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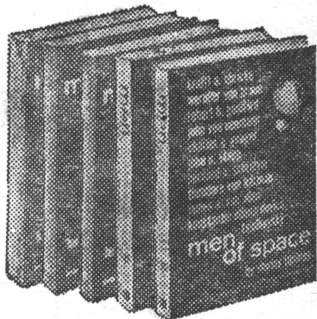
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THAT NOTEBOOK AGAIN

Constant readers—the majority, of course—will recall the article I wrote last year (the Great Man got thumped for some of it from those who thought he wrote it, though there was no intent to deceive) about my notebook. Just random jottings which I thought might be of interest to you.

There's one category of notes in the book which I didn't mention, because of a childish idea that some day I'm going to fabricate some of these things and make a fortune and never write editorials any more. But the heck with it. One, you might enjoy them. Two, there's a crying need

for some of 'em. Three, I am surrounded by unfinished projects and it's past time I cleared the thicket.

- The world is full of dark corners which could stand a spot of light, yet you can't—I can't, anyway—buy a pinup lamp designed to fit into a corner. Not only does every house, bar darn few, need a couple of these, it's the only way you can place a pinup lamp without the wire hanging out like a ruptured gut.

- Compared with TV, home movies never got off the ground. Yet there are obvious advantages: you

can see what you want to see when you want to see it; you can make your own films and show them. Why is no one making a serious effort to combine these devices, now that two-thirds of the population spends more time staring at the box than it does at school or making a living? Going at it whole hog, a hand-held TV tape camera would make a reel which could be dropped directly into the TV set without developing. Or—I should say and/or—a hybrid device could scan rented or owned movie film, perhaps with a bank of photocells, and activate the picture tube. I refuse to believe this is a particularly large technical problem.

- Area measuring device. Put a map under known illumination and get a reading from a light meter at a fixed distance. Ink in the area to be measured with black ink and take another reading. If the original area is known, the second reading will give you an exact ratio.

- Mars canal photos. The “twinkle” effect is supposed to obscure them to some viewers, reveal them to others. So take your photos with high-sensitivity movie film, by the thousand-foot shot (granting good ‘scope, of course.) Then sit and watch the film. If the “twinkle” theory is correct, surely you’ll get one or two frames with canals showing.

- Household wiring, especially surface wiring, ready primed so it

will take oil-based or alkyd paints.

- A mechanical self-starter. Now that lawn-mowers and outboards come with the so-called “impulse” starter, which is nothing more than king-sized clockwork, why hasn’t someone thought of the same thing for cars? The spring could be wound by the engine when it was running; it could be a heck of a big one, and it need not necessarily be wound too fast. Once wound, a ratchet would hold it that way until it was called on. (Only for Pete’s sakes keep your plugs clean!)

- Why—*why* has no enterprising firm or person put the simple fact of rising joblessness against the simple fact of the shortage in good household servants, and come up with the simple answer of a training/hiring agency for competent household help? There are still, believe it or not, lots of people who can afford servants and claim they can’t find them. Not good ones, anyway. There have been times and places when household service was a dignified, honorable and— heaven knows—skilled occupation. It could be again, and if it caught on as a keep-up-with-the-Jones thing, somebody would stand to make a classic buck.

The thicket’s still thick. Let’s see if my ideas can make money. Then the next step is to see if they can make money for me!

THS



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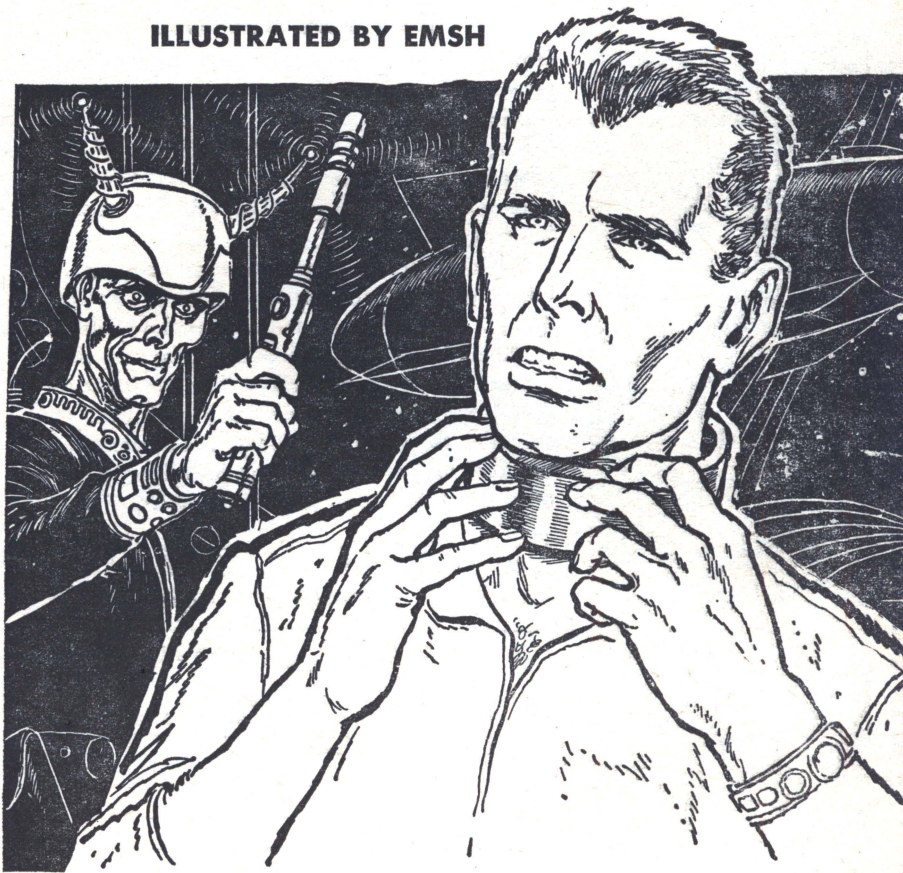
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THE REEFS

BY JACK WILLIAMSON AND FREDERIK POHL

ILLUSTRATED BY EMSH



OF SPACE

Every man, every living thing in the world was joined in the great Plan of Man — the Plan that had redoubled its efforts because it had lost its goal!



I

The major snapped: "Check in, you Risks! What's the matter with you?" His radar horns made him look like Satan — a sleepy young Satan with an underslung jaw, but dangerous.

"Yes, sir," said Steve Ryeland, peering around. This was Reykjavik — a new world to Ryeland, who had just come from a maximum-security labor camp inside the rim of the Arctic Circle. Ryeland blinked at the buildings, a thousand feet high, and at the jets and rockets scattered across the air field. The little man next to Ryeland sneezed and nudged him. "All right," Ryeland said, and went into the bare little Security lounge. On the teletype that stood in the corner of the room — in the corner of *every* room — he tapped out:

Information. Steven Ryeland, Risk, AWC-38440, and O. B. Oporto, Risk, XYZ-99942, arrived at—

He took the code letters from

the identification plate on the machine.

—Station 3-Radius 4-261, Reykjavik, Iceland. Query. What are personal orders?

In a moment the answer came from the Planning Machine, a single typed letter "R". The Machine had received and understood the message and adjusted its records. The orders would follow.

A Togetherness girl glanced into the lounge, saw the collars on Ryeland and the little man. Her lips had started to curve in the smile of her trade, but they clamped into a thin line. Risks. She nodded to the major and turned away.

The teletype bell rang, and the Machine tapped out:

Action. Proceed to Train 667, Track 6, Compartment 93.

Ryeland acknowledged the message. The major, leaning over his shoulder, grinned. "A one-way ticket to the Body Bank if you want my guess."

"Yes, sir." Ryeland was not going to get into a discussion. He couldn't win. No Risk could win an argument with a man who wore the major's radar horns.

"Well, get going," the major grumbled. "Oh, and Ryeland—"

"Yes, sir?"

The major winked. "Thanks for the chess games. I'll be seeing you, I guess. Parts of you!" He laughed raucously as he strode away. "No side trips, remember," he warned.

"I'll remember," said Steve Ryeland softly, touching the collar he wore.

Oporto sneezed again. "Come on," he grumbled.

"All right. What was that number?"

The little dark man grinned. "Train 667, Track 6, Compartment 93. That's an easy one — ahchoo! Dabbit," he complained, "I'm catching cold. Let's get out of this draft."

Ryeland led off. They walked unescorted across the pavement to a cab rank and got in. All around them, travelers, air field workers and others glanced at them, saw the iron collars — and at once, on each face a curtain descended. No one spoke to them. Ryeland punched the code numbers for their destination, and the car raced through broad boulevards to a huge marble structure on the other side of the city.

Over its wide entrance were the carved letters:

THE PLAN OF MAN SUBTRAIN STATION

They made their way through a wide concourse, noisy and crowded; but everyone gave them plenty of room. Ryeland grinned sourly to himself. No side trips! Of course not — and for the same reason. It wasn't healthy for a man who wore the collar to step out of line. And it wasn't healthy for anyone else to be in his immediate neighborhood if he did.

"Track Six, was it?"

"Train 667, Compartment 93.

Can't you remember anything?" Oporto demanded.

"There's Track Six." Ryeland led the way. Track Six was a freight platform. They went down a flight of motionless moving stairs and emerged beside the cradle track of the subtrains.

Since the subtrains spanned the world, there was no clue as to where they were going. From Iceland they could be going to Canada, to Brazil, even to South Africa; the monstrous atomic drills of the Plan had burrowed perfectly straight shafts from everywhere to everywhere. The subtrains rocketed through air-exhausted tunnels, swung between hoops of electrostatic force. Without friction, their speed compared with the velocity of interplanetary travel.

"Where is it?" Oporto grumbled, looking around. A harsh light flooded the grimy platforms, glittering on the huge aluminum balloons that lay in their cradles outside the vacuum locks. Men with trucks and cranes were loading a long row of freightspheres in the platform next to theirs; a little cluster of passengers began to appear down the moving stairs of a platform a hundred yards away. Oporto said abruptly: "I'll give you six to five the next train in is ours."

"No bet." Ryeland knew better than to take him up. But he hoped the little man was right. It was cold on the platform. Chill air roared around them from the ventilators; Oporto, already chilled, sneezed and began to sniffle. Ryeland himself was shivering in his thin maximum-security denims.

At the camp, when their travel orders came through, regulations demanded a thorough medical examination before they left. That was the rule under the Plan, and the examination included a steaming shower. "They want nice clean meat at the Body Bank," the guard guffawed; but Ryeland paid no attention. He couldn't afford to.

A man who wore the iron collar around his neck could only afford a limited look into the future. He could think about the day when the collar came off, and nothing else.

A warning horn shrieked into the pit. Ryeland jumped; Oporto turned more slowly, as though he had been expecting it. Which he had.

Red signals flickered from the enormous gates of the vacuum lock on Track Six. Air valves gasped. The gates swung slowly open and a tractor emerged towing a cradle with the special car they were waiting for. "You would have lost," Oporto commented and Ryeland nodded; of course he would have.

The car stopped. Equalizer valves snorted again, and then its tall door flopped out from the top, forming a ramp to the platform. Escalators began to crawl along it.

Oporto said anxiously: "Steve, I don't like the looks of this!" Out of the opening door of the car two men in uniform came running. They ran up the escalators, raced onto the platform and up the stairs. They didn't look at Ryeland or Oporto; they were in a hurry. They were bearing thick leather dispatch cases the same color as their uniforms.

Bright blue uniforms!

Why, that was the uniform of the special guard of —

Ryeland lifted his eyes to look, unbelieving. At the roof of the shed, amid the ugly web of ducts and pipes and cables, a brilliant light burst forth, shining down on the sphere. And across its top, forty feet above the platform, there was a gleaming blue star and under it, etched in crystalline white, the legend:

THE PLAN OF MAN OFFICE OF THE PLANNER

The special car they had been waiting for was the private car of the Planner himself!

The first thought that crossed Steve Ryeland's mind was: Now I can present my case to the Planner! But the second thought canceled it. The Planner, like every other human on Earth or the planets, was only an instrument of the Planning Machine. If clearance ever came to Ryeland — if the collar came off his neck — it would be because the Machine had considered all the evidence and reached a proper decision. Human argument would not affect it.

With an effort, Ryeland put the thought out of his mind; but all the same, he couldn't help feeling a touch better, a degree stronger. At least it was *almost* certain that their destination would not be the Body Bank!

"What was that compartment number?"

Oporto sighed. "93. Can't you re-

member *anything*? Train 667 — the product of the two primes, 23 and 29. Track 6, their difference. Compartment 93, their last digits in reverse order. That's an *easy* one —" But Ryeland was hardly listening. The intimate acquaintance that Oporto seemed to have with all numbers was no longer news to him, and he had more urgent things on his mind. He led the way up the ramp and into the Planner's sub-train car. A woman in the blue uniform of the guard passed them, glanced at their collars and frowned. Before Ryeland could speak to her she had brushed past them busily and was gone. It said a lot for the efficiency of the collars, he thought wryly, that she didn't bother to find out what two Risks were doing wandering freely around the Planner's private car. There was no cause for worry; if they took a wrong turning, the collars would make it their last.

But by the same token, it was highly dangerous for them to wander around. Ryeland stopped short and waited until someone else came by. "Sir!" he called. "Excuse me!"

It was a straight, gray-haired man in the blue of the Planner's guard, wearing the silver mushrooms of a Technicorps colonel. "What is it?" he demanded impatiently.

"We're ordered to compartment 93," Ryeland explained.

The colonel looked at him thoughtfully. "Name," he snapped.

"Ryeland, Steven. And Oporto."

"Umm." Presently the colonel sighed. "All right," he said grouchyly. "Can't have you messing up the

Planner's car with your blood. Better get secured. This way." He led them to a tiny room, ushered them in. "Look," he said, flexing the knob of the door. "No lock. But I should warn you that most of the corridors are radar-trapped. Do you understand?" They understood. "All right."

He hesitated. "By the way. My name's Lescure, Colonel Pascal Lescure. We'll meet again." And he closed the door behind him.

Ryeland looked quickly around the room, but it wasn't the splendor of its furnishings or the comfort of its appointments that interested him. It was the teletype. Quickly he reported in for himself and Oporto.

The answer came:

R. Action. Await further orders.

Oporto was beginning to look flushed and to tremble. "Always it's like this," he said thickly. "I get a cold and if I don't take care I'm sick for weeks. I'm feeling lightheaded already!" He stood up, tottering.

Ryeland shook his head. "No, you're not lightheaded. We're moving." The hand at the controls of the subtrain knew whose private car he was driving down the electrostatic tubes. The giant sphere was being given a featherbed ride. They had felt no jar at all on starting, but now they began to feel curiously light.

