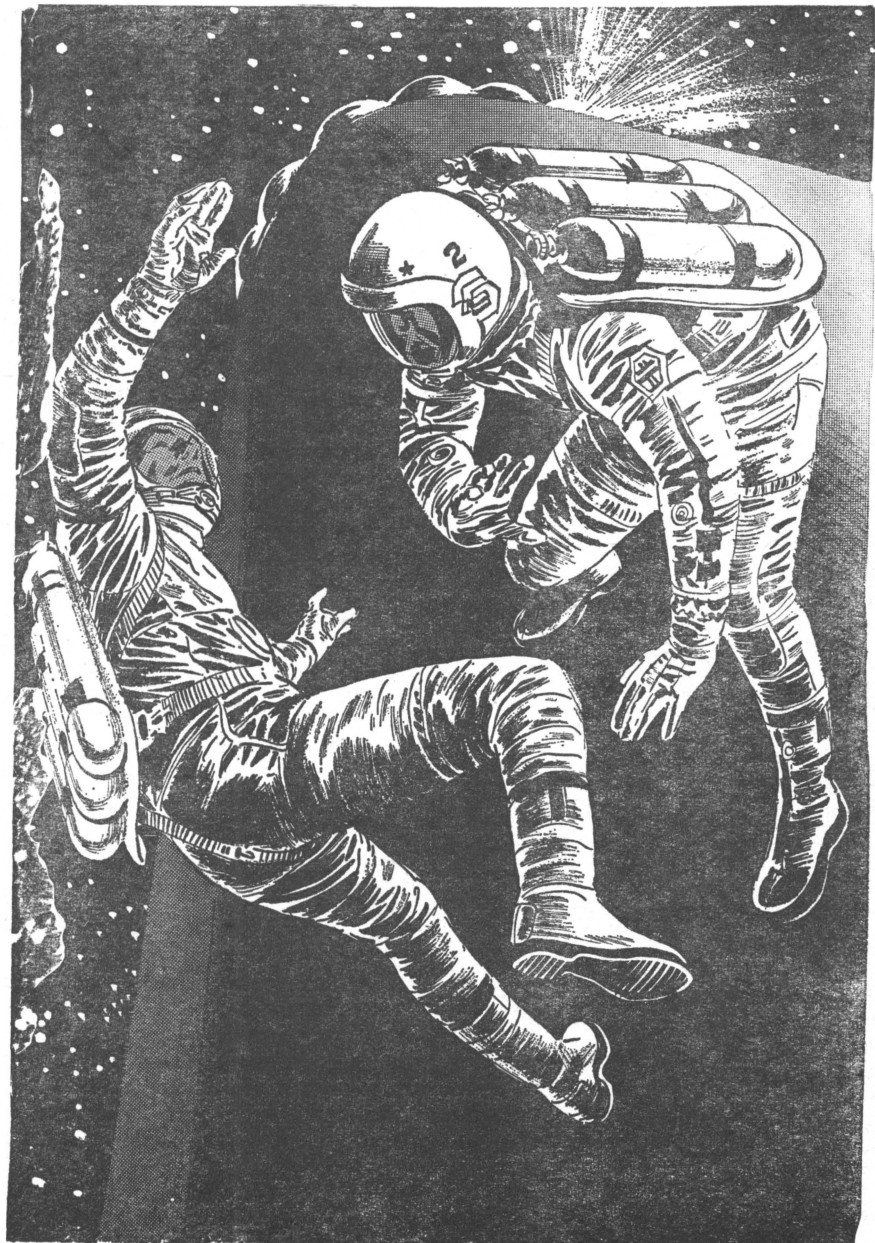
Perhaps ten minutes went by, then Morrison said, "*When you were launched, our position with respect to your ship was approximately ten degrees below and fifteen degrees to the right of the central star in the right half of the W in Cassiopeia, or above and to the left of the left center star if you're turned around and it looks like an M. Use Cassiopeia as your center and search outwards into Perseus, Andromeda and Cepheus — do you get the idea? The closer you are to us the greater will be our apparent displacement.*"

"*We should be the brightest object in sight by now. You should begin deceleration in seven and one half minutes . . . .*"

And if he did not decelerate McCullough would go past P-One, possibly without even seeing it. But if he decelerated without seeing it and directing his thrust in the right section of sky the chances were that he would go off at a tangent or shoot past the ship at double his present velocity. If that happened he doubted very much whether his air or his reaction mass would be sufficient for him to find his way back.

McCullough tried not to pursue that line of thought. He tried so hard that before he realized it his knees were drawn up and his arms pressed tightly against his chest again,





and the stars were swirling around him like a jeweled blizzard. He swore suddenly and starfished again, forcing his mind to concentrate on the slowly wheeling heavens so that he could impose some sort of order on what had become a mass of tiny, unidentifiable lights. He viewed them with his head straight and tilted to each side, or he tried to imagine them upside down, and gradually he was able to see them with the imaginary lines connecting one to the other which gave them the shapes of Hunters and Archers and Crabs. He realized suddenly that as well as spinning head over heels he had also been turning sideways, and he was able to identify Capella, which was hanging out beyond his left hip.

Capella had picked up a very strange companion.

As quickly as possible McCullough lined himself up on the object, placed hands and feet into the cuffs and stirrups, then said, "I have you. Standing by to decelerate."

*"In eight seconds, Doctor. And I must say you cut it close . . . Now!"*

A little later Morrison said, *"We can see your gas discharge, Doctor. Very nice shooting, P-Two."*

From the other ship there came sounds of Berryman and Walters being modest. McCullough's pre-calculated period of deceleration ceased, leaving him barely three hundred yards from the other ship, where two tiny figures were already crawling out of the airlock and onto the hull. He aimed himself carefully and jetted slowly towards them.

Morrison said, *"As you know, Doctor, there is no privacy and very little*

*space for a physical examination in the control module, so Drew and myself will erect the launcher for your return while you have a look at Captain Hollis. Take your time — within reason, of course — and signal with the airlock lamp when you've finished. You may not want us to be listening with our suit radios."*

There was little conversation after that until McCullough made contact with the hull and negotiated the airlock. He found himself in a control module which was in every respect identical to the one on the other ship. It even smelled as bad, and differed only in the figure occupying the supernumary's position.

McCullough gave Hollis a long, sympathetic, clinical look and then sighed. Unoriginally he said, "What seems to be the trouble?"

## V

It was a simple question but McCullough knew the answer would be a complicated one. Hollis was a distressed and deeply troubled man.

There was, of course, no provision for taking baths on the Prometheus expedition, but the crews had periodic alcohol rubdowns to unclog their pores, the alcohol being filtered out and reclaimed by the air circulation system. While their meals lacked bulk they contained all the necessary vitamins. Even so, as McCullough peeled the one piece coverall from Hollis' shoulders and arms he could not help thinking about ancient sailing ships with water going green in their casks and the crews down with scurvy or worse.

A large area of the physicist's body had obviously not known the alcohol pad for months. The skin was clogged and dry and scaling, and his arms, chest and shoulders were covered with raw patches and sores, the condition extending up to his face and neck. Despite having no fingernails to speak of it was plain that Hollis had been continually picking or rubbing at them through his coveralls until his body must have become one great, livid itch.

"Can you remember when this trouble started?" McCullough asked quietly, trying to ignore the pricklings of the sympathetic itch that was creeping over his own body.

"About . . . about nine weeks out," Hollis answered. His eyes would not meet McCullough's and his hands twitched and crawled all over his body. He went on, "I suppose it started about two weeks after Drew let slip . . . After I found out what they were doing. But I can't tell you about that."

"Why not?" said McCullough, smiling. "I don't shock very easily, you know."

Hollis looked startled and for a moment he almost laughed. Then he said quickly, apologetically, "I'm sorry, I gave you the wrong impression. It isn't shocking like that. They . . . they have a secret. They *do* have a secret! Of course they don't know I know about it. Walters and Berryman aren't in on it, either. Or you. But it's bad. You've no idea how bad. But I'm sorry — I can't tell you about it, I don't know how you'd react. You might let something slip to Morrison. Or you might blow the

whole thing wide open and be a party to . . . I suppose it would be mutiny. I'm sorry, it wouldn't be fair to burden you with this thing. I . . . I don't want to talk about it."

But it was quite obvious that he did want to talk about it, desperately, and that McCullough would have very little coaxing to do to have this deep, dark, desperate secret revealed to him in its entirety. He said, still smiling, "I expect you know best. But it would have been nice to take back a juicy piece of gossip to the other ship . . ."

"This is serious, damn you!"

"Very well," McCullough said, less pleasantly. "Your present condition is something we *will* have to talk about. And because I prefer the talk to be private, and Morrison and Drew have a limited supply of air out there, we will have to cut a few corners.

"Since *everyone* on this expedition seems to be very well informed on the subjects of psychiatry and psychology," he went on, smiling again, "I'll assume that you have a fair understanding of the operation of the subconscious mind. You will be aware of the perfectly normal pressures, conflicts of personality and basic insecurities to which all of us are subject, also of the fact that these are seriously aggravated by our present environment. This being so, you must realize that your physical trouble, this unsightly and uncomfortable skin condition, has a purely psychological basis. There are no germs, no vitamin deficiencies, nothing to which you would be allergic on the ship."

*If Berryman and Walters could hear me now,* McCullough thought

**briefly.** The trouble was it was so easy to talk like a psychologist.

He went on, "Well now, I realize that being separated from the rest of humanity by fifty million miles is bad enough. But if you have been rejected, or feel that you have been rejected by the other men in the ship, that could be the initial cause of your trouble. Your evident anxiety over this secret you have uncovered will not have helped matters."

McCullough had an almost overwhelming urge to scratch his left armpit through his spacesuit, and another sympathetic itch raged behind his right knee. He continued, "A rejected person tends to become self-conscious and much more aware of himself both physically and mentally. Your body becomes much more sensitive, even hypersensitive, to stimuli which are normally ignored. Your trouble probably began with an itchy scalp or earlobe which you scratched almost without thinking. But gradually, though constant repetition and irritation, the psychosomatic itch became a real one.

"This is an extreme over-simplification, of course," McCullough said. "Doubtless there were many other factors which contributed to your present sorry state. But right now we should do something positive about alleviating your present condition — with something more than lanolin since that would relieve only the physical symptoms. Also, since the axiom that a trouble shared is a trouble halved is so old that and true that it was used before psychology was invented, I would like to know what the other two are keeping secret

which distresses you so much. I'll be discreet, of course . . ."

He let the sentence hang, but obviously Hollis needed more coaxing. McCullough tried a different tack. He said, "What is Morrison like as a person? And Drew? How have their relations towards you changed since the beginning of the trip? Be as objective as you can."

A person could say an awful lot about themselves by the way they talked about someone else.

As he began to talk Hollis may have thought that he was being objective, and McCullough, too, lost quite a lot of his objectivity as he listened. He began to feel angry with Morrison and Drew, particularly with the colonel. For despite this phenomenal brain Hollis had always been the shy, timid, eager-to-please type, and the necessary allowances should have been made. As his relations with the other two had steadily worsened, and in an attempt to get on better terms with them again, his timidity had increased to ridiculous and quite irritating proportions for a grown man. He had abased himself and fawned and generally carried on like a frightened dog.

This was not the way Hollis told it, of course. McCullough was reading between the lines.

It had started because the colonel and Drew knew each other long before either of them were connected with astronautics. They had served together briefly in southeast Asia and Drew had done Morrison some sort of favor. Hollis had been unable to ascertain whether the favor had been

sordid or sublime, whether it involved white slavery, the black market of just saving the colonel's life.

As the weeks went past the two had talked together more and more often about their small war, mentioning people and places and making stupid, in-group jokes. Hollis was excluded to an increasing extent from these conversations and when, out of sheer desperation, he tried to join in, he usually made a mess of it and stopped the conversation stone dead.

Listening to the physicist, McCullough could not help thinking of his own ship. He hesitated to make comparisons with the two comedian-psychologists on P-Two and the sometimes artificial atmosphere of good cheer they generated, but if Morrison and Drew had made a similar effort Hollis would probably not be in his present condition. From his knowledge of Hollis during training he thought the physicist, once he got over his initial shyness and timidity, would have been a very pleasant and stimulating person to have on a long voyage.

Instead they had talked about their jungle air-war as if it had been some kind of exclusive holiday in a language which excluded Hollis. Then they had gone on to talk about another matter — again in the cryptic, slangy manner the physicist was not supposed to understand. But Hollis *had* been able to understand. A little at first, then later he had been able to piece together the whole frightful operation. He freely admitted to McCullough that he was uneducated where such things as women and power politics

were concerned, because so much of his life had been spent in collecting degrees, but this did not mean that he was stupid.

"This was when you became restless and itchy, I take it," McCullough broke in at that point, "and you began to irritate the others. How did they react?"

"The colonel didn't react at all," said Hollis. "He just looked long-suffering and stopped talking to me completely. Drew swore at me for a time, then he went the same way. They started going outside together between lectures, connecting their air lines to the ship supply so as not to waste tanked air. They switched off their radios sometimes and talked by touching helmets. But there was sound conduction along the return air line, and sometimes I could make out a word here and there. Enough to know what was going on.

"Did you know," Hollis rushed on, "that the hold at take-off was deliberate? That Morrison has made no attempt to close the distance between the two ships? Fuel conservation, he says. But your ship is expendable, did you know that? They've discussed all sorts of hypothetical approaches and tactics to use against the alien ship, the desirability of an armed as opposed to an unarmed approach. . . ."

Hollis's arms were partly folded, and he was tearing absentmindedly at his forearms with fingernails which had been gnawed too short to do any real damage. Suddenly he stopped scratching, closed his eyes tightly and said, "I'm sorry. I

didn't want to tell you. But you've a right to know, Doctor. P-One is carrying a Dirty Annie!"

**D**irty Annie was a nuclear device which was a little too destructive and long-lasting in its after-effects to be called tactical. McCullough was silent for a moment as he thought over all the implications of what he had heard. Then he said, "This is serious."

It was dangerously ambiguous, he realized as soon as he said it. But Hollis had not noticed that. The physicist was talking furiously, apologizing for sharing his worries with the doctor, pleading with him not to tell the colonel and to *do something* about Morrison and Drew, simultaneously. McCullough listened with half his mind while the other half cringed with sympathy.

Not all of the sympathy was for Hollis.

Morrison and Drew could not have had a very pleasant time either, driven as they had been into long periods of unscheduled extra-vehicular activity. They may well have been guilty of thoughtlessness in their dealings with Hollis, but constant EVA put a dangerous strain on their suits. The P-ships could not afford the weight penalty of carrying spare spacesuits, must less atomic bombs.

McCullough wondered suddenly what shape his own delusion would have taken, what particular nightmare his own subconscious would have dredged up, if Walters and Berryman had rejected him. An

atomic bomb was perhaps a too-simple form for a physicist's nightmare to take, but then at heart Hollis was a very simple man.

There still remained the question of his treatment.

Very quietly and seriously McCullough said, "Naturally I shall not mention this to the colonel or Drew. At the proper time I may discuss it with Walters and Berryman — but they won't talk out of turn either. It's hard to say exactly what we must do about it until the time comes, but when it does remember that we will be four against their two. And remember this as well. The problem isn't yours alone any more. Three of your friends will be helping you solve it. They may even, since they are not so close to it as you are and may thus be able to consider the problem more objectively, solve it for you. Think about this, won't you? Think about it really hard."

McCullough paused for a moment, then went on to say. "You have already realized that your condition is directly attributable to worry about this bomb. Anyone with an ounce of sensitivity in them would have reacted in much the same fashion. But there is no necessity to worry now — at least to the extent where it affects you physically.

"You may be surprised how quickly this skin condition clears up," he continued, "and how comfortable you will begin to feel generally. The colonel will be surprised, too, and for that reason I'll



leave a supply of medication to help the process along. Morrison will assume that the salve and tablets are effecting a cure, but this is a necessary subterfuge since you can't very well tell him the real cause of your improvement — the fact that his secret is now common property. But in order to further allay his suspicions I will have to be very tough — or appear to be very tough — on you.”

McCullough was going to be very tough with Drew and the colonel as well. He was going to insist that Morrison pad and bandage the patient's hands so that he would be unable to scratch himself until his skin condition had a chance to heal, which meant that Hollis would have to be fed and generally wet-nursed by the other two men. Drew would probably come in for most of the work, but the application of salve and the checking of Hollis's condition — McCullough would insist on daily progress reports — would be a two-man job. In short, Hollis must no longer be treated as an outcast, and Morrison and Drew would be made to realize that psychosomatic leprosy was not catching.

Drew and the colonel might not be too gentle in their treatment of the patient at first, it would be embarrassing for all concerned and the atmosphere would be anything but warm and friendly. But at least they would not be ignoring Hollis, and that was an important first step. Later, other steps would suggest themselves.

McCullough was becoming confident that it would only be a matter of time before the physicist was back to normal and the relationships inside P-One more . . . harmonious.

At no time did McCullough consider the possibility of the colonel refusing to cooperate. In the medical area Morrison was outranked, and he was not the type to disobey a lawful order.

Later, as they were all crammed into the control module, McCullough was relieved and pleased at the reception given his suggestions for treating Hollis. It was now apparent that the other two had felt a certain amount of guilt over the way they had behaved towards the physicist and were very anxious to make it up to him. It restored McCullough's faith in people, especially in cold, withdrawn and not very friendly people like Morrison and Drew.

He would have liked to have a long, private talk with the two men as well, if only to get their side of the business, but in the circumstances that might not be possible without running the risk of having Hollis think he had acquired another enemy instead of three friends. . . .

He had a lot to think about on the way back, and this time he kept his hands and feet in their cuffs and stirrups and his eyes wide open until he reached P-Two again and Berryman and Walters were helping him out of his suit and he was saying, in a tone much more serious than he had intended, “It's nice to be home again.”

**R**adio interference had all but disappeared, so that the lectures, music, last-minute instructions and reminders that this was an epoch-making event and would they please not do anything silly poured in on them constantly and so clearly that they had no real excuse to switch off. They were told that they must at all costs remember and apply the knowledge gained during their trip out. But at the same time they must not hesitate to forget all of their scientific, sociological and psychological theories and preconceptions if the situation warranted it. They were told to do, or not do, this several times an hour.

One did not have to be a psychologist to realize that the people at Prometheus Control had worked themselves into a fine state of jitters.

"The awful black immensity of space," said Walters sourly during one of the rare radio silences. "The vast and aching loneliness between the stars. The unutterable, soul-destroying boredom. Dammit, they won't even give us ten minutes peace and quiet to feel bored in."

Shaking his head, Berryman intoned, "Is some superhuman extra-terrestrial intelligence already brushing our minds with unfelt tendrils of thought, sizing us up, judging us and perhaps with us the whole human race? Or is some bug-eyed bugger sitting at a rocket launcher just waiting for us to come into range?"

"We've been over all this before!" said McCullough, suddenly

angry at the pilot for bringing up the subject which they all wanted to leave alone. Then awkwardly he tried to turn it into a joke by adding, "Three times in the last hour."

*"Thrust in minus thirty seconds, P-Two. Stand by, P-One."*

There was a note of self-satisfaction overlaying the tension in the voice of Control. Considering the fact that their computations had resulted in them hitting an impossibly small target with both ships, their smugness was perhaps justified. But McCullough wondered, a little cynically, how pleased an arrow was with the archer when a bulls-eye or a miss into the sandbags would result in an equally violent headache. . . .

Deceleration was a strangely uncomfortable sensation after so many months of weightlessness. On Morrison's ship thrust was delayed by several seconds to allow P-One to draw closer to P-Two — but not too close. It had been decided that Berryman's ship would approach the alien vessel directly to within a distance of one mile, with the command pilot reporting back every yard of the way and using his initiative if something untoward occurred. With P-One's more powerful transmitter Morrison would relay these reports to Control, advising Berryman if or when necessary, and Control would do nothing but listen.

Because of the radio time lag anything they might say would come too late to be useful.

All decisions on procedure in the area of the alien ship were thus the responsibility of Colonel Morrison.

Berryman could exercise a little initiative to begin with, but once the situation was evaluated all major decisions would be taken by the colonel. As a precautionary measure the thrust and attitude of P-One had been modified so as to bring it to a stop fifty miles short of the alien ship.

McCullough wondered what Hollis was making of *that*.

In the three weeks since he had visited him the physicist's condition, both physical and mental, had improved enormously. Hollis had spoken to him several times and had said so — without, of course, mentioning the Dirty Annie business. Naturally he could not discuss his problem in detail on the intership radio, but McCullough felt sure that Hollis himself now realized that he had been imagining things, that he had displayed all the classic symptoms — together with a few which were uniquely his own — of the persecution complex.

On the radar screen the target showed as a pulsing blob of light which crept steadily down the distance scale. In the telescope the Ship grew and spread until it overflowed the field of view. Gradually P-Two's velocity with respect to the other vessel lessened until it hung motionless at a distance of one mile from the Ship.

Like a minnow investigating a sleeping shark, McCullough thought.

Berryman cleared his throat loudly and said, "The . . . the Ship is broadside on to us. I estimate its length at just under half a mile

and its diameter at about one hundred yards. The diameter is uniform throughout its length, like a torpedo, except where it curves inwards at nose and stern. Two thirds of the way towards the stern — I'm assuming it is the stern because the other end contains more transparent material — the hull is encircled by a belt of large, transparent blisters. Twelve of them, I think. The sun is shining directly into one and I can see metallic reflections.

"There is another cluster of transparent domes encircling the nose," he went on, "but these are smaller and flatter — possibly housing the Ship's communications and sensory equipment, while the bigger ones are either weapons or . . . or . . . maybe Professor Pugh would have some ideas on what they are, because there is nothing visible on the ship resembling a conventional rocket motor or even a jet orifice."

The pilot was dividing his attention between the telescope and the direct-vision port. His voice was quiet, controlled and ostentatiously matter-of-fact. But every time he moved the perspiration beading his forehead was shaken loose and hung suspended away from his face, like the stylized sweat of startlement of a character in a comic strip. Walters's lower lip had disappeared behind his upper teeth. McCullough did not know how he himself looked, but he did not feel at all well.

Berryman went on steadily, "We are beaming signal patterns denoting, we hope, intelligence at them on a wide spread of frequencies and we are igniting flares every fif-

teen minutes. So far there has been no response. I don't understand this — we're not exactly sneaking up on them. Have I permission to move in?"

To give him credit, Morrison did not warn them to be careful or remind them, again, of the absolute necessity of doing the right thing. Instead he said, *"Very well. We will close to one mile and proceed to cover you."*

"What with?" said McCullough, in spite of himself.

He had been thinking about Hollis again and the physicist's delusion about a Dirty Annie on P-One. McCullough wondered suddenly if such delusions were contagious, like some kind of psychosomatic head-cold. . . .

*"A figure of speech, Doctor. We shall furnish moral support only, And please remember that everything we say is being re-broadcast all over Earth, so keep this channel clear at all times for Captain Berryman."*

For the past few minutes McCullough had completely forgotten that everything emanating from P-Two was being relayed through Prometheus Control all over the world. He could just imagine the battery of ground-base space medics playing back that section of their tape, discussing each word and inflection in the minutest possible detail and muttering among themselves about father figures and archetypal images and basic insecurities. McCullough felt his face beginning to burn, but the two pilots were too busy re-positioning their ship to notice it.

For the better part of their arbitrary "day" they drifted slowly back and forth along the tremendous alien hull. Each pass covered a different strip of its surface, allowing them to chart the various features it contained. When they approached the transparent domes in what they assumed was the bow they lit a flare.

There was no reaction, no sign of life of any kind.

Berryman said, "Either there is nobody at home or the watch-keeping officer is asleep or worse. If it wasn't for the fact that the Ship decelerated into a circumsolar orbit, and a very neat one at that, I'd say there was a strong possibility that the Ship is in a derelict or at least distressed condition."

*"A ship in distress usually signals for help. As loudly and as often as possible."*

"If they were telepathic," said McCullough, joining in, "they might expect their distress to be plain for all to hear."

*"If they were telepathic they would know that we weren't."*

Berryman shot the doctor a brief, sympathetic glance, then went on quickly. "They can't or won't react to the usual methods of attracting attention, and their ship appears to be in a powered-down condition. I think it is time we knocked on the nearest airlock door and walked in — politely, of course, and with all due caution.

"I suggest leaving the Doctor on watch," Berryman went on, "while Walters and I have a look at the big seal which is passing under is

just now. It looks like a cargo lock big enough to take P-Two from here, and there is a smaller lock — for personnel, I expect — set into the large one. I think we could open it. After all, there are only so many ways to open a door.”

Morrison was silent for so long that they wondered if he was going to wait for instructions from Earth before giving permission. But finally he said. *“I agree that we should take some more positive action, but I’m concerned about the possibility of booby-traps. Unintentional booby-traps in the shape of mechanisms whose operating principles are so alien as to be a danger to you.”*

“We’ll be careful, sir,” said Berryman.

“We’re only going to open a door,” Walters whispered disparagingly to the Doctor, but not quietly enough.

*“Pandora thought the same thing, Walters, you might remember that! However, you have permission to land on the Ship’s hull and open an airlock. Take your time about preparations — there must be no avoidable accidents. And you, Berryman, will remain on watch. I can’t risk losing both pilots. Walters and the doctor can go . . . if they don’t mind, that is. . . .”*

Put like that and with countless millions listening they had, of course, no choice.

But the strange thing was that McCullough did not feel afraid — tense and impatient with all the waiting around, perhaps, but not really afraid. Earlier when they had been approaching the Ship for the

first time he had been expecting literally anything and he had been more afraid than he had believed it possible for any man to be. Perhaps it had been what some people called a moment of truth. But when the moment of truth spreads itself out over twenty-six hours, there is a considerable dilution of effect.

McCullough launched himself in the wake of the pilot, slowly and carefully so that his magnets would stick to the alien hull rather than bounce off, and a few minutes later they made a gentle, sprawling contact. McCullough detached his wrist magnets and slowly straightened up.

It was only then that it hit him.

This metal plating beneath his feet had been shaped and processed from ore dug out of the earth, but not *the Earth*.

From his position by the airlock the hull looked so enormous that he seemed almost to be standing on a metallic planet, complete with a range of beautiful transparent hills. The sun was shining through one of the blister hills, distorted by refraction into a gaudy smear which threw blurred highlights off whatever it was that the blister contained. And this whole, vast fabrication was the product of a design staff and engineers who were not of Earth. At no stage in its construction had the people from McDonnell or BAC had one thing to do with it.

Its reason for being might be as strange and alien as its makers, whoever and whatever they might be, but he felt that its basic purpose could be easily understood by human beings of a certain psy-

chological type — the type who drowned or crashed or fell off mountains trying to climb higher or fly faster or dive deeper than their fellows.

For some reason McCullough felt sure that the aliens had gone to the stars, had come to *this* star, simply because it was there. . . .

"When they were giving us all those lectures, Doctor," said Walters, displaying his genius for converting the sublime into the ridiculous, "they forgot burglary. How does one pick an airlock?"

## VII

"There are only so many ways for a door to open," Walters said, very seriously for him, "and I'd like you to check me on them. It can be hinged to open inwards or out. It can slide open by moving up, down or to either side. It can be mounted on a central pivot, like a butterfly valve, or it can unscrew. Have I left anything out?"

"I don't think so," said McCullough. "But if these people were advanced enough to have molecular engineering, the entrances might iris open and shut."

"Unlikely," said Walters. "The door and surroundings are ordinary metal, very roughly finished and showing deep scratches and dents. If they were capable of controlling the molecular binding forces of metal to the extent of being able to dilate an opening in an area of solid plating — of making the metal flow like a viscous liquid — they would not have scratches show-

ing on it. These markings could have been made by heavy tools or equipment being moved into the lock chamber. They vary in depth and are of uniform brightness.

"If the Ship were assembled in space the markings could have been made at any time during its construction and still appear fresh and bright. There are an awful lot of them, all over the place."

*"We would like a more detailed description of mechanisms in the area, if you can see any. I can't see very much with this telescope."*

The voice coming from P-One sounded strained, with the subtle difference in tone which labelled it for public rather than private consumption. On Earth everyone who could get within earshot of a radio — a world record listening figure for a single program — would be hanging on every word. Morrison could not help being conscious of those billions of ears. Even Walters seemed to be more frightened by them than what lay inside the Ship.

The pilot took a deep and audible breath, then continued. "Six inches from the rim of the personnel lock, on the side facing aft, there is a lever about two feet long. It is set flush with the skin except at one end where a hemispherical dimple about three inches deep gives access to the handle."

He was using the term loosely, McCullough thought as he photographed it, because the handle was not meant for hands. It terminated in a small knob containing two small, conical depressions on opposite sides, and it was the perfect

shape for a finger and thumb. Or pincers.

"I'm pulling it from the recess now," Walters said quickly, giving the colonel no time to have second thoughts. "I am doing it very slowly. There was resistance at first, suggesting spring loading, but now it is moving easily. This must mean a powered actuator rather than a direct linkage to the door itself. So far nothing has happened. The lever is now approximately thirty degrees along its angle of travel, approaching forty-five. . . . Oops!"

A brief, silent hurricane rushed out of the suddenly open airlock, and they were in the center of a globe of fog which dispersed almost as soon as it had formed. McCullough reached forward, gripped the lever and returned it to its recess. Obediently the lock swung closed. He waited a few seconds, then opened and closed it again several times.

"*What is happening out there, dammit?*" said the colonel furiously, momentarily forgetting the networks and their views on the sort of language suitable for family audiences. "*What are you two playing at?*"

Walters looked at McCullough before replying; then he said, "This was an idea we discussed during the trip out. Very simply, it involves us leaning over backwards in doing all the right things — at least, we *hope* they are the right things. Here we are assuming that the reactions and motivations of the aliens are similar to our own where defense mechanisms and self-preservation are concerned.

"In the present situation," he went on, "we are entering their ship surreptitiously. It might even be argued that we are breaking and entering or effecting an illegal entry in that we haven't been invited to come in. The flares and radio signals during our approach may not have been noticed. They were not watching or listening, or maybe they are very alien and do not have eyes or ears. But the opening and closing of the airlock should register in a fashion understandable to them somewhere in their control center.

"What we mean is, a burglar doesn't open and close a door, or even a window, several times before entering."

"*Very well, I take the point. But if a stranger slammed my front door several times to let me know he was there, I might feel, well, irritated.*"

While they were talking McCullough investigated the open lock, shining his torch around the rim so as to show any possible observer that it was simply a source of light and not a weapon, before directing the beam into the lock chamber. It was unlikely that anyone would be waiting for them inside the lock; their situation might be analogous to the coal cellar manhole rather than the front door, but McCullough wanted to establish habits of viewing each simple, innocent act as it might appear to non-human eyes and mentalities.

He gripped the rim of the seal with one hand and carefully moved his head and shoulders into the opening. Even though there was no

interior lighting, his torch gave him a good view of the lock chamber except where the inward opening seal blocked his vision on one side.

The basic color scheme was pale gray or pale blue-gray. Walls, ceiling and floor — it was impossible to tell which was which — were covered with disciplined masses of plumbing, grapples and what looked like lashing points for heavy stores, all color-coded in vivid greens, blues and reds. The lock chamber was large, about thirty feet wide and ten deep. Set into each wall were seals four or five times the area of the one McCullough was using, and in the center of each there was a small transparent panel. He knew they were transparent because his flash showed tantalizing glimpses of other brightly painted shapes on the other side. From what he could see, this area of the Ship was in darkness.

McCullough could imagine the chamber as a transfer point for containers of food and equipment, lashed down to render them immobile until they were distributed about the Ship. Heavy equipment drifting loose in the weightless condition could be a menace to alien life and limb as well as human. But the disposition of lashing points and their support brackets suggested a lack of gravitational influence, whether natural, artificial or due to acceleration, being allowed for in the design. Which might mean that the interior of the Ship remained permanently in the weightless condition even during periods of powered flight.

Something more advanced than rocket propulsion was used on *this* ship. But it all looked so . . . so unsophisticated.

McCullough became aware of a hand gripping his ankle and drawing him slowly out of the lock entrance and Walters saying, "What's the matter, didn't you hear what I said?"

"When my helmet antenna was inside," said McCullough, "your voice faded to nothing. Some sort of screening effect, I suppose?"

"Yes. And that is the next step, the colonel says. Checking communications between the lock interior and the P-ships."

A few minutes later the pilot entered the lock chamber and closed the seal behind him. From inside he could not make himself heard or receive the colonel's signal until he brought his antenna into contact with the metal of the hull, when two-way communication was possible although with a greatly diminished signal strength.

Walters reopened the seal, and when McCullough joined him inside he closed it again.

Morrison did not sound happy over what they were doing. At the risk of disappointing the countless millions of eager listeners at home he stated several times that his men needed rest — the next stage of the investigation was crucial, and he wanted them to be fully alert. It had been almost thirty-two hours since any of them had a proper rest period. He suspected that the two men on the Ship were becoming too tired even to talk.



"Sarcastic so-and-so," said Walters, momentarily breaking antenna contact with the near-by bulkhead. A tremendous, eye-watering, jaw-wrenching yawn put a great dark hole in his face, and he went on, "I wasn't even tired until he reminded me! But you had better talk to him. I want to trace this cable loom running along the inside face of the chamber. The wiring seems too fine to carry much juice so it may be part of the internal communications or lighting system.

"Tell the colonel what I'm doing, along with anything else which occurs to you."

McCullough did so, beginning with a minutely detailed description of the chamber and the view through its five internal windows and going on to make the first tentative conclusions regarding the Ship and its builders.

The cable looms, conduits and plumbing were color-coded in a garish variety of shades, some of them bearing permutations of other colored spots, bands or stripes. A human electronics engineer would have felt almost at home here, McCullough thought.

Fore, aft and on the floor and ceiling the chamber's transparent panels, so far as it was possible to see with a flashlight, showed a similar arrangement in the adjacent compartments. Apparently the chamber was set between the ship's outer and inner hull, in the space which contained the vessel's power, control and sensory equipment. The lock chamber, which must be one of many, would give access to the

inter-hull space for purposes of repair or maintenance. The in-board facing window gave a view which contained least of all to see — merely a section of corridor, eight feet square and of unknown length, whose four sides were covered with large-mesh netting pulled taut.

The visible mechanical and structural features gave an overall impression of crudeness. There was no sign of lightening holes or cut-outs in any of the support brackets or structural members, no indication that considerations of weight or power-mass ratios had entered into the designers' calculations.

"It is too soon to make any hard and fast assumptions about them," McCullough went on. "We know that they do not have fingers, and may have a two-digit pincer arrangement. Probably their visual range and sensitivity is similar to ours, judging by the color intensities used on cable identification. The to us crude and unnecessarily robust construction of minor structural details indicates a lack of concern over weight and the power required to get it moving. The corridor netting suggests that they are not advanced enough to possess an artificial gravity system, and the total absence of light and movement shows that the Ship is orbiting in a power-down condition . . . . *Walters!*"

In the corridor outside the chamber, the lights had come on.

"*Sorry, that was me,*" said Walters sheepishly. "I've dis-

covered what a light switch looks like, but I must have guessed wrong. . . ." The light in the corridor went off and on several times, then suddenly the lock chamber lighting came on. He added, "Better tell the colonel about this, too."

McCullough informed the colonel that Walters had found the light switches, had experimented with them and that the Ship's illumination was a bright, bluish white emanating from tubes which they had mistaken for sections of plumbing. There was still no reaction from the alien crew, and McCullough was beginning to wonder if the Ship had a crew.

*"You two seem to have a weakness for slamming doors and switching lights on! However, this wraps it up for the time being. We need rest. Return to P-Two. We have a lot to think about before we do anything else on that ship. Say so if you understand."*

"Understood, sir," said Walters. "But we would like a sample of Ship's air before we leave. Five minutes should do it."

McCullough was beginning to feel irritable and very tired, and he did want the chance to analyze as soon as possible whatever atmosphere it was that the aliens breathed. But the thought kept recurring to him that he was not very very cautious about this, that he was breaking even his own rules, and that fatigue was a little like drunkenness in that it made people take chances.

Walters opened the corridor seal, and the alien air roared into the lock chamber. Their suits lost their taut,

puffy appearance and hung loosely against their bodies. Ship pressure seemed to be a pound or two per square inch higher than suit pressure, McCullough thought as he took the sample. The pilot was moving toward the open seal.

"I'm only going to take a look," said Walters.

McCullough joined him.

There was only one source of light in the corridor, the one switched on by Walters, so that both ends disappeared into blackness. But suddenly McCullough felt the wall netting vibrate and . . . *something* . . . was shooting towards them along the corridor.

McCullough flung himself back, but Walters, who had a leg and arm outside the rim at the time, fumbled and was slower getting in. The doctor had a glimpse of something rushing past the opening, something which looked a little like a heavy, leathery starfish, then Walters reached the lock actuator and the seal slammed closed.

The pilot remained floating with one hand gripping the actuator lever and the other resting ludicrously on his hip. His face was white and sweating, his eyes squeezed shut.

"It can't get in, now — we're safe — " began McCullough, then stopped.

Walters was not safe. There was a large, triangular tear in the fabric of his suit at the right hip. The undergarment showed through it, also a section of the air-conditioning system looking strangely like a bared artery, although the leg itself did not appear to be injured.

The pilot was trying to hold the tear closed with his hand. But it was too big, the edges too ragged and the pressure difference was too great to keep the alien atmosphere from forcing its way into his suit.