That was intrinsic to the way of

travel. The subtrain was arrowing along a chord from point to point; on long hauls the tunnels dipped nearly a thousand miles below the earth's surface at the halfway mark. Once the initial acceleration was over, the first half of a trip by subtrain was like dropping in a super-speed express elevator.

Absently Ryeland reached out an arm to brace Oporto as the little man weaved and shuddered. He frowned. The helical fields which walled the tunnels of the subtrains owed part of their stability to himself. On that Friday night, three years before, when the Plan Police burst in upon him, he had just finished dictating the specifications for a new helical unit that halved hysteresis losses, had a service life at least double the old ones.

And yet he could only remember that much and no more.

Had something been done to his mind? For the thousandth time Ryeland asked himself that question. He could remember the equations of his helical field theory that transformed the crude "magnetic bottles" that had first walled out the fluid rock, as early nucleonicists had walled in the plasma of fusing hydrogen. Yet he could not remember the work that had led him to its design. He could remember his design for ion accelerators to wall the atomic rockets of spaceships, and yet the author of that design — himself — was a stranger. What sort of man had he been? What had he done?

"Sdeve," Oporto moaned. "You wouldn't have a drink on you?"

Ryeland turned, brought back to

reality. A drink! Oporto was feverish. "I'd better call the machine," he said.

Oporto nodded weakly. "Yes, call in. I'm sick, Sdeve."

Ryeland hesitated. The little man did look sick. While he was standing there, Oporto blundered past him. "I'll do it myself," he grumbled. "Ged out of my way."

He reached with fumbling fingers for the keyboard, his face turned angrily toward Ryeland. That was a mistake; he should have been watching. In the unsteady footing he lurched, reached for the keyboard, missed, stumbled and fell heavily against the teletype.

It toppled with a crash. There was a quick white flash from inside it and a sudden pungent smell of burning.

Oporto got slowly to his feet.

Ryeland opened his mouth and then closed it without saying anything. What was the use? Obviously the teletype was out of commission; obviously Oporto hadn't done it on purpose.

Oporto groaned: "Oh, dabbit. Steve, where'd that colonel go? Maybe he could ged me something . . ."

"Take it easy," Ryeland said absently. The little man's condition was clearly not good but, in truth, it was not Oporto that was on Ryeland's mind just then. It was the teletype.

Always, since the first days after school, there had been no move Steve Ryeland made, no action he performed, without checking in with the Machine. Even at the maximum-

security camp there had been a teletype on direct linkage with the Machine, standing in one desolate corner of the bare barracks.

He felt curiously naked, and somehow forlorn.

"Steve," said Oporto faintly, "could you ged me a glass of water?"

That at least was possible; there was a silver carafe and crystal tumblers, fired with gold designs. Ryeland poured the little man a glass and handed it to him. Oporto took it and sank back against a huge, richly upholstered chair, his eyes closed.

Ryeland roamed around the little cubicle. There wasn't much else for him to do. The colonel had warned them against radar-traps in the corridors; it was not to be thought of that they would go out and take the chance of being destroyed by a single wrong move.

For they were Risks; and the iron collars they wore contained eighty grams of a high explosive. A step into an area proscribed for Risks (and such areas were common all over the world) meant that a triggering radar beam would touch off the explosive. Ryeland had seen that happen once. He didn't want it to happen to him.

Brig or no brig, this room was part of the Planner's private car and it was furnished in a way that Ryeland had not seen in three years. He fingered the drapes around a mock-window and reached out to touch the polished mirror of a hardwood table top.

Three years ago Ryeland had

lived in a room something like this. No, he admitted, not quite as lavish. But a room that belonged to him, with furniture that no one else used and a place for his clothes, his books, the things he kept around him. But in that life he had been a cleared man, with a place in the Plan of Man and a quota to be met. That life had ended three years ago, on that fatal Friday afternoon.

Even now, after endless sessions of what was called reconstructive therapy, Ryeland couldn't understand what had happened to him. The vaguely worded charge was "unplanned thinking," but all his merciless therapists had failed to help him recall any thoughts disloyal to the machine. The only material evidence of unplanned activities was his collection of space literature — the yellowed old copies of books by Ley and Gamow and Hoyle and Einstein that he had saved from his father's library.

Of course he knew that the books were not on the list approved by the Plan, but he had intended no disloyalty with his hobby. In fact, as he had many times told the therapists, the special equations of the helical field were related to the mathematics of the whole universe. Without knowing the equations for the expansion of the universe and the continuous creation of matter in the space between the galaxies, he could not have improved the helical units for the subtrain tunnels.

But the therapists had always refused to specify exact charges. Men under the Plan no longer had rights, but merely functions. The purpose

of the therapists was not to supply him with information. But to extract information from him. The sessions had failed, because he couldn't remember whatever it was that the therapists had been attempting to extract.

There was so much that he could not remember. . .

Oporto said weakly: "Sdeve, ged me a doctor."

"I can't!" Ryeland said bitterly: "If the Plan wants you sick you'll have to be sick."

Oporto's face turned a shade paler. "Shut up! Somebody may be listening."

"I'm not criticizing the Plan. But we have to stay here, you know that."

"Ryeland," Oporto begged, and went into a coughing fit.

Ryeland looked down at the little man. He seemed to be in serious trouble now. Evidently his system was an ultra-allergic type. Swept clean of disease organisms in the sterile air that blew down on the isolation camp from the Pole, he had been ripe for infection. He was breathing heavily and raggedly, and heat wafted off his forehead as Ryeland brought his hand near it.

"Hold on, Oporto," he said. "It'll only be a little while. Maybe a couple of hours." At a thousand miles an hour, there was no place on Earth much farther away than that.

"I can be dead in a couple of hours," said Oporto. "Can't you ged me a doctor?"

Ryeland hesitated. There was truth to what the little man said.

The Plan provided constant immunization for those who lived in areas exposed to disease; but the hypo-allergic, like Oporto, might well lose that immunity in a few months. And Oporto had been breathing sterile air for three years.

"All right," said Ryeland wearily, "I'll do what I can. You come with me, Oporto." Booby-trapped the halls might be, dangerous the trip certainly was; but it was life and death to Oporto.

The door opened easily.

Ryeland, half supporting Oporto, looked out into the corridor. No one was in sight. He sighed; he had hoped that they might find a passerby. Oporto babbled: "Steve, what are you doing? Led me alone. We can't go out here — the colonel warned us!"

"We have to get you to a doctor, remember?" Ryeland scanned the corridor. At the intersections were curious canopied devices like the sun-shelter over a mogul's howdah. Perhaps they were the radar traps; at least, Ryeland couldn't imagine what else they might be. But there was one back the way they had come, and surely there had been no trap there. . . .

No. Ryeland thought it out carefully. The fact that they had been allowed to get to Compartment 93 didn't prove anything at all; quite possibly the traps had been turned off to allow them to pass. In fact, thinking it over, it seemed certain that the one route that *would* be prohibited would be the corridor going back to the entrance port.

"Oporto," he said, "do you see those doors? I think we can go into one of them."

"You do, Steve? What mages you think so?" the little man asked sardonically.

"Because there's nothing better to try," Ryeland snapped, and dragged the little man with him.

Around his neck the iron collar weighed heavier than ever. If only he were a superman, like that Donderevo whose name stuck half-forgotten in his mind . . . whose fate, somehow, was linked with Ryeland's own.

Who was Donderevo, exactly? The therapists had questioned him so persistently about the man that there had to be some strong reason. Did Ryeland know him? When had he last seen him? When had he received a message from him? What was the message about?

Donderevo was the son of an explorer and trader who had gathered a fortune from the asteroids and the moons of the outer planets, and had built a commercial empire outside the Plan of Man. Ron Donderevo had come to Earth as a student of space medicine at the great technological institute where Ryeland's father was a mathematics professor. While he was there, the Plan had annexed the last reluctant asteroids and moons which had remained outside. Donderevo's father had been defeated in a space fight, resisting the annexation. Donderevo himself had been placed in an iron collar, as a result of a student demonstration. Then one day he had disappeared. The legends said that

he had somehow removed the collar, and escaped into space beyond the power of the Plan.

Ryeland remembered meeting him only once, in his own father's study. Ryeland was an eight-year-old Technicub. Donderevo was a grown man, a graduate student, romantic and mysterious with his knowledge of far planets and unknown space. But was that enough to account for the questions?

Ryeland had denied receiving any message from him, but the therapists were unconvinced.

In any event, whatever Donderevo might have been, Ryeland wasn't; *his* collar was on for good, or until the Machine relented.

Ryeland wondered crazily if he would hear the tiny click of the relay before the decapitation charge went off. Would there be any warning? Would he know?

Or would it all be over, literally, before he knew what was happening?

The only way to find out was to open a door and walk through it.

He pushed a door open, selecting it at random from the half-dozen in the corridor. Oporto broke away from him and, surprisingly spry, ran a few paces down the corridor, whirled and watched him with a face of tense anticipation.

Ryeland didn't stop to think it over, he walked in the door; and nothing happened.

Grinning, embarrassed, Oporto trailed after. "That one was all right, huh, Steve?"

Ryeland nodded; but there was no point in recrimination, although



there were a lot of things he had in mind to say to the man who had urged him to take a chance — and then ducked out of the way of the possible consequences. But of more immediate interest was the room they were in.

It was about the size of Compartment 93 and empty. It was quietly furnished: A narrow bed, a table with a few flowers, a large mirror, an array of cabinets. A girl's room, Ryeland guessed, but from the relative modesty of its furnishings, not the room of a girl who was part of the higher brass on this de luxe subtrain. Possibly a secretary's room; perhaps a maid's. Whoever she was, she wasn't in.

But there was another door, leading to a flight of steps.

This time Ryeland didn't wait for Oporto. He caught his breath and held it, and when he had passed

through and established once again that that particular door was not radar-trapped, he tasted salt and acid on his lip. He had bitten hard enough to draw blood.

But he was through.

The stairs were steep, but it was easy enough to help Oporto up them, with the plunging of the car taking pounds off their weight. They came out into another room, also empty and small.

But this one was sumptuously furnished. It seemed to be a woman's dressing room. It was white and gold, with ivory-backed brushes and combs on a little vanity table, before a gold-rimmed oval mirror. The stairs, Ryeland guessed, were for the use of the personal maid to whoever used this room.

And he heard someone singing.

Ryeland took a deep breath and called out: "Hello there! Do you hear me? I'm looking for a doctor!"

There wasn't any answer. The singing went on, a girl's voice, clear and attractive; she was singing for her own amusement. Every once in a while she would go back and repeat a phrase, pause, then start again aimlessly. And under the singing was a sort of musical cooing accompaniment.

Ryeland looked at Oporto, shrugged and pushed the door open.

They looked into a room that was green and silver. Its walls swam with fading, shifting green light. In the center was a round silver tub, six feet across, partly recessed into the floor. From the mouths of

carved crystal dolphins tiny jets of perfumed warm water leaped and splashed, in a foam of bubbles, into the tub.

And above the thick blanket of foam protruded one knee, the head and the arms of the most beautiful girl Ryeland had ever seen.

"I — I beg your pardon," he said, awkward and disturbed.

She turned her head and looked at him calmly. On her wet, white shoulders were perched a pair of — birds? No. They were shaped like birds, like doves, but they were made of metal; their feathers were fine silver scales; their eyes were red-lit jewels. The metal things moved restlessly, as the little eyes poked hotly at Ryeland and Oporto. They cooed soft threats, and the rustle of their wings was like thin whispering bells.

Oporto opened his eyes, stared and emitted a strangling sound. "She — She —" He swallowed and clutched at Ryeland. "Steve, it's the Planner's daughter!" he gasped, and flung himself to the floor. "Please!" he begged, writhing toward her. "Please, we didn't mean to bother you!"

But the approach must have alarmed her. Not very much; for she didn't raise her voice; but she stopped singing in the middle of a note and said, quite softly: "Guards."

There must have been a microphone to pick up her words, for there was a sudden commotion outside. But more than that, she had defenders nearer still. The doves on her shoulders leaped into the air and flung themselves at the prostrate

little man. Sharp beaks tore, wing-tips like knives beat at him. The door opened and four tall women in the blue of the Planner's guard raced in.

II

Death had not been far from Steve Ryeland for these three years. It had worn the neat white smock of Dr. Thrale, the fat, bald, oily man who had been his chief therapist. It had whispered in the soft, asthmatic voice of Dr. Thrale, warning him a thousand times that he stood in danger of the Body Bank, unless he could recall a message from Ron Donderevo, unless he could find the right answers to nonsense questions about a string of words and names that meant nothing to him — *spaceling, reefs of space, Donderevo, jetless drive.*

Death had taken other forms. The concealed trigger of a radar trap, the menacing horns of a radar-headset, the more subtle and more worrisome peril of orders to the Body Bank; these were the deaths he had known and learned to live with. These women, though, carried projectile weapons, not radar. Queer, thought Ryeland, even in that moment, for if carried through the thought indicated that there were some dangers to the person of the Planner's daughter that did not come from classified Risks like himself. Could ordinary citizens—*cleared* citizens—be dangerous to the Plan?

But there was no answer to that question just then. Oporto was

screaming under the attack of the silvery doves, the woman guards were bearing down on them.

The girl stopped them all with a single word. "Wait." She swept a mound of bubbles away from her face to see better, exposing a throat of alabaster. Her eyes were green-gray and serene. She looked very lovely and very young.

She caught Ryeland completely undefended.

In the isolation camp there had been no women — not even a pin-up picture; and here he was in the presence of a most beautiful woman, in what should have been the privacy of her bath. Apart from everything else, she could hardly have been unaware of the shattering effect she had on him. But she seemed completely at ease. She said, in a voice more polite than curious: "What do you want?"

Ryeland coughed. "This man needs a doctor," he said hoarsely, looking away.

The first of the female guards laughed sharply. She was tall, brunette; a heroic figure of what might have been a lovely girl, if reduced ten per cent in all dimensions. She said in a voice that just missed being baritone: "Come on, Risk! We'll take care of you and your friend too!"

But the girl in the tub shifted position lazily. She waved an arm through the foam, watched the bubbles billow in slow concentric waves and said: "Never mind, Sergeant. Take the sick man to a doctor, if that's what he wants. Leave the other one here."

"But, Madam! The Planner —"

"Sergeant," said the gentle voice, not raised at all; the sergeant turned almost white. She gestured at the others; they half carried Oporto out. The door closed behind them, cutting in twain a look of pure hatred and contempt that passed from the sergeant to Ryeland.

The doves, which had been describing precise circles in the air, shook themselves and returned to the girl's shoulders. Their hot small eyes never left Ryeland, but after a moment they began to coo again.

"You're an iron-collar man, aren't you?" the girl asked suddenly.

Ryeland nodded. "A risk. Yes."