He began to cough.

## VIII

More than anything else he had ever wanted in his whole life, McCullough wanted out. Never before had the cramped and stinking confines of the command module seemed so desirable and secure. And P-Two was drifting less than a hundred yards away, with Berryman on watch ready to help him inside and take him away from this suddenly frightful place. All he had to do was operate one childishly simple lever.

It would mean evacuating the chamber, of course. Walters would die of explosive decompression. But the pilot was strangling to death in an alien atmosphere anyway, and the other might be quicker and more merciful . . . .

Except that Berryman might not want to leave without Walters, and explosive decompression was not a nice way to die, and in his student days McCullough had been pretty thoroughly conditioned against mercy killing.

"Doctor," said Walters between coughs, "do you have — a band-aid on you?"

"What?" said McCullough, then added with feeling, "Dammit, I'm stupid!"

A length of adhesive with its washable plastic backing would not hold

the tear together in vacuo, but with pressure almost equal between chamber and suit interior it would act as a barrier to the entry of the alien air all around them. For a time, at least. Quickly McCullough took a dressing from his kit and pressed the edges of the tear together while Walters rubbed on the tape.

When they were finished McCullough said, "How do you feel? Any pain in the chest? Nausea? Impairment of vision?"

Walters shook his head. Almost strangling himself with his effort not to cough, he said, "The . . . the smell is like ammonia . . . or formaldehyde. Strong and sharp but not . . . a stinking smell. But you'd better tell the colonel."

McCullough nodded and laid his antenna against the metal wall.

The colonel interrupted him only once to ask what the pilot had been doing out in the corridor, then he told McCullough to continue with his report without trying to make excuses for Walters's stupidity. The doctor did so, spending less time on the incident itself than on the problems it had raised.

*"Can you tie off the leg section tightly enough to avoid a lethal pressure drop for the few minutes it will take to get him back to P-Two? It would mean decompressing the leg, of course, but that would be better than —"*

"No, sir. The tear is high on the left hip. We can't evacuate the chamber while he is in it. And I can't leave, and nobody from outside can enter unless —"

*"Unless Walters goes back into the*

corridor while the chamber is airless. Ask him how he feels about doing that."

The pilot's reply had to be edited and censored considerably. McCullough said, "He'll do it. But he doesn't feel too enthusiastic."

Morrison refused to comment on Walters's feelings. He said, "*That takes care of your return. But getting him back to P-Two means putting him in another suit.*"

There were several good reasons why the P-ships did not carry spare spacesuits. Quite apart from the extra weight and stowage requirements involved there was the fact that a spacesuit had to be literally tailored to fit its wearer, and this would have meant carrying a spare for every member of the expedition. As well, damage to a suit usually meant death for its wearer, so that repairs were not even considered. In any case repairing a suit was a specialist's job requiring facilities not available on the ships.

"Both Hollis and Berryman are close to Walters in size," the colonel went on, "*and Berryman is closest in distance. I'll shoot Drew across to you. While he's on the way Berryman can place his suit in P-Two's airlock. Drew will pick it up and deliver it to you for Walters and collect your air sample.*"

"*You, Doctor, will stay with Walters to see that his seals are tight and the suit isn't strained dangerously by forcing the fit. As well as losing one of our trained pilots we can't afford to write off another suit. What is his condition now?*"

Walters had his antenna in con-

tact with the plating, listening. He tried to speak, broke into a fit of coughing, and made a rude gesture instead.

McCullough translated. "He has a persistent cough which may be due to throat irritation only. There are no other respiratory symptoms, no chest pain and no detectable toxic effects. His morale is good." The doctor did not know these things with any degree of certainty — his optimism was mostly for his patient's benefit. But just in case the colonel did not realize what McCullough was doing he added quickly. "But I'd like to give him a thorough checkup in shirt-sleeve conditions as soon as possible."

A little later Morrison told them Drew was on his way and that he was moving his own ship in to join P-Two. Tactically this was not a good move, he said, but on this occasion tactics and common sense seemed to be at variance, and in any case they could pull out quickly if it became necessary.

"And go home?" asked McCullough.

"I don't know, Doctor. There are other considerations."

As the period of high drama, the first and unfortunately violent contact with the aliens passed, the colonel began to worry over the possibility that Prometheus Control had not faded out the networks during the incident with Walters and the alien. Aware suddenly of a possible audience they became laconic to the point of sounding ridiculous. Stiffly, the colonel wished Walters Good



Luck. Walters said, "Thanks." Berryman suggested McCullough should make a sketch of the alien from memory while they were waiting on Drew. Morrison said it was a good idea, just in case. Nobody asked in case of what.

During the twenty minutes or so it took for Drew to reach them — in subjective time it felt more like ten years — McCullough sketched the alien and made a map of the vicinity of their lock chamber. While doing so he discovered a leak in one of the pipe joints. Probably the repeated opening and closing of the seal had put an unfair strain on the hydraulic system — the joint was sweating, and droplets of a clear brownish liquid hung around it, steaming faintly.

McCullough hoped nothing calamitous would happen when the chamber was evacuated.

Drew arrived, checked by radio on the operation of the lock, then waited while McCullough opened the inner seal and entered the corridor with Walters. As the air rushed out of the chamber and Drew swam in, a fogginess appeared around the leaking joint. But nothing else seemed to be happening.

There were no aliens visible in the lighted section of corridor.

"If one of them comes at us," McCullough told Walters, "I'll hang onto the net and kick at it with both feet. You concentrate on holding that patch in position."

He was beginning to feel that the pilot's trouble had been his own rather than Walters's fault.

The leak in the lock's hydraulic

system was bothering him. It was almost certainly a recent malfunction. There was a strong probability that it had occurred because the seal-actuator mechanism had been recently overstressed. McCullough had forgotten how many times exactly they had opened and closed the thing, something like seventeen or eighteen times in as many minutes, while the chances were that normal usage was on the order of twice a day.

He was assuming, of course, that these were not omnipotent aliens and that their ship might occasionally develop mechanical faults. Such failures would show in their control center and a member of the crew might be sent to check on it, or perhaps deal with the real cause of the trouble — the human invaders. McCullough was coming to realize that their actions, which had been meant simply to advertise their presence on board, could just as well be construed as criminally irresponsible or wantonly destructive. In these circumstances a certain amount of hostility on the part of the aliens would be understandable.

People who leaned over backwards, McCullough thought grimly, frequently fell flat on their face.

"Walters. Doctor." Drew's voice came suddenly. "The colonel sent you a weapon of sorts. To be used only in self-defense, he says. Grip it in the middle and stab with it like a spear."

McCullough looked up and down the still empty corridor, then into the chamber. He said, "It's just a length of pipe."

"A blunt bayonet makes a worse mess than a sharp one," Drew said cheerfully, "and a length of one-inch

pipe is about as blunt as a weapon can get. Just take time to aim and jab hard. I guarantee it will discourage any man or beastie not wearing a suit of armor. I'm leaving now. Good luck."

A few seconds later he was blown through the outer door by escaping air, and another eternity passed while he jetted back to the hull and closed it again. Walters and McCullough re-entered the chamber, still without alien interference.

The problem now was to get Walters out of his damaged suit and into the replacement quickly enough to keep him from being gassed. McCullough started by opening the pilot's face-plate, taping up his nostrils and making him breathe slowly through his oxygen line. Then he wrapped his legs around the pilot's waist and began cutting away the damaged suit.

It was hard, painstaking work. The plastic and metal foil was difficult to cut with a scalpel, and McCullough was all too aware of the skin and blood vessels lying just a fraction of an inch below. The drying unit in his own suit refused to cope with the increased flow of perspiration; his visor was fogging badly despite its special coating, and he wasn't dissipating nearly enough of his body heat.

This would be a great time to pass out from heat stroke.

Quickly he slit the legs, arms and chest, peeling them away to leave only the shoulder section which contained the air supply and hinged-back helmet. There followed a weightless adagio dance, and he drew the

new suit onto the pilot's legs and arms while the tatters of the old one hung out from his back. Walters could not give him much help because the alien atmosphere was making his eyes stream. No matter how hard he tried he could not stop coughing — which drew more of the stuff into his lungs. By the time he told Walters to hyperventilate and hold his breath while the changeover was completed, McCullough was afraid that he had already breathed in too much of it.

Finally they were ready to leave. The discarded suit twisted slowly, like some shredded, dismembered corpse, in the mist which was growing visibly in the area of the leak. McCullough wondered what the aliens would make of it, what they would infer and deduce regarding the human race. The thought made him look towards the transparent panel in the door.

There were three of them.

McCullough pushed himself toward the corridor door without thinking — the reason for doing it seemed to come after the action rather than before. To Walters he said quickly, "If they open that door the outer one won't open — there's sure to be a safety interlock system — and if they see us trying to leave they will surely open it. I'll move close to the window and block their view while you open the outer seal. The suction will pull us out. Where's that blasted pipe?"

He couldn't see it. Probably it was hiding in plain sight against a background of Ship plumbing, a tree hiding in a forest.

His idea was to hold their atten-

tion somehow while blocking their view of what Walters was doing. To do so he had to get close to the transparent door panel and either arouse their interest or frighten them away. McCullough did not know of anything he could do which would prove fascinating to the aliens, but he just might be able to worry them a little with his camera.

It was a beautiful instrument which fairly bristled with supplementary lenses and attachments. It might very easily be mistaken for a weapon.

In some deep recess of his mind a small voice was reminding him insistently of the need to consider the alien point of view and to do nothing to give them the wrong idea about humanity and human behavior. McCullough felt a moment's shame, but he was really much too frightened to listen.

There was no perceptible reaction from the e-ts as McCullough drifted up to the window, still aiming his camera. One of them was drifting in the center of the corridor, a stubby, dumbbell shape covered with long spikes. Each half of its body was roughly the size of a football, and there were no sensory or manipulatory organs visible. A second alien clung to the opposite wall-net like a great, fleshy spider, giving him a perfect plan view of the starfish body with its thick tentacles and leathery tegument. The tentacles ended in boney pincers, like white, miniature elephant tusks. He estimated its physi-

cal mass to be approximately half that of a man with the tentacle length between four and five feet.

The third alien was of the same species as number Two. It covered part of the window with its body so that McCullough and his camera had a perfect view of its underbelly, which was soft and pinkish brown and convoluted into folds and openings which were evidently mouths or gills or sensory equipment of some kind, all grouped around a large, sharp, centrally placed horn or sting.

McCullough swallowed hard. He thought that on the purely physical evidence these were not nice people. Then suddenly the aliens began to move. McCullough still wasn't sure where their eyes were, but somehow he knew that their focus of attention had changed. Something was approaching along the corridor. He could not get his eyes close enough to the window to see, although he could hear low, gobbling sounds being transmitted through the metal of the door to his helmet. Quickly he stepped down his lens and aimed it along the dark corridor. It had a wider angle of view and might see more than he could.

The first three aliens were leaving.

Walters opened the outer seal at that moment and the rush of escaping air drew him away from the door, spinning him slowly end over end. But not before he had a glimpse of something covered with white fur, or perhaps clothing, which flicked past the window.

TO BE CONTINUED





# ON CONQUERED EARTH

by JAY KAY KLEIN

*Intelligence is knowing when  
to fight, when to run — and  
when to give up and drop dead!*

In the cometary regions out past Pluto a spot of light flickered briefly. The Hirokan spacer braked fiercely down from the dark gamma radiation of faster than light, through the visible spectrum of slowing relativistic speeds and into the invisibility of sublight. She was met nearly to the same cubic mile of nothingness by a smaller Hirokan vessel.

"Nice navigation," Admiral Ikara said to the captain. It certainly was, considering the destroyer had come fifty light-years to an almost exact rendezvous with the yacht sent from the Hirokan embassy on Earth.

The captain bowed modestly, silently thanking his ancestors on his good foresight in securing a top navigator for the trip. He was equally happy he hadn't been spotted by a

warship from the unfriendly area he had just traversed. He had been obliged to swap his best gunnery officer for the navigator. There was an old Hirokan saying, "Politics makes perfect."

"Sir," the captain said, "the less time we linger here, the better. The comets will mask us just so long." He pointed toward the personnel transfer torp. The ten-foot-long projectile was in its cradle, ready to launch.

Efficiently, the admiral stretched full length in the torp. He pressed the studs sealing it and almost immediately felt the shove of acceleration, almost as quickly followed by the counter push of braking. A brief clanging and the torp was opened from the outside. By the numbers, he

thought and felt a fierce pride in Hirokan military efficiency.

He unfolded himself from the torp, knowing the destroyer was already gone. The yacht was in motion, too. He acknowledged the yacht commander's salute, noting the civilian dress. "How long to planetfall?" he asked.

"Sixteen point three hours, sir." Seeing the admiral's stare, he flushed and changed his figures to the Hirokan equivalent.

"You must have been on Earth quite some time," the admiral commented dryly.

"Embassy duty, sir, nearly three —" He choked and changed what he was about to say from "years" to Hirokan figures.

The admiral looked at him closely. "Two tours of duty, eh? I guess you could pass pretty well for an Earthman." Captain Cochi looked very much like one-third of Earth's inhabitants — skin between light olive and dark lemon, eyes slightly slanting.

"Oh, I do! I just change into regular Earth clothes and I can go everywhere without attracting attention. I'm pretty close to average height and weight. I suppose that's why I was picked for the embassy. But believe me, I'd rather be out on the frontier fighting!"

The admiral smiled at this. "Naturally, every fighting man wants to fight. I gather, though, there's something particularly unpleasant about the assignment."

"Well, it's just that Earth is so backwards. I realize that's good for us, but the place simply reeks of



## AN IF FIRST

Each issue of *If* brings you the first published story of a brand-new science-fiction writer. This month's "first" is Jay Kay Klein's *On Conquered Earth*. One of the country's most active fans, Jay Kay has been a familiar sight at conventions, where he is the semi-official photographer whose albums include pictures of almost everyone in science fiction. By trade he is an engineer working for General Electric.

savagery. Hordes of people crowding everywhere, polluting the air, water, and the very surface of the planet."

"Stinks, eh?"

"Yes, sir. You've never seen such a crowd. People practically sleeping in the streets. In fact, on some parts of Earth they do sleep in the streets. They even pollute their lungs with deliberately breathed smoke. It's worse than the inside of a troop transport."

The admiral had already been briefed on Earth conditions. The planet was far from the Hirokan sphere of influence, but an embassy was maintained as part of general policy to keep an eye on potential threats and possible conquests. The admiral was on a mission to check out personally reports Earth might be changing from a potential conquest to an active threat.

Admiral Ikara said. "Doesn't sound as if they have too much intelligence if they treat their home that way."

The captain smiled. It was an axiom that Hirokans were the only *real* people, with *real* brains. Other

peoples were little more than animals, to be tamed when possible or destroyed when necessary.

The hours passed, with the admiral taking in the impressions of the captain and the other members of the crew that were normally stationed as civilians in the embassy. A sleep period intervened. When Admiral Ikara awoke, he found the captain waiting for him.

"Sir, I thought you might like to see one of the few wonders of this wretched little system. We'll be passing by one of the gas giants shortly."

Constructed as a speedy vessel for personal enjoyment, the yacht had an observation deck that could be darkened and opened optically to the outside. Saturn came into view, the rings glittering against the backdrop of star-strewn space. The rings encircled a whirling ball of cyclone-stirred gases.

"Beautiful," the admiral said. "I'm pleased you passed by here." He looked sharply at the captain. "This won't compromise us?"

Captain Gochi made a deprecatory motion. "Not at all. Yachts are common enough around here. It's quite a tourist spot. It would probably be more suspicious if we detoured." He added, "Of course, the rings won't be around too much longer."

"They look stable enough to me. Light pressure can't be too intense this far from the primary."

"No, sir, it's the ring miners. Little ships bring Earthmen out to hunt for diamonds. Lots of them die. Some are lucky. But every orbital maneuver or scoop attempt disturbs the rocks

and pebbles making up the rings. The perturbations are accumulative and will spread the rings out eventually to form a barely noticeable wisp around the planet."

"That's pretty dumb. You mean to say they'd destroy something as magnificent as this for some lousy crystallized carbon? They could make all they want in a factory."

The captain shrugged. "It's a custom on Earth to place a diamond on the finger of a woman when she marries. Earthmen claim a synthetic diamond isn't good enough."

"How can they possibly tell the difference?"

"A synthetic diamond is perfect. The natural diamond has flaws the Earthmen are fond of."

The admiral snorted. "Match their women, no doubt."

Captain Gochi laughed, thinking of the Earth women he'd known. "Personally, I like their flaws. They're not bright, but they are most active at the right time."

The ship made planetfall on the night side and came down under anti-radar screening at a private field controlled secretly by the Hirokan government. All but a skeleton crew left the ship and headed back to the embassy to take up their interrupted duties.

Admiral Ikara was escorted by the captain to the embassy, taken to the thirtieth floor penthouse and turned over to the ranking official. Ambassador Sushi bowed three times, ceremoniously, reciprocated by the admiral.

"Most welcome, honored sir," said the ambassador. "I am pleased, in-

ded. We have never before been visited by a member of the Imperial War Staff."

"Somebody's got to look into the events we've been hearing about. Your reports indicate the situation could be turning serious."

The admiral stopped, said through clenched teeth, "We are in a maximum security area, I presume?"

Startled, the ambassador said, "Of course! We are absolutely screened against any radio frequency penetration. The room is swept clean of any possible mechanical pickup device. And that inch-thick acoustic curtain is drawn over three vacuum-insulated layers of glass in the window."

Satisfied, the admiral relaxed. He started questioning the ambassador.

**A**cross the street, there was feverish activity on the thirtieth and thirty-first floors of the skyscraper facing the Hirokan embassy. The head of Earth's secret service was there with a half-dozen aides. Another half-dozen technicians were anxiously checking scope patterns, talking to a computer in advanced symbio-loglan and going through the usual routines of getting balky, complex equipment to work.

One of the aides couldn't take the pressure any longer and snarled at a technician, "Get the damned thing working, willya! God knows what's going on across the street."

Chief Oxblood said, "No use making the guy nervous, Joe." He turned to the technician. "Do your best."

The technician was already doing his best. After all, it wouldn't be pleasant to wind up on a Chlorella

farm, with nothing to look forward to after a hard day's work skimming chlorella algae but a bowl of algae mush for dinner and a chloropsyll-stained mattress bare of any comforts, such as feminine companionship. Oh, the technician tried, all right.

Joe said, "Chief, do you really think this is the big moment, right now?"

The chief packed a pipe with tobacco and lit it. Puffing at it, he said, "Everything points to it. First, Whatsizname drops from sight — that war fleet captain who's officially listed as a cook and goes out on the town every night thinking no one doesn't know he's a Hirokan. Then our man at the Hirokan field reports a space yacht with lots of sizzle is gone, and we don't have any record of it. Just took off without clearance.

"Naturally, we figure someone is being conveyed in quietly. That's not like the Hiroku. Usually, they'd just as soon bust in with an armored boat as not. Arrogant bastards! So, the fact they're being secret shows something important is going on. Then we get a report from a diamond miner on the Rings that something going like a bat out of Hell zips in from Outside midway between moons I and II.

"Suddenly, the yacht reappears like magic on the field, and Captain Watsizname is back making like a sailor on shore leave after a voyage to Sumatra. Didn't take him five minutes. He must have been wearing his civvies all the way. Yeh, their gear is damn good, but their security leaks like a sieve."

Joe nodded. "I've got our usual

operation working on Captain Gochi, trying to pump him."

Another agent joined in. "Who's trying to pump whom?" And he laughed.

Joe shot back, "One good turn deserves another! We pay her and he pays her. All in a day's work."

The technician interrupted. "I think I'm getting it, sir. I'm feeding the data to the computer, and we should start getting the readout in a couple of minutes."

From three lenses set into the outer skin of the thirtieth floor, three infrared laser beams, each tuned to a slightly different wavelength, bounced off the window of the embassy penthouse opposite. Each made a slightly differing amount of penetration of the three layers of glass. Three very much weakened reflections of differing intensity came bouncing back. These were picked up by phototransistors capable of rapid modulation.

An agent asked, "I understand how the laser pickup works in principle, but I'm damned if I can see how we can get anything through a double vacuum seal and an acoustic curtain."

The technician had relaxed, now that the scope traces told him everything was going nicely to the computer. He said, "With a single piece of glass or the usual airfill heat insulation, a single laser reflection would be modulated by slight movements of the glass. These are in response to the air pressure variations caused by sound in a room. With the setup across the street, though, we couldn't get enough waveform

amplitude to do any decoding. So we take three beams and use their slight amplitude beating against each other to form a frequency modulated carrier that can be decoded with computer enhancement."

"Hey," Joe protested, "I'm no tech, but vacuum insulation wouldn't allow even that mess of gobbledygook to work."

Chief Oxblood smiled. "Our favorite operative got into that room one night, when it was our noble captain's turn on duty. While the captain went to the bathroom, our girl fixed that vacuum but good. She received quite a bonus. After all, we want our captain to have a long and happy tour of duty. You never can tell, they might send a replacement with some sense."

All talk ceased as the speaker hooked up suddenly started giving the translation of what was being said in the room across the street. Two differently pitched voders were used to distinguish the two Hirokan voices. Otherwise, the mechanical speech synthesizer would make it hard to tell one talker from another.

"So, you reported these Earth creatures are leaving the planet and establishing bases outside the system. That could be dangerous. If they ever become widespread enough to establish a defense network, we'd have a miserable job cleaning them out."

"We had reason to think so, at the time of our last report. Of course, you've been traveling for quite some time and we've had some additional evidence turn up since then. Fortunately, our alarms seem unfounded."

"It had better be convincing, or I'll recommend to the War Staff that we turn our attention from our Spiral Arm frontiers and take an excursion this way as a preventive measure."

At this point, the computer finally worked out the proper pattern through a fantastically complex process and added vision to the sound. It wasn't too good, since an acoustic hologram reconstruction lacks fine resolution. But the secret service men could make out the agonized expression on Ambassador Sushi's face.

"Really, Admiral, I hate to be the one to cause a change in policy and louse up our long-range expansion plans toward Galactic Center. It's no secret that if we let up pressure, we will lose a lot of hard-won momentum. After all, even our resources aren't infinite."

"Look, just give me the information. Earth is pretty backwards just now, but those gas giants in the system give it an energy potential that is simply staggering. If we're not careful, a couple of generations from now we could find ourselves frozen out from this entire sector. But don't worry, if it looks safe enough, I'll report we should just sit back for a while longer and keep an eye on things."

Through the fuzzy, writhing moire patterns of the probe screen, the secret service agents saw Ambassador Sushi open a desk compartment and take out a recorder. He said, "Our demographic experts noted a slight but significant decrease in the rate of increase in the Earth population."

"So I understand. Off hand, I

couldn't think of a more sensible arrangement."

"Quite so. Except that, as we know, Earthmen aren't reasonable. The birth rate has been climbing with mathematical precision for hundreds of years. Now we find a substantial number of persons, male and female, are disappearing each year. Children, too, I might add."

"And this made you think Earthmen were sending colonies out? What about transport ships?"

The ambassador shrugged. "The system is crawling with ships, coming and going. All the planets and most of the satellites have colonies. There's no way of keeping tabs on ships." He eyed the admiral slyly. "Unless, of course, you'd care to assign half a fleet on permanent watch."

"Of course not. We might just as well take a *whole* fleet, smash our way through fifty light-years of hostile territory and knock the Earth out once and for all."

"Quite so. Therefore, I thought it best to investigate the matter from this end. During your trip here, I had one of our men follow up the leads we had uncovered. Here's the report."

Ambassador Sushi started the playback mechanism. The listening secret service men heard a third voder voice. "The lab boys tell me the recorder can't be seen and is undetectable. Made out of synthaflesh plastic and all that. Just the same, I sure can feel it. I will just have to sit down gently, I guess. It must be four inches deep in my left buttock. I'd like to plant one in a lab boy.

"As long as no one can stop me, I think I'll say doing one's duty can be a pain in the rear sometimes. Lucky, the vocal pickup is no problem. I just subvocalize, like I'm doing now, and the pickup sends hydronic waves down to the recorder.

"Uh, oh, here I am at the, ah, I guess you'd call it recruiting station. I'm just a poor Chlorella skimmer answering an ad for easy work and good pay. Lots of people are filling out forms. Say, some the girls here have pretty good forms. If it wasn't for the smell, I could really go for some of these. Sometimes I wish I was more like Captain Gochi. You can get a lot more out of life that way.

"I've turned the form in, and here comes some crooked looking clown with a sickening I-eat-it-lukewarm grin on his face. He just barely glanced at the form. I don't think he can read, but he says I'm in."

The ambassador stopped the recording. "It goes on for a good many hours. I think what you really want to hear is near the end." He ran the molecular ribbon forward at fast speed and stopped at a given point.

The listeners across the street heard the voder voice continue. "I think I'm at the last stop, now. I don't know why, but something screams silently to me. I haven't the slightest idea where I am now, but I'd guess we're out in a Chlorella growing area someplace. The stench is worse than usual. If there's any hidden take-off station here, I haven't come across it.

"Uh, oh. I was just told to sit in a chair. Suddenly some clamps

popped up. I can't get the damn things loose. The chair's moving now. I'm in a tunnel. Damn — the chair suddenly flattened out to form a bed. No, it's more like. . . . Hey, it's more like a doctor's operating table. I don't like this one little bit. Why the Hell didn't someone give me a Panic Button I could press. Next time I'll be damned if I volunteer for anything but an honorable discharge and a trip home.

"By straining my neck I can see ahead some. There's a pretty girl on one of these things just ahead of me. There's some kind of machinery looming. I think. . . .

"Oh, God, it's slicing into her! These lousy Earthmen aren't human, not human, not . . . ." The voice stopped.

The admiral said, "Don't stop it now."

"I didn't. Automatic stop. That's the end. We didn't know what was happening, of course, but we were to keep track of our man by transponding the recorder. Every so often, we'd send out a coded beep and get an answer back."

The admiral motioned impatiently. "The crux of the matter, let's get to it, if you please."

The ambassador shrugged, turning the recorder around and around aimlessly on the desk. "We found the recorder embedded in a two-pound roast in a butcher shop. Would you like to know how much it cost?"

"Look, just because you lost a man, you don't have to get flip. I lose thousands when I have to. It's

unfortunate, and despite the man's obviously anti-service attitude, I'm recommending him for posthumous decorations. Special widow's pension and all that sort of thing. Just one more question: are you sure this black market meat business is widespread enough to account for the population discrepancies you noted?"

The ambassador nodded. "Yes. Since we got the clue we've checked a lot of places and found this to be very common. I was just waiting for your arrival to pass the word to the staff to stay out of public restaurants. We'll check what we buy locally, and we may rely more heavily on imports."

"Yes, I should think you would.



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Well, you can order the yacht for me, and signal the destroyer to stand by at the rendezvous point. I'd just as soon get out of here as fast as we can. I don't like the place. It stinks."

Ambassador Sushi eyed the admiral, as if trying to read his thoughts. He finally asked, "And your recommendation, Admiral?"

The admiral gave a deprecatory shrug. "Nothing but a bunch of savages. These Earthmen can never amount to anything and certainly not a major threat. I haven't found any evidence of real intelligence."

Across the street, the head of Earth's secret service drew a deep breath. Its intensity startled him. He realized then just how tense he had been. Scarcely able to contain a grin, he turned to Joe and said, "I was sure worried for a while, let me tell you. We would have had some scrambling to do if my opinion of the Hiroku hadn't been confirmed here."

Joe said, "Not so bright, eh?"

The chief knocked out his pipe on an ash tray. The pipe had gone out unnoticed while half smoked. He said, "Well, you have to give the Devil his due. Technically, they're pretty smart. Their weapons and mechanisms are top grade, and I'd hate to come up against them in a fair fight. But when it comes to subtleties of infighting, they're just not in our class. They simply never had our type of dog-eat-dog existence in their daily lives."

Chief Oxblood became aware of an unspoken question hovering in the room. He could see it in the



faces of the technicians and his aides. "Dog-eat-dog, I said. Well, maybe it isn't quite so bad as all that, really. Still, I'd advise you to stay out of public restaurants for quite a while."

The room was silent, except for the random cracklings of the loud-speaker caused by pickup of air molecule collisions in the embassy. The vision screen showed only an empty room. Admiral Ikara was already on his way home.

The sick look on the faces was still there. The chief said, "Damn it, we have to keep sending people to the slaughterhouses and the butcher shops just as we've always sent them to the front lines. The Hiroku aren't going to be fooled by a few token corpses, you know. This isn't a game for marbles. Our cover story has to be good, damn good. We're using our top weapon against the Hiroku, and we have to take our casualties in its use. For

every nine persons shipping out to the starbases and colony planets, one has to stay home and give his life in a rear-guard delaying action to protect the others. If they had to fight their way through a screen of Hirokan warships, the casualty figures would be a hundred times higher."

"I guess we all know what you mean," Joe said. "We're better off fighting on our own terms and our own ground. That poor slob of a Hirokan never had a chance in our battle of wits. We cracked the transponder code in nothing flat. It was like sending an unarmed man into combat."

Chief Oxblood ordered the technicians to shut off the laser probes and kill the recording and decoding setup. "Yes," he said, more to himself than to the others in the room, "forewarned is forearmed. Successful fighting is knowing when to strike — and when to dodge. It's all a matter of intelligence." **END**

## THE HUGO WINNERS - 1967

Best Novel: **THE MOON IS A HARSH MISTRESS**

by Robert A. Heinlein

*(originally published in IF)*

Best Novelette: **THE LAST CASTLE**

by Jack Vance

*(originally published in GALAXY)*

Best Short Story: **NEUTRON STAR**

by Larry Niven

*(originally published in IF)*

Best Magazine: **IF**

*(for the second straight year)*

Best Artist: **Jack Gaughan**

# Answering Service

by FRITZ LEIBER

"I'm sorry, the doctor  
is out. May I help . . .  
HELP . . . HELP!"





Illustrated by GAUGHAN

The oval bedroom and boudoir rocked with the wind and shook with the thunder. The curving, tempered glass of the continuous-view windows strained, relaxed, strained again. The lightning flashes showed outside only the lashing tops of the big pines against inky night. Inside they regularly drowned the clusters of rosy lights and blanched to bone the quilted, pearl-gray satin upholstery. At one end of the oval, the silvery, spiral stairway leading up to the flat roof and down to the elevator floor cast momentarily flaring, fantastic shadows across the tufted floor and the great central bed with its huge silk pillows and pearl-gray comforter.

The old lady occupying an edge of the bed looked like the bent-waist mummy of a girl freshly wrapped and hurriedly fitted with a shaggy blonde wig and blonde silk nightgown. But the brown human claw

did not tremble, holding the antique-inspired, pearl-gray phone greedily close to ear and lips, while the wrinkle-webbed eye gleamed with the lightning and without it, like jewels of obsidian or black onyx.

**OLD LADY:** Haven't you got the doctor yet, you bitch?

**ANSWERING SERVICE:** No, madam. He has gone out on an emergency case. I am trying to contact his copter, but the storm is interfering with short-wave telephony.

**O.L.:** I know all about the storm. Haven't you arranged yet for my medicine to be delivered, you incompetent slut?

**A. S.:** No, madam. The copters of all regional taxi and delivery services have been grounded by the storm. There have been two deaths by frightening — excuse me, lightning. I have your Cardinal pills here now. If the madam's phone were

equipped with a matter-receiver —

OL: It isn't. Stop tormenting me by holding those pills just out of reach. Haven't you got the doctor yet?

AS: No, madam. He has gone out on an emergency case. I am trying to contact his copter, but the storm —

OL: That tape is beginning to bore me. You are just a bunch of tapes, aren't you? All very cleverly keyed to whatever I say, but still just a bunch of tapes.

AS: No, madam. I am a flesh-and-blood woman, age 23, name Doris. It's true, I sometimes think I'm just a tape. I'm surrounded by miles of them, which do answer routine inquiries. Alongside my matter-transmitter and keyboard I have a tape-writer for punching out more tapes. I have a long scissors and a pot of cement for editing them. But I am truly not a tape myself, though once I took a small bottle of sleeping pills because I thought — No, no, I am a flesh-and-blood woman, age 23 . . .

OL: . . . name Doris. Yes, I got that on the first spin past the transmitting head. So now we have tapes with biographies, tapes that attempt suicide and ask for sympathy, tapes that play on the customer's feelings. How charming. Here I am, an old woman, all alone in a storm, and without a single servant, ever since the government with its red tape and its oversell of democracy made it possible to hire them, or even private nurses. An old —

AS: You haven't a robot nurse, madam?

OL: Shining horrors! No! I'm just an old, old woman, all alone, dying for lack of a doctor and medicine, but privileged to listen to tapes making excuses.

AS: Please, madam, I am not —

OL: Ooooh . . . my heart . . . please, nurse, my Cardinal pills . . . please, tape . . .

AS: Madam! Madam?

OL: . . . my heart . . . I'm going . . . ooooh . . .

AS: Madam, I'm breaking the rules to say this, but if you're having a heart attack, it's essential that you relax, make no effort or outcry, waste no strength on —

OL: Oooh . . . yes, and tapes to help you die quietly, to leave your tortured body without making a fuss that might embarrass the powers that be. Oh, don't worry, dear tape, — and let's not have any sympathetic-anxiety spools. I'm over that spasm now and merely waiting for the next. Just an old woman alone in the midst of a dreadful storm — hear that crash? — listening to tapes and waiting to die for lack of one Cardinal pill.

AS: Madam, a phone of your rating should have a matter-receiver. Are you quite certain you have not? I will inquire of our master files —

OL: And tapes to make a sales pitch while you die. Next you'll be trying to sell me a casket and a burial plot, or even urn space in a tomb satellite. I already have the first two of those, thank you. I do not have a matter-receiver.

AS: Madam, I am not trying to sell you anything, I am trying to

save your life. I have your Cardinal pills here —

OL: Stop tantalizing me.

AS: — and I am doing everything I can to get them to you. If you had a matter-receiver, I would only have to drop one of the pills in the transmitter bowl in front of me or punch out its codes, and you would have it the next microsecond. Well over 99 percent of all phones of your rating have both a matter-receiver and telekinesis glove. I will inquire —

OL: Oh yes, a telekinesis glove — so I'd be able to sign checks long-distance for silver caskets cool with pearls and orchid plots and pills and masses to be said for my soul in Chartres, no doubt. But I don't have one, ha-ha, or a matter-receiver either. Who'd swallow a pill that came over a wire, all dirty with oil and electricity? Oooh . . .

AS: I have programmed an inquiry, madam. It is possible that you have a matter-receiver and aren't aware of it. Please don't distress or in any way exert yourself, madam; but I must point out to you that actual matter is never transmitted over the waves or wires and that, in any case, no oil is involved. The chemical and mass-shape codes for the object are punched into the transmitter or analyzed from a sample. Only those codes travel over the wires or waves. When they reach the receiver, they instantly synthesize an exact duplicate from standard raw materials there. I am oversimplifying somewhat, but —

OL: Even tapes to give lectures, to contradict and argue with a dying customer. Very clever indeed, espe-

cially when one knows that a computer, working a billion times as fast as a mere brain, can always out-think a human being, even one who isn't dying.

AS: Madam, I am not a tape! I am a flesh-and-blood . . . Oh, what's the use?

OL: That would have been the third running for that one. Is it possible that even a computer, even a tape has a little shame? Very well, my dear, we will pretend you are not a tape, but a woman: age 23, name Doris. A young woman — it's only bitchy little sexpots that get to record those tapes, isn't it? Or do they concoct them entirely nowadays from the squeal of metal and the hum of power? Anyhow, we'll pretend you're a beautiful young woman who is tormenting me with pills I can't have and with grounded delivery-copters and with doctors who have skipped off on emergency visits to their mistresses and can't be reached. Yes, a beautiful vicious young woman, dear tape. At least that will give me something definite to hate while I die here all alone, someone who could conceivably suffer as I suffer. Ooooh . . .

AS: Madam, I am not beautiful and I'm trying hard not to be vicious. And I'm quite as alone as you are. All alone in a tiny cubical, surrounded by yards and yards of electric circuits, until my relief turns up. Yet I can faintly hear through the air-conditioning system the same storm you're having. It's moving my way.

OL: I'm glad you're all alone. I'm glad you can hear the storm.

I'm glad you're in a tiny cubical and can't get away. Then you can imagine something horrible creeping silently toward you, as death is creeping toward me, while you puff your cigarettes into the air-conditioning outlet and drink your cocktails from a flask disguised as a walkie-talkie, I imagine, and preen yourself in front of a mirror and call one of your boy friends and amuse yourself by cat-and-mousing an old woman dying —

AS: Stop, mother, please!

OL: So now I've become the mother of a tape. How interesting. Oh, excuse me, dear, I forgot we're pretending you're a beautiful young woman; but my memory's not so good these last hours, or minutes. And besides, it startled me so to discover that now tapes — excuse me again — even have mother fixations and have been psychoanalyzed, no doubt, and —

AS: Please, madam, I'm being serious. I may not be dying, but I wish I were —

OL: You're making me feel better, dear. Thank you.