"I've never spoken to an iron-collar man" she said thoughtfully. "Do you mind if we talk? I'm Donna Creery. My father is the Planner."

"I know." Suddenly Ryeland was aware of his rumpled denims, of the fact that he was an intruder on this girl's bath. He coughed. "Don't you think your father — I mean, I don't mind if we talk, but —"

"Good," said the girl, nodding gravely. She shifted position to get a better look at him. The bubbles rippled wildly. "I was afraid you might be sensitive about it," she told him. "I'm glad you're not. What's your name?"

Ryeland raised his chin and spread the collar of his denim shirt to display the iron band.

"Steven Ryeland," she read, squinting to make out the glowing scarlet letters with his name and number. "Why, I think I know that name. A doctor? No. A rocket pilot?"

"I am a mathematician, Miss Creery."

She cried: "Oh, of course! Your folder is on my father's desk. I saw it this morning, when we were leaving Copenhagen."

An anxious eagerness took his breath. For three years he had been trying to learn the charges against him. The therapists had refused to give him information. Their questions had been carefully phrased to tell him nothing — they had asked him a thousand times what the word *spacing* meant, and punished him more than once for guessing that it meant an inhabitant of space.

"Did the folder tell —" He gulped. "Did it specify any charges against me?"

Her greenish eyes surveyed him, unalarmed.

"You displayed unplanned interests."

"Huh? What does that mean?"

"You possessed a secret collection of books and manuscripts, which had not been approved by the machine."

"No, I didn't!" A cold breath touched the back of his neck. "There has been some terrible mistake —"

"The Planning Machine permits no mistakes," she reminded him gravely. "The titles of the forbidden books were listed in the folder. The authors were scientists of the wicked times before the Plan. Einstein. Gamow. Hoyle —"

"Oh!" He gasped. "Then those were just my father's books — a few that I saved. You see, when I was a kid I used to dream of going to space. I've met Ron Donderevo. I

wanted to pilot a spaceship, and discover new planets. The Machine killed that dream."

He sighed.

"It transferred me out of the Technicorps and reclassified me as a research mathematician. It assigned me to an installation somewhere underground — I don't know where it was; we were not allowed even to guess whether we were under dry land or the ocean floor or the polar ice. I don't remember, even, if I ever guessed. My memory has . . . holes in it. I had two helpers — a teletype girl and a little man named Oporto, who is a sort of human computing machine. The Machine sent us problems, like the problem of hysteresis loss in the subtrain tunnels. They were problems the Machine couldn't answer, I suppose — even it doesn't know quite everything. Anyhow, we solved the problems.

"Of course I wasn't supposed to need reference books, because I could ask the Machine for any fact I wanted. But for the sake of efficiency it had let me keep a few handbooks, and I had brought those books of my father's among them."

He smiled at her hopefully.

"You see, for a man who had set his heart on space, life in a tunnel isn't very exciting. For a sort of hobby, I read those books about space. They were full of old theories about the nature of the universe. Using modern mathematics, I worked out a new set of equations to describe the expanding universe and the continuous creation of matter in the space between the galaxies —"

Her frown checked him. This was not quite the sort of talk for a young girl in her bath!

"But that was not unplanned," he finished desperately. "It was just a harmless hobby. In fact, it was useful to the Plan. The equations that I used in improving the helical field units were derived from the equations that describe the continuous creation of matter and space."

"And that's what made you a risk?" She looked at him thoughtfully and frowned. "You don't *look* dangerous."

He could find no answer to that. He waited while she waved a hand absent-mindedly. One of the doves left her shoulder to fly, tinkling, to the crystal dolphin. It pecked precisely at a fin-shaped lever on the dolphin's back, and obediently the spray of perfumed water dwindled away. Ryeland watched, more than half lulled by the scent of lilac and the strangeness of his surroundings. The room was warm but not steamy; invisible ducts must be sucking the moisture out. "Are you dangerous?" the girl asked suddenly.

R yeland said: "No, Miss Creery." He hesitated, wondering how to explain it to this child. "The collar isn't a punishment. It's a precaution."

"Precaution?"

He said steadily: "The Machine has reason to believe that under certain circumstances I might work against the Plan of Man. I have never done anything, you must understand that. But the Machine can't take chances, and so—the collar."

She said wonderingly: "But you sound as though you approve of it!"

"I'm loyal to the Plan!"

She thought that over. Then: "Well, aren't we all? But the rest of us don't wear iron collars."

He shook his head. "I never did anything that was against Security."

"But perhaps you did something that wasn't — quite?"

Ryeland grinned. She was amazingly easy to get along with, he thought; the grin became a smile — a real one, and the first he had worn in some time. "Yes," he admitted, "I did something that wasn't. There was a girl."

"Steven, Steven!" Donna Creery shook her head mock-ruefully. "Always a girl. I thought that was only in stories."

"In real life too, Miss Creery." He was almost relaxed. . . Then, abruptly, her mood changed.

"Your folder contains another specification," she rapped out. "You are charged with concealing information about a device which is dangerous to the security of the Plan of Man."

"But I'm not!" he protested desperately. "Somebody has made a mistake — in spite of the Machine. For three years the therapists in the maximum security camp have been working me over, trying to extract information that I don't have."

Her eyes widened, with a calm concern.

"What kind of information?"

"I'm not sure." He winced, with remembered pain. "They were careful not to give me hints, and they punished me for guessing.

"They questioned me about a list of words," he said. "They strapped me down, with electrodes clamped all over me, recording every reaction. They repeated the words a million times. *Spaceling. Reefs of space. Fusorian. Pyropod. Jetless drive.* And two names — Ron Donderevo and Daniel Horrock.

"Putting all those words and names and other clues together, I guessed that the therapists thought that Horrock had brought me a message from Donderevo. A message from space, about things called reefs and spacelings and fusorians. Particularly, about something called a jetless drive. That was what they were trying to dig out of me — how to build a jetless drive."

She frowned.

"What is a jetless drive?"

"There isn't any," he said. "Because a jetless drive would be a system of reactionless propulsion. Crackpots for three hundred years have been trying to invent such a system, but everybody knows it would be a violation of the Third Law of Motion. It's as impossible as pushing a rowboat forward without pushing the water back."

"I see." She was nodding gravely. "Impossible as creating new atoms and new space between the galaxies."

He looked at her sharply. "But I *couldn't* have had a message from Horrock — or anybody else," he insisted desperately. "Not when they seem to think I did. On the Friday it happened, Oddball Oporto and the teletype girl had been with me all day. We were work-

ing late, finishing the specifications for the new helical unit. I let Oddball go about eighteen hundred hours, because he was getting a headache. The teletype girl went out with him, to bring coffee and sandwiches for us. They hadn't been gone half an hour, when somebody knocked on the door. I thought it was the girl — but it was the Plan Police."

"That wasn't on Friday." Donna Creery's eyes were veiled, strange. "According to the records in your folder, you were taken into precautionary custody at eighteen hundred hours on a Monday afternoon. That leaves at least three days missing from your story."

Ryeland gulped.

"That couldn't be!" He shook his head. "Oddball and the teletype girl had just gone out —"

"I studied your folder with considerable care." She failed to say why. "I am certain that you were picked up on a Monday."

Ryeland felt a tingle of excitement. This was more than he had ever been able to learn about the case against him.

"I suppose it's possible," he muttered. "At first I was in a place mis-called a recreation center, somewhere underground. We weren't allowed to inquire where. The therapy sessions went on around the clock. I had no way of knowing the time or the date.

"But I still don't know how to build a reactionless propulsion system. And I still believe that the Machine has permitted itself to make a mistake."

Donna Creery shook her head reprovingly.

Ryeland stopped, the collar tight around his neck. This was crazy! Staying here like this with the Planner's daughter! He said abruptly, harshly: "Miss Creery, I'm interrupting your bath. I must go!"

She laughed, like a shimmer of pale music. "I don't want you to," she coaxed.

"But — your bath —"

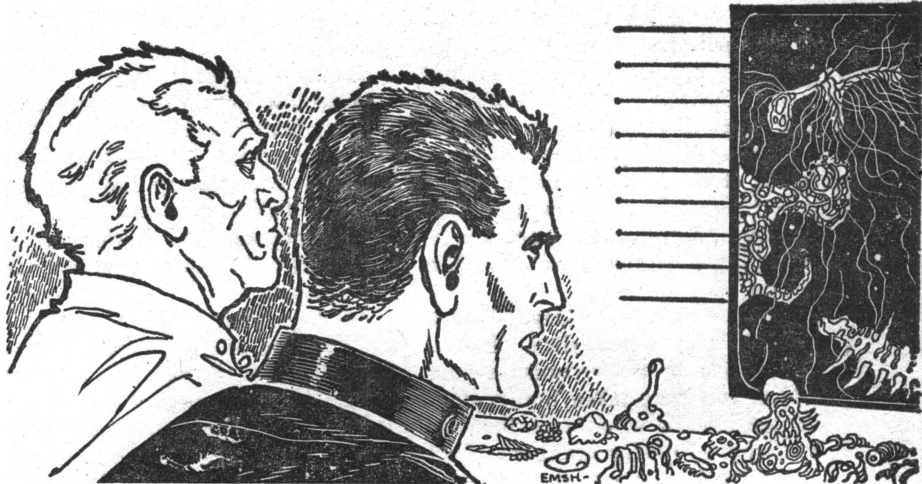
"I always stay in the tub in these subtrain rides, Steven. It's comfortable, when the up-grav drag begins to work. And don't worry about my father. He rules the world — under the Plan, of course! But he doesn't rule me." She was smiling. She could hardly be twenty, Ryeland thought ruefully, but there was no more doubt in his mind that she knew she was a woman. She said comfortably: "Sit down, Steven. There. On the bench."

One slim arm, wearing wristlets of foam, gestured at an emerald bench next to the tub. The doves moved nervously as he approached. Donna Creery said: "Don't be afraid of my Peace Doves." He looked quizzically at the silver-steel beaks. "Oh, I'm sorry they hurt your friend," she apologized, "but they thought he was going to hurt me. You see, even without the guard I am protected."

She waved a hand, and faint music seeped into the room from concealed speakers. "What was the girl like?" she demanded.

"She was beautiful," he said shortly.

"And dangerous?"



He nodded, but under the heavy weight of the collar the stiff hairs at the back of his neck were trying to rise. Dangerous? This girl was far more dangerous to him. He had no right to be here. The Machine would not be blind to this. But Donna Creery said soothingly: "Tell me about her. Was she really lovely?"

"I believed she was. She had long yellow hair and green eyes. Eyes like yours. And she was in the secret police, but I didn't know that until the day of the raid."

Laughter pealed from the girl's lips, and the Peace Doves fluttered their wings fretfully for balance. "And she betrayed you. Are you afraid I might? But I won't, Steven, I promise."

He shrugged. "I've told you. I suppose I was lucky, at that. I was sent to a maximum-security camp. It could have been the Body Bank."

She tilted her head to ponder

that, and he watched the red glints flow through the dark waves of her hair. A last she sighed and said, "And for that you became a Risk. But you should have been more careful, Steven. You should not have defied the Plan. And now you have to wear that collar. Can't you get it off?"

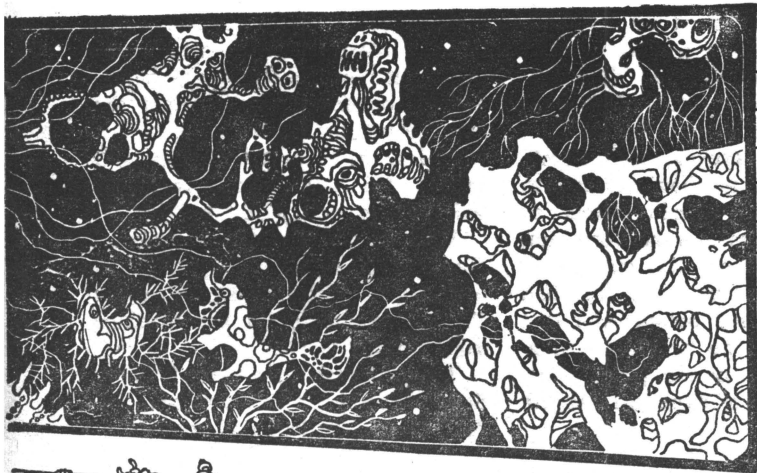
He laughed sharply.

She said seriously: "No, I suppose not. But if I were you, I think I might. You said you were a mathematician. If I were a mathematician, and wore the collar, it would be only one more problem for me. I would find a way to solve it."

He said with a touch of anger: "The collar was invented by Colonel Zamfirescu, the best engineer in the Technicorps — before he was salvaged himself. He thought of everything."

"It's only a metal band, Steven."

"The toughest armor plate in the world! And inside it there's a de-



capitation charge, fused with a hydrogen power cell — it won't last forever, no, but it will keep full power for a century! And that's longer than I can wait. And the collar's booby-trapped. If I try to cut it open—if I even try to unlock it, and use the wrong key, or turn it the wrong way — it will kill me on the spot. Have you ever seen a decapitation charge go off, Miss Creery? I have."

She shuddered, but she said: "If I were you, I would run away."

"Not very far! Radar runs faster. And even if you could get away — out to the Cold Planets, say, or to one of the orbiting stations around Mercury — there's a timing device in the collar. It has to be reset periodically, with a key. If not — boom. And you never know when; just that it will be less than a year."

"Oh." She shook her head sadly. "Then you must take it off," she said wisely.

He laughed out loud; he couldn't help it. The idea was preposterous!

"Don't laugh, Steven. Ron Donderevo did," she told him.

"Donderevo! What do you know about Donderevo?"

She said, "Oh, a little. I knew him, you see, when I was very small. I remember seeing him with the collar — and I saw him again, without."

He stopped, staring. He began: "You saw Donderevo —"

But there was a sudden, harsh knocking at the door. "Miss Creery!" a worried male voice clamored. "The Planner has sent for that Risk!"

Ryeland sat bolt upright. For a moment he had forgotten; the voice had brought him back to the realities of his life.

The girl said, "You'll have to go, Steven." She whispered, and one of the Peace Doves restlessly rose from her shoulders and circled the room,

its hot red eyes fixed on Ryeland. It touched the door, and without sound the door opened. "Be careful," the girl said gently. "And don't think too much about Angela."

"All right," Ryeland said, numb, walking like a mechanical man to where the radar-horned officer of the Planner's guard waited for him, with an expression like malevolent granite. It wasn't until the door had slid silently closed behind him that he remembered he had never mentioned the name of the girl who betrayed him, his teletype girl, Angela Zwick.

For all of Ryeland's life the Planner had been watching him. That fearless, genial, giant face had looked down on him from stereo posters in the home of his parents, the barracks of the Technicubs, the classrooms of his school — in every public square, and all the laboratories and buildings where he had worked. Ryeland knew that face as well as his own father's — better — and so did every other human alive.

The Planner sat behind a great hardwood desk in a chair that was all air cushions and cunning springs. He was looking absordedly through a folder of papers on his desk. Uncomfortably Ryeland stood waiting.

There was no resemblance between the Planner and his daughter. She was brunette and lovely, with the face of a child saint; he was square and silver, a lion's face. His hair was short, gray-white; it sat firmly on his head like a collision mat. And over his head, on the back

of the great chair, a steel-gray falcon sat frozen; but it was not an ornament, for slowly metal-sheathed eyes opened and tiny bright red eyes peered out at Ryeland.

At last the Planner looked up and smiled. He said in a velvet bass voice: "Son, don't you check in?"

Ryeland jumped. "Oh. Sorry, sir." He hurried over to the gold-plated teletype and tapped out his name. The station plate on the machine said simply: "ONE".

The old man chuckled. "You're Steven Ryeland. I saw you once before, but you wouldn't remember that."

Ryeland started. "Sir?"

"It was a long time ago, boy," the Planner said contemptively. "I visited your home; you were a baby. Don't look shocked. You see, I knew your father."

Ryeland staggered. He was half floating as the hurtling sphere reached maximum velocity, hundreds of miles under the open air; but it was not that which made him dizzy, nor even the fact that he had not eaten for nearly a full day; it was this man on the other side of the desk. He said incredulously: "Sir, my parents never said anything about knowing the Planner. Surely they would have been proud. . . ."

The Planner laughed, a glorious huge laugh. "My boy," he cried, "it's a wise child, eh? And you are not that wise. You don't know much about your parents. They were not proud of knowing me at all; they were ashamed because, you see, your father hated me very much." He nodded, the smile drying on his

face. His voice became like the rasp of a file. "Your father was an enemy of the Plan!" he barked.

"Sir," Ryeland protested, "I don't know anything about my father. He disappeared when I was young. And my mother never told me that."

"She wouldn't," the Planner said savagely. "She was a dangerous woman, but not a stupid one. Neither of your parents were stupid, Ryeland; so how is it that you are?"

Ryeland said baffled: "Sir?"

"You're a Risk!" rasped the Planner. "You should not have dared defy the Plan. That was an act of stupidity!"

Ryeland took a deep breath. Perhaps this was his chance to get his case on the record. He began: "Sir, let me explain. I had no intention of defying the Plan. There was a girl who reported me, and the Machine reclassified me as a Risk. I think this was an error, but —"

"You question the Machine?"

"No, sir. Not the Machine, but the information that —"

"Never mind!" snapped the Planner. "I don't want you to incriminate yourself further. You are your father's son, and you must remember that everything you do is suspect for that reason."

It took Ryeland's breath away. For a moment he couldn't speak. He stood there, weaving slightly in the unsteady footing as the sphere rolled restlessly about in the beginning of its up-drive back to the surface.

Then he burst out: "Sir, do I understand you? You're saying that

the Machine considers me a Risk because of what my father may have done before I was born! That's not fair. That's —"

"Fair!" bellowed the Planner, while the raven opened its tiny eyes and whirred restlessly over his head. "What sort of word is that, Ryeland? 'Fairness.' 'Freedom.' 'Democracy.' All those words your father used to use, they run in the blood. And they mean *nothing*. What does 'fairness' have to do with seventeen hundred and fifty calories a day?"

"Fairness," he sneered, "is used up, gone, spent! Do you know what your blessed ancestors did, boy? They mined 'fairness' and 'democracy' from the untapped resources of the world. They didn't invent them, they *mined* them — just as the old farmers mined minerals from their cornfields, twenty crops of corn and a foot of soil! Well, the topsoil's gone now. And so is fairness and freedom. The world is a closed system now boy, and there isn't enough to go around!"

The ferocity of the outburst left Ryeland stunned. "But — but sir," he said, "surely the far planets offer *new* frontiers, new resources —"

"Be still!" barked the Planner, the square silver head thrust forward like a hammer. Above him the steel-gray falcon whirred threateningly.

The Planner glowered up at Ryeland, shifting his position in the compensating chair as the subtrain began its up-grav thrust. Weight came back to normal, then more than normal. Planner Creery said: "Ryeland, you're like your father. He never learned that the frontier was

gone, but you must. The Plan of Man is based upon a systematic reduction of the pernicious personal liberties that almost destroyed our world. War! Dust bowls! Floods! Forest fires!" Each word was a foul epithet; he spat them at Ryeland. "We have to pay the bill for the waste that has gone before—waste that your father, and those like him, would have spread. Never forget it, boy!"

Ryeland stood silent. There was no reasoning with this man; there was a power and assurance that a gun might shatter, but no human power ever could. After a moment Ryeland said: "I haven't forgotten." Nor ever would, he thought. Not while the collar weighed around his neck.

"The collar bothers you," said the Planner surprisingly, and grinned. It was as though he had read Ryeland's thoughts — easy enough, Ryeland realized. "But we all wear them, boy. Each one of us, from the Planner down to the castoffs waiting for salvage in the Body Bank, must account to the Machine for every hour of every day; and each of us wears the Machine's shackle. On some of us they're intangible," he explained gravely, "and I admit that that does make a difference."

Unwillingly Ryeland smiled. Not only power, he realized; the man had personality, charm—even to use on a Risk.

"But if you like," the Planner added, off-handedly, "you can get that particular collar off your own particular neck."

For a moment Ryeland couldn't believe what he had heard. "Get the collar off, sir?"

The Planner nodded majestically. He shifted his position again, touching a button. The massive, cushioned chair inclined slightly backward. The raven flapped with a tinkling metallic sound into the air, hovering, as a neck-rest rose out of the chair's back and enveloped the Planner's silver head. The subtrain sphere was well into its upward thrust now. A faint squeal filtered through the soundproofing of the room — testimony of the pressure that forced the car against the invisible, unfeeling wall of electrostatic force. It wasn't friction that made the squeal, but a heterodyne of vibrations from the generators that drove the car. Ryeland staggered as his weight grew.

The Planner said suddenly: "We are all bound to the Plan in one way or another. I must try to find unbreakable links that can replace your iron collar—or you must find them yourself; then the collar can come off."

Ryeland said desperately: "Surely my work proves that I am loyal."

"Surely it does not!" the Planner mocked. He shook his head like a great father bear with a naughty cub. "It is not what you have done already," he reproved, "but what you can do now that will matter. You have worked freely, Ryeland; perhaps brilliantly, but you must work within the Plan. Always. Every moment. The Planning Machine will assign you a task. If you complete it —"

He shrugged, with an effort.

Ryeland was gasping now, the sag of his flesh a trap as the sub-train sphere forced its way up from Earth's molten center. He wanted to talk — question the Planner — perhaps leave the secret of those missing days. But his body refused. All around them was white-hot rock under pressure; only the electrostatic hoops kept it out; they were down many miles, but now rising. It was like an elevator again, but going up. The vertical component of the sphere's speed was rapidly reaching a hundred and fifty miles an hour; and even the Planner's voice, cushioned and protected as he was, began to grow hoarse and slow.

"You'd better go now, Ryeland," he grumbled. "But would you like to know what your task will be?"

Ryeland didn't answer — he couldn't; but his eyes answered for him. The Planner chuckled slowly. "Yes, of course. The Machine thinks you can handle it. It sounds — Well," said the Planner thoughtfully, "we each have our part to play, and mine is not necessarily to understand everything the Machine requires. Your task is to develop a jetless drive."

Ryeland rocked, and clutched frantically at the edge of the Planner's huge desk. "A — a jetless drive?"

The Planner looked somberly amused. "I see," he said. "Perhaps your task does not include understanding it either? But that is what the Machine asks of you."

"You mean —" Ryeland tried to

recover his breath. "You mean, a reactionless propulsion system?"

"Precisely."

"Do you know that your torture experts — your reconstruction therapists — have been trying for three years to make me tell them how to build a jetless drive? They seem to think I know how."

"I know." The big man shrugged. "I know their efforts failed. The Machine had received information that you had designed such a mechanism. Apparently that information was mistaken. But the past three years have made such a device more than ever essential to the security of the Plan — more than ever dangerous to the Plan, if it should fall into unfriendly hands.

"The Machine requires a jetless drive. Its records of your abilities and achievements indicate that you are qualified to develop such a device. I have decided to disregard the evidence of your unplanned behavior, the problem of whether your amnesia is real or assumed, voluntary or not. If you want to come out of your collar in one piece, you will design a working method of reactionless propulsion. Now," he said in an exhausted voice, "you must go."

Through a haze Ryeland saw him make a faint motion with the huge gnarled hand that lay on the arm of his chair. The raven shifted position ever so little and beat the air frantically with its steel wings. Across the room a door opened.

One of the Planner's guard officers came in. He was a giant of a man, but he stepped very carefully

under the thrust of the sphere's climb.

"Ryeland," whispered the great old man behind the desk.

Ryeland turned, half leaning on the officer in guard blue.

"About my daughter," said the Planner softly. The squeal had become a roar, almost drowning him out. "Donna has a soft heart, which she inherited from her mother; but her brain she inherited from me. Do not attach importance to the fact that she allowed you to talk with her in her bath." And the old man's eyes closed, as the Planner allowed his head to slump back at last.

III

Machine Major Chatterji said comfortingly: "You'll like us here, Ryeland. We're a brisk outfit, brisk."

"Yes, sir." Ryeland looked around him. He was in a steel-walled cubicle with a Security designation. He had no idea where on, or under, Earth he might be.

"You don't have to worry about nonsense," the major chattered. "Get the work done, that's all we care about."

Ryeland nodded. The little major moved with the youthful grace of a kitten. He wore the radar-horned helmet of a risk-pusher debonairely, as though it were part of a fancy-dress costume. He caught Ryeland's glance.

"Oh, that," he said, embarrassed. "Confounded nuisance, of course. But you *are* a Risk and the Machine's orders —"

"I'm used to it."

"Not that you're the only Risk here," Major Chatterji added quickly. "Heavens, no! Some of our best men, and all that."

Ryeland interrupted, "Excuse me, Major." He bent to the teletype and rapidly typed out his identification number and the fact that he had arrived. Without delay the teletype rapped out:

R. Information. Machine Major Chatterji is authorized to reconsider your status. Action. Requisition necessary equipment for expansion of equations re unified force field and steady-state hypothesis.

Ryeland frowned. Major Chatterji, peeking over his shoulder at the gray teletype, cried: "At once, Steve! Oh, we move fast here. I'll have a six-deck calculator and a room to put it in before you can change your clothes, I'll bet you a lakh of dollars!"

Ryeland said: "I don't understand. 'Unified force field and steady-state hypothesis' — what's that about?" But the major was cheerfully ignorant. Administration was his job; Ryeland would find out everything else in due course, wouldn't he? Ryeland shrugged. "All right. But I won't need the calculator — not if Oporto is still around."

"The other Risk?" Machine Major Chatterji winked. "Always stick together," he nodded. "I'll have him detailed to you."

Ryeland looked again at the teletype. The truly important part of the message also needed some thought. *Machine Major Chatterji is*

authorized to reconsider your status. Then this man here, with the liquid black eyes and the lean, hooked nose, this was the man who could turn the key that would unlock the iron collar?

Or was that the wrong assumption to make? The Machine was always exact. But sometimes the mere human who read its message failed to understand the meaning. For instance, did that message mean that Machine Major Chatterji could clear Ryeland — or did it mean that he could downgrade him . . . say from Risk to raw material for the Body Bank?

It was a sobering thought.

The faded unreality of everything in his past except his knowledge of science left Ryeland with a nagging sense of bewilderment and loss.

"Why does the Machine need a jetless drive?" Uneasily, he put the question to Major Chatterji. "The ion jet ships are good enough to reach the planets — and anyhow the Plan of Man seems to be retreating from space and burrowing into the Earth."

"Stop it!" Chatterji warned him sharply. "Such speculation is no part of our function."

Ryeland insisted, "The Machine seems to be afraid that a jetless drive in the wrong hands would be dangerous to the Plan. Whose hands could that be? The Plan has conquered all the planets, taken in the whole human race. Except for a few fugitives like Ron Donderevo —"

"Don't talk about him!" Chatterji looked shocked. "Our own function here is enough to keep us busy with-

out any such unplanned talk."

Ryeland shrugged and gave it up, and Chatterji at once reverted to his cheerful bustle.

"We've got to get you settled," he beamed, his gold-rimmed glasses flashing. "Faith! Come in here, girl."

The door opened. A tall blonde strutted in. She wore tight scarlet pants and a brief scarlet jacket. Two centuries before she would have been a drum majorette; under the Plan she had a more important role to play. "This is Faith, Steve. She's one of our Togetherness girls. She'll help you get adjusted here, I promise!"

The Togetherness girl smiled a lacquered smile. She piped: "Perform your own function perfectly — and your own function only.' That's our motto here, Mr. Ryeland." It was like a doll talking.

"And a splendid motto it is!" Major Chatterji endorsed, beaming. "Get him started, Faith. And don't forget the Togetherness meeting at nineteen hundred hours."

Ryeland's mind was teeming with jetless drives and the steady-state hypothesis and three missing days and *Major Chatterji is authorized to reconsider* and the fact that the Planner had known about his interview with Donna in her bath. But this was important too; he swept the other things out of his mind and tried to pay attention to what the Togetherness girl was saying.

"You'll like it here, Steve," she whispered, solemnly squeezing his arm. She smiled up at him, and

steered him down a gray-walled concrete tunnel. There were no windows. "This is Point Circle Black. Sounds confusing, doesn't it? But you'll learn. I'll teach you!" Point Circle Black was the headquarters office, where Major Chatterji, the administrative officer, fussed endlessly over his problems of supply and personnel. "Point Triangle Gray." Faith sang, waving at an intersection ahead. "That's the medical section. Tests and diseases, injuries and —" she giggled naughtily — "supply depot for the Body Bank."

Ryeland grunted.

"Oh, that's nothing for *you* to worry about, Steve," she said reassuringly. "Trust Major Chatterji. You do your part and he'll do his; that's Teamwork."

Ryeland mumbled, "I understand. It's just that — well, I've had to face the chance of the Body Bank for three years now. I admit I don't like the idea of being butchered."

She stopped, scandalized, her perfect eyebrows arched, her clear eyes wide. "Butchered? Steve, what an unplanned word!"