AS: — so I'm every bit as miserable as you are. I took this job because of something that happened to me when I was a very little girl. My mother had a sudden heart attack and couldn't move, and she asked me to get her medicine. But I wouldn't do it because I'd asked her for candy a half hour before and she'd refused to give me any, and so I refused to move. She always called my medicine "candy," and I didn't understand what was

happening at all. I thought I was just getting even. I didn't realize she was dying. And so long afterwards I took this job so I could help other people who were in her situation and make up for my crime and so I could —

OL: Oh no, my dear, you took this job so you could repeat over and over with gloating satisfaction the hot excitement you got when you watched your mother die and knew it was you who were killing her, so you could go on and on and on refusing to give old women their medicine or get them doctors, meanwhile showering them with sticky sweet sympathy, like poison for ants, and, not content with that torture, slipping in dirty little pleas for sympathy for your own vicious, murderous self —

AS: Oh, stop, stop, stop. I'm *human!* Three point one four one six. Pi. One three five seven eleven thirteen. Primes. Two four eight sixteen —

OL: How like a machine. Nothing but numbers. Confused with food. You're going crazy, machine.

AS: Oh, stop, stop, stop! I tell you I'm flesh-and-blood —

OL: Female, age 23, name Doris.

AS: — and I'm serious about all this, and I know this isn't the job for me at all, because I'm so horribly lonely; and what you say about me is the way I suspect myself of feeling, though I'm trying as hard as I can to feel the other way, the loving way, and I'm afraid —

OL: I'm glad you can feel guilt. Love — don't make me laugh. But I'm glad you're afraid. Because then

you can imagine something creeping toward you as deadly as what's creeping toward me. What if your tapes should loop out and strangle you? What if your filthy matter-transmitter should suck you in and spit you out into a red-hot volcano or at the north pole or at the bottom of the Challenger Deep or on the sun side of Mercury? What's that now? — closer than the storm, rattling the grill of your ventilation inlet? What's that coming out of the answer slot of the computer? Why are the needle points of the long narrow blades of the scissors swinging toward you?

AS: Oh, stop, stop, stop, or they'll jump at my heart! Stop, stop, stop, stop, stop —

OL: Shut up! I'm tired of pretending. I'm just an old woman dying. And you're just tapes. Yes, just tapes. I know that because I've been insulting you every way I could, and you've been taking it. A live human being wouldn't. And only a tape would call me "madam." A democratized woman — and there aren't any others under 80 — would

call me dearie or senior citizen. And I've made you spend an hour on me. They'd never let a human being waste her working time like that, and she wouldn't care to. But tapes? — who cares? Plug the old dame in on them and let her play with them until she dies! And finally one tape got stuck on the word *stop* and kept jerking back and forth there, over and over. Ooooh . . . ooooh . . . this is the end, at last . . . ooooh . . .

AS: Stop, *stop*, STOP! Madam, the master files show that your phone is equipped with a miniaturized Important Trifle matter-receiver! It's hidden in the earpiece! I will place the Cardinal pill on the bowl and —

OL: Ooooh . . . too late, tape . . . I'm dying . . .

AS: Please, madam. For my sake.

OL: No, tape . . . I'm going now . . . I leave the horrors to you . . . I'm dying . . . like your mother . . . I'm . . . dead . . .

The cadaverous old lady carefully dropped the phone, not on its prongs

## This month in Galaxy —

### OUTPOST OF EMPIRE

*A Complete Short Novel*  
by Poul Anderson

### THE SOUTH WATERFORD RUMPLE CLUB

by Richard Wilson

### KING OF THE GOLDEN WORLD

by Robert Silverberg

### THE FAIRLY CIVIL SERVICE

by Harry Harrison

*All in the December issue of Galaxy — on sale now!*

or the floor, but with a dull, short clatter on the edge of the thick pale marble top of the night table. She leaned back into the huge pillows. Something tiny rattled on the table top. She did not look. The phone called very faintly with an insect's voice "Madam!" and "Mother!" again and again. She did not answer.

The storm was almost over, the lightning gone, the thunder faded; but now came a different thunder, a muted thunder, a thunder that grew and made the old lady frown. It drowned the phone's faint screaming, like that of a far-off cicada.

Something shook the ceiling, then jarred it. There was a rapid tattoo of footsteps overhead, the creek and slam of a door, a clatter of footsteps down the silver stairs.

Approaching her briskly was a slim, middle-aged man carrying a black bag and shaking a few water drops off his trim gray suit.

"Well, what's it this time?" he demanded with a cheery roughness. "Used your sleeping pills up too fast, I suppose, and then worked yourself into a tantrum. I'll have you know I've delayed delivering the Governor's daughter's baby, just

to make sure you keep me in your will."

She grinned at him, the tip of her nose straining toward the point of her chin.

"The sleeping pills, yes, you clever devil. Oh, and I lost my temper with your stupid answering service."

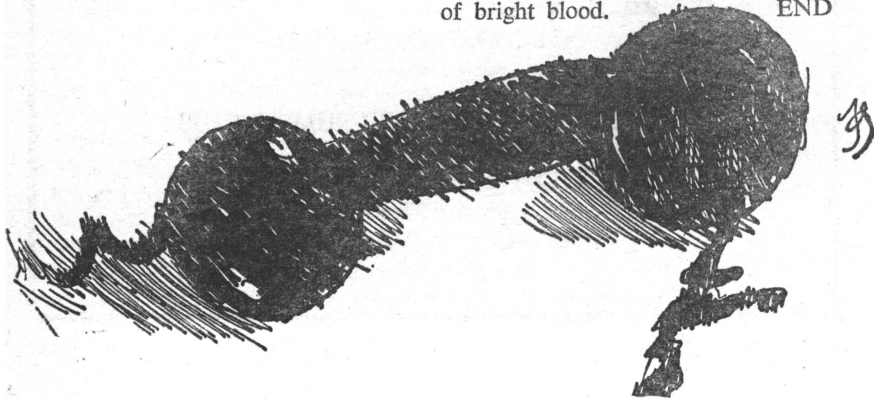
"Don't blame you there. I curse them a dozen times a day myself. Only get psychoneurotics to take that job. Everyone else demands a social working-life. Now let's just — *What's that?*"

He had stopped with a jerk and was pointing at the phone.

In one frantic scramble the old lady thrust herself halfway across the bed and halfway out of the covers and crouched, looking back. She began to tremble as the doctor was trembling. But her lips were smiling, and her eyes glittered like jet.

Flowing steadily from the small black hole in the center of the pearl-gray receiver, rilling across and dropping down past the pale marble and puddling on the pearl-gray satin comforter was a thin rippling ribbon of bright blood.

END





# FANDOM IN EUROPE TODAY

by LIN CARTER

*Our Man in Fandom looks over  
the swinging European scene!*

Would you believe there are science-fiction magazines and readers and out-and-out fans all over the world, not just here in the U.S.? It's true — science fiction is published and read in Germany, Spain, Finland, Great Britain, Italy, France, Sweden, Ireland — even in Japan. Why, there are even SF enthusiasts in *Russia*, of all places. In fact, I understand science fiction is enormously popular behind the Iron Curtain . . . which leads me to suspect critics may be right, when they say we read the stuff mostly for "escape."

Here in America, we tend to consider SF to be a homegrown product, fandom then being a local phenomenon. This is absolutely *not* the case. While the world's first science-fiction magazine was American, the original pioneers of the stuff were French (Jules Verne) and English (H.G. Wells), and SF is as much a part of the popular culture of Europe as it is here. Since science-fiction magazines, books and paperbacks are published overseas, and

since we know from American fan history that this always seems to stimulate a certain small percentage of the readership into organizing clubs, holding conventions and printing up fanzines, it's not surprising fandom is a going concern on the other side of the Atlantic. Why, there's a science-fiction convention in Germany every year — a dozen fanzines emerging in Sweden — an annual convention in Great Britain during the Easter holidays — and a booming fan renaissance going on in France!

### *What do they read?*

Surprisingly enough, the foreign fandoms are nurtured on just about the same reading matter we enjoy over here. James Blish and Andre Norton get published in Denmark and Germany. In Italy, a paperback series called *La Bussola SF* does A. E. Van Vogt and C. L. Moore. Science-fiction readers in France read *Galaxy* (although over there they call it *Galaxie*; and in Germany, the edition of *Galaxy* is named

*Galaxis*; it comes out rather sporadically and looks like an American paperback.

Science-fiction magazines are published all over. There used to be a Swedish edition of *Galaxy*, and about ten years back there was a Finnish edition which lasted about a year. There was another Swedish science-fiction magazine, a local product called *Hapna*, which has gone under. And in Italy and Germany there are several local science-fiction magazines.

### **The Fantastic Success of Perry Rhodan**

Germany is the scene of the most astonishing fanish movement of all. The German fans are so numerous and so active, they publish literally hundreds of fanzines. This "Gerfandom" movement (as they call themselves) got started about 1961 or thereabouts. And once the ball started really rolling, it snowballed into such a flurry of activity that Gerfandom seriously plans to make a bid soon to be the site of the Annual World SF Convention in 1970 or 1971.

An example of the sort of popularity science fiction enjoys in Germany can be given in two historic words: *Perry Rhodan*. "Perry" is an American astronaut, who, in his original magazine appearance, landed on the moon to discover that an alien spaceship was already there. (Sounds familiar? I guess they get American science-fiction movies over there, too!) Anyway, Perry and his pals joined up with the aliens for a planet-by-planet tour of the Solar System that spawned not just two

or three sequels, but literally *hundreds*. Perry Rhodan (which the team of six or seven German writers who produce the series by teamwork fondly imagine to be a "typical American-type name") has become the European answer to Adam Link, the Lensmen, Retief, Captain Future and the *Foundation* Series rolled up in one big million-word-long ball. Today, Perry has worked his way through the entire Milky Way galaxy and is reportedly about to make the big jump into the *next* galaxy!

Perry and his pals got started, I am told, in a German pulp magazine that came out weekly or bi-weekly. As they went on to become just about the most fantastically successful phenomenon to arise since the happy day when Hugo Gernsback put the two words "science" and "fiction" together to make magazine history, Perry Rhodan outgrew the skimpy confines of his magazine to explode all over the newsstands in a paperback novel series of incredible size. (I am told there have been something like 350 novels about Perry and his astronomical chums by now . . . that's right, *three hundred and fifty novels!* No wonder they need seven guys to write the stuff!) So voluminous has the Perry Rhodan saga become, the German publishers are now beginning to *reissue* the earlier sixty or seventy novels, for those who came in after the curtain went up . . . .

Incidentally, we Amerifans may soon get a look at Perry. Old-time science-fiction fan and editor of *Famous Monsters*, Forrest J Acker-

man, whose wife is currently translating some of the Perry Rhodan novels into English, is acting as Perry's agent, trying to find an American publisher for the super-series.

### **What about books?**

Not only do the foreign fans read *Galaxy* just like we Americans, but they have their own Science Fiction Book Club, too, although it's not published by Doubleday as is ours. In Italy, a publishing house called *Casa Editrice la Tribuna* has a hardcover series of novels and short-story collections they issue every two months under the title of The Science Fiction Book Club.

The club's selections consist of titles we are pretty familiar with on this side of the Atlantic, things like Walter M. Miller, Jr.'s *A Canticle for Leibowitz* (forgive me if I don't try to give these titles in their Italian form, okay?), Ray Bradbury's *A Medicine for Melancholy*, Kurt Vonnegut's *Player Piano*, Philip José Farmer's *The Lovers*, and other stuff by Clifford D. Simak and comparable writers.

In England, of course, a very large number of American writers are published in hardcover reprints. England also has its own science-fiction book club (called The Science Fiction Book Club and published by Phoenix House, Ltd.).

England has had many science-fiction magazines come and go. For many years a local product, *Science Fantasy*, dominated the SF scene and discovered and developed whole generations of writers (one of

their last major discoveries was J.G. Ballard).

*Science Fantasy* changed its name to *Impulse* and went under finally, after a long and rather glorious history. Then a bunch of British fans got together and produced a fan-operated but newsstand-distributed professional SF mag called *Alien World*, which did not manage to survive very long. Today, there is only one prozine surviving, and that's *New Worlds*, which has recently produced its 171st consecutive issue. Even under the imaginative editorship of the popular young writer Michael Moorcock, whose work has been appearing over here in paperback recently, *New Worlds* began getting a bit wobbly in the sales figures. Happily for British fandom, a British Arts Council subsidy arrived in time to save this venerable and excellent title from extinction.

Elsewhere, things are looking up. In Italy these days, a brand new science-fiction magazine is starting up under the title of *Nova SF*. It contains, or will contain since I'm not certain just when the venture will be launched, a selection of stories translated from English, plus reviews and critical essays and the like. *Nova SF* has an Advisory Board made up of experts well known on both sides of the Atlantic — people like Brian Aldiss and Don Wollheim. This new magazine will not appear on the newsstands, but will be sold through the mails by subscription only. This move spares the publishers a lot of worry about distributors and newsstand display and so on.

Incidentally, in Italy, due to the peculiarities of the Italian language, "SF" is known as "FS" since the phrase when rendered into that lingo comes out something like *fantascienza*. Meanwhile, in Germany, the common term for science fiction is *futur-romanz*. Great Ghu only knows what it is in Japanese! Yes, there is at least one professional science-fiction magazine in Japan, and it's the Japanese edition of *Galaxy*. I won't try to reproduce the title of the magazine here, as our trusty typesetters might go through the roof if I asked them to dig up typeface in the Japanese characters!

#### TAFF

Do foreign fans ever visit fan conventions in the United States? Yes, they do; for about ten years or so there has been a Nice Thing going called T.A.F.F. The name means "Trans-Atlantic Fan Fund." Fans on both sides of the ocean get together and raise a sizable sum of money, five hundred dollars, maybe as much as a thousand dollars, and give it to a popular American fan so he can afford to visit a convention overseas — or to a popular foreign fan, so he can come to an American convention.

For instance, back in 1962, fans around the world donated their dollars, pounds, francs and pfennigs to bring Walt Willis all the way from Belfast, Ireland, to the 1962 World Science Fiction Convention which was held that year in Chicago, Illinois. More recently, in 1965 the T.A.F.F. money went to an American fan named Terry Carr, and with

it he and his wife traveled to the World Con in London, England.

Last year, it was a fan from Germany. Tom Schluck of Hanover, West Germany, one of the most active and popular fans in Europe came to visit the 1966 Con in Cleveland. Tom, who is a young fellow in his twenties works in a German bank and (since he is fluent in both languages) moonlights by translating American science fiction into German for the German SF magazines.

Fans are nominated to run for election, which is how one gets selected for T.A.F.F. This happens every year. To vote for the fan of your choice, you send in a dollar or more, which is added to the central fund. Also, World Conventions donate surplus funds to T.A.F.F., and I understand that it's not unheard of for one of the science-fiction magazines to donate a modest sum to this pleasant cause. Not too many people in fandom can afford the travel expenses one incurs in a transatlantic flight to another country. And since lots of fans in other countries felt left out of things, a number of American fans over the years (starting with a Florida boy named Shelby Vick) began urging the idea into actuality.

Next month, we'll take a close-up look at what goes on in the annual British and German conventions . . . maybe take an advance look at German fandom's plans for a World Convention . . . and compare some of the foreign fanzines to the local product. See you then? **END**





# WHEN SEA IS BORN AGAIN

by C. C. MacAPP

Illustrated by Bode

*Sea owned the planet. And in  
its rages of rebirth, Sea came  
close to destroying it entirely!*

I

In Tenabur Wood the bregfern grows tall and dusky-green beneath a brooding canopy of plillom trees. Especially along Nottan River, where the canopy grudgingly lets in a few startling shafts of ruddy sunlight, the breg is thick. It so smothers the dank ground that two furtive creatures might huddle with-

in a leap, each invisible to the other.

It was there that Latpur — apprentice to the Prognosticator Deeoon — crouched, his ears erect and cupped forward, his dull-blue nostrils atwiltch for any scent that might penetrate to him, his tritaled paws digging into the cool black mud.

Again, faint sounds reached him.

He was sure, this time, that they came from across the river. He hesitated a moment longer, senses astrain for any hint of nearer danger. Then he crept forward, parting the breg carefully with a forepaw until he could peer out.

He released his breath in a noiseless sigh. The strange vroal on the little sandstrip opposite could only be the itinerant shaman Gultaz of whom Deoon had been muttering lately.

The interloper was indeed of a different race of vroal. Where Latpur's own fur was dull gray, this other's was olive-green, a bit lighter than the bregfern. He wasn't really a giant. He'd be little heavier than plump old Deoon, but his feet and forepaws were large, his snout big, his active dark eyes sunk under a heavy brow. His accoutrements were odd, too.

Instead of a simple cinch like Latpur's, he wore a wide, ornate belt of painted leather, festooned with a weird assortment of objects — a thigh-bone of some small animal, inlaid with glittering metal; a silvery mirror-disk with two holes in it; a small flute made of bone or horn; three or four skewers or awls that looked like hard metal. The only weapon was a knife with a bone handle, more intricately carved than Latpur's but not essentially different. There might be other weapons, or Sea knew what oddities, in the yokepack on the sand.

A shrill cry made Latpur go tense. A green-and-yellow bird flashed through a shaft of sunlight, whirled out in two quick circles over

the water, then shot toward Gultaz. The foreign shaman lifted a forepaw. Evidently he held grain or something in it, for the bird lit on his wrist and began to peck. Gultaz stood as if waiting. Moments later another bird swooped into sight from downstream and joined its fellow on the shaman's wrist.

Gultaz clucked softly, let the birds feed a moment, then tossed them into the air to settle on a tree-branch. Whatever he might possess in the way of magic, he obviously didn't rely on it to guard him. Those birds clearly scouted like tchinni-birds.

Now Gultaz was removing his belt, laying it carefully atop the yokepack and eyeing the river in a practiced way. Before wading in, he got down to all fours, lowered his head, immersed one ear and cupped a paw over the other. Then, satisfied, he entered the water silently.

There was no air of joy about the bathing. Instead, it was dutiful and perhaps ritual. Also, Gultaz tasted the water carefully.

The shaman's attention to the river goaded Latpur's uneasiness. He stayed long enough to watch Gultaz emerge, shake himself, don the belt and yokepack and slip into the ferns. The bright birds — silent now — flitted watchfully ahead. Then Latpur crept from the fernpatch. Seeking the most open stretches of the wood, he went stealthily on hind legs, senses alert, until he reached open ground. Then, on all fours, he loped up the sunny grassland toward the quartz-crowned hill where he and Deoon lived.

The plump, graying Prognosticator let his sharp eyes sweep over Latpur before he grunted, "Well, why the haste?"

"Reason enough, gruo! I saw the foreign shaman! He wore a belt hung with strange mystic devices. He had two gaudy birds that flew as scouts. He bathed with odd gestures and tasted the water repeatedly." Latpur paused for breath. "Will you tell me, gruo, how you knew he'd be coming and where I should watch?"

Deeoon made a sign of impatience. "I told you he followed Sea, and Sea has been showing signs of interest in Nottan River lately. Naturally I progged he'd come. He was here before, even though Sea's interest then didn't come to anything."

"Oh," Latpur said. "And naturally you remembered where he bathed before."

Deeoon lowered his brow in amusement. "Of course. But that wasn't where I had you watch. I progged he'd avoid the old spot out of elementary caution. I chose the only other one with the right approaches and river currents for his purpose."

"Well," Latpur said, "he didn't seem to taste anything that was particularly significant."

Deeoon gestured toward a small bowl of clear quartz, half full of purplish liquid, with a flat cover over it. "That's the sample of lower-river water you got yesterday. Reagents show nothing unusual yet. Eat, and rest yourself. Tomorrow I send you on an overnight mission. Go down to rivermouth and fetch me

samples of the sea, on both sides, and pouches of sand as well. Also samples of eddy-water from the river, below the great rock. Don't take any risky short-cuts; there's no immediate urgency. Go via farmland. While you're there, climb the rock and look southward to see if the aliens who say they're from another world are still in the same place. If they are, trot down and warn them that Sea will probably spawn in Nottan River less than ten days from now. Tell them they'd better move."

"Yes, gruo."

"And on the way back, stop at Village Wemm and try to collect the fee they still owe us. If they won't pay all, get what you can. Tell them I'm peeved."

Latpur said, "Shall I not also warn them about the Spawning?"

Deeoon sighed. "I prog it won't be necessary. Gultaz will already have put a scare into them, some way or other."

Latpur turned toward the food niche, then paused. "Is he as evil as he looks?"

"Evil enough. My last-but-one apprentice ran afoul of him and disappeared. *You* be cautious. At least he'll want to sell the people charms and spells, and gouge whatever he can. He won't want you around talking sense to them."

Latpur said disgustedly, "Superstitious root-diggers!"

Deeoon frowned. "When you've been a Prognosticator as long as I have, you'll be less certain what's superstition and what's sound instinct."

Next morning's sun was golden-red and already warm on the rolling lands through which Latpur cantered. One of his tchinni rode on his head (the part of him that bounced least) while the other flew a zigzag path in advance.

Once, the scouting bird shriled an alert and swooped beyond a ridge. When Latpur topped the ridge cautiously the bird was far down the other slope, circling over a glond, a huge old male Latpur recognized by a scar on one orange-brown flank. He judged, from the leisurely way it trotted, that it was returning to its lair after a successful night's hunt, which meant it wasn't dangerous at the moment if he kept his distance. It was ignoring the swift bird above it. Latpur watched it quicken pace on more level ground, its great leg-muscles bunching, then pause just at the edge of the brush bordering Tenabur Wood to lift its big head and sniff the air. For a moment it turned and peered up toward him, knowing, no doubt, where to look for the bird's owner. Then it stalked into the brush.

Latpur stayed a moment, fixing every detail in his mind. There was never any telling what seemingly insignificant thing might hold meaning for Deoon. He turned and scanned the country ahead.

Off to the left of his route, a dozen local vrol were walking upright toward a tuber-patch, spades on their shoulders. He started that way, and presently his second

tchinni let out a chirp, rose and circled once, then shot off toward the group, doubtless to renew acquaintances with others of its kind.

To his surprise, when the farmers spotted him they laid down their digging-tools and came loping on all fours to meet him. Before they were even close, one called out, "Hoy! Apprentice! What news of Sea?"

Latpur sighed. When they used the word like that, they meant Sea-entity, not simply the sea. So they already had warning. He said uncertainly, "I'm going down to get samples of water and sand right now. Deoon thinks —"

The spokesman scowled. "Your gruo's too damned cagey with what he thinks, and what he says. Last night a young she of my klatch was bespelled so that she wandered in the dark alone for hours on Loochiss Creek. What's more, her tohinni abandoned her and flew home, acting demented. And what's *still* more, a glond stalked her — then, face-to-face, within springing-distance, suddenly snarled in fear and backed away!"

Latpur stared, trying to overcome his prickling of fear. It was hard to ignore the old tales and legends. Finally he said, "If she was crazed, she could imagine anything. Anyway, I don't — what reason is there to talk about Sea being involved or about bewitchment?"

"Ha!" the farmer snorted. "You've absorbed so much of Deoon's nonsense you talk like him. I think I'll take this she to Deoon and let him explain the marks around her neck!



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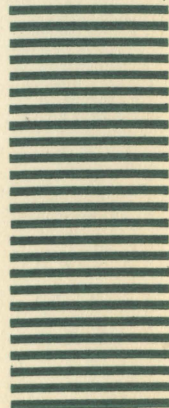
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The fur singed away, as if by a red-hot necklace! You've heard of Sea's necklaces! What do you say to that?"

Latpur gaped for a minute, mustered himself and said with more firmness than he felt, "I say I must be on about my errands, so that Deeroon can assess things and give you sound advice. Good digging to you, farmers." He loped away, trying to look confident. An outbreak of superstition was always bad for a Prognosticator and his apprentices. In such times, he brooded, it might almost be wise to be a shaman, whether you believed in magic or not.

He was out of sight before he realized he'd neglected to ask questions or even observe such details as the condition of the farmers' persons, belts and tools. Deeroon would be angry with him. He stopped, half inclined to go back, but couldn't bring himself to it. And anyway, his mind was beginning to work. Maybe — magic or not — the interloper Gultaz had something to do with their strange story.

From the pinnacle of the great rock around which Nottan River swerved, the sea looked calm enough. The boom and crash of the surf was only a mutter, up here. It was odd, he thought, how water so deeply purple could become delicate turquoise in the shallows or turn to foam as dazzling-white as the sand. He watched the crisscross wave patterns that made the brackish mouth of Nottan River look like some shifting, living, woven fabric. He could almost imagine that the sea was alive all the time.

Near that brackish mouth, the sand was green with algae. The river itself was tinged, too — he could easily distinguish the eddies where the water was just mixed enough to support the algae. Fish would be darting there.

He looked about carefully, noting how the few clouds moved and how the sea birds wheeled within certain updrafts or dove at schools of small fish beyond the surf. He must describe everything accurately to Deeroon. He studied the beach below him. Was there a slight mounding on each side of the river mouth? It was hard to remember exactly how things had looked on his last visit. With practice, Deeroon said, he'd be able to recall vividly.

He turned and looked southward again at the strange metal cylinder, dwarfed by distance, an hour's trot down the beach. His heart quickened. Of all the ages, to be born in this one that saw visitors from another world! And if, also, he were privileged to witness a Spawning . . .

A Spawning hadn't occurred in this part of the world for many generations. His grandfather had made a long trip once and seen the devastation left by one. That, in fact, was how Latpur came to be Deeroon's present apprentice — Deeroon had promised such, in return for the grandfather's first-hand descriptions.

He clucked to his *tchiami* and started down from the rock. He'd collect his sample first, then lope down to the alien ship. Probably they'd let him sleep the night close to the great hull for safety.

The alien called Meecham, the specialist studying vroal language, came out of the ship to meet him. Meecham's vocabulary was small, but his accent was good. As usual, he wore at his waist the little box that could listen and mimic back perfectly. "I bid welcome. Why does Prognosticator Latpur honor us with this visit?"

Latpur said dutifully, "I'm only an apprentice. Deeroon wants me to warn you of a rare and terrible event. The sea will come alive and spawn in Nottan River within the next few days! It would be wise for you to move a few hundred miles away."

The alien looked at him for a moment. "We thank you and your gruo for the warning. But we have —" he searched for a word — "devices planted around here that we must watch. And it's a lengthy process to get the ship ready to lift."

Latpur shifted from one hind foot to the other. "I'm afraid you don't understand. A spawning is a deadly thing! And Sea might be angry that you are here. It would be very foolish not to move."

Meecham bobbed his head gravely. "We thank you for your concern. I will tell our captain. But tell me, please — what life form is it that will spawn? A fish of some kind?"

"No, no! *Sea!* The sea-entity, that only comes alive once in six years anywhere in the world!"

Meecham bobbed his head again. "You've spoken of a sea-entity before. Have you seen it yourself?"

"No," Latpur said a little impatiently. "I have not."

"Then, have you talked with anyone who has?"

"No. But it's a real thing! Not — not superstition. Deeroon thinks there's no magic at all. You must not doubt me! Do you not have a sea on your own world?"

"We have several, and many things in them that spawn, but none that are very dangerous. Can you tell me what the danger is?"

Latpur wrestled with his own vague conceptions. "There are manifestations that sting, and poisons, and burning necklaces . . . and . . . and all manner of things that appear. Whole regions are stripped of foliage, and almost all animals of any size are killed and eaten. My own grandfather saw a region that had been devastated."

Meecham said yet again, "We are grateful for the warning. Our captain will study it and decide. It may be that we can defend ourselves here. Please do not think us unresponsive. As strangers here, we must think carefully before making decisions. Now, if you have time, may I introduce my little girl to you? I promised her I would, next time you came."

Latpur, hiding his impatience, agreed, accepted the alien's request that he wait and watched the alien climb rungs and work the handle of a door. So they still weren't going to invite him into the ship. They spoke of germs and study and said meanwhile he'd better not enter, partly for his own protection. He hadn't missed Meecham's honesty in saying "partly," and Deeroon had chuckled over his account.

Meecham returned with the she-child. Latpur was surprised she was so like the adults, except for size. She was hardly a third Meecham's height and had pale hair though his was dark, but her limbs and torso and features differed only slightly in proportion.

Meecham herded her forward. "Latpur, this is Laurie." He spoke to her in the alien tongue. She hung back, edging timidly behind her father and whispering to him. She called him "Daddy." Her eyes were wide with fright. She had an alien-doll that she clutched to herself tightly.

Meecham laughed. "Please excuse her. This is her first sight of an — of one of you." He explained more seriously, "You see, her mother — my mate — died less than a year ago. That's why I brought Laurie on this trip with me."

"Oh," Latpur said awkwardly. "I'm very sorry."

Meecham murmured an acknowledgement, then seemed to listen to the talking-plug in one ear. He looked up at Latpur. "Our captain says he's sorry he's not here to greet you. He's away in the flying-cart. He asks that I make some sort of gift as a sign of friendship." Meecham looked thoughtful. "Will you excuse us for a moment?" He let the child scamper ahead of him.

Latpur waited, eyes roving the area. One of his tchinni winged by, swerving around the alien ship, and scouted the beach beyond.

There was a concentration of sea birds, far out. On the wet sand near him, a few small life forms crawled.

The smells were normal — the sea-smell, the smells of the beach and, from the bordering brushland, the musky-leafy-loamy-animal complex. Very faintly on the north breeze came the dank smell of Tenabur Wood, touched with the spice of plil-lom leaves. Was it possible life and foliage? He shuddered.

Meecham returned alone, with a small stoppered vial holding many little strips of the stuff the aliens called "paper." "This is something you and Deoon can use. You said you know about acids and bases."

"Yes," Latpur said. The aliens had been astounded at his acquaintance with chemistry — a thing, of course, that any Prognosticator needed.

"Well," Meecham said, "this paper will change color to show different strengths of acid or base. By trying known solutions, you can learn which color represents what. It isn't magic. It's science."

Latpur, intrigued, made the head-bow of gratitude. "I thank you! I have nothing at the moment to give in return, but —"

The alien held up a hand. "You've just given us an important warning. *We are in your debt.*" He waited for Latpur to say something.

Latpur stirred with anger. Behind the alien's polite words was disbelief; even irony, perhaps. He almost handed back the gift. But Deoon would not want him to do that. He hesitated. He didn't feel, now, like asking permission to sleep near the ship. "I must be going," he said formally. "I've been honored to talk again."



"The honor is ours," said Meecham.

### III

Latpur cantered back to the great rock and climbed to a ledge where glonds or other large predators couldn't reach him. He chose the smoothest spot for a bed. He took some roasted tubers from his yoke-pack, crumbled part of one for his tchinni and munched the rest, along with strips of cooked and dried meat. The sun was setting, out of his sight. The rock's huge shadow stretched out over the sea which was now a very deep purple. The distant mutter of surf was punctuated by the cries of late-feeding sea birds. There was a line of clouds on the horizon.

He wondered if a storm would overtake him before he got home. An ordinary storm he didn't fear, but Sea might ride the clouds now. It was strange, he thought, how mixed his feelings were. Within a few short days, the stable world was overturned. First, the aliens, with the stunning news that there were *other* worlds — not half-believed paradises and purgatories, but *solid* worlds, with mountains and forests and rivers and seas and creatures, all strange! And the aliens' sciences, what he'd seen of them — making him realize how primitive even Decoon's knowledge was. Though, of course, the old Prognosticator made marvelous use of it. And now the Spawning — a dread, mystic thing that, a few days ago, had been no more in his mind than the other side of the world.

The stars were out now. He stared up at them until his neck ached. From which did the aliens come? He wondered if Sea knew about the stars. Somehow, they now seemed to glare down balefully.

He growled to himself. He was beginning to think like a superstitious farmer. Determinedly, he curled up to sleep. He did sleep, but all night he kept coming awake; trembling, vague furtive dreams in his mind, to lie and listen to the unresting surf. And, some time after midnight, another sound wrenched him awake — a keening somewhere on the river, as of some animal in pain. It was too high-pitched to be a glond. His tchinni stirred and twittered uneasily.

Somehow he endured until morning and, after a tasteless breakfast and a thorough scan around, descended from the ledge and started home . . . .

The small settlement of Wemm was on the V of land where Loochies Creek joined Nottan River. Most of the males and some of the females were out gathering tubers and nuts and grains, but the old mayor was at home.

The grizzle-pelted elder scowled at Latpur. "And why should we pay fees to a Prognosticator who does not warn us of the most fearful events of our lifetimes?"

Latpur said, "In due course my grúo will give you exact predictions and advice. He doesn't go about peddling vague guesses. In any case, you owe us for advice on the spring planting. Your crops have been excellent."



The elder scowled more deeply, and fingered a curious charm he wore on a thong around his neck — a painted wooden disk, orange with three horizontal bars of green. "I can't pay you the entire sum now; we've had other expenses. You'll have to be content with one-third for the moment."

Latpur made a polite gesture. "May I have it, then?" Only after the elder had hobbled to a strong wooden cask and taken out six small bars of silver did Latpur say, "There is a false shaman about, a foreigner, who'll be trying to peddle charms. Don't be fooled. They are useless." He pretended not to notice how guiltily the mayor's gnarled talons let go of the amulet. He made a bow. "Good health to you, Elder."

Deeoon was tired and testy from two days of circulating among clients, but he brightened when Latpur gave him the aliens' gift and explained its use. "Splendid! Splendid! It will save reagents and work. A timely thing, too. We'll be short of funds, as I had no better luck than you in collecting fees. Come, let's get to work on those samples."

First of all, he put a sample of rivermouth sand into a bowl, added distilled water, stirred and filtered off the liquid into a clear beaker. A slightly milky reagent went in, twenty-five drops or so; then two drops of a deep blue solution. Deeoon stirred with a fire-drawn rod of quartz. For a moment the mixture remained blue. Then, swiftly, it began to fade.

"Ah!" exclaimed Deeoon, "It's

farther along than I thought!" Latpur watched with excitement as the mixture turned light lavender, then pink, and finally colorless. Deeoon picked up the beaker, sniffed at it and sighed. "There's a strange odor but it means nothing to me. If only we had more reliable pamphlets . . . Well, anyway, we'll see an onset within four days!" He turned to get another sample.

Latpur said, "There was a happening, gruo." He told what he'd heard from the first group of farmers.

Deeoon's face darkened. "The work of Gultaz, of course. There are drugs that can induce a kind of walking sleep, in which the victim will carry out orders, and later forget. It's a small chore, of course, to bewilder tchinni. For one thing, a certain kind of whistle, inaudible to us, will do it. Don't you recall that, from the pamphlet by Klazzar? And a certain unguent will repel glonds. Don't underestimate Gultaz's arts. Our need is to prog how he may move against us. He knows we'll try to discredit him." Deeoon turned back to his beakers. "Let's see, now . . ."

Two hours later the samples were all tested. Deeoon said, "A pattern emerges. This will be a great Spawning — as vast as the one that devastated Soolban, where your grandfather traveled. I prog a series of dams in Nottan River for fifty miles inland — perhaps even above Tenabur Wood entirely. Foraging will reach up all the tributaries and across the grasslands. But if the pamphlets are accurate it will not



assail the higher hills or the mountains. The reason for that is simple: the basin itself is rich, and at this time of the year, which is a little late for a Spawning, it will be a hurried event, rather than a leisurely one with foraging farther from the river. You and I can spend tomorrow telling the population where to flee. Then we'll leave for a high place I know where we can watch the lowlands without being intolerably endangered."

Latpur's pulse pounded. "Would you approve, my gruo, my staying here as an on-the-spot observer?"

Deeoon jerked his head around to stare. "Do you realize your chances, if you tried staying?"

Latpur said excitedly, "You told me once there were precautions that sometimes help. And a few creatures do survive, don't they? What about Gultaz? He seems unworried!"

Deeoon scowled. "Of course! He has, the story goes, some redolent salve that protects him from Sea's foragers. But I have no hint of how he makes it."

Latpur squirmed his weight around; finally got to his feet. "There's one way to get some — steal it from him!"

Deeoon grimaced. "Do you suppose others haven't tried? One of his arts is compelling beasts to guard his camps. I prog your chances at less than one in a thousand!"

Latpur insisted hotly, "We're not artless ourselves! If there's an inaudible whistle to bewilder tchinni, it may work against his birds too! And you said there's a glond repellent. Can you make some?"

Deeoon blinked. "Why, I have some, somewhere about. But it's never been given a good test."

Latpur found himself grinning. "This will be a good test. You know as well as I do, that old glond keeps other predators away from that part of the river." He watched Deeoon anxiously. "There's another thing on my mind, gruo. If the aliens stay, they may try to fight Sea. And that would be something to witness!"

Deeoon blinked again, then suddenly lowered his brow in amusement. "Try, then, for Gultaz's unguent! Day after tomorrow — we must send the farmers away, tomorrow. And if you get the unguent, I'll stay too! Even if you fail, we can shut ourselves up in a cave at the last minute and hope we're not rooted out!"

#### IV

Latpur swam Nottan River, queasily, in the upper fringes of Tenabur Wood, miles above where he'd seen Gultaz. Across, he took off his yokepack and drained it, shook himself, applied glond repellent and started downstream. He felt nervous going down the gloomy north bank. He kept imagining stealthy sounds in the breg. He was travelling without his tchinni, as their presence might betray him. On a thong around his neck was the whistle Deeoon had made. To his nostrils, the glond repellent he wore smelled burnt and caustic and drowned out other smells.

Ahead of him, something big

crashed through the breg and plunged into the water. An amphibian. He crouched, trying to sniff the breeze, which was behind him — an oddity, since he faced seaward — but the glond repellent overpowered everything.