"I only meant —"

"The *Planned* term," she said firmly, "is 'salvaged'. And you can't deny the logic of the Machine, can you?" She didn't wait for an answer. She was well into her set speech. "The Body Bank," she parroted, "provides the attack team with the necessary stimulus to insure maximum effort. If the effort is successful, the team has nothing to fear. If the effort fails —"

She shrugged winsomely. "The welfare of the Plan of Man," she

said, "requires that they must make their contribution in another way. That is, their physical organs must contribute to the repair of more useful citizens. That's Teamwork!"

"Thanks," said Ryeland grumpily. The isolation camp on the rim of the Arctic Circle, he thought wistfully — it had been hard and dull and uncomfortable; but at least he hadn't been exposed to lectures from teen-aged girls!

Point Triangle Gray was a Security designation; all the names were. The whole area was called Team Center. It might have been under Lake Erie or the Indian Ocean; Ryeland never learned.

At Point Triangle Gray he was given his tests. He caught a glimpse of Oporto, looking healthy enough but somehow crestfallen; they waved, but there was no chance to speak as Oporto came out of one laboratory room while Ryeland was going into another. At least, Ryeland thought, the little man hadn't been salvaged.

Then he forgot about Oporto for five rigorous hours. Point Triangle Gray measured his functional indices and his loyalty quotients with every test that he had ever undergone before and one or two that were brand new to him. The lab men stripped him and clamped him in their metering devices, while the interrogators demanded every detail of his life, back to the toys his mother had given him for his third birthday.

In these tests he tasted the after-bitterness of those sessions in the

therapy room at the "recreation center" — those long, endless ages when he was punished and punished again because he could not make sense of the crazy questions the therapists flung at him. He dreaded, each moment now, that in the next moment it would start again. Someone would fling him a question about pyropods or Ron Donderevo. Someone would ask him about the missing three days in his life, or demand that he draw them the plans for a device he'd never heard of.

But it didn't happen; the questions were all routine.

In fact, every one of the questions had been asked him before — some of them a hundred times. Every answer had long since been recorded for the memory drums of the Planning Machine. But the interrogation went on. His reactions were studied in blinding actinic light, and photographed by infra-red in what to him was utter dark. His body fluids were sampled again and again. Whole salvos of injections stimulated and calmed him, and for a short time put him to sleep — while heaven knew what pokings by scalpel and probe investigated the muscle tensions of his innermost system.

But at last it was over.

He was dressed in new crisp scarlet slacks and tunic and propelled into the gray concrete corridors where Faith was waiting, the lacquered smile on her face and her eyes glad.

"You've passed!" she sang. "But I knew you would. And now you're a full member of the Team."

She led him away carolling: "Next



I'll show you your quarters. They're nice, Steve! And then, oh, there's so much here! You'll like the Togetherness Canteen. You'll have wonderful work facilities. Everything is fine — and, of course, that's only fair, isn't it? Because so much is expected of you people on the Attack Team. You're entitled to a great deal in return; that's Teamwork!"

She led him about for an hour, and she did not stop chattering once. She took him to a sort of mess hall to be fed — alone; he was late for dinner, due to the tests at Point Triangle Gray, and the others were all through. The food was General Workers A-Ration — about the same as at the maximum-security camp, though somewhat less of it in terms of calories. But it was pleasant to be allowed to sit and smoke after the meal. And she showed him his quarters.

They were comfortable. A rather surprisingly soft bed, a bookcase (already Machine Major Chatterji had stocked it with conversion tables and reference books), a more than adequate chest for the personal belongings he had long since ceased to own. "Isn't it *nice*?" the Togetherness girl enthused. "But we'll have to hurry, Steve. It's almost nineteen hundred hours!"

The Togetherness Canteen was high over the maze of tunnels that comprised Team Center. Its gray concrete was liberally splashed with bright colors.

It was full of light and sound and people. There were nearly twenty Togetherness girls as pretty as Faith; they danced with laughing officers of the Technicorps, sat with them at tables, sang with them around a piano. There were hurrying waitresses as pretty as the Togetherness girls, or almost, bringing drinks and light refreshment. And there were the officers — Ryeland's new colleagues.

They all wore the crisp scarlet uniform; and his heart bounded, for three of them at least, he saw, wore the same iron collar as himself. But they were *laughing*. One danced with a red-headed girl as tall as he, two were in a card game.

The iron collar did not seem to weigh heavily on these Risks.

Ryeland took a deep, wondering breath. Maybe this place was the place he had hoped for all those three years. . . .

One side of the room was an enormous window, twenty feet tall,

made of armor-glass. Outside weathered cliffs were splashed with orange sun, nearly set. The tops of pines swayed in an unheard wind, and a far mountain slope was splotted with evergreens and golden autumn aspen.

Faith touched his arm. "What's wrong, Steve? Afraid of high places?"

He had hardly noticed the scenery; his thoughts had been on his collar. But he blinked and came awake. "I — I didn't know where this place was, until I saw the outside."

"You still don't know," she laughed. "Come along. You'll want to meet the Team leader."

General Fleemer had big bulging eyes and a tight uniform; it made him look like a very important frog. "So you're Steve Ryeland?" The general pumped his hand, the bulging eyes glowing with friendly Togetherness. "Glad to have you, Steve!" He grinned and flicked the iron collar with a fingernail. It rang faintly. "We'll have that off you in no time. Give us results, we'll give you your clearance! What could be fairer?"

He caught Steve by the other elbow, the one Faith wasn't using, and carried him off. Faith trailed along. "Want you to meet some of the others," he boomed. "Here. Pascal! Come over here. Steve, I want you to meet —"

"But I already know Colonel Les-cure," said Ryeland. It was the gray-haired Technicorps officer who had conducted them to Compartment 93 on the Planner's subtrain.

The colonel nodded, and took

him aside for a moment while General Fleemer rounded up more of the Team. "I didn't want to say anything before — but I knew you were coming here. And I'm glad. Your — ah — interview was a success, eh?" And he nudged Ryeland's ribs.

It occurred to Ryeland that the colonel might not have been nearly as jolly with him if the interview hadn't been a success, but he let it pass. "Yes," he said, "the Planner was quite —"

"Planner?" Colonel Lescure winked. "I mean the *other* interview, son! She's quite a girl!" It seemed, thought Steve Ryeland, that there was hardly a human under the Plan of Man who wasn't aware that he had spent three-quarters of an hour with Donna Creery in her bath.

"Over here!" cried the general, beckoning. "You too, Otto!" As Ryeland reached the general Colonel Otto Gottling stumped over, his face like a rock. He was a jet combustion expert, as it turned out; his chamber had powered the last twelve rockets built for the out-planet run.

Everyone was a specialist and Ryeland found it uncommonly difficult to figure out where the specialties fit together. Colonel Lescure, he discovered, was Director of the Plan of Space Biology, for example. A major named Max Lunggren was an astrophysicist. There were two other mathematicians — one an expert in number theory, the other whose name was vaguely familiar to Ryeland as the author of a paper on normed rings. (Coincidentally — or was it coincidence? — both of

them wore the collars of Risks.) The third Risk was a food chemist, a fat, jolly man who owned a fund of limericks.

But some hours later Ryeland received a clue, at least; the evening was not entirely devoted to Togetherness.

When everyone was satisfactorily mellow General Fleemer climbed atop a table and hammered it with his heel for attention.

"A toast!" he bawled. "I give you Teamwork — and the Plan!"

There was a rousing roar. Fleemer drained his glass with them and then turned serious. "Some of you," he cried, "wonder what our Team Attack is aimed at. Well, you'll find out! But for the benefit of the new people, first let me review the overall philosophy of the Team Attack itself. It is the essential tool of our scientific progress, and too important to be taken for granted!"

"Hurray for Team Attack!" bawled one of the iron-collar mathematicians, amid a giggle of the Togetherness girls around him.

General Fleemer smiled, quelling him. He said: "Once upon a time — so our Team historians tell me — science was done by individual men. Some of you may think it is still done that way." He gave a frosty grin to Ryeland and the other Risks. "But that is all over. The turning point came with the Einstein Team, which met at a town called Hiroshima to attack the primary problem of atomic fission.

"Unfortunately," the general said sadly, holding out his glass for a

refill, "these pioneers were destroyed by the unexpected success of their first experiment with uranium fission. But the principle of team attack survived!

"Since then the Plan of Man has refined the principles and polished the techniques of Team Attack. When the Plan of Man requires a new scientific discovery, a team is created to make it. Such a team is needed now — and you are my Team. all of you!"

There was prolonged cheering.

Then Fleemer paused. He smiled, and it was a scorpion's smile, vastly out of character in that wattled marshmallow face.

He said: "I'm sure you all understand why you can be counted on to do your best." He nodded merrily to Ryeland and the other iron-collar men. "When you succeed, you will learn that Teamwork operates both ways. *When* you succeed. But if you fail — *if* you fail — why, then. . ."

He trailed off, and looked somberly at the men for a second.

Then he grinned and drew one pudgy finger across his non-existent neck. "Zzzzt! The Body Bank! *But we won't fail!*"

There was a burst of laughter. Machine Major Chatterji leaped to a table, his glasses gleaming. "Three cheers for General Fleemer and the Plan of Man! Hip, hip —"

"Hooray!" The cheer was loud but ragged.

"Hip, hip —"

"Hooray!" Louder now. The whole room was together.

"Hip, hip —"

"Hooray!" Ryeland found himself

thundering along with the rest. He couldn't help it. He had been born under the Plan of Man. He could not doubt it. It would have deprived his life of meaning, as the iron collar that was the Plan's gift to him had, for a time, nearly deprived it of hope.

There was loud applause. And General Fleemer, still smiling, raised his hand. "What the Machine needs," he said, "is a new physical principle." He shrugged winsomely — as best he could with those blubber shoulders. "I'm not a scientist, and I don't know just how tough this job is going to be. Probably some of you think it's going to be *very* tough. Well," he said, chuckling, "the rest of you are just going to have to convince them otherwise!" And he touched his finger jestingly to his throat.

Ryeland tried, but got little information from the others. It wasn't so much that they refused to tell; it was more that he couldn't understand. The Machine would give him a detailed directive, they assured him, and wouldn't he have another drink?

And an hour later Faith offered to show him a short-cut home to his quarters. They linked arms and wandered off through the gray-walled corridors. "Here's an area you've never seen," she caroled. "See that? Point Nexus. That's the Message Center."

"Lovely Message Center," said Ryeland comfortably. Funny. Even the iron collar didn't seem as hard or as cold. She was a sweet kind of

girl, he thought dreamily. Of course, the Togetherness girls were coached, reared — all but bred for that. But she reminded him of the Fair Lost One, Angela — about whom the Planner's daughter had known more than she should. But of course it could have come from his personnel folder, and —

"Point Crescent Green," sang the girl, pointing to another stenciled emblem on the wall.

"Lovely," said Ryeland automatically, and then took a closer look. "But what's going on?"

The girl hesitated.

She stopped in the middle of a word and frowned at Ryeland. "I tell you," she said after a moment, suddenly gay, "maybe this short-cut isn't such a good idea. Back the other way there's —"

"No, but look," Ryeland insisted planting his feet as she tugged at him. It was quite late now, but there were a couple of guards in Team scarlet, and one of them was turning a key to slide back a massive, lead-shielded door. Beyond was the floor of an enormous pit, lit by a bright single light, high up.

Ryeland recognized it for what it was: A rocket landing pit. There were the great spreading girder arms of the gantry, the enormous ducts for the jet-baffles yawned black in the floor. A piece of his mind catalogued the information that rocket landings commonly took place here; dim in the gloom behind the brilliant light were the enormous doors that would open to the sky.

But there was no rocket in the pit.

There was something else, something in a heavy metal cage.

"What is that thing?" Ryeland demanded. It looked a little like the seals that Ryeland had seen sunning themselves on the rocks off the maximum-security camp; but it was golden — metallic gold, the gold of the setting sun on bright metal, as it lay bathed in the wash of harsh light from above.

The thing was alive. It was, however, no animal that Ryeland had ever seen.

It lay on the floor of the great metal cage as though exhausted by efforts to escape. The golden fur was bloodied and torn about its head. Some of the bars were bent and bloodstained.

Whatever it was, it had fought to get free!

The Togetherness girl said worriedly: "Come away, Steve. Please! Major Chatterji doesn't want anyone to see the spaceling until —" She gasped, confused. She begged: "Forget I said that! I shouldn't have taken you this way at all, but — Oh, please, Steve, come away."

Reluctantly he let her lead him away. The guard had hurried inside and the enormous metal doors were closed; there was nothing more to see in any case.

But what was it that he had seen?

IV

At 0700 hours the next morning the teletype rang him out of a deep sleep. Hardly stopping to open his eyes he leaped to answer. It clattered:

Query. Is Steven Ryeland, Risk, AWC-38440, present?

Ryeland blanched and instantly tapped out his acknowledgement. All human instincts ordered him to add an apology, but the Machine was not interested in apologies, only in compliance with its rules. It rapped back at him without pause:

Information. Steady-state hypothesis rests on theory of Fred Hoyle English astronomer physicist 20th century stating that clouds hydrogen gas are continually formed between stars thus replenishing matter converted into energy in stellar power processes. Action. Produce necessary mathematical statements showing when under what conditions process can occur. Action. Make statement as to feasibility additional mathematical statement providing basis for neutralizing or reversing hydrogen formation process.

Ryeland stared. There was a brief tap at the door and the Togetherness girl danced in, carrying a tray with tea and toast and a glass of pinkish fruit juice. "Good morning, Steven! Rise and shine. I — oh!" He impatiently motioned her to be silent; the teletype, as though that were not enough for him to worry about in a single transmission, emitted the whir of marking impulses for a moment and then clattered out a new message:

Information. Experimental evidence available indicating existence of drive mechanism not subject to Newton Third Law Mo-

tion. Information. Said mechanism referred to as Jetless Drive. Action. Produce necessary mathematical statements providing basis for reproducing Jetless Drive in Plan space vehicles. Action. Review work of Colonel Gottling unified force field as necessary first step.

Ryeland pulled the tape out of the machine as soon as it was finished and sat staring at it. Somebody, he reflected, had been transferring information from his forbidden books into the Machine!

Gently Faith removed it from his fingers. "Breakfast," she scolded. "A bath. You'll think better when you're more awake!" Groggily Steve allowed himself to be propelled toward the bath, his mind a whirl of hydrogen clouds and non-Newtonian force fields.

The steaming shower woke him. By the time he was dressed and sitting down to breakfast with the Togetherness girl he was alert. "Jetless drive!" he said. "But there can't be such a thing. Newton's law!"

"Drink your tea, Steven," she said soothingly. "Would the Machine ask you to do it if it were impossible?"

"But I can't — well, *what* experimental evidence? I haven't seen any."

The Togetherness Girl looked inconspicuously at the watch on her wrist. "Colonel Lescure will be waiting, Steve. Drink your tea."

The colonel was very crisp in his uniform and white smock. He said: "You're jittery, Ryeland. Relax."