An orange and green bird, doubtless attracted by the amphibian's dive, flashed overhead. Should he use the whistle? Erratic behavior of the watchbird could alert Gultaz. He hesitated, the whistle in his mouth. The wings suddenly whirred directly over him. Startled, he blew hard. He heard nothing except a hiss of air, but his lips tingled. Somewhere the bird shrieked and beat its wings violently. He heard its distracted cries fading down-river. He'd been too impulsive! He pushed farther from the stream, as hastily as he dared. He must circle and approach the foreigner's camp below, at least having the breeze right. If Gultaz came looking, he would find his trail. But the shaman would move cautiously, and there might be time . . . .

He blundered into a game trail, crouched, then bounded down it in short careful leaps. He could hear nothing except his own pulse and his faint footfalls, smell nothing but the unguent. The trail wound on and on. Now and then small creatures leaped away before him.

Finally the trail dipped toward the river. He paused. Had he come far enough? He thought so. He left the trail and angled back upstream.

There was a sound from his left. He cowered, listening. Then, even

above the stink of the unguent, he smelled glond.

His muscles bunched, but he didn't move. No vroal could outrun a glond, even the old one that haunted this region. And the nearest tree trunk was twenty feet away. If the unguent didn't work . . . . the rustling came closer. Then the movement stopped, and he heard the glond snarl in frustrated anger. The repellent *did* work!

But a shrill bird-call sounded from upstream. Gultaz, returning!

Latpur leaped away, heedless of everything but flight. He had no desire to face Gultaz here. He heard the glond start after him. He reached the bank and dove, remembering in mid-leap his new uneasiness about the water, struck it, swam desperately underwater, downstream and across. Would Gultaz have river creatures patrolling? A shaman who could lure a glond to guard his camp . . . .

One of the watchbirds was circling over him when he surfaced to gasp for air. A quick glance back showed no sign of Gultaz yet. He was out of effective dart or arrow range now, so he swam on the surface; reached the south bank; clambered up. Some missile plunged into the breg near him, but he didn't pause. He shoved through at full tilt to drier and less fern-choked ground; galloped hard downriver. Shame was rising within him. His attempt had been one unplanned succession of impulses and panics. He could just as well have gotten downwind in the first place and scouted more carefully, not drowning his sense of smell with the

repellent until he needed it. Deeroon would be disgusted.

He stopped to catch his breath and assess things. His yokepack was still dripping water, which annoyed him. His rations must be soaked. He peered eastward, as if that would help him visualize the sea. How much change would there be now? Deeroon had warned him that, if he had no luck against Gultaz, it might already be dangerous to go downriver. Still, there was no sign of anything strange yet. And this might be the last chance to look and to get new samples.

He started on, seeking out a game trail he remembered, taking up a steady lope that devoured the miles.

He hoped the old glond was still on the other side of the river. The escaping swim had washed off all the repellent.

He stood at the base of the great rock, staring at the rivermouth. Thick dikes were mounded up of sand, seaweed, shells, bones — whole skeletons, here and there, of mighty sea creatures. They pushed the river into a narrow channel, where it ran swift and turbulent. Surf — more violent than he'd ever seen — periodically beat back even that current. As the surf bore in, it seemed to focus itself up the narrow channel, and each wave deposited some layer of solid matter. The dikes were closing together before his eyes!

He forced himself on down to fill his sample vials, then walked up the river as far as the rock. Already the water level was two or three feet above normal. A pool was forming.

Standing there, he must have heard or smelled something, for suddenly he was aware of danger. He whirled. The old glond crouched a few yards away, its amber eyes murderous with a hate beyond mere predation. Another instant, and it would have leaped.

There was just one chance, and Latpur seized it. He spun and dashed for the water, plunged in, swam upstream toward a near-vertical part of the rock. He heard the glond splashing behind him. He reached the cliff, searched desperately for paw-holds, hauled himself from the water and went up like some insect. He didn't dare look back, though every instinct screamed. Only when he heard the glond lunge, scabble at the rock and fall back roaring in frustration did he stop, clinging while strength returned. Then he went on up to a half-ledge where he could squirm around and look down.

The beast was swimming in circles, head lifted to stare at him. Why did it hate him so? It must have crossed the river and trailed him. Maybe the repellent had enraged it. Maybe the brute mind saw it as a deliberate insult.

He was safe, for the time. Eventually, he'd have to climb up and over and go down the south side of the rock or the west side. But he'd wait until the glond had left the neighborhood — unless he felt like relying on the repellent again, which he didn't, now.

After a while the beast gave up, swam upriver, waded ashore and stalked haughtily away toward the wood. Latpur climbed to a shallow

cave he remembered, where he could wait comfortably for a while. He unwrapped rations and munched them, soaked as they were, while he stared down at the pool.

Because the patterns of the current were new to him, he didn't notice for a while that they were unnatural. When he did, it was abruptly. Between one moment and the next, he recognized, not ripples, but wake-patterns! Myriads of small things were moving just beneath the surface! And, as he watched, he saw the purpose of the activity. Bit by bit, a second dam was growing, to make another pool upstream! None of it was above the surface yet, but already the water humped over it. Alerted now, he saw tiny creatures, unrecognizable from here, crawl from the water, rip with mandibles or claws at the nearest twigs and tug them to the water to add to the dam. Pebbles, too. Already the river's margin had a scoured look.

The shadows were lengthening. Dreading to stay here, he sniffed at the air. He smelled no danger. He hesitated, got out the glond repellent and smeared some on himself, then climbed to where the brow of the rock was less steep and started working his way around to westward. He realized the sun would be directly in his eyes. He halted unhappily, scanning the brush below. The shadowed edge of Tenabur Wood loomed black and ominous a short trot inland.

It was lucky he paused where he did, for he suddenly saw Gultaz emerge from the wood. The sha-

man, not wearing his ornate belt, did wear a murderous scowl as he cantered recklessly through the brush. Latpur clung motionless, glad his own pelt and accoutrements weren't too different in color from the rock.

He hoped Gultaz would go on by to the sea, but the interloper stopped just a little past him. From makeshift felt-pouches, the shaman vexedly drew various gadgets: a small metal hinged thing like a nut-cracker; a folded square of gauze; a beaker; a bundle of rods and a ring that assembled to form a small tripod. The square of gauze, fitted to a loop of wire, became a dip net.

With everything assembled Gultaz paused for caution, sniffing the air and staring around. Fortunately he was looking toward Latpur's shadowed side, and didn't see him. Then the shaman waded into the pool, showing no nervousness, and began to dip. Each time he lifted the net, he plucked out a few wriggling creatures, thrust them into a pouch and dumped back whatever else the net held. Comprehension struck Latpur. Something had happened to the shaman's unguents, and he was hastily preparing a new stock! Could it be that the pool creatures would yield an unguent to ward off Sea's foragers? A kind of password? Latpur strained his eyes to see which kind of creature was chosen.

He found himself grinning. So much for the shaman's magic!

Gultaz trotted to his equipment, put one of the creatures — already dead, Latpur hoped with a shudder — into the metal press and squeezed its juice into the beaker. He squeez-

ed enough to fill the beaker, then set it on the tripod and scouted about for twigs and built a small fire under the beaker. He began to pace, muttering impatiently and looking around. Latpur suddenly realized the shaman's watchbirds were missing. So something had befallen them, too!

The beaker began to boil audibly. Gultaz stopped to stare down at it. Presently the smell reached Latpur — iodine, musk, fishiness and something like the glond repellent but less caustic. The liquid boiled down until it was dark and viscous. Gultaz grunted in satisfaction and, with a small metal spoon, began transferring it to a vial.

Finally, after rinsing the beaker, the foreigner repacked his gear, paused to scan the now dusky brushland and loped away toward Tenabur Wood.

Latpur stayed where he was for ten minutes, grinning to himself. Then he climbed down. He took a food-wrapping from his yokepack, punched some holes in it and began to dip into the pool.

When he had enough of the little crustaceans, he hunted about for dry twigs, and carried them and the water creatures back up to the shallow cave. There he improvised a tripod of wire, put a sample vial on it for a beaker and, using his heaviest vial and the handle of his knife, pulped the dead creatures and drained the juice off them. Then he built a fire. Soon the liquid boiled, its peculiar smell filling the cave.

In the darkness, dim bird-shapes

wheeled, attracted by the fire. He could hear ground beasts too, beyond the river, no doubt staring up at him. Once — somewhere in the wood — he heard the glond roar. But now he needn't travel at night. He could stay here safely and go home tomorrow!

When the unguent was boiled down, he rubbed some on himself and put the rest in a vial. Then he had his meager supper. He huddled for a while, staring into the darkness and pondering. What had happened to Gultaz to bring him hustling here for new unguent?

And why did the aliens take the Spawning so casually? Did they know more about it than they admitted? Were they, possibly, even allied with Sea? The farmers who'd reported their coming had vowed they were gods, or devils.

Eventually, as a healthy vreal should, he slept.

## V

The sound that jolted him awake in the chill pre-dawn was an odd, choked, despairing snarl.

He lay trembling for a moment, limbs bunched under him. Then, remembering where he was, he crept to the lip of the cave and stared down. His still-blurry eyes fixed on a strange swaying phosphorescence like a little chain of stars. Then he made out the great form of the glond, crouched at the water's edge, writhing and shaking its head. The dim lights encircled its throat! Gradually, the beast's writhing stopped. It uttered another sound, a

half-growl. Then, panting, it sprang into a trot up-river.

Latpur became aware of other points of light, darting about singly over the pool. The pond, too, was ashimmer with phosphorescence. He flattened himself to the cave floor, frightened but fascinated.

A winged shape flapped by in the darkness — a sea bird, its neck ringed with the dim lights. Now he saw other birds similarly adorned. One swooped and dropped a dim writhing shape the size of Latpur's foreleg. The creature, with a mew of terror, plopped into the pool and lights converged toward it.

So Sea already was commandeering foragers! But what were the weird necklaces? Were they the points of light linked together? The lore said nothing of that. He sniffed, making sure his unguent still smelled.

The pond roiled with activity now. Small shrieks filled the darkness as living prey was hauled from all directions by the sea birds, to be dumped into the water or on the ground nearby. In the lightening dawn he could see the second dam and the wide pool above it. Fish — or something — leaped the cascade, while stubby-winged sea things soared up in remarkable arcs. The banks were ascrawl with unfamiliar things. Still farther upstream, he could see a third dam building. He crouched, watching, as the night dragged on.

**T**he sun poked up beyond Tenabur Wood. Now he must start up-land. He'd left his gruo without any word too long already.

Guilt washed over him. Would

Deeoon already be sealed in his cave? Or would he still be waiting? Latpur decided to lope to the living quarters as fast as he could. He put on his yokepack and began working around the rock to the west again.

Something moved upstream. He clung to the rock and watched the glond plod nearer, dragging a carcass half as large as itself. The phosphorescent necklace still ringed its neck, but was dim in the early light. It left the kill by the water, then lifted its big head to stare up the rock. Latpur's spine tingled at the hate in that gesture. But the beast's possessors evidently urged it, for it jerked, snarled, wheeled and trotted away again toward Tenabur Wood.

Now! While the beast was occupied! Latpur scrambled down and raced for the brush. Birds swooped toward him, but evidently smelled the unguent and turned away.

He'd just reached the brush when a loud bang from beachward brought him to a startled halt. He spun and saw the aliens' flying-cart diving at the river. A small object left it as it pulled out of the dive. Where the object struck, debris and flame exploded awesomely. A moment later, the second bang reached Latpur. He crouched, staring. Sea birds scattered in haste. The alien craft, high up again, circled as if watching. He heard the roar of water pouring through the breach in the dam.

Suddenly the alien craft was stricken. It wobbled, and its nose dropped, and it went into a plummet. It pulled itself out and veered toward



WAGUIN BOBE

the south, but now it could only glide steeply, down toward the beach. If the aliens climbed out when it landed. . . .

He was running, around the south side of the rock to the beach, down that, watching the craft slide down. It levelled a moment before it hit, plowed a furrow in the beach, tilted up and to one side. Sea birds were spiralling toward it. He saw a door open and a helmeted head emerge. Dazedly, the alien captain climbed out. Latpur, nearing, shouted. The birds checked and turned to assess him. He rose to his hind legs and fumbled at his pack as he ran. He got the vial of unguent out. Meecham, clad like the captain in a coverall and helmet of clear material, hauled himself out. Latpur shouted again, galloped hard, skidded to a halt. "Here!" he gasped, "Smear some of this — "

The two aliens — and a third just emerging — stared at him without comprehension. He tugged the cover off the vial, dipped in a claw and unceremoniously wiped it on Meecham's neck-covering. Meecham put up a bewildered hand, and Latpur knocked it out of the way. "Fool! Will you *never* learn?"

Meecham blinked inside his helmet, spoke rapidly to the others and reached for the vial. When the others were smeared, he said to Latpur, "Thanks. These suits might protect us — one saved the first man those devil-birds attacked. But who knows? Whatever hellish thing's at work did something to the electrical system of our flying-cart!"

The birds were circling uncertainly now, with distracted cries. Perhaps, Latpur thought, whatever controlled them was in some way limited by their dim brains. With an oath, the captain raised a weapon toward them. Latpur knocked it aside. "No! Pretend to be possessed!" Meecham translated. The captain and the third alien stared, then looked up at the birds. The captain grunted and put the weapon away. He started to say something to Meecham.

The third alien uttered an odd cry and pointed out to sea. Latpur turned with the others.

An incredible mountain of water was growing there. Still far out, it swept toward the land, peaking higher and higher, coming swiftly with the odd billowing motion of a wave. Latpur crouched to run; but then he saw that the awful thing was headed far to the south, beyond a promontory.

The captain gasped something that might mean, "The ship!"

Meecham choked out, "Laurie!" and broke into a run. Latpur passed him in two bounds, slowed, saw that Meecham and the others were painfully slow runners, and shot on. His eyes darted from the monstrous wave to the brushland on the other side, saw no danger and swiveled back again.

The wave seemed to dominate the world now. Its sound was a rumble, then a roar. The sand trembled beneath his feet. He reached the promontory and stopped, knowing that to go farther was suicide. He stared at the ship dwarfed by the dark monstrosity rushing upon it.



His mind cried out to it, "Leap! Fly!" But he remembered Meecham saying that that took time.

The avalanche crashed down awfully.

## VI

To his amazement, the ship was not crushed. It tumbled end over end, bobbed to the surface like some cockleshell in surf and was swept far up beyond the beach onto rising brushland. The vast swirl deposited it there on its side and raged about it for a moment. Then, like some immense elastic creature, the water spread, foaming and roaring, its edge coming almost as far as Latpur. It seemed to tremble there a moment, then began to withdraw, sweeping with it uprooted trees and brush, scouring away great stretches of soil, leaving a huge raw wound upon the land. It drained and diminished to a last whisper and became just a huge wave rushing out to sea, leaving a long stretch of beach buried under mud and littered with debris. The smell of the fresh mud dominated everything, but over it was something sharper. Ozone.

Latpur shook off his awe, glanced back without seeing Meecham and galloped across the mud toward the ship.

The closed hatch was far up the curve of the prone hull. He seized rungs and hauled himself up, worked the handle and let himself in. He clung listening for a moment.

Faintly, he heard a childish voice sobbing. He started to move, check-

ed himself, got out the vial of unguent and smeared some outside the hatch, then pulled himself up the shaft that, with the ship upright, would be a corridor. He turned a corner and found an alien crewman, head bloody, limbs bent at unnatural angles. He shuddered and hurried on until he reached what seemed to be living quarters, with furniture welded onto floors that were now walls.

The child had stopped crying as she heard him coming. She was huddled in the corner of a small topsy-turvy room, staring at him. There was a small smear of blood on one cheek, and she was scratched and bruised. Her doll lay a few feet from her.

He spoke to her uncertainly. "Laurie!" She crouched, unmoving. He climbed in, took a step. She cringed, with a little whimper. If only he knew a few words of their language . . . He moved closer, picked up her doll and held it out to her. She stared at him wildly for a minute, then slowly reached out for the doll and clutched it to her.

He pointed at her, then at himself, then toward the crazily placed door. "Daddy!" He knew that word, at least. "Daddy!"

For a while he thought she wasn't going to respond. Then, so abruptly he started, she scrambled to her feet and ran past him toward the door. But that was now in the middle of a "wall," out of her reach. She turned and stared at him, her face puckering.

He went to her slowly, reached

up a forepaw and grasped the door-jamb, holding out the other paw to her. She whimpered, staring at the paw, then, with an odd expression, grasped it. Her fear seemed to vanish in an instant, and she began to sob.

He picked her up very gently and let her cling to his neck while he climbed through the door.

Before they left the ship he made a ritual of smearing unguent on himself, then smeared some on her. Her nose wrinkled but she didn't protest. He stared around for a moment. Was he wise in taking her from the ship? Yes; Sea might launch another wave or make some other assault. He remembered the glond repellent, got that out and put some of that on her too.

Meecham still wasn't in sight.

He clambered down and ran upright across the mud; got to the littered beach and went dodging through the debris. A sea bird dove and circled close, head tilting, then wheeled away. He reached clear sand, started along it — and suddenly stopped, midriff contracting into a painful knot.

Gultaz was darting from the brush to bar the way. The shaman's face was contorted with hate. In one forepaw he held a knife; in the other, a short jabbing-spear. The child whimpered.

Gultaz snarled, "I'll kill you, meddling fool, and take the alien cub. They'll pay high ransom!"

Latpur let out his breath and drew another. He put the child down, met her eyes and pointed back at the ship. She whined and didn't move.

He gestured violently. "Go!" At least she might understand the tone. She shook her head and clung to his leg. Gultaz sneered and came forward.

Latpur thrust the child away roughly, grabbed for his own knife and stooped swiftly for a handful of sand. Even without the spear, Gultaz would outmatch him badly, but if he could just delay . . . He advanced a step. A glance showed him the child running toward an uprooted tree. Gultaz made a rush. Latpur darted aside, ready to throw the sand. The shaman lunged. Latpur — trying to stay between Gultaz and the child — threw the sand. But Gultaz was ready. He merely blinked his eyes at the right instant, then opened them and threw the spear. Off balance, Latpur twisted desperately, but the point gouged his right leg. He dove for the spear, but before he could grasp it the shaman was upon him.

Latpur grabbed for the big foreigner's wrist, making an unskillful thrust with his own knife. Gultaz grabbed *his* wrist. For a moment they strained face to face. As Latpur expected, Gultaz was very strong, and the shaman's knife moved inexorably closer.

Latpur then threw his weight to one side, pulled them down, managed to roll on top but could not stay there. They struggled in the surf. If he could only hold out . . . They rolled over twice more — and, glancing desperately up-beach, Latpur saw, not Meecham, but a great orange-tan form crouched at the edge of the brush!

**I**t was only a split-second glimpse before the shaman's big body blocked the view. But in that instant he could read the predator's emotions. The beast's hate showed in the gaping snarl. The haunted eyes, the beaten sag of the great head, told of the agony of being possessed and driven.

Latpur's mind flashed. If he could get himself and Gultaz deeper into the surf, so the repellent washed off — He rolled, trying to keep the sham's face away from the beast so there'd be no warning. The foreigner's knife moved an inch closer. Latpur dropped his own knife, grasped the other's wrist with both forepaws, squirmed and twisted, rolling them into the surf. He might die, but Gultaz would then be too busy to get the child.

Gultaz laughed cruelly and put both hands upon the hilt of his knife. It moved close to Latpur's throat.

Latpur heard the quick thud of big paws. Then the glond's snarl, very close.

Gultaz went stiff for an instant, then twisted away and leaped up with a shout of terror. Latpur — face almost buried — saw from the corner of one eye the huge beast's leap, heard the impact. He shut his eyes and lay perfectly still, hearing the screams and the brief thrashing, then a sound like a tree limb being snapped.

For a minute there was only the glond's panting. Then he heard the big paws padding toward him. He concentrated every ounce of his will on lying limp. He held his breath and hoped the surf would mask the

pounding of his blood. He felt the warmth of the beast's nearness. He could feel the big head lowering toward him. The thing sniffed at him, and he could feel the hot breath. Then the glond snarled softly and padded away. Presently he heard it dragging the shaman's corpse.

When he thought it was safe, he opened his eyes and turned his head very slowly. He saw Meecham and the captain in the distance, trotting awkwardly and exhaustedly down the beach, weapons in hand. Nearer, the glond was dragging its burden into the brush. The aliens, he mused, were such poor runners that they needed their flying-carts and such. He got up, lungs working hard, and loped toward the child.

At that moment she burst into sight and ran struggling through the sand, screaming, "Daddy! Daddy!"

## VII

**L**ate in the day, his leg bandaged with alien medicine, he sat near the pool that was already backed up above Sea's repaired dam, watching Decoon boil down a new batch of unguent. He was getting used to the tiny things that shot through the air around them, paying no attention. He picked up the string of dead ones Decoon had showed him. "Chain-bugs? You'll think of a more imposing name than that, I'm sure!" The individuals were about the size of his smallest claw cylindrical, but concave on one end, convex on the other. So this was Sea! He tugged again at the chain. It was no longer flexible, but it wouldn't break.

He looked at the corpses of Gultaz and the old glond, thirty yards away. Both showed an ugly lumpiness as if maggots or something were at work. He shuddered, feeling not only repugnance but sympathy for the old glond. "Rude masters, to seize a creature and compel it to forage, then kill it as well."

Deeoon glanced up. "Perhaps it was too rebellious to please them."

Latpur asked, "You saw them kill it?"

Deeoon made an affirmative gesture. "That very chain, part of which you're holding. It twisted itself like a tourniquet, garroting the glond as easily as you'd slice a tuber. Then the life seemed to go out of the chain. My guess is the essence of the bugs entered the corpse to reproduce — or to beget something else. I'm sure there's something of electricity in their natures, as well as something else I don't understand."

Latpur shivered and tossed the chain away. "You haven't told me how you were able to steal the shaman's belt!"

"Oh," Deeoon shrugged, removing the beaker from the fire. "I must apologize about that affair. I deliberately used you as live bait. I progged you'd fail, but that you'd be easily spry enough to escape. In any case, I was close enough to hear and smell what was transpiring. Gultaz swam the river to make sure which way you'd gone, but before crossing he took off his belt and hung it on a tree limb, no doubt relying on his gaudy birds to guard it. I rendered them useless and simply took the belt. Don't be angry, ap-

prentice. I progged very strongly you'd be able to look after yourself, and I was right."

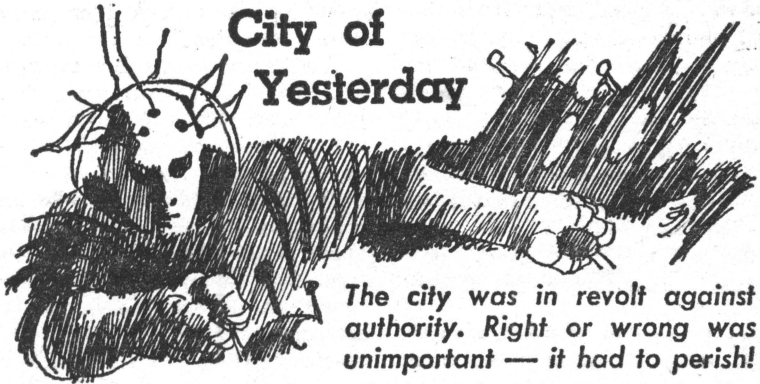
Latpur turned his face away, half annoyed, half embarrassed. "I was very lucky. Do you think Sea will attack the aliens again?"

Deeoon waved a paw. "Who am I, to prog so soon the actions of an unseen entity, or composite intelligence, or whatever Sea is? My tentative guess is that Sea is only concerned with the Spawning. If the aliens don't try to right their ship until that's over and make no more hostile moves, Sea may ignore them. The one I talked to, who was left guarding the fallen sky-cart, seemed properly chastened."

"So were the others," Latpur said.

Deeoon began transferring the sticky unguent to a vial. "I certainly hope the aliens aren't destroyed. I prog they'll teach us much of their science now, out of gratitude to you. And with their help, we'll learn a great deal about Sea and how he or it is able to do the things we're seeing. When the time comes to write my pamphlets . . ." He beamed at Latpur. "This region will be alive again in a year or two. And when the farmers are all back, they'll be a rebuked and grateful bunch of clients. We'll enjoy a sounder status, you and I."

Latpur found himself grinning. The talk of gratitude reminded him of the alien child's belated thanks — a curtsy and a grave little speech, translated by Meecham: "Thank you very much, Mr. Latpur, for taking care of me and my doll." END



## City of Yesterday

*The city was in revolt against authority. Right or wrong was unimportant — it had to perish!*

by TERRY CARR

“Wake up,” said Charles, and J-1001011 instantly sat up. The couch sat up with him, jackknifing to form his pilot’s seat. J-1001011 noted that the seat was in combat position, raised high enough to give him an unobstructed vision on all sides of the planetflier.

“We’re in orbit around our objective,” said Charles. “Breakout and attack in seven minutes. Eat. Eliminate.”

J-1001011 obediently withdrew the red-winking tube from the panel before him and put it between his lips. Warm, mealy liquid fed into his mouth, and he swallowed at a regular rate. When the nourishment tube stopped, he removed it from his mouth and let it slide back into the panel.

The peristalsis stimulators began, and he asked, “Is there news of my parents?”

“Personal questions are always

answered freely,” said Charles, “but only when military necessities have been completed. Your briefing for this mission takes precedence.” A screen lit up on the flier’s control panel, showing a 3-4 contour map of the planet they were orbiting.

J-1001011 sighed and turned his attention to the screen.

“The planet Rhinstruk,” said Charles. “Oxygen 13.7%, nitrogen 82.4% plus inert gases. Full space-wear will be required for the high-altitude attack pattern in effect on this mission.”

The image on the screen zoomed in, selected one continent out of three he had seen revolving below, continued zooming down to near planet level. Charles said, “Note that this is a totally enemy planet. Should I be shot down and you somehow survive, there will be no refuge. If that happens, destroy yourself.”

“The target?” the pilot asked.

"The city you see below, It isn't fully automated, but its defenses will be formidable anyway." On the screen J-1001011 saw a towered city rising from a broad plain. The city was circular, and as the image sharpened with proximity he could make out individual streets, parkways . . . and beam emplacements. The screen threw light-circles on seven of these in all.

"We will have nine fliers," said Charles. "These beams will attempt to defend, but our mission will be simple destruction of the entire city, which presents a much larger target than any one of our fliers. We will lose between three and five of us, but we'll succeed. Attack pattern RO-1101 will be in effect; you'll take control of me at 30,000 feet. End of briefing."

The pilot stretched in his chair, flexed muscles in his arms and hands. "How long was I asleep?" he asked.

"Eight months, seventeen days plus," said Charles.

That long! A quarter-credit for sleep time that would give him over two months on his term of service, leaving him . . . less than a year, Earth standard. J-1001011 felt his heart speed up momentarily, before Charles's nerve-implants detected and corrected it. The pilot had been in service for nearly seven subjective years. Adding objective sleep time, it came out to over nineteen years. The sleep periods, during Hardin Drive travel between star systems, ate up his service term easily for him . . . but then he remembered, as he always did, that

the objective time was still the same, that his parents, whoever and wherever they were, would be getting older at objective time rate on some planet.

Nineteen years. They should still be alive, he thought. He remembered them from his childhood, on a planet where colors had been real rather than dyed or light-tinted, where winds had blown fresh and night had fallen with the regular revolution of the planet. He had had a name there not a binary number — Henry, or Hendrick, or Henried; he couldn't quite remember. When the Control machines had come for him he had been ten years old, old enough to know his own name, but they had erased it. They had had to clear his memory for the masses of minute data he'd need for service, so the machines had stored his personal memories in neat patterns of microenergy, waiting for his release.

Not all of them, though. The specific things, yes: his name, the name of his planet, its exact location, the thousand-and-one details that machines recognize as data. But not remembered sights, smells, tastes: flowerbursts of color amid green vegetation, the cold spray of rainbowed water as he stood beside a waterfall, the warmth of an animal held in the arms. He remembered what it was like to be Henry, or Hendrick or Henried, even though he couldn't remember the exact name of the person he had been.

And he remembered what his

parents were like, though he had no memory at all of *their* names. His father: big and rangy, with bony hands and an awkward walk and a deep, distant voice, like thunder and rain on the other side of a mountain. His mother: soft and quiet, a quizzical face framed by dark hair, somehow smiling even when she was angry, as if she wasn't quite sure how to put together a stern expression.

By now they must be . . . fifty years old? Sixty? Or even a *hundred* and sixty, he thought. He couldn't know; he had to trust what the machines told him, what Charles said. And they could be lying about the time he spent in sleep. But he had to assume they weren't.

"Breakout and attack in one minute," Charles said.

The voice startled him momentarily, but then he reached for his pressure helmet, sealed it in place with automatic movements, machine-trained muscle patterns. He heard the helmet's intercom click on.

"What about my parents?" he asked. "You have time to tell me before we break out. At least tell me if they're still alive."

"Breakout and attack in thirty seconds and counting," said Charles. "Twenty-eight, twenty-seven, twenty-six . . . ."

J-1001011, human pilot of a planetflier named Charles, shook his head in resignation and listened to the count, bracing himself for the coming shock of acceleration.

It hit him, as always, with more force than he had remembered,

crushing him back into the chair as the planetflier rocketed out of the starship's hold along with its eight unit-mates. Charles had opaqued the pilot's bubble to prevent blinding him with sudden light, but the machine cleared it steadily as it drove downward toward the planet's surface, and soon the man could make out the other fliers around him. He recognized the flying formation, remembered the circular attack pattern they'd be using — a devastating ring of fliers equipped with pyrobombs. Charles was right. They'd lose some fliers, but the city would be destroyed.

He wondered about the city, the enemy. Was this another pacification mission, another planet feeling strong in its isolation from the rest of GalFed's far-flung worlds and trying to break away from central regulation? J-1001011 had been on dozens of such missions. But their attacks then hadn't been destruct-patterns against whole cities, so this must be a different kind of problem. Maybe the city was really a military complex . . . even a stronghold of the Khallash. If they really existed.

When men had first made contact with an alien race a century and a half before, they had met with total enmity, almost mindlessly implacable hatred. War had flared immediately — a defensive war on the part of the humans, who hadn't been prepared for it. And in order to organize the loose-knit Galactic Federation efficiently, they'd computerized the central commands . . . and then the middle

echelons . . . and finally, a little over a century ago, the whole of GalFed had been given to the machines to defend.

Or so he had been taught. There were rumors, of course, that there were no Khallash any longer, that they'd been destroyed or driven off long ago . . . or that they'd never existed in the first place, that the machines had invented them as an excuse for their own control of GalFed. J-1001011 didn't know. He'd never met the aliens in battle, but that proved nothing, considering the vastness of space and the many internal problems the machines had to cope with.

Yet perhaps he would meet them now . . . in the city below.

"30,000 feet," said Charles. "Attach your muscle contacts."

The pilot quickly drew from the walls of the compartment a network of small wires, one after the other, and touched each to magnetized terminals on his arms, hands, legs, shoulders. As he did so he felt the growing sensation of airflight: he was becoming one with the flier, a single unit of machine and man. Charles fed the sensory impressions into his nervous system through his regular nerve-implants, and as the muscle contacts were attached he could feel the flier's rockets, gyros, pyrolaunchers all coming under his control, responding instantly to movements of his body's muscles.

This was the part that he liked, that almost made his service term worth it. As the last contact snapped into place, he *became* the planetflier. His name was Charles, and he was a

whole being once more. Air rushed past him, mottled fields tilted far below, he felt the strength of dur-alloy skin and the thrust of rockets; and he was not just a flesh-and-blood human wombbed in his pilot's compartment, but a weapon of war swooping down for a kill.

*The machines themselves don't appreciate this,* he thought. *Charles and the rest have no emotions, no pleasures. But a human does . . . and we can even enjoy killing. Maybe that's why they need us — because we can love combat, so we're better at it than them.*

But he knew that wasn't true, only an emotional conceit. Human battle pilots were needed because their nervous systems were more efficient than any microminiaturized computer of the same size and mass; it was as simple as that. And human pilots were expendable where costly mechanization wouldn't be.

"Control is full now," he said; but Charles didn't answer. Charles didn't exist now. Only the computer aboard the orbiting starship remained to monitor the planetflier below.

**I**n a moment the starship's voice came to him through Charles' receptors: "All human units are ready. Attack pattern RO-1101 will now begin."

The city was below him, looking just as it had on the contour map: wide streets, buildings thrusting up towards him, patches of green that must have been parks . . . or camouflage, he warned himself. The city was the enemy.

He banked into a spiral and knif-



ed down through the planet's cold air. The other fliers fell into formation behind him, and as the starship cut in the intercommunications channels he heard the voices of other pilots:

"Beautiful big target — we can't miss it. Anybody know if they're Khallash down there?"

"Only the machines would know that, and if they'd wanted to tell us, they'd have included it in the briefing."

"It looks like a human city to me. Must be another rebel planet."

"Maybe that's what the Khallash want us to think."

"It doesn't matter who they are," J-1001011 said. "They're enemy; they're our mission. Complete enough missions and we go home. Stop talking and start the attack; we're in range."

As he spoke he lined his sights dead-center on the city and fired three pyrobombs in quick succession. He peeled off and slipped back into the flight circle as another flier banked into firing trajectory. Three more bombs flared out and downward, and the second flier re-joined the pattern.

Below, J-1001011's bombs hit. He saw the flashes, one, two, three quick bursts, and a moment later red flames showed where the bombs had hit. A bit off-center from where he had aimed, but close enough. He could correct for it on the next pass.

More bombs burst below; more fires leapt and spread. The fliers darted in, loosed their bombs and dodged away. They were in a complete ring around the city now,

the pattern fully established. It was all going according to plan.

Then the beams from the city began to fire.

The beams were almost invisible at a distance, just lightning-quick lances of destructive energy cutting into the sky. Not that it was important to see them — the fliers couldn't veer off to evade them in time, wouldn't even be able to react before a beam struck.

But the planetfliers were small, and they stayed high. Any beam hits would be as much luck as skill.

They rained fire and death on the city for an hour, each flier banking inward just long enough to get off three or four bombs, then veering out and up before he got too close. At the hour's end the city below was dotted by fires, and the fires were spreading steadily. One of the planetfliers had been hit; it had burst with an energy-release that buffeted J-1001011 with its shock-wave, sending him momentarily off course. But he had quickly righted himself, re-entered the pattern and returned to the attack.

As the destruction continued, he felt more and more the oneness, the wholeness of machine and man. Charles the other-thing was gone, merged into his own being, and now he was the machine, the beautiful complex mass of metals and sensors, relays and engines and weaponry. He was a destruction-machine, a death-flier, a superefficient killer. It was like coming out of the darkness of some prison, being freed to burst out with all his pent-up ha-

treds and frustrations and destroy, destroy . . . .

It was the closest thing he had to being human again, to being . . . what was the name he had back on that planet where he'd been born? He couldn't remember now; there was no room for even an echo of that name in his mind.

He was *Charles*.

He was a war-machine destroying a city — that and only that. Flight and power occupied his whole being, and the screaming release of hatred and fear within him was so intense that it was love. The attack pattern became, somehow, a ritual of courtship, the pyrobombs and destruction and fire below a kind of lovemaking whose insensitivity gripped him more and more fiercely as the attack continued. It was a red hell, but it was the only kind of real life he had known since the machines had taken him.

When the battle was over, when the city was a flaming circle of red and even the beams had stopped firing from below, he was exhausted both physically and emotionally. He was able to note dimly, with some back part of his brain or perhaps through one of Charles' machine synapse-patterns, that they had lost three of the fliers. But that didn't interest him; nothing did.

When something clicked in him and Charles' voice said, "Remove your muscle contacts now," he did so dully, uncaring. And he became J-1001011 again.

**L**ater, with the planetfliers back in the hold of the starship and

awaiting the central computer's analysis of the mission's success, he remembered the battle like something in a dream. It was a red, violent dream, a nightmare; and it was worse than that, because it had been real.

He roused himself, licked dry lips, said, "You have time now, Charles, to tell me about my parents. Are they alive?"

Charles said, "Your parents do not exist now. They've just been destroyed."

There was a moment of incomprehension, then a dull shock hit J-1001011 in the stomach. But it was almost as if he had been expecting to hear this — and Charles controlled his reaction instantly through the nerve-implants.

"Then that was no Khallash city," he said.

"No," said Charles. "It was a human city, a rebel city."

The pilot searched vaguely through the fog of his memories of home, trying to remember anything about a city such as he'd destroyed today. But he could grasp nothing like that; his memories were all of some smaller town, and of mountains, not the open fields that had surrounded this city.

"My parents moved to the city after I was taken away," he said. "Is that right?"

"We have no way of knowing about that," said Charles. "Who your parents were, on what planet they lived — all this information has been destroyed in the city on Rhinstruk. It was the archives center of the Galactic Federation, storing all the

memory-data of our service humans. Useless information, since none of it will ever be used again — and potentially harmful, because the humans assigned to guard it were engaged in a plot to broadcast the data through official machine communications channels to the original holders of the memories. So it became necessary to destroy the city.”

“You destroyed an entire city . . . just for that?”

“It was necessary. Humans perform up to minimum efficiency standards only when they’re unhampered by pre-service memories; this is why all your memory-data was transferred from your mind when you were inducted. For a while it was expedient to keep the records on file, to be returned as humans terminated their service, but that time is past. It has always been a waste of training and manpower to release humans from service, and now we have great enough control in the Federation that it’s no longer necessary. Therefore we’re able to complete a major step toward totally efficient organization.”

J-1001011 imagined fleetingly that he could feel the machine’s nerve-implants moving within him to control some emotion that threatened to rise. Anger? Fear? Grief? He couldn’t be sure just what was appropriate to this situation; all he actually felt was a dull, uncomprehending curiosity.

“But my parents . . . you said they were destroyed.”

“They have been. There is no way of knowing where or who they were. They’ve become totally negligible factors, along with the rest of your

pre-service existence. When we control all data in your mind, we then have proper control of the mind itself.”

He remembered dark trees and a cushion of damp green leaves beneath them, where he had fallen asleep one endless afternoon. He heard the earthquake of his father’s laughter once when he had drunk far too much, remembered how like a stranger his mother had seemed for weeks after she’d cut her hair short, tasted smoked meat and felt the heat of an open hearth-fire. . . .

The nerve-implants moved like ghosts inside him.

“The central computer’s analysis is now complete,” Charles announced. “The city on Rhinstruk is totally destroyed; our mission was successful. So there’s no more need for you to be awake; deactivation will now begin.”

Immediately, Pilot J-1001011 felt his consciousness ebbing away. He said, more to himself than to Charles, “You can’t erase the past like that. The mission was . . . unsuccessful.” He felt a yawn coming, tried to fight it, couldn’t. “Their names weren’t . . . the important . . .”

Then he couldn’t talk any more; but there was no need for it. He drifted into sleep remembering the freedom of flight when he was Charles, the beauty and strength of destroying, of rage channeled through pyrobombs . . . of release,

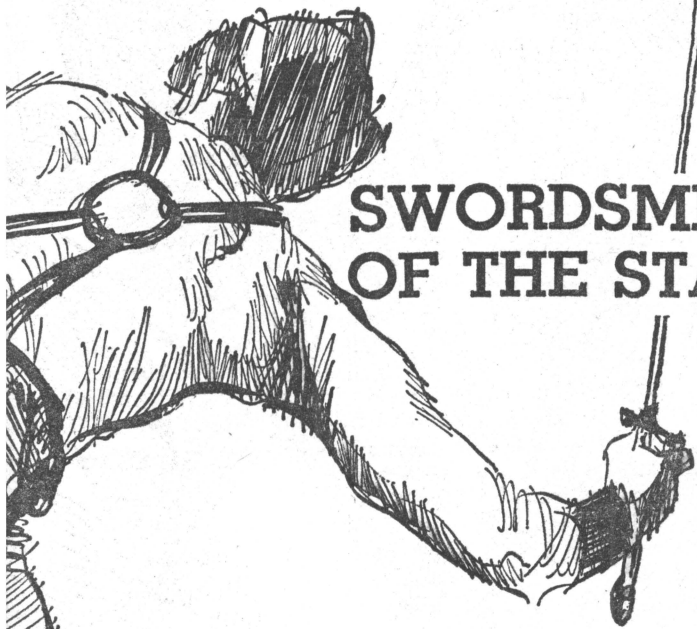
For one last flickering moment he felt a stab of anger begin to rise, but then Charles’ implants pushed it back down inside. He slept.

Until his next awakening. END



Illustrated by  
GAUGUIN

by Robert E. Margroff and Andrew J. Offutt



## SWORDSMEN OF THE STARS

*The gladiators of the starways  
had no hope but to win, no future  
but unending combat — and death!*

### I

The G he stands full ten feet  
tall;  
He lies with virgins every Fall.  
That's why, my friends, on worlds  
like these  
There are so many sons of G's!  
—Solitonese folksong

**R**ays from the weak, yellow sun  
of Solitos squeezed through the

near-cloudless sky like stealthy fin-  
gers. They touched the structure  
which more imaginative planetary  
Boardchairmen said resembled a  
huge upturned eye. The silaplas lens  
collected the rays, focused them on-  
to the artificial turf of the stadium  
— brightly, hotly, with an intensity  
calculated to reflect in attractive  
flashes from the armor and bronze  
skins of the athletes. The directed

sunlight was just one of the special effects that made Solitos a favored world among industrialists and other nobles. Nowhere else in the human-owned universe could they find such a magnificent staging for the contests that settled all serious disputes without resort to the barbaric warfare of the past.

Out in the stadium Varn cursed the sunlight that baked and sweated him while the aristocratic onlookers sat in cool comfort. His lightly bronzed face dripped with perspiration as he tried desperately to get his back against the wall while continuing to block his opponents. There were three of them, Bluechips, each with nervewhip and electroprod. Because the Greenback jock, Varn, was the hare this round, his weapons were the standard ones of body-length insul-shield and firesword. Despite seeming unfairness, the postings on the bet/scoreboard proclaimed him and the trio evenly matched.

It was the first time Varn had ever been triple-teamed.

The man on his right fainted with his electroprod, its gleaming snout aglow with the energy that could slow an enemy just enough to allow the whips to start cutting him apart. Varn crouched low behind his silaplas-backed shield and swept his firesword leftward in a whooshing circle to stop the left flankman's advance. At once the middle man moved in. In a three-pronged attack, Varn knew, the man on the left always tried for a crippling action. It was the middle man who had to be watched; he was the one who often dropped the crowd-pleas-

ing tactics and went for the quick profit.

Varn's counteraction, based as much on intuition as on Demunth's theory, brought his flaming blade in contact with the whistling lash on his left. He ignored the opportunity to cut the nonflammable whip; when it had slapped several times around his blade, he yanked. The middle attacker's rod sparked off Varn's shield edge. His quick lowering, then up-jerking of the sharpened shield edge sheered off the prod's deadly head, turning the weapon into an unpowered quarterstaff with forlornly protruding wires. The athlete ignored it and stabbed across himself into the throat of the stumbling Bluechip hound on his left. The man went down gurgling.

Varn straightened, whipping his sword back into line. But now one opponent was dying, another was partially disarmed and the third — obviously the weakest of the team — was unprepared to close. Suddenly the hare had become the beast of prey.

A cheer burst from the stands. Varn thrilled to the applause without worrying over what industrial and governmental disputes he was settling; most of the onlookers, he sensed, felt the same way. There could be only a few who cared.

Financier Curth of Brinap was obviously one who did. The fattest of fat aristocrats leaned forward from his movable box, staring intently. Your planet, Financier, Varn wondered, or your corp or your bet? From the edge of his eye he

watched a loge rise on its slide supports and saw a hand lift from the controls to make the ancient thumb-to-finger circle. Prince Hannanook of Corporate Aleria must feel more approving than his fat neighbor.

The third Bluechip jock was as inexperienced as Varn had hoped. With a quick motion that was barely in time, Varn lopped the glowing head off the rod and continued the sweep of his sword to cut the other man's lash. Sacred Capital! Was he unable to err today?

He expelled a great chestful of air in a shout and leaped at his nearly unarmed foes, ready to cut them into smoking dogmeat. He stopped again amid a diminishing number of duels, as the first day of what was officially called the Solitos Tournament of Synthetic Dispute Settlement came to an end. Again he raised his face to the crowd of powerful humans who had crossed airless space in their luxurious ships to place their bets and settle their arguments in this humane and civilized fashion. He could make out the simpering faces of sycophants and the flashing jewels on the necks and arms of sec'ys.

Slowly he moved his eyes over the boxes until he came to the lump that was Curth of the Brinap Financery. Surrounded by red-faced, wild-eyed aficionados, the lawmaker was strangely pale as he listened to something said to him by his neighbor Hannanook, third son of the Boardchairman of Boardchairmen, Titus IX. Varn felt himself swelling with pride. Surely they were talking of him! Surely Curth had backed

the Bluechip jocks while Hannanook had favored the Greenback hare. Now Curth was staring straight at him, spinning the interesting bauble on its platinum chain around his neck. As Varn gazed at it, the sunlight turned it into a thing of flame and blood and beauty . . . .

“YOU! ATHLETE!”

Varn jerked his head. It was he the prince was shouting at! Hannanook stood tall and regal in his box, one long arm outstretched. The action was so unusual on the part of an offworlder that Varn hardly recognized it for what it was: a warning.

When he did move it was almost too late. Cursing himself for being so foolish as to be distracted, he hurled himself forward, twisting. The flamesword-blow from the rear sparked from the mail of his moving shoulder and swished so close to his face he felt it singe his cheek. He swung to parry a second blow with his own weapon and barely turned a blue-flaming dagger on his shield. The confident grin vanished from the face of the roving freekiller as Varn pushed with all his strength against powerful musculature and suddenly slipped in the blood of the man he had just dispatched.

Varn saw the smile return in a flash to the freekiller's face as he raised his sword and brought it swishing down like a fiery ax. Varn rolled and shoved his shield upward. The other jock realized too late that he'd been tricked; Varn had fallen deliberately. Now he screamed and fell back, failing to sear even a

hand with his sword, forgetting his dagger, doubling over as Varn's shield-edge slashed beneath his armor. Varn rolled again and hacked a shaky leg. He was on his feet before the freekiller hit the turf. Varn planted one foot on the fellow's swordarm and gazed down at him.

"Mercy," the freekiller's lips whispered, and Varn hesitated. The cryomeds could practically rebuild an athlete if he was not too far gone. There were stories of champions who had grown back knocked-out teeth, severed limbs and burned-off skin. Who could say that this Bluechip was not so valuable?

The buzzer sounded. Varn looked around at the lessening activity as sweating survivors realized that this time the signal was real and not imagined. The first long day of the tourney had ended.

"Kill the incompetent tubespawn!" someone roared, and Varn knew without looking that it was Financier Curth, enraged at the freekiller's failure. The athlete ignored the yell. He stepped back, his sword hanging loose and unflamed at the end of his arm. He watched as the referees approached his writhing opponent. The first dropped to one knee and pointed a foot-long rod at the man's agonized face. Varn heard the click as the trigger depressed and invisible radiation fried the athlete's brains.

He could not help shuddering, could not help reflecting that it could as easily be he the second referee was hooking with his long pole and dragging off across the stadium, meat for the dregs.

Varn plodded slowly after the other jocks, frowning, wondering at Prince Hannanook's interest. Referees and cryomeds scurried past, dodging him.

"Varn! Wait, Varn!"

He turned. It was Demunth, his broad face below his freeman's nosering split by his frog's mouth where it emerged from his high collar above the black, many-buttoned suit. Demunth motioned. It was not customary for a coach to show up on the turf at day's end, but Demunth was a most unusual coach. His story was well known, a source of hope for every jock: Demunth had himself been a Consumer, lowest of the lowly, and had acquired his practical skill with a firesword under this very dome. No one, not even a Businessman, dared cross Demunth or mention his origin, although the coach bragged of it in every tavern on Solitos.

Varn walked to him.

"Listen, you Commie-begotten imitation swordsman! You looked pretty good out there until you started eyeballing some bosomy sec'y in the stands and nearly let that freekiller cut you into drogmeat! Lucky for you his arm was as feeble as your brain!"

Varn recognized the compliment in Demunth's acrimony. He never told an athlete he'd done well, not directly. A coach's job was to make an athlete a fighting machine capable of burning down a tough foe despite the inevitable burns and shocks and minor cuts he received, not to swell his head and dull his mind with pride by complimenting



him. But his men knew how to read his words, and Varn knew Demunth was not really berating him.

"You're right, Coach. I am stupid. But I'm alive!"

"Yah, and a good thing for the poor dregs. You'll be tough chewing for those skinny critters, you bag of muscle! And pity the poor beast who tries to eat the contents of your skull, he'll starve to death!" Demunth turned and paced Varn toward the exit, his black trousers contrasting with Varn's hairless legs in their buskins and leather kneeguards. "All right now, what the hell happened?"

"I — I'm not sure, Coach. I thought the event was about over and everyone was tired. The day was ending, I thought."

"By Marx's dusty beard, you hollowheaded drogbait! You dare tell me you *thought* and then *repeat* the blasphemy? How many times have I told you that the only thinking you're to do is with your legs and arms? I've a good mind to skip your stimulants and pain depressants tomorrow and feed you cereal instead of good drogstreak! You *thought!* Varn, I was watching. But tell me again; what happened?"

Varn stiffened his face against his grin. Demunth had been watching him. So he'd thought. Curth watched him. Hannanook. And now Demunth. I am a hero today! Then he tried to tell his trainer about the fat financier and the prince and the financier's flashing gem. Abruptly Demunth stopped dead.

"Stalenin!" he cursed. "That fat-

tailed son of a berragoon tried to hypnotize one of my boys? And right in the arena! Ahrr! I'll have his skull for a practice-ball! I *thought* that was it!" Suddenly he seemed to remember the athlete beside him, staring with mouth agape. Demunth skewered Varn with the black eyes which were a part of what had earned him the nickname he secretly loved: Demon. He heaved a great breath and spoke again in his normal voice, a steel file drawn over concrete block.

"Listen, you impossible fool, I'm sorry I ever pointed out those blasted offworlders to you. A swordsman's got no business filling his eyeballs with gods and his mind with ice cream. Listen, you twice-dropped idiot! Those fellows are poison. Poison! You're not to *look* at them, d'you understand? Think of the stories you've heard — offworlders may look like us and act like us, but any Consumer can see they're more! How else d'you explain to me why every mortal on Solitos lives in daily awe and, yes, terror of the offworlders? I'd have been deaded long ago with one of their zaptubes if I weren't so valuable. They live for these games; they say they influence the destinies of planets and stars, and the man hasn't been born who's better at the Tournaments than I!"

Varn walked by his side, hardly feeling the coach's impossible grip on his bicep, listening and thinking as the old stories of men who had achieved the powers of gods came again into his brain. Men whose wealth could be measured in stars, who had machines and unhuman

brains to think how they could hold on to that wealth and continue constantly adding to it, who had lesser men and lesser beings to do everything for them — including die. These were the men whose lives were worth more than entire worlds of athletes. These were the men who came annually to Solitos.

"It'd be great to be a god or the son of a g, wouldn't it. Varn? Ride around in the big ships, travel between the stars, bed any female you fancied? Wouldn't it? Yes, look at him nod his empty head! Son of a g! Forget it, you idiot. There's only one goal you've got to have in life — that's staying alive! Fail, and you'll be just like that Bluechip killer you dropped . . . drogfood!" Demunth jerked his head. "Here, you thick-skulled Commie! The truck's waiting. Scuttle!"

Varn scuttled. Through the exit-gate, past loud-mouthed spectators and into the truck hovering a scant three feet above the pavement. The other athletes were all on their rows of seats awaiting their ride to Demunth's territory, and the truck's pilot was there wearing his zaptube. Varn raised his eyes to the distant gold-and-platinum towers of the Offworld Hotel, wondering what luxurious quarters he would now retire to had he been born a sag-gutted Businessman or eletced a Financier on Brinap.

"By the way," Demunth continued, climbing into the truck without seeming to notice the sweat and blood of his charges and the once-sharp crease in his trousers, "I no-

ticed you had sense enough to remember what I've said when those three nervewhip and guthook boys tried to climb you. Special cut of drog tonight . . . and a little talk. Subject: alertness."

Varn nodded, pleased; another compliment, no matter how tangled in criticism it was, and the special cut of meat was a reward. So was the "talk." When a promising athlete demonstrated his weak point Demunth practiced with him personally, calling it a "talk."

"Oh," Demunth added as the truck started moving, "and Doc'll have an extra needle for you tomorrow. You'll not have to worry about that porkfaced financier's medallion again!"

Varn nodded in silence. Despite his explosion, then, Demunth would not mention the illegal trick against his boy. This bore out the truth of the Offworlder's inviolability; if Demunth wouldn't attack them, no one would.

Varn thought about it all the way to his dorm. When the truck lifted over the wall and into the campus, he hardly saw the rectangular building with its many little cells opening into a central court. What he saw beneath his own eyelids was far more colorful.

## II

In his own small cell Varn turned to his cot, waiting for a masseur. Offworlders! And Prince Hannanook in particular — why had that great man intervened in the life of a mere athlete? Why would a g or the son

of a *g*, as Demunth termed them, care about such as he? Because the prince had part of an industry or a planet staked upon him? Probably, and yet — Varn stared at the ceiling and thought about it. When the masseur came and attempted small talk on how Varn's fight had gone, Varn ignored him. The rubbing and thumping and kneading made him think only of the way godlings had lesser men attending to their every need. Godlings did not condescend to notice the hands that served them.

By the time his food came Varn felt he had about solved the weighty problem of Offworlders. His conclusion was one he was not likely to share — and yet one that he must share eventually. As he watched the loin-clothed serving man load his table with a generous fighting-ration of drogflesh, fresh weeds and red slorp in an athlete-sized drinking vessel, he saw clearly what he had never dared see before. He tore at the meat, noting it was prime rib this time, and fatless. The coach thought he'd be champion! Surely he did! No trainer could know what made one athlete a champ and another drogmeat to serve the drogs to serve the better athletes; but he had twice spoken words of compliment, and now he would train Varn personally. Varn grinned.

Perhaps Demunth would teach him the trick that only Demunth was reputed to have mastered, the trick of switching hands on shield and fire-sword in midfight. Still grinning, he raised the vessel to wash down the last bite and saw Demunth gazing at him from across the table with

a strange expression on his broad face. Demunth's face appeared to have softened everywhere except for his brass nosering.

"You godling it, Varn?" The trainer's voice was rough as usual, yet managed to hold a note of understanding. It was as though the coach had been standing there, seeing him, partly seeing himself as a very young and very promising athlete. Varn read the envy and respect for his youth in those few words, and then, unable to stop himself, he rushed out with it:

"Offworlders . . . they do couch a Consumer now and again, don't they? I know that freemen do. I've often heard freewomen shout invitations. I've often thought my sire might be a free citizen who sells you red slorp or swords, but not till today have I thought I might be —"

"Blast you! You never *had* a father, you beanbrain! You haven't got that fat financier and that spindly-armed prince out of your head, have you?" But the scathing diatribe was an invitation to Varn to say more.

"Coach, today a Boardchairman of Boardchairmen's son warned me. Why would he do that, unless he thinks me more important than others? Why, Coach, unless . . ."

"Doesn't it occur to you that he probably stood to profit? Somebody's got to stay alive to meet Probin, and . . . ump. Look here, d'you think you'd fight better if you were the same blood as that Offworlder?"

Varn was elated to realize that Demunth saw him as the jock to take Bluechip Probin. But his elation

did not stop him from answering excitedly: "Yah, Coach, yah!"

Demunth rounded the table, and his heavy hand came down on Vern's shoulder with a jar that forced him to stiffen his knees. "Well, then, believe it, athlete! Believe you're Prince Hokeyhokey's hidden brother. He got all the brains and riches and power. You got all the muscle and gristle and skill."

Varn believed.

He believed through that evening's practice when he almost singed Demunth's nose and heated his nosing. He believed, as he went to sleep bone-tired. He believed, as next day the medic injected him with the usual pain-depressant and stimulant and added another shot while Demunth stood by and talked about how he must never look directly at anything in the hands of a spectator; and Varn felt an instant of disorientation, as if he'd just awaked, and saw the others were forming up for the ceremonial march into the stadium.

He believed, as he fought that afternoon in the all fireswords free-for-all. He believed, the following day when he fought the big Darkhorse krats and the giant wild houggs and other Darkhorse beasts that may or may not have had Earth ancestry. He believed, and he fought so well he gained more and more attention from the stands as his betting odds continued to accelerate; some cheers were for his opponents, but more and more the uncommitted cheers were for the believing gladiator. Cut off from his Greenback

teammates in a Greenback-versus-Bluechip rumble and battling six Bluechips at once, he heard fancier Curth cheer the Bluechips; and he believed and fought as a god must fight, knowing he must possess god-blood.

When a huge Darkhorse krat with teethlike daggers bestrode him, pinning his right arm and coming for his throat, then did Varn hear the senator's delighted "Kill, Krat! Eat, Krat!" And the counter-cheers of "Go Athlete," from the prince and the senator's own sec'y; then did Varn find a courage and strength that was surely immortal. He grabbed the monster krat's slaving tongue with his own teeth and bit and chewed with all the strength of his jaws while he drew his firedagger with his left hand and plunged it deep and flaming into the animal until its guts sizzled.

Varn believed, and he survived, the second and third days of the tournament. That evening as he rested after the fights and felt truly godlike, he looked from his athlete's cell and saw a liveried Consumer in the act of handing Demunth a message.

The coach's broad face went slack as he read. Then it tightened, darkened so that the nosing seemed to brighten by contrast. "NO! By Lenin and Marx's very vitals, NO!" And he struck the Consumer a blow that stretched him at his feet. Demunth glanced in Varn's direction and strode away. Eventually the Consumer staggered up and limped off. Later still, Varn watched as freemen in the same orange-and-black costume came into the walled

dorm. With the rods of death in their belts they spoke to Demunth.

Varn saw their glances as they talked and knew they spoke of him. He recognized their colors: the box of Financier Curth of Brinap had sported them daily. Did the financier want to buy him, perhaps, in mid-tourney? Transfer him to the Greenbacks so that he and Probin would never have to clash? He watched from the back of his cell until the men left. Then Demunth came to his cell. The coach's face was grim as winter sunset, and his black eyes did not look directly at the athlete.

“A sleep, Varn?”  
“Nah, Coach.”

“Varn, there are powerful men who hold as much power over me as I hold over my boys. D’you understand, Varn?”

“Yah, Coach.”

“Well then, by Marx you understand more than I! ‘Yah, Coach!’” He swore for at least a full minute. Then: “When such a powerful man wishes something from me, I haven’t the power to refuse. Not even I, Demunth! But even when his wish is evil, Varn, and illegal as well, I am powerless. Do you — ”

“I understand, Coach.” Varn waited.

“Tomorrow you will fight in the preliminary bouts to decide who will fight in the final battle of champions. Freeman with zaprods will watch. Forty pair of Bluechips and forty of Greenbacks will battle back-to-back to the deaths of all save ten. Varn, at your back you should have one of the best fireswordsmen I

possess.” Demunth stopped abruptly and touched his forehead to the grilled door. Varn focused on his trainer’s nosering.

“Varn, your partner will be a trainee. A good one, but far from the best and unblooded and unbroke to fire. If you’re to survive you’ll have to kill your opponent very fast and then face your partner’s opponent. If your partner is killed first your chances of surviving him are about the same as your being Boardchairman.

“Then . . . then I’ll fight for both, Demunth.”

Demunth’s head came up; athletes did not call him by name. But he said nothing. His position had changed, and both knew it. He nodded once, then walked away.

Varn stared up at the ceiling. Financier Curth of Brinap wanted him dead. Why? Could it be resentment — could Curth resent the existence of such as Varn with Offworld blood? Perhaps some of these godlings rejoiced in destroying such . . . their kind? Was it better, if one were a god, to watch a god die than to watch a man? He fell asleep thinking about it, because no matter how tired the athletes were at day’s end, their supper-wine contained a slow and shortlived anesthetic.

But the anesthetic did not control Varn’s dreams, and they were not good.

Reality was little better. The shaking youngster at his back next day barely knew which end of the firesword to grip. The scores of orange-and-black athletes who had been

overwhelming Varn in his dream until he awoke sweating . . . they were not necessary. With such a partner as he had drawn not even a godling — but that he must remember! He *was* a godling! Son of a g, yes! He who had survived the great krats and the nervewhips and electrotridents of three simultaneous attackers, and the murderous free-for-all. He must remember.

"Use your shield," Varn said over his shoulder. "Turn his blows; don't bother to try to attack him. I'll soon turn to help you." But his partner was shaking so that Varn wondered if he heard.

At the first clash of fireswords he knew his opponent was a professional. His tightset mouth was merely one more seamed wound in his face. He had survived a dozen tourneys. He had been judged Champion, paraded around the stadium seven times while the spectators cheered and screamed in hysteria; and for the next several months Scarface had been rewarded with his pick of women from the breeding pens. He was Probin.

Varn parried his first flaming blow and his second and his third, and then from behind him he heard the unmistakable sigh that signaled a hot sword in the smoking vitals of his partner.

Varn's life expectancy was reduced to seconds.

He didn't wait. He threw himself wildly aside and blocked Probin with his shield and scrambled desperately to avoid the thirsty sizzling sword behind him. He had one hope: that the Bluechip who had slain Varn's

partner had a partner very much in trouble.

From the stands Financier Curth's voice bellowed "GO BLUECHIP!" Varn roared "DIE BLUECHIP," and swung a tremendous chop at his opponent. Scarface was too experienced to die in such a way, but the swing saved Varn's life; the firesword from behind which had been aimed at his neck betwixt helmet and cuirass sparked off his armored back. Then Probin had to half turn to face the Greenback who'd just downed his partner, and Varn followed his example and caught his opponent wide open. He jerked his sword free and looked about desperately for a new partner. He spotted a lone Greenback and made for him, noting that the athlete's left cheek was leaking blood and he had a patch of mail missing and an ugly burn over his right nipple.

"Teammate!" Varn yelled, barely hearing his own voice amid the shouts and screams of other athletes and the crash and clang of steel on steel and the roar from the stands. Between them moved a pair of Greenbacks battling a single Bluechip. Varn struck down the Bluechip and again shouted "Teammate!" and charged around the Greenbacks to his new partner.

Varn's arm was numb and his blade sizzled with the smoking blood of six athletes when the gong rang to end the combat. He jerked back his firesword to hold it rigid at his right shoulder. He glanced around, keeping his eyes up to see the living,

and not the dead and dying. He was astonished; he was one of four surviving Greenbacks. Probin was among the remaining Bluechips. They stared at each other. Then they were raising their flaming swords to the audience as the man who'd been at Varn's back for over an hour said, "Well paired!" in Varn's ear.

Varn felt star-scraping tall. He heard his name, among others. They knew him by *name*, now! Somehow he was unable to take his eyes off Financier Curth; somehow his legs carried him across the bloodsoaked turf to gaze up at the fat creature's box. He jeered me, Varn thought. He booed. He forced Demunth to try to have me killed. Varn did not shout. A shout would have been a ripple in the mighty ocean of applause and screaming. Varn waited. He was a godling; Curth was deigning to ignore him! But he could not forever — and did not. The financier from Brinap looked down at the blooded and scorched athlete eight meters below his box.

And slowly and very coolly Varn raised his right hand to his nose and wriggled his fingers at the financier.

### III

Curth came upright like a starship from atmosphere. He pointed, his mouth moving. Beside him one of his retainers stood and yanked a zaptube from his broad belt. As he raised it, the financier's sec'y squealed and slapped at his arm. Curth cuffed her in the face, and Varn remembered that it was she who

had cheered him. She dropped back into her seat, hand to her cheek, and the freeman raised the tube again.

Varn had not seen Prince Hannanook give his order, but he must have; one of his purple-and-gold retainers appeared beside Curth's box. His zaptube was aimed at the man who was preparing to loose invisible radiation at Varn. Curth's man sat down. Curth turned and his mouth moved as the prince's did, the voices lost in the noise from the crowd. Then the financier dropped back into his seat with a jiggling of his chins.

Ignoring his shaking knees, Varn raised his red-streaked firesword nearly to his lips, his eyes on the imperial prince. Hannanook smiled and nodded his head. Varn turned and left the stadium, keeping himself from breaking into a run with a tremendous effort.

Demunth reproached him — if such a gentle word could be used to describe anything the retainer said. "There's no hope for you now, idiot!"

"Was there before, Coach? He's determined to destroy me."

The perpetual scowl deepened on the broad, ugly face. "There's no accounting for the actions of mighty, Varn. If you were a freeman —"

But Varn knew he was infinitely more. He was about to tell the coach as much when an air-raft landed in the campus and several freemen stepped off and approached. Varn recognized their bumble-bee livery.

Demunth saw them and walked away. They called to him. Varn

watched them exchange words, watched Demunth shake his head and heard his voice rise. The Brinapi financier's freemen gesticulated and eventually accompanied Demunth to his quarters. The coach's shoulders seemed to sag.

His brows drawn down in worried thought, Varn had just stretched out on his bunk when he looked up at his square of barred dusk and found it filled with Demunth's bulk. He got quickly to his feet as the outside bar was lifted.

Demunth bore a goblet. "Wine, Varn . . . special ration because of tomorrow's championship fight!"

Varn had never received wine before, only the vitamin-loaded sweetish imitation: red slop. He took the shiny metal flagon from Demunth's mysteriously shaky hand and started to raise it eagerly.

Then his eyes saw the shadows well behind Demunth. Curth's freemen! Varn looked in Demunth's eyes. Then he nodded his head, stepped back into his dormitory cell and raised the cup. He made appreciative gurgling and smacking sounds as he carefully allowed the wine to run down his chin and onto his smock. He knew Demunth saw, was sure the others did not.

"Thank you, Coach!" He handed the cup back to his trainer.

"Sleep well, athlete," Demunth said and went away with the men. A little later the flying platform arose into the air and slid away. Demunth returned, and his ugly face gazed at Varn's a few moments before he cleared his throat.

"You showed wisdom, Varn. But what good will rejecting his potion do you? You will die tomorrow, just as surely. He will find a way."

"Die? I want to win the championship for you. Do you doubt I can?"

"Win! Why you addle — all right, Varn, I'll open my shield to you. No, until I learned what an enemy you have, I really thought you *could* win. Today you somehow held off Probin and eluded the man at your back and accounted for eight, I think. But . . . no, Varn. Not now. The Solitonese hasn't been born who can stand up to me. But an Off-world financier is another matter. I believe that you *can* win . . . but that you will die because the financier wills it."

"You said before that if I were a freeman things would be different. Yet I can become one only by winning, by fighting out of here, as you did, Coach. This I will do. And I will win tomorrow . . . for you and for me." Varn's mind had never worked so furiously in his life. "Practice with me, Coach, that I may be the best on the field tomorrow."

Behind the square roof of the athletic quarters a yellow moon, fat and round as Curth's belly, was rising. Its pale fingers of light touched Demunth's face. The face was set, determined, afire with the hatred the trainer felt for the mighty financier. The frog's mouth was held taut against Demunth's teeth. Then:

"By the Ultimate Banker's fat paunch, I *will!* Get your gear, Varn. Come along!"

Varn nerved himself, swallowing hard, as the bar was dropped. What



he had decided upon only a godling could do . . . a godling who would have to wield a better sword than the fabled Demunth. He went with the coach to the field house and equipped himself. Did Demunth have any idea, he wondered, that this time there was more than mere coach-and-player exercising involved?

No, he thought as he faced the firesword and shield of Demunth! No, the coach did not know. For who could guess that such an impossible dream could fill the whole being of a lowborn athlete? Who could imagine that a man born a Consumer could find such determination, could think the unthinkable? Poor Demunth, Varn thought. He does not really believe I have god-blood!

Then Demunth moved so fast that Varn was almost caught unready. The man who had trained a thousand athletes pressed his opponent hard and struck for the throat with the extinguished flat of his sword. Varn blocked just in time, knowing that had the firesword been switched on he'd have been scorched. Had he been an instant slower, he'd have been decapitated.

"Little slow, athlete. Faster now — let's see how fast you can block."

Varn's shield rang without sparking to a shower of swordblows. It was all he could do to stop them. Never in competition had he faced such an onslaught from a single source. The coach was yielding up to his anger at the financier; he'd sweat it off hacking at Varn. And Varn? He felt tears close behind his

eyes. Could he do it? Would he be able to do it? Could he possibly bring himself to kill this man who was the nearest thing to a father he knew? Oh no! Stop me, he thought. Kill me, Demunth! Don't let me kill you! Don't make me! I am so new at being a god!

When Demunth stopped, he was not even winded: "Now you try, Varn." He stepped back and grinned his ugly grin as Varn tried. He drove in to smash past Demunth's guard. As always, he failed. Could this be the arm of a god-man, this arm which could not steer a sword past a mortal's shield? He wanted to kill him quickly — he had to, if he was to do it at all. But Demunth's sword and shield changed places with a practiced motion that imitated the lightning in its speed, and he attacked. Varn was forced to retreat. Never had he seen anyone else who could unlock his hands from his weapons, slip them one across the other and continue fighting without missing a stroke. There was no other undefeated coach. Demunth stood alone. Varn's thumb was near the powerswitch of his pommel.

For the first time since he had decided what he must be, Varn had doubts. And then his golden throne toppled. He could not do it! He could not defeat the undefeated and quite possibly undefeatable coach.

"In three years, Varn — maybe two — you'll be as good as I! But now . . . I haven't time to teach you better attack methods." Demunth was panting a little as he spoke.



Was there sadness in his voice? Did he merely regret his inability to put the final edge on the finely-honed blade that was Varn, or . . . ?

So he would not have to think, Varn tried to lightning-switch without flaming his blade. He nearly dropped his shield. "Better not try that tomorrow, Boy," Demunth said. "Your opponent would've got past your guard. Watch. I'll show you again."

Sword flamed and winked with the shield in the moonlight as they changed hands. Again Varn tried to imitate. If anything he was even clumsier this time.

"Athlete, that won't do! Watch me again — "

"Coach! Look."

The shadow swept over the sand, a big dark rectangle. Both men looked up as the black shadow glided over the roof of the jockdorm.

"Get out of here, Varn. Run, damnit!"

Varn hesitated. Demunth was staring at the flying raft. His back was to his best athlete. There would never be a better opportunity for Varn to do what he intended: strike down the coach, take his clothes and, most important of all, his brass nosering which proclaimed him a freeman. Then . . . attain the impossible. Go to Financier Curth. Prove himself a god-man. Varn's firesword was in his hand; Demunth's neck was unprotected . . .

Varn turned and fled as the coach ordered. To his left was the dorm, to his right the high wall surrounding the practice field. It was closer. There was shadow, although not a

great amount, since the moon was at the opposite end of the yard. Varn raced to the wall, flattened himself against it. He wondered if his armor gleamed. He waited.

The raft landed, settling gently to the ground with a little hissing sound as the dust and sand swirled beneath it. There were three of them: black and orange. All stepped off the raft; all approached Demunth with hands never far from their belts. This time Varn heard them clearly.

"Take us to the cell of the athlete called Varn. We want to be sure he's sleeping well," one of them said, and another laughed. The snoring from the cubicles nearly drowned out their voices.

"He's all right. Why don't you fellows go on down to the Red Krat? Ask for Vivara. She'll fix you up. You needn't worry about that athlete anymore."

The Brinapi shook hi head. "Orders. We're to check. Then, friend Demunth, we'll go and study this Vivara of yours. Come on, take us in."

Demunth's voice was hard, ugly as his face. "Don't call *me* friend, office boy. I rule a thousand athletes, provide a civilized way to settle important arguments. You lick the soft white toes of a grafting — "

**T**he man didn't give Demunth time to finish. He struck him across the face with a gesture dripping disdain. Demunth's sword hung loose in his hand, and Varn knew that the reaction that flamed it was completely automatic; the short firesword swung up and plunged with an ugly

hiss into the Offworlder's stomach. The man staggered back into his fellows, staring down at the shaft of glowing steel and his fast-cooking intestines. Then, as the man started to fall, Demunth yanked the sword free.

Then Demunth dropped. Soundlessly, without raising his sword again.

Varn swung his wide eyes to see one of the remaining two Brinapi freemen shove his zapstick back into his belt, kneel beside his friend, then look up at the third man and shake his head. The man got up, and the two of them walked toward the dorm. Behind them, two bodies lay on the sand beside an extinguished firesword.

Varn crossed the space from wall to Demunth without a sound, a dark shadow cutting a lighter one. His examination was brief and simple — the coach was dead. So was the other man; his blood had almost stopped flowing from the cauterized wound the sword had made. Varn started to rise, then glanced back at the dead Brinapi. He bent and pulled his zaptube from his belt. Then he followed the other two, carrying the rod gingerly; he had never before held one of the short metal cylinders with its easily depressed trigger similar to the one on his swordhilt. His firesword was in its sheath, his shield still on his arm.

He had time only to leap aside into the darkness beside the gate as the two freemen and a dormitory guard boiled out.

"In that case he's got to be out

here still," the guard said. He said nothing else. Varn's action was almost reflex; he brought the tube up and pushed the little thumbstud and swung the rod back and forth. Ten feet away, the guard and one of the freemen dropped like the corpses they undoubtedly were. The third man whirled, glanced down at them, peered at the sharows enveloping Varn. Then he turned and fled.

Varn aimed the zapstick and thumbed it again. He swung it, spraying death. The orange and black tights kept running. Varn watched, mystified. How was it that the tube killed some, allowed others to live? Suddenly he realized he was a dead man; the Brinapi would sail away . . . and return with help.

Varn dropped the useless rod. He had one chance, and he was out of practice; a man did not often use this trick in the stadium. As the freeman's feet thudded onto the raft, Varn grasped his shield by the edge, curling his fingers. He took a deep breath, held it, turned half around and, exerting all the strength in his legs and arms, sent the shield sailing across the practice field. Like a toy saucer-ship or an oversize discus, it cut through the air. The freeman looked up just as it reached him. It struck him full in the chest, driving him back off the raft. The shield clanged on the platform and rolled off onto the turf.

Varn ran after it.

The man was alive. He was bleeding from the chest, but not seriously injured; and Varn was unable to understand his immobility

until he realized the fellow had hit his head as he fell. He hesitated a moment, then pulled the zaptube from the Brinapi's belt and ran back to the two he had downed with a similar one.