Steve touched his iron collar significantly. The colonel smiled. "Oh, sure," he said, "but you want to get it off, don't you? And the best way is to relax, because your first job is to listen. I have to tell you about the reefs of space."

The reefs of space! Ryeland gulped and tried to relax. A numbing fog of bewilderment and pain swirled up around him, across the lost years at the maximum security camp. He was lying stretched on the couch in the therapy room, with the cold electrodes clamped to his wrists, and the blinding light blazing into his face. Dr. Thrale was standing over him, fat and gentle and apologetic, wheezing out the words *spaceling* and *pyropod* and *jetless drive* and *reefs of space*, and methodically charting his reactions.

"Relax, Ryeland." The colonel's voice buzzed out of a great gulf of distance. "We must take this problem one step at a time. The first step is the information which I am to give you now."

"Sure," Ryeland gasped. "I understand."

He was trying desperately to relax. Perhaps this information would answer the riddle of those three lost days.

"Let's have a drink," the Colonel was suggesting. "Talking's thirsty work."

Ryeland hesitated. Alcohol had always been forbidden, at the academy and at the isolation camp.

"Come on," said the colonel, twinkling. "A transfusion won't hurt the story."

He opened a cabinet and took out

glasses and a little box. While he poured drinks, Ryeland urged: "Reefs of space? Meteor clouds, perhaps?"

Pascal Lescure laughed. "More like coral reefs. Here." He touched glasses. "That's better," he said comfortably, tasting his drink, and he opened the little box.

A collection of fantastic little animals modeled in plastic spilled out. Ryeland glanced at them only abstractedly; his mind was on what Lescure had said. "But coral is built by living organisms."

The colonel nodded. "The reefs of space are built by living organisms, too — working over vastly longer stretches of time."

Ryeland set down his untouched glass violently, slopping it over. "What organisms live in space?"

"Why," the colonel said seriously, poking at his plastic toys with a finger, "creatures very much like these. They were modeled from life. And before that — the creators of the reefs themselves, simple little one-celled organisms, originating — everywhere!"

Ryeland forced himself to speak slowly, methodically: "The Machine's orders came this morning. I'm to investigate the steady-state hypothesis. And ever since then I've been thinking — about Hoyle's steady-state theory, and about another speculation he made. That life was born before the planets were, created by the chemical action of ultraviolet light in the cooling clouds of gas and dust around the sun. But how could it survive? The clouds disappear as the planets form."

"Life adapts," the colonel said heavily, and poked at his dragons.

He took a fresh drink. "Leaving out the intangibles," he lectured, "life is a phenomenon of matter and energy. The Hoyle Effect provides the matter, in the clouds of new hydrogen that are always being born between the stars. And life makes its own energy."

"How?"

"By fusing the hydrogen into heavier elements," the colonel said solemnly.

He flicked a switch. A screen slid down out of the ceiling. An image appeared on it, the image of little darting bodies, flashing with light, crossing the field of vision. The picture might have been one of pond life under a microscope, except for the difference in shapes . . . and for the fact that these creatures gave off a light of their own. "The fusorians," said the colonel somberly. "Hardy little things. They fuse hydrogen atoms and generate energy, and they live in space."

Fusorians! Ryeland felt his body tense as though an electric shock had passed through it. He was conscious of the colonel's gaze on him, and tried to relax, but the colonel studied him thoughtfully for a moment.

He said only: "No wonder you're excited." He blinked at Ryeland mildly. "This thing is big. It means that the planets are not lonely oases in a dead desert of emptiness. It means that they are islands in an infinite ocean of life — strange life, which we had never suspected."

"But why haven't any of them

ever appeared on Earth?" Ryeland demanded. Infuriating how slowly Lescure spoke! It was life and death to Ryeland — perhaps it was the answer to all his questions — but the colonel treated it only as another lecture, and a rather dull one.

The colonel shrugged. "Perhaps they drown in air. I suppose the heavier elements are their own waste products, and therefore poisonous to them." He took another pull at his drink. "Perhaps these creatures built the Earth," he said meditatively. "It accounts for the proportions of heavy elements better than the theories of the cosmologists. But of course it doesn't really matter — not to the Plan, I mean."

Ryeland frowned. There had been something almost disloyal about the colonel's tone. He changed the subject. "These things —" touching the plastic models — "they aren't fusorians?"

"No. They're pyropods. They live in the reefs." Irritably the colonel waved a hand. The screen glowed with another picture.

Ryeland leaned forward staring. "Fairyland!" he breathed.

The colonel laughed harshly. The view on the screen was of a delicate tracery of glowing vines and plants, where birdlike things moved effortlessly among the branches.

"Call it that," said the colonel. "I called it other things when I was there. You see, there *is* a constant new flow of matter into the universe. There *is* a steady rebirth of hydrogen between the stars. I know — I've seen it!"

Nervously he took another drink. "It was a few years ago. The pyro-pods had been seen, but none had been captured. The Planner ordered me out on a hunting trip to catch one."

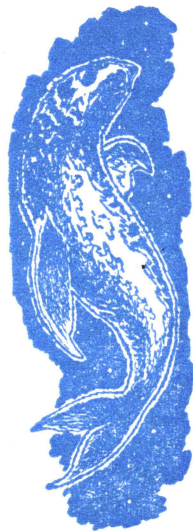
Ryeland frowned. "Hunting? But the Plan of Man has no energy to waste on that sort of thing! Every calorie must go to some productive use!"

"You're an apt pupil," the colonel said wryly, "but it was the Machine's decision, not mine. Or so the Planner said. At any rate, we took off for the planet beyond Pluto. Was there one? It was necessary to assume one, to provide a home for the pyro-pods — or so we thought. We knew they had no home from Pluto sun-wards. . . .

"It was a long trip. You know why interstellar flight has never been possible. There's power enough for us to reach the stars, but the difficulty is in finding the reaction mass to hurl away. Once you pass Orbit Pluto you begin to face those problems in practice. We were in the old *Cristobal Colon*, with hydri- on jets. Our reaction mass was water. All we could carry was barely enough to land us on the hypothetical planet. We were to reload there for the flight home, if we found it." The colonel chuckled dryly. "We didn't find it," he said.

"Then — how did you get back?" Ryeland demanded, startled.

"We blundered into something. What we called the Rim. Don't confuse it with the Reefs of Space — it wasn't them, not for billions of miles yet. It belongs to the solar



system, a scattered swarm of little asteroids, strung in a wide orbit all around the sun. A ring of snowballs, actually. *Cold* snow — mostly methane and ammonia; but we found enough water to refill our tanks. And then we went on. The Machine's orders had been definite."

The colonel shivered and finished his drink. "We went out and out," he said, mixing a fresh one, "beyond the Rim, until the sun was just a bright star behind — then not even particularly bright. We were braking, on the point of turning back —

"And then we saw the first Reef."

Colonel Lescure waved at the strange scene on the screen. He began to look alive again. "It didn't look like much at first. A mottled, lopsided mass, not much bigger than the snowballs. But it was luminous!"

Ryeland found himself gulping

his drink. Silently he held out the empty glass and the colonel refilled it without pausing.

"An unearthly place. We came down in a brittle forest of things like coral branches. Thickets of shining crystal thorns snagged at our spacesuits when we went out exploring. We blundered through metal jungles that tripped and snared us with living wires and stabbed at us with sharp blades. And there were stranger things still!

"There were enormous lovely flowers that shone with uncanny colors — and gave off deadly gamma rays. There was a kind of golden vine that struck back with a high-voltage kick when you touched it. There were innocent little pods that squirted jets of radioactive isotopes.

"It was a nightmare! But while we were reviving and decontaminating our casualties we worked out the natural history of the Reef. It was a cluster of living fusorian colonies!

"We counted almost a hundred species. They must have grown from a few spores, drifting in the interstellar hydrogen. The rate of growth must be terribly slow — a few inches, perhaps, in a million years. But the fusorians have time.

"We looked at each other. We knew we had found something more than we had been sent for.

"We had found a new frontier."

Ryeland was on his feet, a sudden uncontrollable surge of emotion driving him there. "Frontier? Could — could people survive out there?"

"Why not? They're rich with everything we need. There's hydrogen for power, metal for machines,

raw materials for food. We brought treasures back with us! We loaded our ship with every sort of specimen we could carry. Fantastic diamond spikes, and masses of malleable iron in perfectly pure crystals. Living prisms that shone with their own cold glow of fusion. Spongy metal mushrooms, in hundred-pound chunks, that tested more than ninety per cent uranium-235. Much more than critical mass! And yet they didn't explode, while they lived. But one chunk did let go after we had jettisoned it in space, and after that we were careful to divide the masses."

"So that's why the Machine needs a jetless drive?" Ryeland saw a ray of understanding, stabbing through the gray fog of confusion which had followed him from his suite in the maximum security camp. "To reach the reefs of space — because they're beyond the range of our ion drives!"

"I suppose so." Lescure nodded. "Though such thinking goes a little beyond our function."

"But why would the Machine want to explore them?" Ryeland frowned at him. "Is there something in the reefs which could threaten the security of the Plan?"

"Better not exceed our function," Lescure warned him. "I imagine the planets are pretty well protected from the life of space, by their atmospheres and their Van Allen belts. But of course there was the pyropod that rammed us —"

"Pyropod?"

For a second Ryeland was lying on his couch in the therapy room again, with the cold electrodes

clamped on his body and Thrale's apologetic voice lisping out the words that had been senseless to him then, *jetless drive ... fusorian ... pyropod.*

Lescure's eyes had narrowed.

"Ryeland, you appear unduly agitated. I don't quite understand your reactions — unless you have heard this story before."

"I have not." That, at least, was true. The therapists had always been careful to tell him nothing at all about pyropods or fusorians or the reefs of space.

For another uncomfortable moment, Lescure stared.

"Relax, then." At last he smiled. "Forgive my question. I asked it because there was an unfortunate breach of security. One member of my crew jumped ship after our return. He had managed to steal unauthorized specimens and descriptions of the life of space. Of course he went to the Body Bank."

His eyes brushed Ryeland again, casually.

"I forget the fellow's name. Her-rick? Horlick? Horrocks?"

Ryeland sat still, feeling numb.

Colonel Lescure waved carelessly, and the screen retracted, shutting itself off. "Drink?" he demanded. Ryeland shook his head, waiting.

Lescure sighed and poked through his plastic toys. "Here," he said suddenly.

Ryeland took the tiny things from him, a two-inch figurine in black and silver with a wicked, knife-edged snout. Lescure's glazed eyes

remained on it in fascination. "That's the one that attacked us," he said.

"This little thing?"

The colonel laughed. "It was ninety feet long," he said. He took it back from Steve and patted it. "Vicious little creature," he said, half fondly. "Evolution has made them vicious, Ryeland. They are living war rockets. They've been hammered into a horrible perfection, by eternities of evolution."

He swept the whole menagerie back into its box. "But they are only rockets," he said thoughtfully. "They need mass, too. We've cut up a dozen of them, and the squid is as much a rocket as they . . . Perhaps that accounts for their voracity. They'll attack anything, with a hungry fury you can't imagine. Mass is not plentiful in space, and they need what they can find.

"At any rate, this one rammed us, and — well, we had another dozen casualties." The colonel shrugged. "It was touch and go, because the thing was faster than we. But ultimately the survivors manned a torpedo station, and then the contest was over.

"Even the pyropods have not achieved a jetless drive."

"If there is such a thing," said Ryeland.

Colonel Lescure chuckled. He looked thoughtfully at Ryeland, as though choosing which of several to make. Finally he said: "You don't think the Team Attack will succeed?"

Ryeland said stiffly: "I will do my best, Colonel. But Newton's Third Law —"

Colonel Lescure laughed aloud. "Ah, well," he said, "who knows? Perhaps it won't succeed. Perhaps there is no jetless drive." Hilariously amused, though Ryeland could not tell why, he tossed the box of plastic figurines back in a cupboard.

"Ugly little things, good night," he said affectionately.

Ryeland commented: "You sound as though you like them."

"Why not? They don't bother us. If they haven't attacked the earth in the past billion years or so, they aren't likely to start very soon. They aren't adapted for atmosphere, or for direct, strong sunlight. Only a few of the strongest ventured in beyond Orbit Pluto to be sighted, before our expedition. None was ever seen in closer than Orbit Saturn — and that one, I think, was dying."

Ryeland was puzzled. "But — you spoke of danger."

"The danger that lurks in the Reefs of Space, yes!"

"But, if it isn't the pyropods, then what is it?"

"Freedom!" snapped Colonel Lescure, and clamped his lips shut.

V

Faith carried Ryeland off to his next interview. "You liked Colonel Lescure, didn't you?" she chattered. "He's such a *nice* man. If it were up to him, the reefrat wouldn't be suffering —" She stopped, the very picture of embarrassed confusion.

Ryeland looked at her thoughtfully. "What's a reefrat?"

"Here's Major Chatterji's office,"

said Faith nervously, and almost pushed him through the door.

Machine Major Chatterji got up, smiling blankly through his gleaming glasses, waving a copy of Ryeland's orders from the Machine. "Ready, Ryeland," he called. "We're all set for you now."

Ryeland advanced into the room, thinking. "I'll need my computer," he said. "And someone to look up all the work that's been done on the Hoyle Effect, boil it down, give me the essential information."

"Right! You can have three assistants from Colonel Lescure's section. And I've already requisitioned a binary computer."

"No," said Ryeland impatiently, "not a binary computer. My computer. Oddball Oporto."

Major Chatterji's gold-rimmed glasses twinkled with alarm. "The Risk? But Ryeland, really!"

"I need him," said Ryeland obstinately. The Machine's orders had been perfectly clear.

Chatterji surrendered. "We'll have to get General Fleemer's okay," he said. "Come along." He led Ryeland out through a short corridor to an elevator; Faith tagged after inconspicuously. The three of them went up, out, down another hall. Chatterji tapped on a door.

"All right," grumbled a voice from a speaker over the door, and it swung open. They walked into a silver room, with silver walls and furnishings plated in silver. General Fleemer, in a silver robe that he was knotting about him, stumped in from a bedroom. "Well?"

Machine Major Chatterji cleared

his throat. "Sir, Ryeland wants the other Risk, Oporto, assigned to him."

"For calculation purposes, General," Ryeland cut in. "He's a natural calculator. What they used to call an *idiot-savant*, or the next thing to it."

The general looked at him through his deepset eyes. "Will that help you solve the jetless drive?"

"Why," Ryeland began, "I haven't started on that yet. This is the Hoyle Effect. The Machine ordered —"

"I know what the Machine ordered," the general grumbled. He scratched his nose reflectively. "All right, give him his man. But Ryeland. The important part of your work is the jetless drive."

Ryeland was startled. "General, the Machine's orders didn't give priority to either section."

"I give priority," said the general sharply. "Get along with it, man! And get out."

In the corridor, Chatterji vanished toward his office and the Togetherness Girl took over again. "A very fine man, the general, don't you agree?" she chatted, leading him back to the elevator.

Ryeland took a deep breath. "Faith," he said, "there's something funny here. General Fleemer lives awfully well! And he seems to take it upon himself to, at least, interpret the Machine's orders. Is that customary, in Team Attack?"

The Togetherness Girl hesitated. She glanced at Ryeland, then led him down the corridor without speaking for a moment. She stopped before another door. "General

Fleemer," she said, "is a fine man. I knew you'd like him. And you'll like Colonel Gottling too, don't think you won't!" And without any more of an answer than that, she opened the door to Gottling's office for him and left him there.

But Colonel Gottling proved himself very hard to like.

He was a huge man with a face like a skull, the horned helmet over it. He stood fingering the controls of his radar-horns angrily as Ryeland reported in on the teletype. "Hurry up, man," he muttered, and clumped out of his office, motioning Ryeland ahead of him. "You're next," he snapped. "Lescure had his whacks at the creature and he failed. They wouldn't let *me* handle it the way I wanted! And now it's up to you."

Ryeland said, "I don't understand. What creature?"

"The spaceling! The reefrat! The creature with the jetless drive."

Ryeland said humbly, "Colonel, I don't know what you're talking about."

Gottling spread his bony hands and stared at the ceiling in exasperation. "What under the Plan is this? What kind of idiots do they salvage for top-priority Teams these days? Do you mean you never heard of the reefrats?"

"Only the word," Ryeland admitted. "But didn't you just say 'spaceling'?"

"Same thing!" Gottling stopped in an anteroom, jerking a thumb at a file cabinet. He barked: "Here! Here's everything you want to know

about them. Everything from resting weight to the chemistry of what passes for blood. The only thing I can't tell you is what makes them go, and I could tell you that if they'd let me alone with the thing!"

"But —"

"You fool, stop saying 'but'!" howled Colonel Gottling. "Look here!"

He opened a door. Beyond was a big room, once a repair shop attached to one of the rocket pits, now hastily improvised into a laboratory. There were unpainted partitions, unconcealed electric wiring. Chemical lab benches held glassware and flasks of reagents, reeking acidly. There were transformers; an X-ray generator; various bulky devices that might have been centrifuges, biological research equipment — heaven knew what.

And the lab was busy.

There were at least two dozen men and women in scarlet Technicorps smocks working at the benches and instruments. They glanced up only briefly as Colonel Gottling and Ryeland entered and checked in, then quickly went back to their work without speaking.

Evidently the cheery good will among the brass didn't extend to the lower echelons.

Colonel Gottling, in a good humor again, lighted a long, green-tinted cigarette and waved at the room. "It's all yours now," he grunted. "Temporarily."

Ryeland looked at him.

"Or permanently," grinned the colonel. "provided you can tell us what makes the spaceling fly. Me,

I think you can't. You look soft, Ryeland. The collar has not hardened you enough. Still — Do you want me to tell you something about the spaceling?"

"I certainly do," Ryeland said fervently.

"All right, why not? It's fairly intelligent. Lower primate level, at least. It is a warm-blooded oxygen-breathing mammal which — why do you look that way, man?"

Ryeland closed his mouth. "It's just that I thought it lived in space."

Colonel Gottling guffawed. "And it does! An oxygen-breather, living in open space! Amusing, is it not? But it possesses some remarkable adaptations."

"Such as what?"

Colonel Gottling looked bored. "You should have asked Lescure these questions. I am a rocket man! But first, of course, there is the jetless drive. Then there is something else — a field of force, perhaps, which enables it to hold a little cloud of air around it, even out in interstellar vacuum."

Ryeland said thoughtfully: "Could the two effects be linked?"

"Could they? Of course they could, idiot! But are they? I do not know." But Gottling was mellowing; treating Ryeland like an idiot had put him in a good humor. He said condescendingly: "It is possible, of course. I have thought that myself. If the reeprat can accelerate its own body without reaction, perhaps it can also accelerate gas molecules centripetally, also without reaction. How can one know? But—

"But let us look at the spaceling,"

he said abruptly. "Then we can talk more better."

He led the way through the laboratory and out the other side.

They went through a steel door into a sort of airlock. Racks in the walls held bulky protective suits and red-painted emergency gear. A warning sign glowed on the inner door of the airlock:

DANGER!
LANDING PIT — WAIT
FOR DECONTAMINATION

"It is safe," Gottling assured him. "The pit was deconned months ago, before the spaceling was brought in."

He pulled a lever. Motors groaned; the inner door, an enormous lead-lined mass of steel and firebrick, inched slowly aside.

Like a Viking in his radar horns, the colonel stalked into the landing pit, Ryeland following.

The pit was an enormous circular cavern. Floodlights blazed on the blackened concrete floor. Even the decon crews, with all their foamants and air-blasting, had failed to remove the black breath of the jets.

Ryeland recognized it at once. It was the pit of which he had caught a glimpse the night before, with the Togetherness Girl. He lifted his eyes, looking for the sky and a settling rocket instinctively; but the dark armored walls lifted up into shadowy mystery. The cranes and the stages above were dark shapes in the dimness. No light passed the

enormous doors, hundreds of feet up, that closed off the sky.

Gottling touched his arm and pointed.

Out in the black concrete stood a room-sized cage. Inside the cage was a pale cloud of greenish light; and in the center of the cloud lying motionless on the bare steel floor—

"The spaceling," said Gottling proudly.

It had struggled.

At close range, Ryeland could see how frantically fierce that struggle had been. The steel bars of the cage were thicker than his wrist, but some of them were bent. Red blood smeared them, and matted the spaceling's golden fur. It lay gasping on the stainless steel floor.

"She's skulking now, but we'll put her through her paces," Gottling bragged.

Ryeland said: "Wait, Colonel! The thing's injured. In the name of heaven, you can't —"

"Can't?" blazed the colonel. "Can't?" His finger reached up and touched the buttons of his radar-field suggestively. Under the triggering radar horns, his skull-like face glowered. "Don't tell me what I can't do, fool! Do you want me to expand my field radius? One touch of this and there won't be enough of you left to salvage!"

Ryeland swallowed. Involuntarily his hand reached toward the collar, with its eighty grams of high explosive.

"That's better," grunted Gottling. He clapped his hands and called: "Sergeant, get busy! Goose her!"

A Technicorps sergeant in red

came trotting out of the shadows. He carried a long pole tipped with a sharpened blade. Black wires led from it to a battery box on his shoulder.

The spaceling rolled its battered head.

Its eyes opened — large, dark, limpid eyes — a seal's eyes; and they were terrible, it seemed to Ryeland, with suffering and fear. A shudder rippled along the creature's smooth, featureless flanks.

"Goose her in the belly!" Gottling shouted. "Mr. Ryeland wants to see her do her tricks!"

The spaceling screamed.

Its cry was thinly edged with terror, like the voice of a hysterical woman. "Stop it," Ryeland gasped, shaken.

Colonel Gottling blared with laughter. Tears rolled out of his piglike eyes, down the bony cheeks. Finally he got control of himself. "Why, certainly," he gasped. "You're next, as I said, eh? And if you believe you can tell us how the creature flies without even seeing her do it—" he shrugged.

Writhing on the floor of the cage as though it had already felt the prod, the spaceling screamed in fright again.

Ryeland said hoarsely: "Just make him take that prod away."

"As you wish," the colonel nodded urbanely. "Sergeant! Return to duty. And you, Ryeland, I will leave you alone with your friend. Perhaps if I am not here to eavesdrop, she will whisper her secret in your ear!" Bellowing with laughter, Colonel Gottling shambled out of the pit.

After an hour, Ryeland began to appreciate the difficulties of the problem.

Back in the file room, he found a summary of the existing knowledge of the spaceling; he took it to the landing pit and read through it, watching the spaceling, trying to allow it to become accustomed to his presence. The creature hardly moved, except to follow Ryeland with its eyes.

The notes on the spaceling showed a fruitless and painful history. The spaceling had been captured by an exploring Plan rocket retracing the steps of Lescure's *Cristobal Colon*. A section of notes, showing how the capture had been effected, was missing; the account took up the story with the creature being brought into the hastily converted rocket pit. It had been chained at first, so that the first investigators approached it with impunity. Then the chains had been taken off — and, in quick order, half a dozen investigators had been bashed rather severely against the bars. The spaceling did not seem to have attacked them; they simply were in the way of the thing's terrified attempts at escape. However, after that the observations had been conducted primarily from outside the cage. And mostly — at least in the last two weeks, since Colonel Gottling had taken over charge of the specimen — with the help of the goad. Or worse.

There were reports of blood tests and tissue samples. Ryeland glanced at them, frowned and put them aside; they meant nothing to him.



There were X-ray studies, and reams of learned radiologists' reports. Also of no value to Ryeland, whatever they might have meant to Colonel Pascal Lescure.

Then there were physical tests. Dynamometers had measured the pull against the chains. Telemetering devices had registered the change in the recorded curves of its vital processes under various conditions — at rest, as it "flew", and "under extraordinary stimulus," as the report primly put it. Meaning, Ryeland supposed, under torture.

No radiation of any sort had been detected. And someone had thought to surround the creature with plumb-bobs to test for an incident side thrust; there was none; the plumbs were undisturbed.

No thrust!

Then this nonsense that everyone had been spouting so glibly was not nonsense after all!

For if there was no measurable thrust against its environment to balance its measured dynamometer pull — then the spaceling had, indeed, a true jetless drive.

Ryeland looked up from the notes to stare at the spaceling, slumped in the bottom of its cage, its great eyes fixed on him. Jetless drive!

He suddenly felt very small and, for all the Togetherness and the Teamwork, for all the joint effort embodied in the Plan of Man, very alone. Jetless drive — here in this creature lay the seeds of a fact which would destroy Newton's Third Law, change the shape of the Solar System. For unquestionably, with such a drive, the scope of the Plan

of Man would widen beyond recognition. Out past the useless, frozen methane giants, the Plan would drive to the stars!

Ryeland shook his head, confused

For suddenly he didn't want the Plan of Man expanded to the stars. That word that Pascal Lescure had used — "Freedom!"

It did not seem to live under the Plan.

Abruptly his reveries were ended; there was a rumble like thunder in the pit.

Ryeland leaped to his feet, astonished, while the spaceling mewed worriedly in its cage. A blade of light split the dark above. He looked up, and a slit of blue sky widened.

There was a confused clattering behind him and someone came running into the pit. The Technicorps sergeant, shouting: "Mr. Ryeland, Mr. Ryeland! Get out of the way. Some crazy fool is coming in for a landing!"

The sergeant raced over to the cage and began frantically trying to unbolt its heavy fastenings, to push it on its tiny wheel to the side of the pit. There was a wild cataract of flame thrusting into the opening gates of the pit overhead, radio-triggered; and a tiny rocket came weaving in, settling on a cushion of bright white fire.

Ryeland thought grimly: "Thank God it's only a little one!" A big one would have been the end of the spaceling — and of himself and the Technicorps sergeant as well. But this little speedster had plenty of room to land without incinerating

them all. It was a one-man craft, built for looks and play; it dropped to the black concrete on the far side of the pit, a hundred yards away, and though heat washed over them like a benediction, it did them no harm. A sudden gale roared through the floor ducts, sweeping the rocket fumes away.

A ramp fell.

A slim figure in white coveralls ran lightly down the ramp and across the concrete, confusingly half-familiar birds fluttering about its head.

Ryeland was galvanized into action. "Stop it!" he shouted. "Keep away from that cage!"

The intruder ignored him. Swearing, Ryeland raced to intercept the stranger. He took a dozen angry strides, caught a slim arm, swung the intruder around — and gasped. Silvery doves tore fiercely at his face and head.

"Get your hands off me, Risk!" It was a girl — *that* girl! He could see now that her white coveralls did not disguise her sex. Her eyes were a greenish blue, and very familiar eyes; her voice, though charged with indignation, was a familiar voice.

She gestured, and the Peace Doves fluttered muttering away. "What do you mean?" she demanded, shaking his fingers off her arm.

Ryeland gulped. It was the Planner's daughter, Donna Creery. "I —" he began. "I — I didn't know it was you! But what do you want here?"

"Want?" The ocean-water eyes flashed. "I want to know what you

people are doing — what you think you're doing by torturing my spaceling!"

VI

The girl stood staring at Ryeland. She was an entirely different creature from the lovely girl in the bubble bath, almost unrecognizable. The Donna of the Planner's private subtrain car was a teen-ager in the process of becoming woman, with the sad shyness of youth and its innocence. But this girl was something else. This was the Planner's daughter, imperious. And not a child.

Ryeland took a deep breath. Planner's daughter or no, this girl was in his way. The only way he had of getting the collar off his neck lay through the creature in the cage. He said sharply: "Get out of here, Miss Creery. The spaceling is dying. It mustn't be disturbed."

"What?" The Peace Dove, settling on her shoulders, whirred and muttered.

"You aren't allowed here," he said stubbornly. "Please leave!"

She stared at him incredulously; then, without a word, turned to the cage. "Here, sweet," she whispered to the great seal-like animal. "Don't worry. Donna's here." The spaceling lifted its head and stared at her with great, limpid eyes.

Ryeland said harshly: "Miss Creery, I asked you to leave."

She didn't bother to look at him. "There's a good girl," she cooed, like a child with a puppy. "Where's the damned door?"

Ryeland was angry now. "You can't go in there!" He caught at her arm. It was like catching a tiger by the tail; there was a quick movement, too fast to follow, and she caught him a stinging blow across the face with her open hand. Sheer astonishment drove him back; and by the time he recovered his balance the Planner's daughter had found the catch and was inside the door of the cage.

The spaceling came heaving seal-like toward her, whimpering.

It was a bad spot for Ryeland. If anything happened to the girl, there was no doubt in the world that he would be held responsible. Gottling would see to that. And then good-by dreams of freedom.

In fact, more likely it would be goodbye head!

Ryeland swore angrily. The Peace Doves squawked and rose into the air, circling around him. He paused, searched around, found a length of heavy chain just outside the cage door. Heaven knew what it had been used for — though the stains on it suggested one possibility. He caught it up and dove into the cage after the girl.

"Stop," she said calmly. "I don't want to turn the Doves loose on you."

"Then get out of here!" he demanded. The floor of the cage was slippery with a kind of odorous slime. Part of it was the spaceling's blood, undoubtedly, but there was more — decaying small things that Ryeland couldn't recognize; perhaps

they were animals that had come with the spaceling. The stench was powerful and sickening, but Ryeland didn't let it stop him. If that girl could stand it, that dainty creature who lived in an atmosphere of lilac blossoms and ease, certainly he could!