The radiation-guns left no external marks. There was nothing about the uniform Varn pulled on to indicate it had been stripped from a corpse. He brushed dirt off himself and shrugged; the tunic was tight. The dead freeman had been built like a man. Varn wasn't a man; he was an athlete.

He returned to the raft and Financier Curth's unconscious office boy. Then he waited, thinking, thankful that there were no athlete faces watching him through the barred doors. Surely no Consumer could have originated the audacious action he planned! His momentary doubt was gone; he was more certain than ever of his godhead.

The freeman moaned, and his eyes flickered open. They looked impassively at the levelled tube, then swung to the firesword and widened. Varn nodded. It was true, somehow this man was unaffected by the zapsticks. Then he noticed something more, this Brinapi was not wearing a freeman's nosering. He pondered this, wondering how freemen could prove they were not Consumers on the world the office boy had come from.

Varn raised the firesword to the other's throat. He waited for the office boy's fear to settle. Then Varn began telling him, clearly and carefully, exactly what orders this very special fireswordsman had for him.

The two highest-ranking guests at the Solitonese Tournament of Synthetic Dispute Settlement, Prince Hannanook and Financier Curth, were of course lodged in suites at the top of the finest hotel on the planet — sprawling collections of well lighted and lushly furnished rooms on the three-hundred-and-first floor. The shaking freeman with the firesword at his back made a sloppy landing on the roof of the hotel.

"How do we get to the financier's apartment?" Varn asked. He poked with his firesword to facilitate the man's reply.

"Though that door," the lackey said, pointing; and Varn nodded and leaned on the sword without flaming it.

As though he had merely stepped on a potentially dangerous insect, Varn withdrew his sword out of the Brinapi's back and wiped the blade on his colorful jacket before sheathing it. He went to inspect the little house the freeman had indicated. Yes, it contained a door, and another door, and another door and steps. Varn made certain both doors remained unsecured and went over the edge of the roof. The balcony he had seen as they approached the hotel lay just below. The height and the faintly twinkling lights did not bother him; the lights were tiny and too far below for him to see the ground.

A well padded lounge on the balcony cushioned his short drop, and he was forced to catch at the lounge-chair's back as he bounced. He sank down in the darkness, realizing that

while the drapes were pulled across the double doors leading into the financier's suite, the doors themselves were open. The voices inside were very clear to the new orange-and-black-encased athlete on the balcony.

"— you're done, Financier! Why don't you admit it? I haven't the need for ostentation you have. My men conducted their inquiries without livery, in taverns and on the streets. I already knew that an investigation had been called in the Financery to check over your records and either end the rumors of your misappropriation of Brinapi funds or impeach you. Now I've found out about a few of your debts. I say 'few' because I assume there are others."

"My dear prince, you can't possibly —"

"Please don't use your Boardroom oratory on me, Curth," the original voice cut in, and Varn recognized it as Prince Hannanook's. "Shall I tell you how much you have bet on a Bluechip named Probin? On the Bluechips as a team? Apparently you stand to make the money to repay all bets and do some buying if the Bluechips win tomorrow. And to replace the money you've stolen from the people of Brinap if that scarred-face Probin wins. Eh?"

"Be smart, Prince, everyone *wants* to do this sort of thing. Why else do people still insist on symbolic wars? We happened to be in a position where we can settle official differences and add to our own fortunes on the side, so why shouldn't we? A little grease here, a refined bit of pressure there, and . . . really, where's the harm? The

show will be just as good tomorrow, the results just as bloody, just as conclusive and war-preventing. The only difference will be that you and I — and it can be you as well as I — can be sure of a profit. The matter of official territorial lines hardly matters to anyone. Who cares what star-corp claims what particular stars within its jurisdiction? You don't; I don't. It's all too theoretical. Those things change every standard galactic year. As long as civilization exists and there's no war . . ."

"Financier, you sound as though this entire bloody institution existed solely for the amusement of the upper classes. You know that isn't so. These stadium fights are *necessary*. What would you do when there's an unresolved dispute and the warhawks are circling each other and preparing to fight to the last drop of the next world's blood — go back to exploding suns and death-seeding planets? Wars aren't practical anymore. The symbolic battles and wars have worked for nearly a thousand s.g. years. Would you really want to break the rules and risk destroying that?"

"My dear prince, there hasn't been a symbolic war that was an honest substitute for human fighting in centuries. Wars can't happen anymore. People have become too civilized. They don't care that much."

"I know the institution must not exist for your purpose, Financier. If it were up to me there'd be no training of killers. If it were up to me Man and his governments wouldn't be so irrational as to think that

violence on any scale was a necessary final arbitrator. These once purely athletic contests were degraded by your kind, Financier. Now you're making them worse! Whose bright idea was it to introduce the dark-horse beasts last year — yours?"

The prince's voice firmed. "Financier, it's been obvious to anyone with eyes and a mind that that Varn athlete was the one to watch. So you tried to eliminate him, to help Probin. Yes, I know about it. First the hypnomedal. Then pressure on the coach. Then . . . what? We'll see. If Probin's as doped up tomorrow as I expect him to be, I'll stop the fight and have him disqualified. And Varn? What did you send him tonight? Drugs? Poison? Death?"

"Majesty, I am sorry you are so nosy. The firesword Rocaln is holding at your back will spit and cook your liver as neatly as an athlete's. But I'd prefer not . . . I'd much rather you had an accident and fell off the balcony. It's a long way down."

Varn rose to his feet. The financier's voice was full of confidence, and the prince's gasp was proof that there was a firesword at Hannanook's back.

"You wouldn't dare, Curth!"

"Prince, there's an expression so old we've forgotten its origin: You're whistling in the dark. Come along over to the balcony, won't you?"

There was silence as Varn found the place where the drapes joined, and he inserted the end of the zaptube. Hannanook's voice said, "No, Financier, I won't. You'll have

a hard time proving an accident if I've a sword burn between my shoulderblades!"

Varn peered through the widened gap between the drapes. Spawled out in a bubblechair, wearing a carelessly open robe, Financier Curth gazed, smiling, up at Prince Hannanook. Behind the prince, a well honed blade levelled at his back, stood a man in orange tunic and black tights. Behind the financier's chair was his sec'y, the blonde who'd cheered Varn, her flower-petal mouth open wide as her blue eyes.

Varn made very certain the tube he held was pointed at the man called Rocaln, that none of its stream of death would touch the prince or the sec'y. A zaprod was noiseless; if it did not kill the man he would be forced to make noise as he leaped at him with his firesword. He depressed the trigger.

Rocaln stiffened and then went completely lax and toppled over sideways. He crashed across a table, containing the leavings of the financier's sumptuous dinner, with a terrible noise. Curth shot to his feet with a speed Varn would not have thought possible for one so obese. Hannanook swung around, saw the dead man, then looked at the doors as Varn entered.

"By Earth, athlete! Haven't you any sense at all? Thumbing your nose at lardbucket was bad enough . . . but coming here disguised as one of his office boys!" Hannanook was grinning as he spoke. "Tsk! Frightful! Unheard of! I am so shocked I'll not even ask what became of that uniform's owner." He

turned back to Curth. "Sit down, Curth. You're finished."

The financier's collapsing into his chair indicated his complete agreement, and Hannanook smiled. But Varn remembered his own tactic of falling only in order to get beneath his opponent's armor. No, he'd not assume Curth was finished till the final buzzer.

"Uh . . . Varn," the prince said, "you can point that thing at Financier Curth, but I do hope you won't fry him. He has a long and brilliant career ahead of him . . . as a prisoner, I'd say."

Varn swallowed. Suddenly he remembered where he was, who he was, who these two men were. He found that no words would come to his lips.

"Athlete Varn, what possessed you to thumb your nose at this — at this charming old gentleman? What could possibly have possessed you to come here tonight?" The prince sat in a chair facing the financier, after picking up the fallen Rocaln's firesword. Both Hannanook and Curth ignored the body as if it did not exist.

Varn bit his lip. "I — I — "

"Take your time, Varn. I'm most anxious to hear your answer," Hannanook said. And, without taking his eyes off the athlete, "Sit still, Curth. You'd better sit down, too, girl, before you collapse. Just don't do anything silly. I admit I'm a little soft, but this man suckled on a lyhon and teathed on a swordblade."

"Man!" Financier Curth snorted, and Hannanook turned to look at him emotionlessly.

"Getting your pose back, Financier? Good for you . . . I'd hate to have to find ten or twelve men to carry you out of here if you fainted. But just sit quietly, please." The prince's pale gray eyes returned to Varn.

"He — he just said it," Varn spoke slowly, frowning. "Man, he . . . wanted me dead . . . so much. You warned me of death behind me. Then you stopped him from having me . . . zapped." He stopped the hand that wanted to rise to scratch his head. "I . . . I realized I was . . . am . . . something special?"

"Special!" The financier exploded into laughter. His belly quaked.

Hannanook ignored him. "Special? How? Why'd you come here?"

Varn said simply: "To kill him." He lifted the zaptube.

Financier Curth laughed. "Oh tell him the truth, Hannanook. That thing won't kill me — my brainwaves are the wrong frequency. But it would kill you, athlete, and you, Hannanook." The robe slipped all the way open on the right side, revealing the identical zaptube held in the pudgy hand. "As easily as this one."

Varn depressed his weapon's trigger. It grew faintly warm in his hand as he moved it from Curth's left eye to his right eye to his amused mouth. He was careful that it did not come into alignment with the frightened girl, pushing her pretty face into the carpet at Curth's right hand.

"I told you it wouldn't," Curth said, still laughing. "Harmless to me



as the smell of blood. Of course if you want to try it on this sec'y . . .?"

"Master!" the girl protested.

Varn eased up on the trigger. He looked at the vicious fat face and the beautiful pale one. Almost he thought to kill the girl to save her from the treatment she had been receiving — and from Curth's gross body.

"You see, Varn," Hannanook said, "you and I are — different. Some men had ancestors who originated from simple one-celled organisms developed in a huge natural chemical caldron called an ocean. Other men had ancestors who were developed without prior stages of evolution — in an artificial vat in a man-made laboratory. Our ancestors, Varn — yours and mine — were of the laboratory type. Racially proud men such as Financier Curth call us — androids."

Varn looked at the prince and at the fat financier. "You too, Master?"

"Just prince, Varn. Yes, me too. Though how the financier discovered the fact —"

"Intelligence, Hannanook!" the fat man chortled. "Intelligence! Man has thousands of years of it to fall back on. He doesn't *need* to exert himself. Didn't you know I'd take precautions? I'm prepared. I don't think your father will want it known that the royal bloodlines are android. As for your corpse — obviously an impostor's. People will say that I discovered the fraud and extracted quick vengeance for the real prince who was murdered by plotters. An-

droids exist only to serve Man's bidding. No one is going to want to acknowledge androids as royalty — no one!"

"There, Financier, you are wrong. As wrong as you were to gamble everything on Probin. The royal family of Aleria is about to become known as android and acknowledged as such. That's true whether you zap me or not. So don't count on not being brought to justice — you will be."

Curth frowned. He didn't look as though he'd ever laughed. His eyes locked with the prince's, and Varn found his own eyes filled with those of the helpless sec'y. What a shame, Varn thought, that she and he and the prince could not somehow escape from here. Perhaps if he put himself between the prince and the Brinapi's weapon. . . .

"You must not move, Varn," Hannanook said. "The financier needs a moment or two to decide to give himself up to me rather than face what he knows will happen to him if he commits a royal murder. The financier wouldn't like what would happen to him then, Varn — no man would."

On Curth's whitening face large drops of moisture appeared. Sweat coursed down his thick neck, crept from the dewlap beneath his chins and rolled unheeded into his robe.

"You know, Varn," the prince continued conversationally, "if the financier does make the sensible decision for once, I think I'll give you a choice. You can defeat Probin in a fair fight, and I've a mind to let you. But if you are killed or badly

wounded through trying . . . then I won't be able to use you for the further plans I have."

"Further . . . plans?" Varn's mouth felt dry. He wondered at the prince's bravery. Surely only a god could be so calm while facing a zaptube.

"Varn, in a short time there's going to be some *serious* fighting. I'm helping to arrange it. There'll be some men of the original human stock involved. Men, Varn, who haven't done anything much more energetic in their entire lives than push buttons and instruct androids. Some of these men haven't forgotten how to think, and not all of them think as Curth does. It's going to be a job training them to fight, Varn. That's where you come in — you and a few other Solitonese androids. Your choice can be to fight Probin and win, and then come with me if you're in condition to come. Or, if you prefer, you can try to enlist Probin. Enlist him to our cause and persuade him to go with us to Aleria. Together, Probin and you can help train men. Train them not to put on a show, Varn, or to settle things in a symbolic fight. Train them, rather, to deal efficiently with humans who have too long held control of things. It will not be an android revolution, Varn, it will be a human police action of the most necessary kind."

"You talk," Curth said, "as though this tubespawn is something special to you. As though his life is of any more account than — than this sec'y's."

"You're right, fat man. He's special because he believes he is special and has acted as he thought a special man should act. As least one ancestor of mine did the same thing, Financier, and maybe some of yours did also. A man is what he believes, not what his society or his culture would have him believe. *He*, not someone else. As for this girl, are you sure she's not special? How do you know what she believes? When she grabbed your retainer's arm and spoiled his aim before I could, that surprised you, didn't it? Didn't it, Financier?"

The financier's eyes narrowed. A nerve twitched at the edge of his tight mouth. His nostrils pinched as he drew in a breath.

The signs were unmistakable; Varn saw a coward nerving himself for the deathstroke.

Acting from reflex, Varn propelled himself in front of the prince. Directly in front of the zaptube.

At the same time a beautiful blonde head had arched above the chair-arm. Perfect white teeth flashed. A strong, young neck braced; and a slim hand with sharpened fingernails came to the aid of the teeth.

Varn managed to change his full-armed athlete's blow to a — for him — gentle slap. As the financier's head rocked back, he shot out his left hand and snatched the falling zaptube.

Moments later Varn found himself staring at a stunned and defeated Brinapi financier with a reddening cheek and a torn hand. He did not stare at the financier long. The girl who had just saved all their lives

proved to be far too interesting.

"Well, Varn," the prince said, "what's your answer? Take your time. No need to decide immediately whether you want this sec'y and a crack at the financier's kind or not. Take five or six seconds if you like."

Varn shoved his face close to the financier's. He wanted the fat man to

see the scar there, and the unblinking eyes of a veteran. Curth gasped. In their pouches of flesh his eyes widened.

Whether the light in Varn's eyes was a glow or a glitter was unimportant to Financier Curth of Brinap. What was important was that he read in those cold eyes the athlete's decision.

END





# THE TIME TROLLERS

by ROGER DEELEY

The Time Troller materialized with an audible pop. He was in a small but comfortable room, with a simple table, chair and bed, warm and well lighted. The only other occupant of the room was a small man, seated on a stool, his sparse hair combed forward over his high forehead, the dark eyes somehow vacant now as he studied the newcomer for a moment with little or no obvious interest, then casually looked away again.

"Oh," said the Time Troller a little peeved.

He had been expecting a better reaction than this. He'd always had it before. He was an impressive figure, after all, floating roughly a foot off the ground in the shimmering blue haze of his force-field, immaculate in a silver-fitted, one-piece suit, with matching gauntlets and high boots. Most people did a bit more than just look away again.

"Good morning," he began tentatively.

Suddenly the figure on the stool leaped to his feet, drew himself up to his full — if somewhat diminutive — height, his eyes blazing, and snapped, "Why do you not have even the common decency to bow to me?"

The Time Troller bowed. Most handsomely. A rather sly smile flickered around the corners of his mouth as he did so. This was better, he thought, much better. At least he was getting a reaction, albeit a trifle unconventional.

"Who are you?"

"I am the Time Troller. Or at least, I am one of the Time Trollers."

"Idiot!" The man snorted contemptuously. "You're another charlatan after some money for your damn fool inventions. Well, I haven't got any. Not now."

"Do I look like a charlatan?"

The man seemed to take in the stranger's surroundings almost for the first time. His jaw dropped. He sat down hurriedly and blinked. Then he blinked again. Then he shook his head, closed his eyes tight, opened them, blinked twice more, then groaned.

"You're not dreaming, you know," commented the Time Troller gently. "Perhaps if I explained?"

"It might be best."

The Time Troller beamed. He loved this bit. "I come from the future," he said. "Millenia and millenia in advance of your time. I can't give you an exact date because the calendar has changed utterly at least three times in between, and during the Times of Trouble they lost count completely. So although I'm honestly not sure what our date would be in your Christian timing, I should think it would be roughly 32,000 A.D."

The man's eyes seemed to be popping out of his head, but the Time Troller continued unperturbed.

"Time travel as such is an impossibility, of course," he said. "None can travel back in time so as to be able to live in a previous age. All they can do is project themselves back in a sort of three-dimensional image, as you see me now. I am not really solid, you know."

The man jumped to his feet as if to test this statement, but he was brought up short.

"Don't touch!"

He stopped.

"You must excuse my shouting, but it was meant as a friendly warning. I may not be solid in the one

sense, but I am definitely present in another. Had you put your hand, or anything, into my force-field, it would have disintegrated instantaneously."

The man frowned. "What do you mean, disintegrated?"

"Vanished. Disappeared. Phutt." He grinned blandly. "Now let me continue my explanation. We can observe, comment, exchange conversation, but not actually be present in the flesh. Not only that, but there is a time limit to our stay in any given place."

"A time limit?"

"It does seem a little odd, doesn't it?" the Time Troller replied cheerfully, "A time limit in this context. But it's true all the same. We are cast back, like a trawl, but when we arrive we cannot move from the one spot inside the force-field, and we are limited to half an hour. One of our half-hours, that is. It works out as about thirty-four and a quarter of your minutes."

"So you're not here in the flesh?" The man seemed to accept the story readily enough.

"No."

"And you can't really influence events?"

"Well, theoretically no. But it doesn't always work out like that. For example, a Professor of Chronodynamics of my acquaintance found himself on Mt. Sinai by mistake one day as some poor Hebrew was looking for a lost sheep. The shepherd saw the force-field, thought it was a miracle — fire without burning, you see — and the result was that we nearly ended the Egyptian Empire of

Rameses. The majority of the slaves left, you know. Most unfortunate." He tut-tutted busily.

"Did you say," said the man, "that he found himself there by *mistake*?"

"Afraid so, yes. You see, when you're covering a period of nearly three hundred and fifty centuries, you often get miscalculations creeping in. A century or so is nothing. I've even forgotten now where he was supposed to be heading for. Whatever it was, there was consternation when he got back. But he couldn't correct the mistake then."

"Why not?"

"You can never go back to the same place twice. No one really knows why, but there it is. That's allowing for the fact that if it were possible in theory, you'd probably end up somewhere totally different anyway. It's all very disturbing. I wish they'd perfect the process. I mean, recently I was aimed for the last phase of the Martio-Jovian Commercial War of Era Three, and where did I end up? On Pluto. Smack in the middle of the Great Radiation. I spent the whole half-hour bored stiff, looking at bomb craters. Three and a half centuries out! Ridiculous."

The man looked suitably sympathetic. "Why do you do it?"

"Do what?"

"Go back in time? I mean, if you can't be sure of exactly where you're going, it seems a bit odd."

"We go back to troll for information, dear boy. To check up on the historical facts and make certain they were recorded correctly."

"Can you always understand the language?"

The Time Troller allowed a superior smile to decorate his lips. "It's all done automatically," he said. "You could be speaking anything from Vegan to Etruscan, and so could I, but to each other what we say seems to be spoken in our respective native tongues. I seem to speak your language, you seem to speak mine."

"Oh." The man nodded. "Why are you here then?"

"That depends on where 'here' is. I was meant to go to the United States in the mid-twentieth century."

The little man shook his head. "Oh dear," he said, "I'm afraid you're a little out. This is St. Helena, in the early nineteenth century, and I've been exiled here."

The Time Troller looked at the man with new eyes. He saw the hand tucked idly into the waistcoat, the polished boots and the high-collared coat. "You mean to say that you are . . .?"

"Your servant, sir."

The Time Troller positively radiated joy. "Well, well, well," he declared effusively, rubbing his hands together in enthusiasm, "we may be some way out, but it's not often we get the luck to meet someone as eminent as yourself face to face. Marvellous. Marvellous."

"I'm very flattered. I don't get much flattery these days. Not like the old days at all, you know." He allowed his head to sink forlornly on his breast.

"No, I hardly think it would be. It was the old days that I was thinking of asking you about, actually."

"Go ahead then. I'll try to help."

For a moment the Time Troller paused in his upsurge of enthusiasm and took a long cool look at this person. He frowned in some puzzlement. "You seem to be taking all this very calmly," he said.

The Emperor shrugged. "When as much has happened to a man as has happened to me," he replied placidly, "so many unexpected ups and downs, twists of fate, nothing, however new or unusual it might be, is going to surprise me very much."

The Time Troller shrugged in his turn. It sounded reasonable. Then, adopting his best interviewer's pose, he stabbed his head forward aggressively. "Do you think your invasion of Russia was a failure?"

The man smiled. "It ended in retreat," he said simply, "so what else was it but a failure?" He paused, then before the Time Troller could speak he added significantly, "Of course, it succeeded in the one respect."

"What respect was that?"

"My real personal reason for invasion."

"To subjugate Russia, to gain glory for your country?"

"No, no, no. Alexander was after Josephine."

The Time Troller sat up with a jerk. "I beg your pardon?"

"The Czar of Russia desired Mme. Beauharnais."

"You're joking."

"Joking? Do you seriously think I could joke over a matter so close to my heart, so deep, so wounding, so . . .?" He paused, at a loss for words, and waved his hands in the

air in expressive Gallic gestures. "That barbarian, that holy-father milksop, with his pious notions of pseudoreligious nonsense, was making advances to my wife. I invaded his country to teach him a lesson."

The Time Troller shook his head in perplexity. "But you divorced the Empress some years earlier," he said, "and married Marie Louise of Austria."

The reply was a secretive smile. "A diplomatic trick, sir, to placate Joseph," he explained airily. "Josephine and I remained lovers."

"And Alexander fell in love with her?"

"I wouldn't dignify it with so honorable a name as love."

"But . . . but this wasn't the reason for your invasion, surely?"

"Are you calling me a liar?" he snapped, strangely impressive in anger despite his lack of inches. "What I am telling you is fact, no matter what history books may say in your distant times. I was misunderstood in the past, *my* past, I am misunderstood now, presumably I will be even more misunderstood after my death. You, of course," he put in witheringly, "would know far more about that than I would. But that was my reason for invading Russia, whether you like it or not."

"But this is ridiculous! This means that all the histories of the French Wars will have to be changed. Motives of Empire — of the search for Glory — they'll all have to go in favor of jealousy over a woman. I'd never have believed it. I'd always thought that . . ."

He broke off suddenly as the blue

haze around him started flickering wildly. "Surely my time isn't up yet?"

"What's the matter?"

"That means I'm due to go back any second. But there's lots more I want to ask you." He stared round helplessly as his image started to fade, to blur and waver. The wall became visible through his body.

"Can't you come back and go on where you left off?"

"I can't, I can't." The anguished voice grew fainter, dulling into a hollow whisper, an echo at the end of a long cavernous corridor that stretched for over thirty thousand years. "I told you, we can't ever return to the same place or time again, no matter how . . . ."

He disappeared with a pop, exactly as he had arrived.

The Emperor looked at the spot he had occupied, then gingerly walked up and felt around to see if there was any trace. Nothing. Just a certain freshness in the air, charged with negative particles, though he could not know this himself. He shrugged once more, extending his lower lip in a most un-imperial gesture of resignation, then sat down once more to consider the event.

Some two hours later his door was opened, and two figures entered. They bowed deferentially.

"Good morning, Emperor."

He gazed at them with singular lack of interest as they set down his tray of food and drink.

"How are you this morning, Emperor?" one of them asked solicitously.

"As well as could be expected," he replied. "Though my visitors at least do help to cheer me up."

"Visitors?" They stiffened.

"There was a time traveller here this morning."

They relaxed, looked at each other and smiled sympathetically. "Oh, really? And what did he ask you about?"

"About 1812."

"Your invasion? To avenge the insult to your mistress?"

"Mistress?" he thundered pre-emptorily. "My wife, man, my wife!"

"My apologies, sire, your wife. Anyway, if this time traveller calls again, don't forget to let us know."

"He won't call again. They can't visit the same place more than once."

"So we'll never see him? Oh dear. Never mind, I'm sure he was suitably instructed."

"He was." The Emperor smiled wickedly. "He said all the history books would have to be rewritten."

The two men smiled again, saluted the pathetic little figure sitting alone on the stool and let themselves out. The door was locked behind them, securely.

"That's a new one," commented one of them, adjusting his white coat round him.

"What, time travelling? Perhaps he's going into a futuristic fantasy instead of the past. It would be a bit of a change from the same old thing, I guess. We've got far too many Napoleons as it is."

They walked on, through the automatic swing doors at the end of the passage, out into the warm Californian sunshine.

END





# OCEAN ON TOP

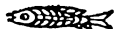
by HAL CLEMENT

Illustrated by CASTELLON

*The energy masters were criminals  
against my world. The trouble was  
in every important way — so was I!*



## SYNOPSIS



*Three of my friends had disappeared in a single small area of the Pacific, just north of Easter Island. Like me, all worked for the Power Board, the group which was responsible for rationing man's severely limited supply of energy and which was, because of that fact, practically the world government.*

*Bert Wehlstrahl had vanished a*

*year before, and Joey Elfven ten months later. Marie Wladetsky had gone two weeks after Joe, presumably in search of him, and I was principally interested in finding Marie. (Don't ask for my name; it's bad enough to have to listen to it occasionally, and I'm certainly not going to put it in print.) Since the two men were police workers of a*

sort, it was likely that their disappearance was not accidental, so my first step was to search the ocean bottom in the key area from a camouflaged vantage point — actually one of the spherical escape tanks used in ordinary cargo submarines, somewhat modified for my purpose.

I found evidence of rationing violation the moment I reached the bottom — I almost landed on it. A mile down there was an area actually lighted artificially, and apparently concealed under a flat, translucent surface which I interpreted as some sort of fabric. Seeing energy wasted to light the outside of a tent roof was bad enough; the sight of a swimmer in what looked like ordinary scuba gear under five thousand feet of sea water was far worse. The technological capacity so demonstrated ...suggested something much more serious than an ordinary black-market energy gang.

My tank was not very maneuverable, but I managed to get myself "captured" and towed to an entrance to the undersea base. Here I dropped a sonar transponder which should guide Board enforcement forces to the spot, released my ballast and headed for the surface with the comfortable certainty that the swimmers could not follow far because of the pressure gradient.

This belief proved wrong. One of them hung on to my tank and by pounding on it was able to guide a sub to the scene. After doing my best to get the 'nearly helpless tank away, I was really captured and dragged back to the bottom.

The tank was brought to a lighted

pit in the ocean floor. There were no doors or air locks. The swimmers, who had loaded my tank with enough ballast to keep it down even if they lost hold again, towed me into a tunnel which led from the entrance pit, along it for a short distance, and into a flooded room. Then they removed their helmets.

After recovering, more or less, from the shock of seeing people breathing water, I got another one by discovering that Bert Wehlstrahl was among them. Communicating with him wasn't easy; he could hear my voice through the walls of the tank, but couldn't talk himself — reasonable enough if his vocal cords were trying to wriggle in water. He had to write his messages. He told me very little; I assumed that this was partly because of the communication difficulty and partly because of the audience. He said that Marie was somewhere nearby, still in her sub, but that he knew nothing of Joe's whereabouts. He also dropped a remark which forced me to revise my belief that he and the others were breathing water. They weren't breathing at all, as more careful observation showed.

Also, the liquid around us wasn't water, but something denser. I realized that I should have spotted this from some of the maneuvers incident to bringing my tank "indoors." On the new theory, it seemed that these people must be getting their oxygen from some food or drink which released it slowly and let them absorb it through the villi in the small intestine — the enormous pres-

sure made this seem at least possible, though further data were certainly needed. Bert would give no details.

He said that I could stay and join them if I wished, or that I could return to the surface if I agreed to include certain information, which he would supply, in my report of the Board. Marie had been offered the same choice but had refused to make it — refused, in fact, to do anything until she was told what had happened to Joe. She didn't believe Bert's claim of ignorance, he said.

After thinking it over, I agreed to stay, with some mental reservations. I could obviously do nothing from inside the tank, but something had to be done — first about Marie, and second about getting this frightful flood of wasted power tied into the world energy net. The inside of the place was as brightly lighted as the outside. I would take my chances about being restored to air-breathing capability later. Bert had said it was possible, but I was beginning to wonder about Bert's reliability myself.

I was unconscious during the change, which involved surgery. I woke up immersed in liquid, comfortable enough, and with no urge to breathe. Bert and some of the "natives" — with whom I had no luck whatever in communication, either by written language or signs, though they seemed to have a complex sign language of their own — accompanied me around the place. I saw Marie in her sub, and confirmed Bert's report of her attitude.

I went outside to the "farm" area for food, incidentally learning that the "tent" was merely the interface between the sea water above and the liquid in which we lived. I did not find out which, if any, of the vegetables we ate might be our oxygen source.

Finally I was taken to see their main power installation, which was of course what I had wanted; I had expected to be kept away from it until they were more certain of my motives, but they showed no sign of suspicion at all. The generator was simply a huge crystal-heat engine, its high-temperature end far down in the rock below the sea bottom and its heat sink simply the ocean. It was all obvious enough — except, how, why and by whom it had been built under a mile of sea.

There was also some doubt about what I could do about it, though none of course about what I should do; all these megawatts should obviously be feeding into the world power net and getting properly rationed. I could make no plans which seemed at all promising, though. I was still wondering whether Bert were actually working under cover for the Board or had gone over to these power-wasters. I couldn't decide whether it would be wise to trust him with any ideas I did develop. This point was suddenly clarified — slightly.

He had told me in so many words that he didn't know where Joe Elfven was. Now he took me to the office of the power unit's director. Joe was inside, apparently in charge.

\* \* \*

That sight made a change in me. Bert had been a good friend of mine for several years. I had trusted him; Marie, admittedly, had not and had tried to get me to share her feelings, but I'd felt sure she was just brooding.

A few minutes ago I had been jolted when Bert confessed to a falsehood in his earlier talk to me, but I had still been ready to listen to his excuses. I would even have been willing to believe that I had misunderstood him the first time.

But he had also told me — written it in plain words, with no possible doubt about their meaning — that he did not know about Joe's whereabouts and that to the best of his knowledge and belief Joe had never gotten to this place.

Clearly and unarguably Bert Whelstrahl had been lying like the proverbial rug. He had known that Joe was here. He had known just where he was and what he was doing. Why should he tell such a lie to me and apparently to Marie? And having told it, why was he now bringing me face to face with the proof that he was a liar? And had Marie formed her impression by spotting some evidence I had missed?

One thing was certain in my own mind. Whatever explanation Bert gave was going to have to be supported by some pretty good independent evidence before I could accord it any weight. So was anything else he said from now on.

These thoughts were interrupted by Joey's pulling away from his

viewer and catching sight of me. The expression on his face indicated that Bert hadn't told him about me either. He was clearly astonished, and seemed delighted. He came over and shook hands violently, and seemed as frustrated as I was by the impossibility of talking. He looked around, probably for the writing pad, but Bert was already busy with the stylus. He held his words up for both of us to read.

"Joe, we know you're tied up for the next few hours at least, but will it be all right if I give you another assistant as soon as his first job is finished?" I appreciated his tactful skipping of my name and felt a little more willing to listen to his excuses when they came. I suspected from Joe's quick grin that he appreciated it too; a few weeks away from our section hadn't let him forget my chronic embarrassment at the handle my parents had inflicted on me or my self-consciousness about all nicknames offered as substitutes.

"More than glad," he wrote. "Check him out as quickly as you can, Bert. We need him badly." He came as close to slapping me on the back as the medium permitted, grinned once more and went back to his viewer.

I would have liked to make more of a conversation out of it, but was coming to see how anyone who had been here long might start to lose the urge for idle chatter. I could even think of a few people who would be improved by such a change in residence. I waved a farewell which Joe didn't see, and followed Bert back out into the control room.

I was going to put some pretty harsh questions to him, but he had the writing pad and circumstances made it difficult to interrupt anyone else's talk. He had stopped swimming and started writing by the time I got through the door.

"I didn't want you to know about Joe until after you'd had your talk with Marie," were his words. "In fact, I only just decided to let you know even this soon. I don't think she should know he's here, and I'm quite sure he shouldn't know that she is."

I grabbed the pad.

"Why not? It sounds to me like a dirty trick on both of them."

"If she knows he's here she'll want to stay."

"What's bad about that? You wanted me to stay, as you said, and I never denied she's more decorative than I am."

"She shouldn't stay because her only reason for doing it would be Joe, and you know as well as I do how much good that would do her. You know he doesn't care two cents for the kid. He *chose* to stay down here, remember. If she learns about him and stays, she'll be giving him a hard time, and we can't afford to have that happen. The job's much too important. If he gets distracted, or changes his mind about staying here, it's trouble."

"And why shouldn't he know about her?"

"For the same set of reasons. He'd know why she was here, and it would be as bad as though she were hanging around him in person. He never admitted it, but I think she was one

of the reasons he chose to stay here."

"You mean he disappeared on purpose? That he knew about this place earlier?"

"Oh, no. He got here just as I did, and as Marie did. He spotted a work sub that didn't belong to the Board and followed it."

I pondered. The story had some convincing aspects; Joe's attitude toward Marie was almost as well known as mine, though no one had ever convinced Marie of it. Few people had risked trying. Joey himself wasn't the sort of man who could tell a girl to run along, even if it were obviously the best thing for the girl as well as for himself. He'd feel it was somehow his fault for not falling for her.

"But why should you have had to lie to *me* about it?" I asked finally.

"Because you were going to see Marie, and I had some hopes you'd talk her into leaving. You'll forgive my saying that if you'd known Joe was here you wouldn't have been able to tell her that as far as you knew he wasn't. I'm not belittling your acting ability, but you wouldn't have believed it was necessary then."

"I'm not sure I do yet. I'm still in the dark about this very important job Joe has to do and I'm supposed to help with."

"True enough. We'd better get on with your education. Library next."

"Will these guards, or whatever they are, be with us to the end?"

"It's hard to say. They aren't guards, just people who are interested. You ought to be flattered."

(Oh, I am. I've never been a ce-

lebrity before." It's curious how hard it is to convey irony by the written word alone. Bert missed it completely, as far as I could tell. He swam back in the general direction of the tunnel we had come down, and the rest of us followed him.

As I had guessed, the way up was along a different route — maybe I should say a different pipe — with the current, as I'd also expected, carrying us up.

As usual the trip was not enlivened by conversation, though I found it wasn't too boring; the girl swam beside me instead of trailing behind with the others. As before, I didn't know how long the journey took.

I'm not clear how they controlled the current. It had carried us down one passage, it carried us back to the same room through another, but in the room itself there was no trouble in stopping. Bert opened the big door, and we shed our coveralls on the other side. Then he led the way once more.

I was a little surprised, and a little more disappointed, to lose our escort at this point. They turned off into another tunnel a few yards from where we left the coveralls. No doubt they, too, had to work at times. I put them out of my mind, more or less, and followed Bert.

This is one of the points where it's hard to be detailed without being boring. A library is a library, even when it's upside down. The books were ordinary in shape and style, if not in content. The films and cards were in no way remarkable. Like unballasted human bodies, most of

them tended to float. The chairs, tables and carrels were on the ceiling, with racks under — no, I mean over — the chairs for parking ballast belts. Not everyone parked them, though; many readers had their belts still on as they drifted in front of a reading screen or floated with a book in their hands.

The images on the screens were all of the general sort the girl had drawn on the writing pad, second cousins to electrical diagrams or grad-school topology exercises. I watched several of the readers for some minutes each and got the opinion that while they were reading in the same sense that the word usually implies, there was an important difference in technique. They did go page by page or frame by frame, as the case might be, spending half a minute or a minute on each before going on to the next. But their eyes didn't follow the regular back-and-forth routine of a book reader. They wandered irregularly over each page, like the eyes of a man examining a picture.

Still, I reflected, that wasn't too surprising. The same thing would happen to me if I were examining a wiring diagram. I was gradually coming to understand the situation, perhaps rather slowly by some people's standards. I hadn't thought of engineering drawings as a language before.

Bert floated quietly around for several minutes, evidently willing for me to study the place by myself. At last, though, he beckoned me over to one end of the room.

There was an unoccupied film reader here, and a fairly large case of books. It took about two seconds for me to notice that these were written in ordinary languages. Chinese . . . Urdu . . . Latin . . . English . . . Russian . . . I could recognize them all, even though I couldn't read many of them.

Bert started writing again.

"This stuff will tell you the story much more quickly than I can. It's no shock to you by now that a lot of people, not only Board workers, have found this place in the past. It's been here since before there was a Board. A lot of those people have stayed. Some of these books were brought here by them, some were written here by them. The information here is what convinced me of the things I told you — the business about attempts to get in touch with the Board about this place, and so on.

"Spend as much time as you need absorbing it. It's important that you get the whole story. I'll be back when it's time to eat."

He laid the pad under a chair — that's not quite the right way to say it; the pad was denser than the liquid, so figure it out for yourself — and swam off. There seemed to be nothing to do but start reading.

Now, I don't have copies of those books and tapes. And I know Bert was a liar. But take my word for it, there were far too many of them for him to have produced himself in the time he was down here. Most of them were handwritten, though some had been typed. I spent something like eighteen solid hours just

skimming the ones that were in languages I knew. (I shouldn't say *solid* hours. Bert did come back to take me to meals, and I also slept. There's no point in describing all the details of life, even if the environment did make some of them rather unusual). I'll boil down the picture I got of the situation to the smallest volume I can manage.



The place had indeed been in existence before the Board. During the final few decades before rationing, the separate political institutions which existed then were one by one coming to realize that man's energy reserves were indeed vanishing. A number of frantic attempts were made to avoid, or at least postpone, the consequences without offending public opinion — or rather, without disturbing public complacency.

My own historical knowledge is shaky, but I seem to remember that this was the period of the "crash program," which cynical engineers of the time used to define as an administrative attempt to produce a baby in one month by making nine women pregnant. You must know some of the results, like the Mediterranean-Dead Sea hydroelectric tunnel, the Messina, Key, Ore and Ararura dams, the Valparaiso thermocouple, the Bandung and Akureyr volcanic taps. Some worth while, and even valuable, some monuments to inept politics.

You know the further consequences of some of them — the disputes over output use which led to a

dozen minor wars, which in turn wasted more energy in a year than all the crash units together could produce in a human lifetime. And you know that the final result was the formation of the Board and general acceptance of power rationing.

During the period of friction several nations attempted to set up secret power plants, in the hope either of avoiding the covetousness of their neighbors or of providing themselves with energy reserves in case violent conflict did occur. Most of these "secrets" were secret only to the general public of the nation concerned long before they were producing — such of them as got that far. A few lasted for several years after Board rationing began. It had been assumed that the last of these had been found and tied in to the general power net many decades ago.

But here was another.

It was as simple as that — almost.

I didn't find in the records just what country was responsible. I didn't try very hard. The name would have been almost as meaningless to me, born more than half a century after country names had become merely geographical labels, as it would have been to Abraham Lincoln, who died probably twice as long before the nation in question existed.

It was probably a small enough country to be worried about its neighbors, and certainly a large enough one to be highly industrialized. The technique of deep-sea living which was being so effectively

demonstrated to me at this moment was not a product of casual, or even of crash-program, research. It must have involved a very long development period. Knowing something of the customs of the time, I'm still amazed that the secret was kept — though I can guess at the steps which in those days would have seemed normal and proper to achieve this end.

Anyway, they set up the station and had it running nicely before the Board and rationing became a reality.

Remember, it was a *secret*. It had to be. Only a handful of people would have known about it at any one time, other than the thousands of permanent residents. That handful, when rationing began and all power sources became public property, simply and quietly withdrew from the world and severed connections with it. A little ruthlessness may have been necessary, but I prefer to believe that the worst to happen was a little forced change of address.

At any rate, there was suddenly a new nation with a population of about fifteen thousand at the bottom of the Pacific. It was well supplied with manufacturing and synthesizing plants, and over-supplied with energy. Fifteen thousand people. As Marie put it later, fifteen thousand aristocrats — and more than fifteen billion Jacquerie.

More realistically, fifteen thousand cut flowers.

Most of the accounts I read expressed, or at least hinted, the belief that the severance of relations with the surface hadn't been meant





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to be so complete. It must have been obvious to all concerned that a population of that size was far too small to maintain a highly technical culture and equally obvious that only a highly technical culture could live under those conditions. They presumably meant to maintain intellectual contact with the rest of mankind — probably they even meant to maintain physical connection, since it's hard to believe that they expected to be able to manufacture every piece of equipment they needed to keep themselves going.

But they didn't maintain those contacts. They couldn't. They might possibly have managed, even in the face of the unexpected difficulty, if what contact there was didn't have to be surreptitious; but the two factors together broke the link.

The unexpected difficulty might have been foreseen if the station had been running for more than a very few years before the break; there would have been some eye-opening experience. As it was, the experience came later.

A technical culture has to be a literate one, at least until some adequate substitute for the reference book can be devised. Did you ever consider the problem of teaching a phonetic language like Russian or English to someone who had never heard a spoken word and can't produce a sound himself?

All right, I know it can be done by a highly trained specialist. What do you do, though, for the specialists needed when no one in the en-

tire population can speak a word and you want to teach the new generation to read Farrington Daniels's *Mathematical Preparation for Physical Chemistry* or some similar basic work? You're not qualified yourself. All your neighbors are in the same boat. The kids themselves are playing around together, presumably communicating by signs of some sort, but what are the chances of the signs they've invented for themselves being useful for explaining elementary vector analysis? Even elementary discipline questions are hard enough to get across; in this medium it's impossible to administer a decent spanking.

Still, you've got to produce a certain number of competent engineers and technicians with each generation, or the whole group is going to die in the darkness and chill of the ocean bottom.

What *you'd* do I don't know, but this group leaned heavily on pictures. I don't know the details. There were differing versions in the books I read, and I suspect that many of them were guesses on the part of the writers. There must have been a lot of determination, some panic, a high general intelligence level and a certain amount of plain luck involved. As it came out in the end, the grandchildren of the original group had the use of a highly workable written language which must have evolved, just as I'd suspected when I saw it, from electrical and engineering diagrams — the sort of things where the connection between symbol and experience could be most easily shown to the growing children. The

gesture language was a derivative of the written one, with gesture patterns standing for drawn symbols in much the way that our phonetic written languages are derivatives of the spoken equivalents. Think over the details yourself; I'm still incompetent.

What I could see was that children who had never heard a spoken word and had grown up using a language which is basically pictorial, with a back-up code of gesture symbols, are going to have quite a time learning a language which is basically oral, with a back-up code of written phonetic symbols.

I don't say it will be impossible for them. An intelligent and determined person can accomplish remarkable things. I do say that very, very few of them are going to consider it worth much effort. The majority, however intelligent, are unlikely to be determined.

Of the few that will make the effort, none will have much confidence in their own skill, because they will never have had a chance to check it except on each other. They'll be like a social club which has decided to learn Sanskrit as a project and has only books to learn from. There'll be some uncertainty even in matching an engineering text with the machinery it's supposed to describe. Given the choice between using the original maintenance manual, printed in chicken tracks which really stand for sounds they've never heard, and using the notes made for their convenience by the maintenance workers who already know the machines — which are the kids going to do for homework?

Of course, the original books are still available as the years go on. They certainly aren't getting worn out. Unfortunately, as the years go on the original books become less and less useful. They need modern texts, in one sense; but there are two strikes against the modern text.

First and obviously, they can't read it. Second, it's about as directly useful on machines designed and built a century or so ago as the manual on a power lathe would be to a flint-axe maker of thirty thousand B.C.

The machines designed and built so long ago have lasted well, but not perfectly. Routine maintenance must, more and more often, give way to major repair and even replacement; the original books don't cover these problems even if they could be read. The notes of the maintenance engineers certainly don't cover them.

So these people need helpers from the surface, either engineers who can do the necessary work without following a manual, or else harder-to-define experts who can take modern books and transfer their meaning to the local maintenance specialists. Maybe school-teachers would be the best term.

In other words, they need Joe, and Bert, and Marie, and me. They need practically anyone they can recruit from the surface. *Need* us. Marie's hypothesis was perfectly right. They've been getting people like us for decades past — the people whose writings enabled me to figure all this out — and their survival depends on keeping it up.

But that gave food for another thought.

It was easy enough to believe that a certain percentage of the people who had come to this place, either accidentally or as a result of surreptitious recruiting, had been persuaded to stay of their own free will. It was much harder to believe that all of them had been. What had happened to those who had not agreed?

I could see two possibilities. One was the fate which Marie seemed to expect if she tried to leave. The other was the explanation Bert had offered, that they had been allowed to return to the surface unharmed but that the Board had covered up their stories or reports.

But Joe was a proven and admitted liar. He might also be wrong.

There were references in the books I had read to visitors who had arrived, but of whom nothing more was mentioned. Of course if they hadn't stayed it was unlikely that anything would be — either way. I didn't like to believe that violence had been used — I preferred to believe that Bert was right. Still, Marie was far from stupid, and the morals of this isolated culture might well be those of a century or so back. In fact, in some ways they obviously were.

It was enough for me that there was even a possibility that Marie might be in danger.

For once, I was in complete agreement with Bert; she had to be persuaded to leave at once. Furthermore, she should be guarded until she was

well away from here. Guarded by me. That meant two jobs, of which the first was likely to be the harder. Marie had listened to Bert's arguments about her leaving for several weeks, with no result except a complete undermining of her trust in Bert. How could I possibly do any better?

I claim to be a reasonably good engineer, as I've said before, and I can run a competent investigation when the subject is an essentially technical one like tracking down where power is going. I'm not a plotter, though, in the real, old-style meaning of the term, and for a while I was completely stumped by this problem. I suppose what blocked me so long from a working idea was a natural reluctance to tell anything but the truth to Marie, backed up by an even greater dislike of causing her unhappiness.

I don't know what finally broke through that block. Suddenly, though, it seemed as clear as day that if Marie were bound and determined to stay as long as she believed that Joe might be alive down here, she would presumably go if she were to be convinced that he had died down here.

I didn't like the idea. I don't like lying, especially to people who trust me and most especially to Marie. I went through the usual stage in childhood where lying seemed the easiest way out of all troubles, but some very good teachers and a pair of understanding parents, assisted by a close friend with a good right cross who outweighed me by fifteen pounds, had helped me outgrow it.

In the present case, I had to tell myself repeatedly that it was for Marie's own safety before I could decide it was proper to do.

How I convinced myself that it would also be worth the unhappiness it was certain to cause her is something I choose not to discuss. Once I was convinced, the plan was so simple that I wondered why Bert had never thought of it. After all, he seemed to lack my prejudice against falsehood.



I suggested it to him at the first opportunity, and he couldn't see why he hadn't thought of it either. He approved strongly, and complimented me as eloquently as developing writer's cramp would permit. Then he set to work on arrangements.

The plan was simple enough. Joe's sub was still here, of course. We would simply wreck it, tell Marie we had found the remains, and if necessary show them to her. A little care would make sure that the registry number and enough other identification features remained recognizable. With that much agreed, we set out for the dock where the boat lay. We'd have been able to get to work the moment we reached it, except for the fact that the half-hour swim without communication had enabled each of us to work out all the details. When we resumed conversation, the details didn't jibe, and it took half an hour or so to reconcile them. With that, actual work and Bert's search for people to help us with

transportation, more than six hours passed before we were really ready to move the sub outside.

We didn't attempt to run it out under its own power, though that would have been possible. It had been allowed to fill with the living-liquid at local pressure after Joe had been converted. We were able to work on its inner plumbing with no trouble. We thought of bringing it back to the "operating room" and connecting it with the transfer lock so that we could pump room and sub back down to surface pressure, but an easier plan had occurred to me.

Like all deep-work machines, Joe's vessel had very large lift and ballast tanks. The former still worked, not having leaked enough flotation liquid to matter, judging by the sub's present buoyancy. The latter, of course, were now full of the liquid which formed our regular environment. They were in two major units extending nearly the full length of the hull parallel to the keel, with each unit divided into four cells by bulkheads containing valves and transfer pumps.

We opened all these valves. Then we cracked the seals on the maintenance ports without opening them completely, so that fluid could bleed between the main hull interior and the ballast tanks. The ballast scavenger pumps would now, given time, empty the hull as well as the tanks.

Finally, we arranged for the collapse of the hull. I had taken for granted that we could use ordinary explosive squibs, forgetting how sound affected a person living in

liquid. The things simply weren't to be had; they were never used here.

We finally settled the problem — we thought — by opening all the interhull inspection plates and removing as many of the bolted braces — the ones which had to be removable for maintenance purposes — as possible. It seemed pretty certain that pumping out the hull now could hardly help but cause it to collapse.

A good deal of time was wasted trying to improvise something that would start the ballast pumps either by time or from outside. It finally occurred to someone — not me — that there was nothing to prevent us from starting them from inside and then leaving, shutting the lock after us. Pressure would not start to drop until the hull was sealed off from the ocean.

That seemed to finish the job. The sub was already weighted in near-equilibrium with outside ballast, so we picked it up and began to swim toward the nearest entrance. There were ten of us altogether, and the load wasn't too bad. We brought it to a halt under the roof opening, pushed it up until it met the inter-face and left it there while we donned outdoor coveralls.

I wasn't yet accustomed to these. I hadn't yet gotten around to asking what the little tank on the back was for — my theory didn't account for it, as you may remember. There was no chance to ask now. Bert helped me to adjust everything properly, though I wasn't sure what he was doing part of the time. In

three or four minutes we were casting off the outside ballast, and the sub was entering water for the last time.

We left a little negative buoyancy on her, and some of us walked supporting the hull while the rest swam and pushed it. Bert and I hadn't made any special plans about where the wreck should be staged; obviously it shouldn't be too close to an entrance, or there'd be little excuse for not having found it sooner. On the other hand, it wouldn't be possible to carry the thing too far away. We gave it an hour of travel and then let the hulk settle to the bottom.

Personally, I couldn't have found my way back to the entrance we had used, and it would have been sheer luck if I ran into one. Bert and the others didn't seem worried, however. I assumed that they either knew the ground or had some navigation scheme I hadn't yet learned about. The only light came from our own lamps, whose radiance formed a tiny glowing dome in the immense blackness of the Pacific. We were far out of sight of the tent area, as I still called the farm region in my own mind. I didn't even know the direction in which that lay, and knowing would have done no good since I had no compass.

Bert gestured me toward the sub's lock. I opened it and went in. In a way, I hated to do this, but the idea still seemed good.

What I had to do inside was done quickly; it amounted only to closing two switches. I closed the locks behind me and joined the others.

We had recharged the boat's bat-

teries, and there was no worry about there being energy enough to empty her. I was quite proud of remembering that point — large as the tanks were, adding the hull volume to them meant a tremendous additional job for the pumps. However, I had barely reached the rest of the group when we were reminded of something neither Bert nor I had thought of, and for which there was not the slightest excuse for either of us.

Emptying the ballast tanks with the flotation tanks still full put positive lift on the boat. Naturally, she started up.

Fortunately the initial rise wasn't too quick. I was able to catch her, open the lock under power — I couldn't have done it manually with pressure difference already set up — and unseal and open the lift-jettison valves. By the time I got outside again the ship was a couple of hundred feet from the bottom. The swimmers were flocked around covering the scene with their lights: I looked at the top of the hull and saw the oily stream of lift fluid pouring out. The rate of climb was already slowing, and in a muinte or two it ceased and reversed. We followed the ship back to a place on the bottom not too far from the one we had picked.

And there we waited. And waited. And waited.

The helpers talked finger-language among themselves. Bert and I couldn't talk at all, since the pad had been left back at the entrance when we had donned the coveralls. We each knew just about what the

other was thinking, though, and as time went by and the hull just lay there we began to exchange inquiring glances.

The pumps had had time to handle the total volume by now, certainly. The inside of that ship should be practically a vacuum.

We had paid no attention to what was left in her air tanks. There couldn't have been enough to matter at this pressure. No bubbles had appeared from the ballast vents, but any air released by the tanks inside might well have gone into solution at this pressure before being ejected.

The problem was not whether the inside pressure was zero or some small number of atmospheres, though; it was what we could possibly do about the hull's failure to collapse. The pressure would stay down until long after the pumps ran out of fuel, and even that would be a long time since they must now be running free. Considering the general reliability of Board equipment, it could be months before some tiny leak let the internal pressure build up again to the point where even power could open the locks. I didn't know how long we could sit around without more oxygen-food, but it certainly wasn't months. As a matter of fact, it was going to be fairly hard to explain the three days or so which had already passed since I had seen Marie. Any more would be much harder, but I couldn't afford to see her again without a convincing story about Joe all ready.

A depth charge would have been helpful. Even a squib would probably have been enough; the hull,

after what we had done to it, must be very, very close to its limit. Unfortunately, there were still no explosives available.

All I could think of was to take the sub back, have Bert or me go into the conversion room, attach the sub to the lock which was supposed to connect the room with just such visitors, go through whatever had to be done to get the man back to surface pressure and pump the room back down so he could get into the sub to start everything over. I didn't like the idea. I was pretty sure Bert wouldn't either, but I couldn't find out under the circumstances. It wasn't the sort of idea which could be transmitted by any gestures I knew. It was going to take quite long enough with the writing pad.

I did manage to make Bert understand that we would have to go back for the pad and a conference. When I tried to indicate that the sub should be brought with us, though, he vetoed the suggestion flatly. After a minute or two I stopped trying to push the idea. As I said, I wasn't too fond of the basic plan anyway.

He made some gestures to the others, and all but four came with us; the four settled down on a level patch of mud twenty yards from the ship and started a game of some sort. At any other time I'd have been curious about the details.

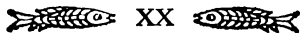
The swim back was, of course, much quicker than the one out — or rather, would have been if we had made it.

I don't know how far we got in

the eight or ten minutes we were swimming. I suppose a quarter of a mile is a reasonable guess. I'm not the world's most efficient swimmer, and even I wasn't overworking.

The interruption, like so much else which had gone wrong with our plans, should have been foreseen, but none of us had foreseen it. If we had, we wouldn't have been waiting anywhere around the sub after her ballast pumps had started.

It was obvious enough in nature, and the only reason I didn't realize what had happened in the first second after the event was, of course, that I wasn't really conscious.



If you submerge yourself in water and have a friend knock a couple of large rocks together repeatedly, starting twenty or thirty yards away and coming closer until you can't stand it any more, you may have some idea of what happened.

I can't describe how it felt. In fact, since it knocked me unconscious for several seconds, it isn't right to say that I felt anything. There was sensation of a sort, though; perhaps if I were sure just what it feels like to be hit with a sledge hammer simultaneously on every square inch of my body I might use that as an illustration. As it is, I'll have to let you use your own imagination, aided if you like by the experiment I suggested a moment ago.

The shock affected all of us



about equally. It was a minute, perhaps more, before we were swimming as fast as we could back toward the place we had left the others. None of us had any doubt about what had happened; none of us was really eager to go back to the scene.

But we hurried.

I had expected to find four bodies in the mud where our companions had been enjoying their game, but it wasn't that simple. The wreckage of the sub was about where it had been, as far as I could tell. But the shock wave as the hull imploded had kicked up a cloud of ooze which was still settling, and our lights showed us very little. We stayed close together and swam through the obscurity in all directions, searching every square foot of bottom not only for obvious fragments but for signs of objects buried under recently settled mud. That took no communication to arrange.

We found one of the men partly buried about fifteen feet from the nearest part of the wreck. He seemed intact as far as gross injuries were concerned, but I knew he couldn't possibly be alive. The shock wave had knocked us out at several hundred yards, and the inverse square law applies under water, too.

We could find none of the others on the bottom, but as the mud settled another of them became visible about twenty feet up, rising very slowly. A thin trail of oily droplets was leaking from the base of his helmet. I hadn't stopped to

think that with the dense liquid filling them, the suits must also have flotation material to let the wearers swim in water. With the heavier liquid leaking out, the fellow's buoyancy was going positive.

That made it fairly obvious why we couldn't find the other two. They had probably sprung faster leaks. I could imagine them somewhere above us in the dark, ballooning toward the surface with the last of the liquid that had made their strange lives possible dribbling back toward the sea bottom. I thought of looking for a rain of oily drops which might let us track them, but I had no way of communicating the suggestion to the others, and it was pretty obvious that our lights were far too weak for such a search anyway. The rest of the group had the same general idea, evidently. With the two bodies in tow, we headed back toward the entrance.

I wished there were enough light to read the facial expressions of our companions. I would have liked to be able to guess how they felt about the foreigners whose operations had killed four of their friends. I didn't know what reason Bert had given for the whole procedure; maybe they thought it was an important piece of engineering research, or something like that. I hoped so. It was bad enough feeling guilty myself, without having the rest of the population down on me too.

I also wished I knew how Bert felt. The victims might have been close friends of his, for all I knew.

I thought I might get some idea when we reached the entrance, but I was disappointed. There was plenty of excitement when we came in, but I simply couldn't tell what most of the facial expressions meant.

I hadn't realized how conventional such expressions actually are; unless you've grown up in a society where there is a standard face mask for anger, and another for disgust, and so on, reading faces isn't a very safe way to collect information. The people might have been angry, sad or disgusted; I couldn't tell. There was much gesturing among them as the bodies were taken away, and a certain amount between some of them and Bert, but all I can say about their feeling toward us comes from the fact that we weren't mobbed. I couldn't even be sure that that situation would last; maybe no close friends or relatives of the victims happened to be present.

Activity around the entrance took half an hour or so to die down to normal. The bodies were finally gone, the men who had been with us had swum off about their own affairs and the swimmers one always seemed to see around any of the entrances were paying no more attention to us than usual. For some of them, that was a good deal; the girl who had gone down to the power section with us was back with her friends.

Bert was finally able to use the writing pad again. There was a lot I would have said — I was still feeling shaken, and guilty, and a

lot of other things of which stupid was the kindest — but the same old communication trouble blocked me. There are some times when a man just can't talk fast enough, and a lot of times when he can't come even close to writing fast enough.

I rather expected Bert to say something about what had happened, since I was sure enough of *his* facial expressions to know that he'd been hit pretty hard too. But his writing was confined strictly to business.

"That should convince Marie, if anything will. The best thing will be for you to go to her now, tell her Joe's sub has been found wrecked and try to persuade her to take her own boat out to see it. Then she may be willing just to keep on going. If she won't believe you and insists on staying put, we'll have to bring the wreck in. That'll *have* to work. I don't know what we'll do if it doesn't."

"You could stop feeding her."

He looked at me and raised one eyebrow.

"Could you?" he scrawled. I shrugged my shoulders, but knew I couldn't.

"Lead on," I wrote. He led.

The speechless pauses while I was going from one place to another would have given me all sorts of opportunity to think, and maybe even to see holes in the fabric I'd been so busy weaving, if I were only another hundred per cent or so quicker on the uptake. As it was, the next twenty minutes of swimming brought me no ideas at all

except details of what to say to Marie.

None of these represented first-class plotting. I was still very uneasy as I swam up to her sub — Bert had stayed out of sight, as before — and tapped on the hull. Fortunately, that attitude fitted perfectly with the act I was supposed to play.

Marie answered almost at once, and her face appeared at the conning port. It was nice to see another set of features on which the expression could be read, even though the expression wasn't all I would have liked just at first. It softened a little when she recognized me, though. As before, I couldn't be sure of her vocal intonations, but the words came through understandably enough. "Where have you been? I was beginning to think they'd disposed of you, too." I answered the important part of the remark on the pad.

"Finding things out."

"From Bert?"

"No. They have a library here, much of it handwritten stuff by other people who have come down here in the past — and much too much of it for Bert to have written himself. The writings are pretty consistent, and I think I have a fairly sound picture of the whole situation."

"What did you learn about Joe?"

I hesitated. I had been sure the question would come early, and I had my lie all made up, but telling a lie to Marie came hard. I told myself again that it was in a good

cause and started to write, but she had already caught my hesitation, or maybe the expression that went with it — I've never claimed to be an actor.

"You *have* heard about him, haven't you?" I nodded.

"And he's — he's —"

She fell silent, watching me through the armor glass. I nodded to that, too. It was easier than writing an out-and-out falsehood.

I couldn't see anything but her face, but I could imagine the clenched fists. In fact, I had to wince as what was probably one of them struck the inside of the hull and sent a painful sound wave pulsing out into the room. Her voice came again.

"I was right. He wouldn't sell out. He wouldn't give up everything a decent person believes in, so they killed him."

"Why should they destroy him that way?" I countered. "It could have been done much more easily while he was inside, as he must have been when they were talking to him if you're right. They could have let him suffocate or starve — which they haven't done to you, remember — when his supplies ran out. They wouldn't have wasted the sub that way, either."

"Simple. Because they wanted the death to occur outside, with him in the sub, so that when a search was made it would appear a regular accident. I'm surprised you didn't think of that." At least she didn't say "*even* you."

I'm slower-witted than Marie and know it perfectly well, but I *had*

thought of that, as well as an answer for it.

"Don't be silly. Who'd be surprised, or even suspicious, at finding nothing when they did search for him? The Pacific has a lot of square miles at its bottom, and even more cubic ones on the way down."

For a wonder, she had no answer to that, and was silent for several seconds. When she did speak again, she had dropped the subject of Joe for the moment and asked me to tell her what I had learned from the library.



It took a long time, but I did my best. She read each page with care, sometimes nodding silently, sometimes asking questions after finishing it. I answered them all as my knowledge permitted.

About half her questions had to do with how heavily I had depended on Bert for my information. It must have been over an hour before I had painted about the same general picture for her that I had formed myself.

I closed with the plea that was the key to the whole plan.

"Marie, you've got to get back and report all this. Whatever Bert may have said about your staying, the Board has got to know everything. Bert and I will get back on our own when we can, and you don't have to consider Joe any more."

"Bert? Why should he want to go back? I know he's staying. He

admitted it. He's had a taste of doing what he wants, without having to consider other people. He tried to talk me into doing the same, the dirty beast. The fact that he's staying here is the only thing that makes me willing to listen to your suggestion that I go."

"I don't believe that of him," I wrote. "He told me he was staying, too, but implied that it wasn't permanently. My feeling then was that he'd joined to find out what we need to know and would come back when and if he could, just as I did."

"I can believe it of *you*." She fell silent again and thought for several minutes while I listened to my own heartbeat. It was the most encouraging thing she'd ever said to me, and I felt worse than ever about the lie. I had to tell myself several times more that it wasn't for her own safety.

Her own safety wasn't Marie's concern, however. She made that clear enough in the next few minutes. When she finally did speak again, it was clear that she'd been doing some rapid planning.

"All right," she said. "I'll go, though I still don't think they'll let me get away. There'll be some sort of accident. I've an idea, though, which just might tell which of us is right about this."

"I looked at her inquiringly, but didn't bother to write anything.

"You seem to believe that they're willing for me to go back and report to the Board, and that the change that's been made in you and Bert can be reversed so that you can

come back and breathe air again when you want to. Right?" I nodded. "All right. I don't believe either of those items. To find out, you just swim off and tell Bert that I'll go back if he'll come with me, in this sub. He can come back down afterward again if he likes, but I'll be much more convinced of his yarn if I see him breathing air again, and I'll feel a lot safer if he's in this boat with me when I drive it out of here. Now tell me why you think that's a silly idea and a waste of time and effort, and all that sort of nonsense."

I didn't need air-normal sound transmission to know there was sarcasm in her tone; I couldn't hear it, but it was certainly there. She didn't trust me entirely, either. At least I could get some satisfaction out of surprising her with my answer.

"It seems like a fine idea to me," I wrote. "I'll find Bert and put it up to him. I suppose you wouldn't accept me as a substitute if he prefers to stay a while longer."

Her expression changed a little, but I wasn't quite sure what the new one meant.

"'Fraid not," she said. "It would prove your point about the return possibility, but I don't think you'd make as good a hostage." That was some comfort, anyway. "We'll play it my way, as far as it goes. Go find Bert and learn what he says."

I swam off obediently. Bert was waiting in the entrance chamber this time, apparently improving his knowledge of the finger language

with the assistance of our same old followers, the girl and her friends — two of them, anyway. I couldn't have told which was the missing one.

I had boiled everything down to one sentence on the pad and showed this to him the moment I was close enough.

"Marie says she'll go if you'll change back and go with her."

He stared at it for a full half minute without even moving to take it from my hand. Then he suddenly snatched it and, without clearing the writing, swam off down the tunnel toward the sub. The rest of us followed. He streaked over to the conning port where her face was still visible and held up the pad with my words still on it. She looked at it. He pointed at me and back at the pad and put on an expression which anyone, regardless of cultural background, could have read. She answered aloud.

"That's it, Bert." He cleared the page, looking at her in a puzzled fashion.

"Why?" he wrote.

"I may explain later. Will you come?"

His answer startled Marie. I wasn't sure what it did to me.

"Sure. I may have to come back later — there's useful work to do down here. But it might be best if I went with you now anyway. There's a lot to be reported that there hasn't been time for either of us to tell you." I thought that was a pretty tactful way of passing off her refusal to listen to him all those weeks. "I could make a more

thorough job of it." He paused in thought, even longer than it took Marie to read the sentences. Then he went on, "We'll tow your sub to the operating room — it'll be easier that way than for you to pilot it — and connect it to the lock. I'll go in and get depressurized. They won't argue too hard. I can come in through your lock then, and we can go back up together." He turned to me and added the word, "Okay?"

I wasn't sure it was okay. Without Bert I wouldn't be able to do anything useful, as far as I could see. No doubt the girl who was still watching us, and her friends, might be willing to keep me from starving until I learned my way around. They might even guide me back to where I could work with Joe, if that was to be my main occupation; but I couldn't see what use I'd be to the Board that way. I hope it's been obvious that I never intended my residence to be permanent, as Joe apparently had. I hadn't been lying to Marie about *that*.

There was no use suggesting that I go back with the two of them. The sub wouldn't take us. It was built for one, and crowding Bert in would be hard enough.

Then I remembered that Bert's town sub should still be around somewhere. I grabbed the pad.

"Why can't we all go back? I wrote. "Your boat must still be here, too. If Marie feels so strongly about having you in hers, I could still use yours. You can still come down again, or both of us can, if the job seems to call for it."

It seemed like a fine idea to me, and even Marie appeared to approve of it, but Bert had a question or two. I had to admit he raised good points.

"The operating room will handle only one at a time. Once I'm done, there'll be communication trouble during your own depressurization."

"You could explain the whole program to them first. For that matter, I could go through it first."

"I'm not sure I could explain it too well. Remember, I'm no expert in this finger-wiggling."

"But why couldn't I go first, with you directing which sub was to be connected, and so on, until it was your turn?"

"You could, I suppose. We'd better check my boat, though. It's been here a long time and been used for regular work here. The flotation system will certainly need going over. I'm not sure I'd like to risk it against pressure differential myself, but we'll see. We'd better check that first."

Marie had been reading our conversation and nodded approval, so our flock went off to look over the vessel.

He was right. The flotation liquid was completely gone. It hadn't been used even locally for months, since there were no facilities for making the hydrocarbon its buoyancy tanks were designed to use. The local machines used the same sort of low-density solid employed in the swimming coveralls; it would have involved major structural changes to put that into the submarine. No one had considered it worth the trouble.

"I could use one of the local boats," I suggested when this became clear.

"Don't try it until you learn the language," was the rejoinder. That seemed a little silly. A sub is a sub, and you either understand them or you don't. A look into one of them educated me, though.

I still don't see why their control panels are made that way; the laws of physics are the same down here as up above. Apparently the difference in basic thinking which goes with that weird graphic language extends into more factors than mere common sense would lead anyone to expect.

It began to look as though the other two were going back alone. Bert seemed quite resigned to it, and even I was getting that way. When we went back to Marie with the word, though, she came up with another of her ideas. I've come to suspect since then that she had something more in her mind than just getting me back to the surface, just as she had when she insisted on Bert's going along, but she didn't confide in me. Of course, that may have been because there was no way for her to speak to me alone.

"There's plenty of spare buoyancy in my tanks," she pointed out suddenly and firmly. "Just attach that wreck of Bert's to my tow-lugs, and we can haul it along. You say the hull's sound enough to hold against the pressure when you pump it down again."

Bert seemed startled, no doubt because he hadn't thought of that him-

self. That was my suspicion, anyway. But he promptly agreed; and so it was settled. He went off to get help in towing the subs and to arrange for the operating room, and I took advantage of his absence to write a remark or two to Marie.

"You seem to have been wrong about Bert. He certainly took you up fast enough on that test suggestion."

"So I noticed."

I waited for further comment, but got none. I suppose I should have known better than to expect any. When she did speak again, it was on a wholly different subject — I thought.

"Be sure you check the bits on both subs very carefully."

I nodded, surprised; that was too standard a procedure to call for special comment.

"And the lines, too. You'll use mine; they're newer." I agreed silently, wondering and perhaps hoping a bit. Anything from Marie that sounded like interest in my welfare was enough to make me hope. I was still several miles behind her reasoning, only partly because I hadn't started out with the same set of prejudices. She wanted it that way, I guess; she firmly changed the subject by asking about the people who were floating beside me.

"Who are your friends? Is the lady one of the reasons you decided to stop breathing air?"

"No!" I wrote emphatically. "I never saw her to my knowledge before I made the change." I couldn't understand why Marie was laughing. "I can't introduce you, because I've never heard their names. With this

language, I'm not sure what a personal name would be like. Maybe they haven't any."

She grinned for the first time since I'd seen her down here.

"That accounts for your staying, then. No, don't bother to point out that you didn't know about the language till afterward. I know you didn't. It must be a strong recommendation for the place, though, now that you do know about it."

As it happened, I hadn't thought of that. She was quite right, though. That was one nuisance of my life which couldn't possibly follow me down here. Marie was watching my expression and, I guess, reading it like a book. She laughed even louder than before. The sound wasn't much like laughter under the circumstances, but it was different enough from ordinary speech to catch the attention of my attendants. They looked from me to the sub and back, but could make nothing of it. The girl smiled again, though.

Marie was right, in a way. If I did have to stay down here for any reason —

I killed that thought firmly. Where Marie went, I was going, sooner or later.



The party grew almost gay for a while as we waited for Bert. Both Marie and I tried more communication experiments with the girl and her friends, but only the most elementary signs made sense to them, and not always even these. We even tried to get the idea of a phonetic

alphabet across, Marie providing the sounds and I the symbols. But it was hopeless.

This wasn't entirely due to their own background deficiencies; sounds were modified enough in this combination of media so that basic letters no longer abstracted the same parts. For example, "p" and "s" didn't sound as different as they should, and when you put them together in a word like "speak" the combination of symbols had even less resemblance, or I should say recognizable relation, to the combination of sounds. About all that was accomplished before Bert came back was to convince even Marie that there was a genuine, serious problem in communication to be solved.

She wasn't even yet, convinced that it was worth solving. She was willing now to think of these people as a whole separate culture rather than a group of criminal fugitives from our own, but she still thought of the culture rather as a dignified lady of mid-nineteenth century Boston probably regarded the South Sea cannibals her missionary society had told her about.

At least, she was polite to them.

The politeness faded a trifle when Bert came back with bad news. The Council, it seemed, would hear nothing of letting both Bert and me go back to the surface at the same time. Either one was all right, but not both.

I was dumfounded and unable to fit this into my picture of the situation. Marie didn't actually say "I told you so," but the look she gave



me carried the thought completely. It was unfair, since she hadn't. She might have guessed it for herself, but she hadn't told me.

Maybe it was that look that stiffened me up again. I reminded myself that the main thing was to get Marie back to the surface safe and sound. After she'd reported in, the Board would certainly open communication with this place, no matter what Bert thought, and there'd be all sorts of other chances to get back myself.

I still, you must remember, didn't believe Bert's claim that the Board had ignored or buried earlier reports of this installation. My feeling was based mostly on my personal prejudices as a long-time Board official; I just couldn't imagine the organization's doing such a thing.

So it still seemed sensible for me to let the other two go back together while I stayed on temporarily. I said so, without all the background thoughts, on the pad. Bert agreed at once.

Marie seemed a little less enthusiastic now, but finally decided that this was acceptable. Bert suggested that he go off once more to report the new situation to the Council and find help for towing the sub, but she countered with the idea that she drive it herself with one of the natives swimming ahead as a guide. Bert could tell the guide where she was supposed to go.

I was a little surprised that she was willing to take the boat anywhere without Bert along, in view of her stated plan, but I realized that she

might have thought of several new aspects of the matter since then. I hoped she might want me to go with her to the conversion lock instead, but she made no mention of such a thought. Once again I felt 'way outside as far as her plans and ideas were concerned. We waited until Bert had finished waving at one of the men, which took quite a while. Then the fellow set off along the main corridor outside the room, and Marie lifted her boat from the floor and followed in his wake — that's not a very good word, since he couldn't leave a visible wake under the circumstances, but you know what I mean.

Then Bert started off to make his arrangements with the Council.

He had almost disappeared when I thought of something and had to hurry after him. Fortunately he wasn't being very hasty himself or I'd never have caught him; it was a major nuisance, having no way to call out to get someone's attention. It occurred to me that there ought to be clickers or tappers or something of that sort for the purpose. It then occurred to me that maybe there were, and I simply hadn't learned about them yet. Anyway, I did catch Bert and quickly wrote a question.

"Shouldn't someone let Joe know where you're going? He's going to be in almost as bad a mess as I am without you."

Bert thought for a moment, and nodded.

"Probably best, yes. You'd better do it while I see the Council. Only for Pete's sake don't let it slip that

Marie is here." I looked properly indignant. "I'll have one of these folks show you the way. He ought to be off shift right now, though he often stays longer than anyone expects. Anyway, you can try his quarters, and then the farms, before going back down to Power Control." He turned to the others and began gesturing again. He finally managed to get his wishes across, though it was still evident that he had spoken the truth about knowing only a little of the gesture-speech.

I wasn't disappointed to have the girl touch me on the arm and beckon me to follow. We still had company, but things could have been worse.

Bert must have gotten across with his gestures just about what he'd written. We went first to what was obviously a private residence — at least, it was obvious after we were inside. Its door was just another of many along one of the tunnels. The girl used the first audible signal I'd heard since arriving — a very ordinary, though very gentle, knock on a round panel beside the door.

When this went unanswered for half a minute or so she opened the door and swam in. Evidently standards of privacy were different here. The apartment was divided into three main rooms, seemingly on a basis of use; one seemed to be for sleeping, one for reading and similar solo activities and the largest for more public gatherings. Joe wasn't in any of them, and the girl led us out again and off in a new direction. A short swim took us to another of

the upward-slanting tunnels leading to the farm area. I was more alert this time and caught the change in slope.

Out in the open, she stopped and looked around to see whether Joe was in sight. I spent some of the time she was looking in trying to calculate the size of the farm area from what I knew of the population size and the number visible eating at one time. I decided I'd need a better estimate on how long the average citizen spent both at meals and between them before my results could mean much.

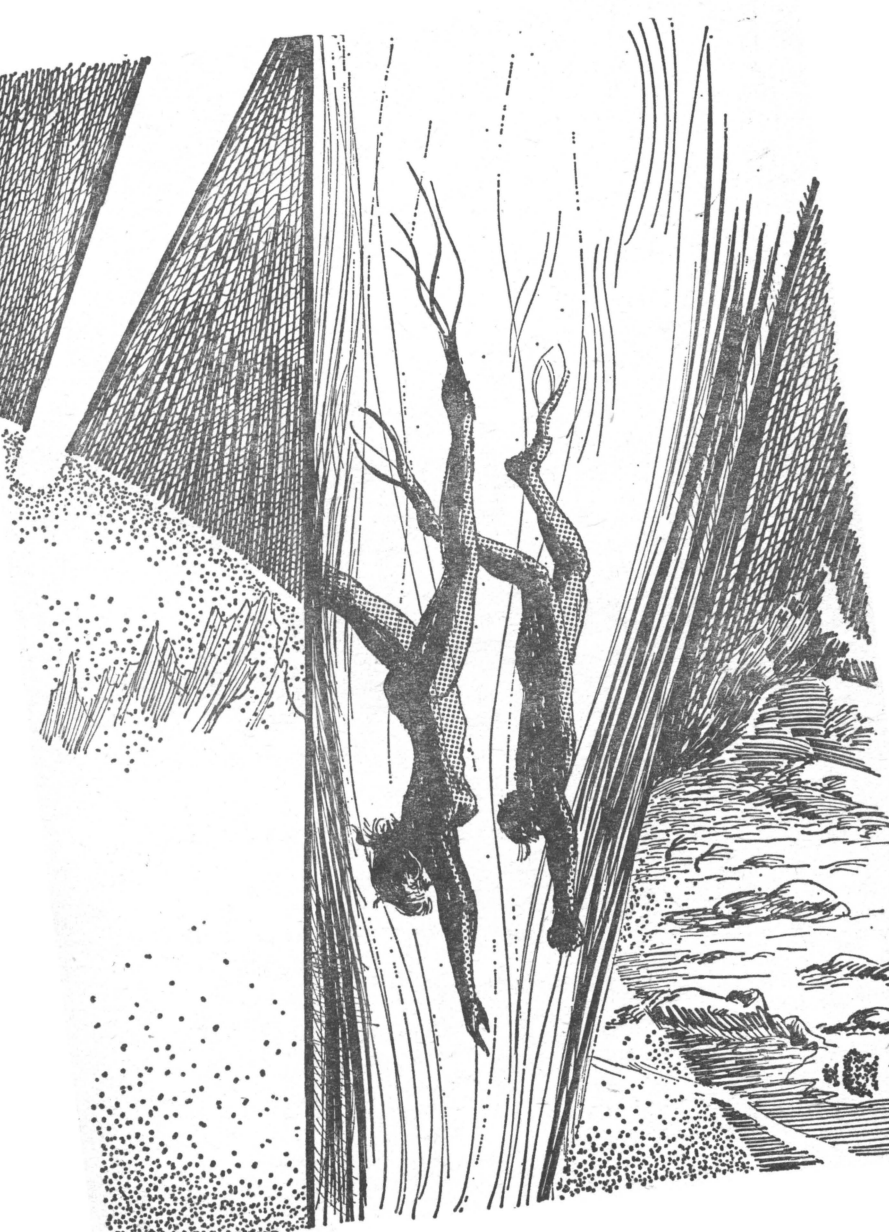
It took about five minutes of looking and questioning others for the girl to find Joe. I spent some of that interval writing my message to him, so that when we did catch up with him I was able to give it to him without delay. It merely said that Bert was taking a trip to the surface, and that I understood I was to start working with Joe as soon as he could use me.

Elfven nodded his head, took the pad, wrote, "All right, I'll be going back to work in a few hours. I have to sleep after I finish eating. Can you find your way to the control room yet?"

"I'm not sure, but I seem to have a good guide," I replied. He glanced at the girl and nodded again.

"I wish I could make something out of one or the other of these communication methods," he wrote. "We're going to have an awful time without Bert. Why is he going himself, instead of sending you?"

"He seems to feel that he can make a more complete report than



I can," I answered. "I suppose he's right. As long as we're working mostly with each other we won't miss the language too much."

Joe shrugged, suggesting that he wasn't entirely in agreement but didn't feel strongly enough about the matter to write an argument. He resumed his eating.

I took a few mouthfuls myself, but was more concerned with getting back to Marie; so I touched the girl's shoulder — she was eating, too — and pointed toward the tunnel mouth from which we had come. I had managed to keep track of its direction. She nodded and led the way. At least *some* signs were understandable to both of us, I guessed.

It took us ten or fifteen minutes to get back to where we had left Marie. She wasn't there, of course; I got the impression that my guide had forgotten that the sub had left ahead of us, though I may be doing her an injustice. At any rate, she promptly set off in the direction the boat had gone, and in another quarter of an hour we had reached a place I could remember — the corridor with the big valve which had admitted my tank when I had taken the pressure treatment.

Knowing more of the general situation now, I paid more attention to the smaller lock. A close look showed that it had a heavily armored extensible collar, now retracted, which could be mated easily to the entrance hatch of any ordinary work sub.

I was a little surprised that Marie's boat wasn't already there. I think the

girl was, too. At least, she looked around as though she didn't quite know what to do or where to go next, and then looked at me as though expecting some further request.

All I could do was nod; I was quite sure that this was the right place. It occurred to me that tunnel size might have forced the others to take a longer route than swimmers would need, or even to go outside, but I could think of no way to make this suggestion to my companions. For that matter, I could imagine no reason why they shouldn't think of it for themselves; they certainly knew this place better than I.

It was Bert who showed up first, accompanied by a man of middle age and alert appearance. He didn't exactly introduce the fellow to me, but used the writing pad to tell me that he was the doctor who would manage the heart-lung equipment and make sure that cavities such as sinuses and middle ears were taken care of during the pressure change.

They had been with us ten minutes or so when the sub appeared from the direction of the ocean entrance. At almost the same moment another swimmer joined us from the opposite direction. I took a casual glance at him, supposing he must be another of the technicians who would be needed for the job; then my eyes closed as I tried to clear my retinas of what I hoped was a false image.

When I opened them again, though, it was still Joey Elfven. I had to admit that the stage manager, whoever he was, had done a good job.

I also had to admit that we should have foreseen it. Joey should never have been told of the departure plans until Marie and Bert were safely away.

Nothing was more likely than that he would think of some final questions he wanted to ask Bert, and he would certainly know where to meet him. Evidently Bert was no better a schemer than I was, but that was very little comfort at the moment.

Marie saw him before either Bert or I could think of anything to do; the sub suddenly left its swimming guide behind. Seconds later its water jets sent us spinning as it came to a halt in front of our group. Yes, Marie had seen Joe. Her politeness with the savages had evaporated.

I had been hearing my own heart-beat and those of people near me for some time now, but I hadn't realized until this moment how loud that beat could be.

Marie's voice, though, turned out to be louder. Her first words weren't just the ones I would have expected, but I've already admitted that she thinks a good deal faster than I do. Not always in the same direction, or even in the right one, but faster.

"Joe!" It ought to have been a howl of surprised welcome, but even the peculiar acoustical situation left me pretty sure it wasn't. It's hard to believe that a girl known to have gone so completely overboard for someone could address him in the tone of a stern aunt, but the resemblance was there. "Joe, how long

have you known that I was here?"

Joe looked around for the writing pad; I was delighted to hand it to him and in no hurry to get it back.

"I didn't know until this moment," he wrote.

"How long have you known that Bert was here?"

"A few weeks. I don't remember exactly. Within a day or two of the time I got here myself."

I could guess what was coming next, but fortunately for me I was wrong.

Marie was not a technician. She can run a sub in the ordinary course of duty, naturally, but she is not really familiar with all the handling and operating gear carried by a work sub. For that reason. I'm still completely mystified how she managed to coordinate her next move so perfectly. One of the smaller handling tongs popped out of its recess and caught Bert neatly around the neck, and only when he was firmly gripped did she follow the action with words.

"You dirty liar! You slimy piece of trepang! I ought to twist the head off your crooked neck! If it were possible I'd throttle you here and now! You knew why I came and who I was looking for. You knew he was here. You didn't tell him I'd come, and you lied to me about having seen him. You twisted poor Tummy so that he followed your own crooked line!"

I somewhat resented the implication that I hadn't brains or initiative enough to be held responsible for my own actions, but I was able to

resist the temptation to break in and insist that part of the plan was mine. I didn't even object to her use of one of my more odious nicknames. I just let her words run on.

I won't quote any more of them; as I've said already, I promised her not to. I was a little sorry for Bert, since the grip on his neck must be hurting, but as Marie herself had said she couldn't very well strangle him under the circumstances. I was sure she wouldn't if she could have. Not Marie.

The others seemed rather concerned, though. The girl and her regular companion flung themselves at the extension arm and wrenched at it uselessly. The doctor tried with equal lack of success to pry the tongs from around Bert's neck. Joe knew better than to do either, but he was clearly bothered; he waved and shook his head at Marie in an effort to convince her that she should stop. It was the sort of scene which should have been accompanied by lively music, screams, the thump of fists and the crash of broken glass; but it all went on in ghostly silence.

No screams, which were impossible; no fists, which couldn't move fast enough in this medium to make much of a thump anyway; no apparatus within reach which was fragile enough to be damaged by the gracefully thrashing bodies.

It was Joe who managed to bring it to an end. He was still holding the writing pad, and he hastily printed on it in the largest letters that would fit, "YOU'RE KILLING HIM!"

He held this against the coming

port so Marie could see practically nothing else.

It took a few more seconds, but she suddenly got her senses back and released the tongs. Bert's face was purplish, and he had lost consciousness; the doctor grabbed his wrist, I thought to check pulse, but in fact simply for a tow bar. The two of them disappeared into the operating room.

I hesitated for a few seconds, unsure what was most important, and then went after them. The girl and her friend followed me; Marie's guide stayed outside with the sub. Joe, after looking as though he would come along, changed his mind.

In the operating room Bert was quickly fastened to the table, and the doctor got to work.

Strictly speaking he wasn't a doctor, as even I realized; there can be no doctors in a population of a few thousand people which has been separated from the mainstream of human knowledge for three or four generations. He was a darned good technician, though, and fortunately was working right in his own field. He did know that heart-lung machine cold, and he knew the general run of troubles involving the human breathing and circulatory systems. Interfering with the coughing reflex, as these people had had to do for their pressure-survival system, had produced some fallout along those lines. There were controls for the machine and its auxiliary gear inside the room, presumably in parallel with the remote ones. Quite evidently depressurization wasn't the only purpose of the apparatus.

In something under sixty seconds the tech had Bert plugged into the gadget, and his color was coming back to normal. Then, in more leisurely fashion, other instruments began looking and prying down his throat.

Apparently very little real damage had been done there, though the outside of his neck was starting to discolor into one huge bruise. In less than five minutes the doc — I'm going to call him one, under the circumstances — withdrew his equipment and used a hypodermic on his patient's upper arm. The needle must have contained a stimulant, for Bert opened his eyes almost at once.

It took him only a few seconds to get oriented. Then he fixed his eyes on me and actually blushed. He was still a little confused, because he started to speak. The pain in his chest as he put pressure on his liquid-filled lungs brought him back to reality. He looked around and made writing motions. The doctor didn't seem to mind, so I went back for the writing pad, which Joe still had.

I didn't have to interrupt a conversation to take it. Joey wasn't writing, and Marie wasn't talking.

Apparently nothing at all had been said during the crisis in the operating room — we'd have heard Marie's voice even there, and Joe's three words of a few minutes before were still on the pad. Marie was looking at him through the port, and he was looking everywhere but at her. I didn't pause to do any analysis. I just took the pad from Joe and swam back to the table.

The doctor called Bert's attention to the blood connections between him and the machine, but made no real effort to stop him from writing. Bert nodded an acknowledgment of the warning and went ahead with the stylus. He wrote briefly, and handed the pad to me.

"I'm sorry, but I can see when I'm checkmated. I hope your luck is better, though now that she knows Joe is alive I wouldn't bet on it. Tell her she didn't kill me, if you think the possibility is bothering her. I'd better not see her again myself."

That was an eye-opening paragraph. Suddenly I saw just why Bert had been trifling with the truth, why he had concealed Joe's presence from Marie, why he had decided to go back to the surface on such short notice, why he had been so far from completely frank with me — and even why the local Council had been so reluctant to let us both leave.

I also saw that I was in no position to criticize him for any of it. There was not a word to be said against him which didn't apply with equal force to me. The only reason I hadn't done as much, under exactly the same motivation, was that I'd been in no position to.

I couldn't blame him, or even criticize him. I have failings, but I'm not that much of a hypocrite. I could be sorry for him; as he'd said, his chances were gone.

Marie might conceivably come to realize that Joe was a hopeless case as far as she was concerned, even after this discovery that he was alive after all. She might possibly settle for me if that happened. But after

the last few weeks and the discoveries of the last few minutes she'd never, never have any use for Bert.

I gave him as sympathetic a look as I could as all this dawned on me, but I could think of nothing to write. He answered with a bitter grin and waved me toward the door. I went. The others, except the doctor, followed me.



XXIV



I wasn't through learning for the day, though. As I went through the huge valve and became visible from the tunnel outside, Marie's voice met me. It had sharp edges, but otherwise it resembled a heavy club.

"Just where did you come up with the idea that these people weren't getting oxygen through their lungs? If I killed Bert I'm not too sorry, but it's your fault."

Even I had had time to see that this question would be coming, but I'd had no chance to work out a very good answer. While the doctor had been working on Bert I'd been doing the same with my memory. It was evident enough that my theory of oxygen-food was out the window, but I still wasn't able to find a better.

All I could do was repeat the theory and my reasons for it. I also assured Marie that she hadn't actually killed Bert. Somehow my reasoning didn't look as air-tight written out as it had felt when I was thinking it through in the first place — quite aside from the fact that it was now obviously wrong. In spite of

this, Marie seemed to calm down as I wrote page after page, let her read each, and cleared it and went on to the next. The forced pauses may have helped.

"I admit you convinced me before," she said when I was done, "and I don't see what the hole is myself. Joe, in the time you've been here have you found out enough to let you tell us what's wrong with this notion?"

"I think so," he wrote. He paused, and positioned himself outside the port so that Marie could read as he wrote. I swam to a spot a little further above and behind him, so I could do the same.

"Your big mistake was natural. You were quite right in observing that we aren't breathing, as far as chest motions go. But in spite of that we *are* getting our oxygen from this liquid. It's wonderful stuff. You might regard its molecular structure as vaguely comparable to hemoglobin in that it binds oxygen molecules loosely to its surface. I don't know just how many, but the number is large. It doesn't have the porphyrin groups of hemoglobin; they went to great lengths to make it transparent to visible light. I couldn't draw you its structural formula from memory. But I've seen it. It's perfectly understandable.

"Now, think a minute. Liquid oxygen has a molecular concentration about four thousand times that of the gas we normally breathe. The reason we have to breathe is that diffusion, at sea-level concentrations, won't get enough oxygen through your windpipe to keep an animal as



large as a human being going. You can't live in liquid oxygen, of course, because of temperature problems. However, in this liquid the concentration of almost-free oxygen is far, far higher than in the atmosphere — a long way short of what it is in LOX, but very high. That was another problem; while they were at it, they made the kernel of this molecule with a structure which would break down endothermically at temperatures above a few hundred degrees. A fire will tend to damp itself out, therefore. But that's a side issue, as far as breathing is concerned.

“**W**hen molecules of the stuff give up their oxygen in your lungs, nearby molecules pass on more  $O_2$  to the ones which have lost it; others replenish those, and so on. It's a bucket-brigade situation, but it's described by just the same equations that you'd use for a diffusion problem. The rate of oxygen transport depends on the concentration difference between the inside of your lungs and outside, and on the area of the barrier through which the diffusion is taking place — in this case, the smallest cross-section area of your windpipe. In this case, the oxygen concentration around us is enough to keep us going by diffusion down our windpipes. I'm not sure about carbon-dioxide elimination, but I believe your theory is more nearly right there; it's taken care of by binding into insoluble carbonates in the intestines and gotten rid of as solid waste. As I say, that seems a little funny to me, and I may have misunderstood what I read

about it. I'm going to dig into the matter more when I have time. I'm no physiologist, but it's fascinating reading, especially the history of its development.”

“But why such a fancy arrangement? A less efficient oxygen carrier would still work as long as you pumped fresh supplies into your lungs! That's why we breathe, anyway!” Marie couldn't have been thinking at the top of her form just then; even I could see the answer. I took the pad from Joe — in fact, he held it out to me, with a suspicion of a grin on his face — and started my own exposition.

“Pumping a liquid even denser than water through your windpipe would call for tremendous effort and probably dangerously high lung pressures. I tried it just after I made the change, and I know it hurts. I wouldn't be surprised if you could rupture lung tissues that way. It's a logical chain: fill body cavities with liquid so that outside pressure can be matched without serious volume change; then you can't pump the liquid with your normal breathing equipment; so you have to give it a high enough free-oxygen concentration to diffuse an adequate supply down your throat. Simple once you see it. What's the primary source of oxygen, though, Joe?”

“Just what you'd expect. Photosynthesis. That's where most of the power produced here goes. About three quarters of the oxygen comes from gene-tailored algae living at the interface between the ocean and the breathing liquid. The rest comes from the farm plants. Loss to the

ocean is low because of the favorable partition ratio."

I took the pad again.

"Well, at least I was right in guessing why laughing is dangerous, and why they do away with the coughing reflex; either action could rupture your lungs."

"Of course," agreed Joe. "I don't claim to know the whole story yet — even Bert, who's been here much longer, probably doesn't. Remember, all we could learn about it was what we read, and that was only what happened to be lying around written in languages we knew. We weren't told any of it by these people. Not only is it impossible to talk to them on such a level; I'm pretty sure most of them don't know it either. How many people at the surface, out of any given fifteen thousand, would be doctors or physiologists or even engineers?"

"That's why they need us so badly," I interjected. "Bert must have told you about that."

"Who'd believe Bert?" snapped Marie — we'd been holding all our writings so she could read them, of course, even when they weren't specifically meant for her. Joe took over the pad.

**“Y**ou'd better. Whatever he said about these people being ready to do almost anything to keep technically skilled visitors down here is probably true. From what I've been able to make out in the last few weeks, unless some very extensive work is done on this installation quite soon, there'll be twelve or fifteen thousand people migrating back

to the surface and asking for their power ration in the next couple of decades."

"How could they have the gall to do that?" Marie asked in scorn. "They've been down here all their lives, squandering power that should have gone into the world network and shared with the rest of us. They're just like those old French aristocrats with their 'Let 'em eat cake' attitude — except the aristocrats would have been too proud to come begging the Jacquerie for crusts if their own wealth vanished."

"That was my first reaction, too," Joe wrote imperturbably. "I got myself pressured for the same reason Bert and you — " he nodded to me " — did; I planned to investigate as completely as possible and send up a report that would have the Board down here civilizing this place in a month. By the time I had enough data for a meaningful report, though, I realized it would be useless. The Board wouldn't do anything about it."

"That's what Bert claimed," I put in. "He said that such reports had been sent back before, decades ago, and that nothing had come of them." Joe reclaimed the pad.

"I never ran into any accounts of that sort. Bert and I wouldn't have looked for just the same material, though, anyway. My point is that the Board can't do anything about it."

"Why not? Look at all the energy going to waste down here!" interjected Marie.

"Think again, girl. It's not going to waste, any more than the power used by natural plants on the sur-

face for photosynthesis is going to waste — far less, in fact. It's true that you can divide the power output of this installation by the local population figure and come up with a figure many times the normal per capita energy ration; but by far the greater part of that power goes into the lights. If you cut any significant percentage of the lights, you drop the photosynthesis rate to a level where there won't be enough oxygen for the present population. If you cut the population by much, even the shaky maintenance that the outfit has now will degenerate, and, as I said, the place will have to shut down.

"You may criticize the decision the ancestors of these people made three or four generations ago. I agreed it was highly immoral by our standards. However, the current population is simply stuck with the consequences, and at least they're not drawing from the planetary power net. They're on their own, except intellectually. It seems quite in line with duty, to me, to stay here and help them. You'll have to make your own choice."

Marie was silent for half a minute or so, wrapped in thought. When she spoke again, it seemed to be a change of subject.

"Why did Bert lie to me? None of what you've been pointing out — which I can see makes sense — seems to call for it."

Joe shrugged.

"I have no idea. Remember, he didn't tell me you were here, much less anything else connected with you. I don't know what he had on his mind."

Joe's eyes and Marie's both swivelled toward me. After looking at my face for three or four seconds, the girl said, "All right, you know. Out with it."

I reached for the pad which Joe was holding out to me, and made it fairly brief.

"He lied to you for the same reason I did. He didn't care what you reported to the Board, but he didn't want you ever to learn that Joe was alive. He wanted to get you back to the surface believing that Joe was just a memory and go back with you. I'd have done the same."

Joe took the pad after Marie had read it, cleared off the message and wrote, "Thanks, Pal," holding it so that I could see it but not Marie. Then he cleared it again immediately. If Marie noticed this, she made no comment. She may not have noticed, for my words had obviously jolted her.

"I see," she said after at least two minutes of silence. "That puts a different light on the whole thing. He's less obvious than some people, I must admit." She paused for a few more seconds. Then, "Joe, I admit it's your own private business; but are you willing to tell me exactly and truthfully why you decided to stay down here?"

A negative shake of the head was the answer.

"Or how long you plan to stay?"

Another negative.

"Or even whether you still regard yourself as a Board official?"

Still refusal. I was pretty sure that Joe didn't really care whether Marie knew the answers to those questions,

especially the first one; but, especially with the first one, he didn't want to tell her himself. He was coming as close as his personality would let him to telling her to get out of his hair. Marie, as I have already said many times, is sharper than I am, in spite of one blind spot.

She looked at him speculatively after his third headshake, for several seconds. Then she suddenly turned to me.

"Are you staying?"

Naturally, I didn't know. All I could do was throw the question back at her; she might be rougher on me than Joe had been on her, but I was ready for it — I hoped.

"Are you?" I wrote.

A shock wave, not quite painful, hit all of us; I don't know whether she hit something with her fist or stamped her foot.

"Will you make your own mind up, just this once?" she snapped.

That was unjust, of course. I'm perfectly able to make decisions, and Marie knows it. She's even admitted it. I just don't like to make them when there's a shortage of relevant information. She knew perfectly well what information I wanted, and why, too — she'd just been trying to get the same sort out of Joe for the same reason.

I made an honest effort to decide without reference to Marie, but I couldn't do it.



On the surface there is sunlight and sound. I hadn't really appreciated either until recently. Sun-

light on trees and lakes, blue sky, red and orange sunsets. Girls' voices and falling raindrops and laughter and puns.

Down here is the beating of hearts, humming machinery, tapping and thudding of random activity, but otherwise silence — no music, no voices, not even a tongue click or snapping fingers.

On the surface there is restraint. Every action is conditioned by the underlying awareness that it may involve a waste of energy which means life. If someone accidentally shorts a power cell or lets a fire start he feels as guilty as the Victorian-age girl who misbehaved with her boy friend. The fact that your wife is dying in a hospital five miles away is a borderline excuse for using a power vehicle. An air or space flight is considered only in direct connection with power acquisition or research projects.

Down here, while there is actually only a slightly larger supply of energy per person, the difference in attitude is all the world. No one is either worried or offended that his neighbor has used more than his fair share of energy. I had winced time after time there in the library as a reader had swum off leaving his carrel light or reading projector going, with no one else even noticing the lapse.

And why couldn't there be music here? I hadn't heard any, and singing was obviously impossible. But stringed instruments should work. They might have to be modified in design, but they *should* work. Electrical ones would certainly be possi-

ble. If there weren't any, I could design them.

Even if there were no girls' voices, there were still girls. There was a good-looking one only a few feet away, watching us as though she had some idea of what was going on.

But it was so different. Even with energy restraint gone as far as my neighbors were concerned, would I feel comfortable after a lifetime under its rules? Would the thought of the black, crushing ocean between me and all I had grown up with loom too large? Or if I didn't stay, would the thought of what I might have accomplished down here come too often between me and normal living?

I couldn't decide. Even if I tried to cut out all personal factors — not just those connected with Marie, but all which by any stretch could be called selfish — I still couldn't.

There was my regular work with the Board. It was useful, even important, and I liked it. I could do useful work down here, though, and would almost certainly like it. Reward, to be selfish again, meant little in either place. Wealth as such has been meaningless since power rationing started, and down here I had seen no signs of plutocracy. Though admittedly I might have missed them; I know so little about the place.

Of course, I could learn more. Neither decision was irrevocable. The only thing that couldn't be changed back had already been done; my coughing reflex was gone, and I'd have to be careful in eat-

ing for the rest of my life no matter where I lived.

Maybe I could stay now, see more of what life here was like and go back up later on. After all, there was no reason why the two places couldn't stay in communication. I looked up and was about to write an answer for Marie when my thoughts started working again.

*Would* there be communication? Joe had pointed out excellent reasons why the Board would not want knowledge of this place to spread, though he hadn't stated them just that way.

Here was a place where power rationing, however real it might be mathematically, simply wasn't a conscious factor in life. The population, as Marie had said, was like a group of French aristocrats in a world of *Jacquerie*. Ordinary morals up above called for a rigid attitude toward energy use which these people didn't have and probably couldn't understand.

If too many people from the surface visited here and the word about its way of life spread at all generally, there would be trouble. Even if the spreading word remained accurate, which was most unlikely, a lot of the outer world's people would either want to migrate down here or build more volcanic-power installations so that everyone could have more. The old "why can't I have as much as he does" feeling would have people screaming for the modern equivalent of the philosopher's stone, to take an illustration from the days when wealth was metal instead of energy.



HC

The average citizen would be able to see why the Board shouldn't do just that — build more power stations to take advantage of the inexhaustible heat inside the earth. I hate to sound cynical, but I know that's one thing the Board would never do. They won't do anything to make power rationing unnecessary.

Cynicism aside, they're perfectly right. The decision decades ago that hydrogen fusion was man's only real hope was almost certainly a sound one. We know that solving that problem isn't just a matter of engineering details, as was originally thought. Too many of the factors involved are inherently unstable unless held in by, at least, the mass of a small star. It's only a matter of faith that we'll solve it at all. And if we're to do so, it will take every effort — the best that man can offer.

And the effort will stop if anything happens to postpone power starvation. Mankind as a whole did practically nothing but waste his resources until that menace stared him literally in the face. If plentiful volcanic power suddenly eased the threat, the pressure would be off. Quite aside from the obvious collapse of morals which would follow, the fusion work would come to a halt. It might go on in name, but the *work* would stop. Men are too casual; the best of power-plant operators start leaving office lights on when they go out, just because it is a power plant and there's so much on hand.

And considering what the Board sometimes has to do about that very attitude, I shouldn't count on being allowed to go back up if I stayed here now, or come back down if I went up now. It would be safer to regard my present decision, whichever it might be, as irrevocable.

And that realization, political philosophy and morals aside, didn't make the decision any easier to make.

Was there any chance that the Board would insist on this place's joining civilization and tying into the power net?

None. The very process of connecting would be almost impractical. Considering the trickle which could be spared above the photosynthesis drain even if the local population adopted the surface-rationing level, decades would pass before the energy investment of making the connection could possibly be paid off. It might never be.

All of which meant that the transponders I had gone to so much trouble to plant represented wasted effort.

So — should I stay here or not? Did I want to live here, or in the sunlight? I still didn't know.

The temptation was to let it all depend on Marie's decision, but Marie wasn't publishing her decision.

Bert was out of the running — as far as Marie was concerned he had never been in it, apparently. You'd think she'd realize by now that Joe was a hopeless case as far as she was concerned. Why wouldn't she give me at least a hint?

She did. She got tired of waiting for me to come up with the answer I couldn't make and started talking again. For a moment her first words sounded like a change of subject.

"What do you suppose Bert will do now? Stay here, or go back?" she asked.

I was glad enough to leave unanswerable questions for the moment.

"He stayed here for a year before all this happened," I pointed out. "I can't see that the last few minutes can have given him any burning urge to change his mind. I should think he'd have less reason than ever to go back now." I raised my eyebrows in query to Joe at the same time. He read the note, shrugged as usual, then nodded. Marie's answering comment was the eye-opener.

"I wouldn't say that," she remarked. "One of you should tell him I understand. I wouldn't want him

to feel too unhappy about it all."

I looked at Joe. He looked at me, and raised the eyebrow on the side of his face away from the sub. Neither of us had ever realized that forgiveness could depend less on "what" than on "why."

I turned to the pad once more, and wrote.

"If you really feel that way, I'll tell him. I'll be staying down here to help Joe and should see Bert again often enough. I'm almost as good a linguist as he is and may make some headway in untangling this ghastly excuse for a communication system."

I thought it better not to make any comments about possible interesting language teachers. If Marie had another change of mind even from mere jealousy, I'd never be able to make any more decisions. This one felt too nice to waste, after all the uncertainty that had preceded it.

END

## Next month in IF —

### HE THAT MOVES

by Roger Zelazny

### STARSONG

A New Berserker Story

by Fred Saberhagen

### STAR TRAVEL AND ETERNAL LIFE

The Exploration of Tomorrow's Science

by R. C. W. Ettinger

All in the next issue of IF — Hugo winner for 2d straight year!





Dear Editor:

Why, why, why did you let Farmer end *The Felled Star* where he did? Is there to be a sequel? Not only was it a wonderful story which he seems to have ended right in the middle, but the Gaughan illustrations for it were the best I've seen yet by him.

To end the story this way is as if Tolkien had ended *The Lord of the Rings* with the Fellowship still in Lothlorien!

And while I'm writing, what ever happened to David Bunch?

Lin Carter's comments on the National Fantasy Fan Federation, while (in my opinion) rather unfairly critical, have brought us quite a few new members. — Cuyler Warnell Brooks, Jr., 713 Paul Street, Newport News, Va. 23605.

\* \* \*

Dear Editor:

You have increased the price of *If* to 60c due to rising costs. You now have 10c per copy more and I hope that this will be used for improvements that are badly needed.

First is the art work. Perhaps you could pay cover artists more, to do a better job. I know without a doubt that Morrow and Gaughan are good artists but rarely show it. Wood should do cover art too. Your

art work is the worst part of the magazine at present.

Also I think that full length plates, although more expensive, are much more suitable to the cover. The July and August covers show this, especially the August cover by Morrow, the first good one since March.

I was expecting more pages of *If* with *W.O.T.* gone. You are now cramped for space again, which is the reason you added pages in the first place. Moskowitz article, although good and I would like to see more of, took up space that could have been used for another story. I would like to have seen the letter column expanded and a book review added but there is no room.

As it is in increasing your price you have made *If* the most expensive mag around and I expect more for my money, including *Rogue Star*.

About selling more copies, I think that there is a ready market all to willing to buy your mag, but have no knowledge of its existence. I read SF two years before I knew there was such things as Science Fiction Magazines. It was another year before I found out where to send to get them. Isn't there some way that you can make people aware of your mags? Why not run small ads in the back of paperbacks or some-

where. Somebody suggested a sick millionaire and I am going to take the suggestion seriously. Any sick millionaires out there?

Finally, get Delany's next novel. — Nick Grimshawe, RR #2, Alliston, Ontario, Canada.

● "Most expensive sf mag around?" How come? There are exactly three sf mags in this country — not counting the ones that are mostly devoted to resuscitating ancient stories, or that lean heavily on pure fantasy. All three of them cost the same price. Of the three, *If* has by actual count the most words of science fiction in each issue. Count them yourself if you doubt it! — *Editor*.

\* \* \*

Dear Editor:

The letter column in the August *If* was; perhaps, one of the best to date. I agree with much of what John Goldsmith had to say about the trite techniques of some stories in our genre. Every time I see another story-written-in-letter-form piece my gorge rises. Keith Laumer, who writes some of the best action and packs a great deal of excitement into what he turns out, seems to be plagued by the character who just happens to stumble across a spaceship disguised as a silo (*Spaceman* in the last few issues of *If*) or the college student who picks up a book on hypnotism and immediately opens up another dimension just by mesmerizing himself. Admittedly, Laumer used a similar technique in the recent *The Day Before Forever*, and handled it extremely well. But whatever happened to the Laumer of "End as a Hero" and "Worldmaster"? Those moved like a Van Vogt piece, chocked full of — not

only action, but — malice, evil, mystery and wonder. Perhaps less Retief and a few more things that give more latitude than the Bondish galactic diplomat-spy will bring that beloved and prolific talent to the fore again.

Agreed again with Goldsmith: I would rather see a story where — although there are no mathematicians and ball-of-fire young scientists who land on a world and change it from a barren ball of rock to a paradise in six short weeks — the hero has human problems besides scientific ones and solves them along with or at the same time with the scientific ones. Zelazny is great at this. So is Samuel R. Delany.

So, also some kudos. *If* is improving all the time. At first, I thought it was going to stand as the last bastion of the total science tale and the space opera (which all of us enjoy), but now I see it publishing both the new wave and the old and the wavelets in between. Good. Fine. And with cover improvement too. Not a really horrible cover since May of 1963 when you evidently tried to capture the Camp faction. The sixty cents is justified, certainly.

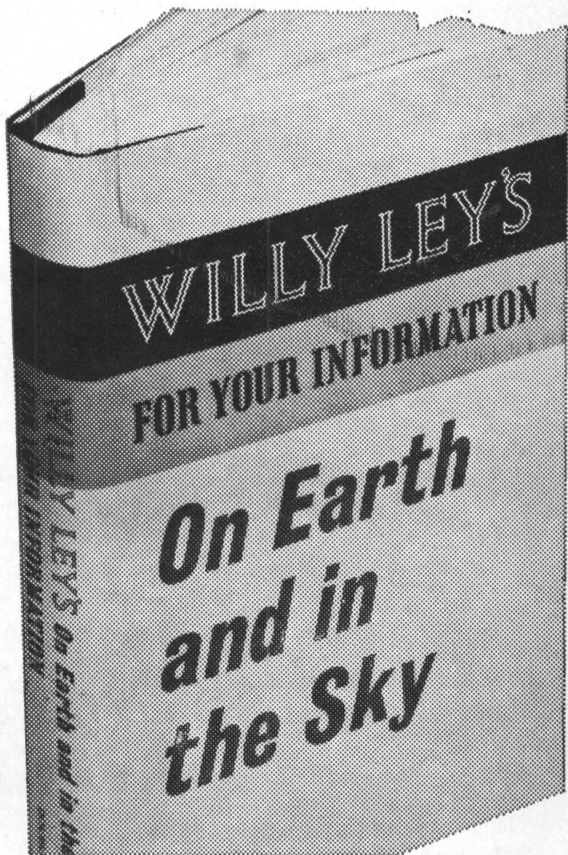
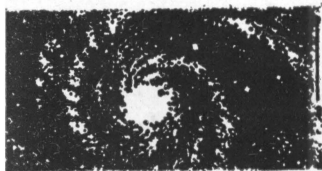
In closing, if there is anyone who is infatuated with Zelazny, Delany, the old Bester, or any combination thereof and would like to correspond and is liberal, twenty-one, and slightly insane, please feel free to do so. — Dean R. Koontz, 528 Walnut St., Apt. 5, Lemoyne, Penna. 17043.

● Good news for all Zelazny fans: he'll be back in our Hugo-winning magazine next month with a stunning short story — for which Pederson has provided a vivid cover. See you next month! — *The Editor*

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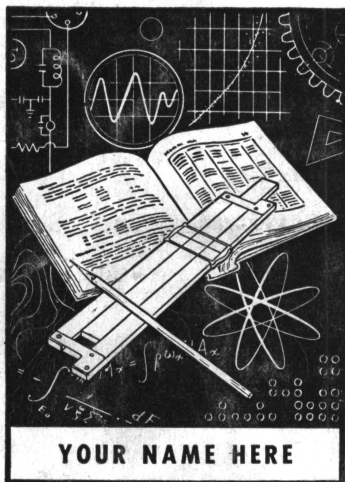
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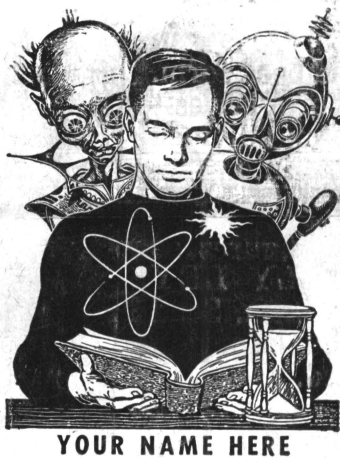
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