She was bending over the creature, reaching down to caress its golden fur. "Drop that chain," she ordered over her shoulder. "It's afraid of you."

It flinched from her touch at first. Then it relaxed. It licked at her face with a long black tongue. A sudden rumble filled the cage, like the purr of a giant cat.

There was an eruption of noise from outside. Colonel Gottling, radar-horned, deep eyes blazing fury out of the face like a skull, came racing in with a dozen men in Technicorps scarlet. "Get her out of there, you fool!" he roared, waving the electric prod at Ryeland.

The spaceling saw him and the enormous purr stopped. The creature began to whimper and tremble. "Hold it!" cried Ryeland. "You're frightening the spaceling. It may attack Miss Creery!"

But Donna Creery needed no help from him just then. On her knees in the bloody slime, she looked up from the torn, blood-crusted fur of the creature and her eyes were a hawk's eyes. "Colonel Gottling," she said in a thin voice that cut like knives. "I've been wanting to talk to you!"

The skull faced colonel swallowed but stood his ground. "You must get out of there, Miss Creery! The

animal is dangerous. It has already wounded half a dozen men!"

"And what were the men doing to the spaceling?" The girl bent to pat the golden battered head. Two or three fat green flies were buzzing through the thinning cloud of light around the wounds on the spaceling's flanks. "Filthy," she said with scorn. "I want this cleaned up!"

She stood up and gestured Ryeland ahead of her out of the cage. "I want a meeting of the whole Team," she said coldly, closing the cage door behind her, "and I want it now! Meanwhile, Gottling, have your men clean that cage out. And if I catch any of them using that prod again, I'll see how they like it used on themselves!"

Gottling turned purple. In a voice stiff with self-control he said: "It is no longer my project, Miss Creery. Mr. Ryeland has taken it over."

"I give it back," said the girl. "I have another use for Mr. Ryeland."

Ryeland said, shocked: "But the Machine ordered —"

"I'll take care of the Machine," she said calmly. "Get started on this cage, you men! The spaceling needs her symbiotic partners and they're dying fast." She turned to the door. "Now let's have that meeting," she said grimly. "I want to get a few things straight!"

They were back at Point Crescent Green. The Team was buzzing like flies around the spaceling's wounds.

Donna Creery dominated the meeting. Major Chatterji tittered

shyly and General Fleemer made half a dozen speeches on Teamwork; Colonel Gottling was in an icy rage and Colonel Lescure fluttered objections. But not one of them could stand up against the girl.

She blazed: "If that animal dies, she's going to take the lot of you with her! I've got news for you. There's a shortage of salvage material at the Body Bank." She stared around the room appraisingly. "Some of you would make pretty good spare parts. Do I make myself clear?"

"Quite clear," General Fleemer said humbly. "But, Miss Creery, our Team objective —"

"Shut up," she said mildly. "Yes? What is it?"

Machine Major Chatterji said with great respect: "There's a message for you on the teletype."

"It can wait." There was an audible gasp but the girl paid no attention. "From this date forward, Mr. Ryeland is in charge of the Team."

General Fleemer choked and sputtered: "Miss Creery, a *Risk* can't be put —"

"Yes, a Risk can," Donna Creery contradicted. "Oh, all right. Here, I'll get orders for you." She walked through them to the teletype, calmly pressed the "Interrupt" switch — another gasp swept through the Team — and began to type. In a moment the Machine's answer rattled back:

Action. Fleemer Team will comply with directive of Donna Creery

"Anything else bothering you?" she demanded.

"Nothing," croaked General Fleemer. His toad eyes bulged more than ever.

"All right. Now the rest of you clear out. Ryeland, I want to talk to you."

Whispering among themselves, but not audibly, the Team filed out of the conference room. Donna Creery stretched and yawned, the Peace Doves fluttering and cooing. "That's better," she said drowsily. "What are you doing?"

Ryeland coughed. "There seems to be a message coming in for you, Miss Creery," he said.

"There always is," she sighed. She stood behind him, one arm casually on his shoulder, reading:

Information. Planner Creery en route from Mombasa to Capetown. Information. Donna Creery personal rocket refueled and serviced. Information. London Philharmonic acknowledges receipt of opening season program instructions. Action. Request choice of soloist Beethoven piano concerto. Information. Moon colony Alpha-Six requests presence Donna Creery 25th anniversary celebration. Information.

"The usual run of thing," the girl said absently. "It can wait." She looked around. "This place depresses me. Haven't you got a room of your own? Let's go there." She didn't wait for an answer; she got up and beckoned Ryeland to follow.

He was not surprised to find that

she knew the way. There seemed to be very little this girl didn't know!

But the situation was getting out of hand.

This girl was giving orders to an entire Research Team. It wasn't her place to do that. Everybody knew that! Under the Plan of Man it was the Machine that gave orders. Human beings — even Planner's daughters — were supposed to do their own job (perfectly), and nobody else's. That was plain logic, the logic of the Plan.

He stood stiffly holding the door to his room, meditating what to say to her. She walked in, looking curiously about; he followed, leaving the door ajar.

"Oh, close it," she said impatiently. "Don't you think my Peace Doves are chaperones enough?" She laughed at the expression on his face, threw herself at full length on his bed and lit a cigarette. The dislodged Peace Doves cooed complainingly and found roosts for themselves on the iron headboard.

Grudgingly, Ryeland closed the door. He nodded to the teletype. "Don't you want to check in?"

"The Machine'll find me," Donna Creery said cheerfully. "You watch." And, sure enough, the words were hardly out of her mouth when the keys began to rattle away:

Information. Marseilles Planning Council asks Donna Creery give annual Plan Awards. Information. Life Magazine requests permission use photograph Donna Creery on Woman of the Year cover. Information—

"Someone's always available to tell the Machine where I've gone," the girl told Ryeland seriously. "And if not — well, the Machine can usually make a pretty good guess where I'll be. It knows me pretty well by now."

She spoke, Ryeland noticed wonderingly, as though the Machine were an old friend. But she didn't give him much chance to speculate on that; she said abruptly: "You're not much, Steve, but you're better than those others. Can you keep my spaceling alive?"

"Your spaceling?"

She laughed. "It's mine because I like it. Everything I like belongs to me — that's the way I want it." She added seriously: "But I don't know yet whether or not I like you."

He said, the back of his neck bristling, "I have my duty, Miss Creery. I'm going to do it! I hope it won't mean any further discomfort to the spaceling, but, if it does — Do you see this?" He tugged angrily at his collar. "I want that off! If I have to kill a million spacelings to get it off, I'll do it!"

She stubbed out her cigarette lazily. "That isn't what you told Gottling," she observed.

"How do you know what I told Gottling?"

"Oh, I know very many things. Why shouldn't I? The Machine goes everywhere, and my father is practically part of the Machine. And, oh, yes, I like the Machine, and everything I like —" She shrugged winsomely.

Ryeland stared. She was mocking him. She had to be. It was a joke in

terribly bad taste, but surely that was all it was. He said stiffly: "Miss Creery, I don't appreciate that sort of remark about the Machine. I believe in the Plan of Man."

"That's terribly good of you," she said admiringly.

"Blast you," he yelled, pushed a step too far, "don't make fun of me! The Plan of Man *needs* the jetless drive, you silly little skirt! If the spaceling has to die so the Plan can discover its secret, what possible difference does that make?"

She swung her feet to the ground and got up, walking over close to him. Her face was relaxed and sympathetic. She looked at him for a second.

Then she said suddenly: "Do you still love that girl?"

It caught him off balance. "What — what girl?"

"Angela Zwick," she said patiently. "The daughter of Stefan Zwick. The blonde, twenty years old, five feet four and a quarter, with green eyes, who became your teletype operator late one afternoon and made you kiss her that very night. The one who turned you in. Do you still love her?"

Ryeland's eyes popped. "I — I know you've got special sources of information," he managed, "but, really, I had no idea —"

"Answer the question," she said impatiently.

He took a deep breath and considered.

"Why, I don't know," he said at last. "Perhaps I do."

Donna Creery nodded. "I thought so," she said. "All right, Steve. I

thought for a moment — But, no, it wouldn't work out, would it? But I admire your spirit."

Ryeland took a deep breath again. This girl, she had a talent for confusing him. It wasn't possible for him to keep up with her, he decided, it was only possible for him to cling to the basic facts of his existence. He said stiffly: "It doesn't take spirit to defend the Plan of Man. If the Plan needs to learn the secret of the jetless drive, that's my plain duty."

She nodded and sat again on his bed, the Peace Doves settling gently on her shoulders. "Tell me, Steve, do you know *why* the Plan of Man requires this information?"

"Why — no, not exactly. I suppose —"

"Don't suppose. It's to explore the reefs of space. Do you know what the Plan wants in the reefs?"

"No, I can't say that —"

"It wants Ron Donderevo, Steve."

"Ron?" He frowned.

"The man who got out of his iron collar, Steve," the girl said, nodding. "A man you might like to know again. That booby-trapped, tamper-proof collar, that nobody can possibly get off until the Machine authorizes it — the Machine wants to talk to Donderevo about it, very badly. Because he took *his* collar off, all by himself."

Ryeland stared at her.

She nodded. "And Donderevo is out in the reefs now," she said, "and the Machine wants to do something about it. It might simply destroy the reefs. I understand you are working on some such project. But if it can't do that, it wants to send someone out there to find him."

"Someone with a radar gun, Steve! To kill him! And that's why the Machine wants the secret of the jetless drive!"

TO BE CONTINUED

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THE FACES OUTSIDE

BY BRUCE McALLISTER

**They were all that was
left of humanity — if
they were still human!**

I wanted to call her Soft Breast, because she is soft when I hold her to me. But the Voice told me to call her Diane. When I call her Diane, I have a pleasant feeling, and she seems closer to me. She likes the name "Diane". The Voice knew what was best, of course, as it always does.

I must mate with her every day, when the water is brightest. The Voice says so. It also says that I am in a "tank", and that the water is brightest when the "sun" is over the "tank". I do not understand the meaning of "sun", but the Voice says

that "noon" is when the "Sun" is over the "tank". I must mate with Diane every "noon".

I *do* know what the "tank" is. It is a very large thing filled with water, and having four "corners", one of which is the Cave where Diane and I sleep when the water is black like the ink of the squid and cold like dead fish. But we stay warm. There is the "floor" of the "tank", the "floor" being where all the rock and seaweed is, with all the crawling fish and crabs, where Diane and I walk and sleep. There are four "sides". "Sides" are smooth and blue

walls, and have "view-ports" — round, transparent areas — on them. The Voice says that the things in the "view-ports" are Faces. I have a face, as does Diane. But the cracked, flat things with small lights circling about them are not pretty like Diane's face. The Voice says that the Faces have bodies, like myself, and Diane. No body could be like Diane's. I think I should be quite sick if I saw the bodies of the Faces.

The Voice then says that the Faces are watching us, as we sometimes watch the porpoises. It took a very long time to grow used to having the Faces watch us, as Diane and I came together, but we learned to do it as simply as we swim and sleep.

But Diane does not have babies. I am very sad when I see the porpoises and whales with their young. Diane and I sleep together in the Cave; Diane is very warm and soft. We sleep in happiness, but when we are awake, we are lonely. I question the Voice about a baby for Diane, but the Voice is always silent.

I grow to hate the Faces in the "view-ports". They are always watching, watching. The Voice says that they are enemies, and bad. The Faces have not tried to hurt me; but I must think of them as enemies because the Voice says so. I ask bad, like the shark? The Voice says, no, worse than the sharks and eels. It says that the Faces are evil.

The "tank" must be high, because the water is high. I have gone once to the surface, and, although I could get used to it, the light was too much for my eyes. It took me

two hundred and seventy kicks to the surface; it took me three thousand steps from our Cave to the opposite "side". The "tank" is very large, otherwise the whales would not be happy.

The fish are many, but the dangers are few. I have seen the sharks kill. But the shark does not come near me if I see it and am afraid. Sometimes I have caught it sneaking up behind me, but when I turn it leaves quickly. I have questioned the Voice about why the sharks leave. It does not know. It has no one to ask.

Today the "sun" must be very large, or powerful, or bright, because the water is brighter than most days.

When I awoke Diane was not beside me. The rock of the Cave is jagged, so as I make my way from our bed of cool and slick seaweed, toward the entrance, I scrape my leg on the fifth kick. Not much blood comes from the cut. That is fortunate, because when there is blood the sharks come.

Diane has grabbed the tail of a porpoise, and both are playing. Diane and I love the porpoises. Sometimes we can even hear their thoughts. They are different from the other fish; they are more like us. But they have babies and we do not.

Diane sees me and, wanting to play, swims behind a rock and looks back, beckoning. I make a grab at her as I sneak around the rock. But she darts upward, toward the surface, where her body is a shadow of

beauty against the lighter water above her. I follow her, but she ducks and I sail past her. Diane pulls up her legs, knees under her chin, and puts her arms around them. She then drops like a rock toward the "floor".

I have caught a porpoise by his top fin. He knows my wish, so he speeds toward Diane, circles her and butts her soft thighs with his snout. She laughs, but continues to stay in a ball, her black hair waving. She is very beautiful.

I try to pry her arms from around her legs gently, but she resists. I must use force. Diane does not mind when I do; because she knows I love her.

I pull her arms away, and slip my arms under hers, kissing her on the lips for a long time. Struggling to free herself, laughing again, she pokes me sharply with her elbow and escapes my arms. I am surprised. She quickly puts her arms around my neck, pulls herself to my back and links her slim legs around my middle. She is pretending that I am a porpoise. I laugh. She pinches me to go ahead. I swim upward, but her thoughts tell me she wants to go to the Cave.

I understand. I carry her through the water very slowly, feeling the warmth and nipples of her breasts pressed against my back as she rests her head on my shoulder and smiles.

The Faces continue to stare. Many times I have searched for a word to show my hatred for them. I shall find it somehow, though. Sooner or later.

“What count of planets had the Terrans infested?” The furry humanoid leaned over the desk and stared, unblinking, at the lesser humanoid in the only other chair in the room. His gaze was dropped as he scratched informally at the heavy fur at his wrist. He raised his gaze again.

“Forty-three is the count, *beush*,” replied the other.

“And the count of planets destroyed?”

“Forty-three planetoid missiles were sent and detonated simultaneously without resistance or losses on our part, *beush*,” the assistant *beush* answered indirectly.

The room was hot, so the *beush* lazily passed his hand over a faintly glowing panel.

The room was cooled, and a large-eyed female with silky, ochrous fur — very desirable to the majority of humanoids — entered with two flared glasses of an odorless, transparent liquid — very desirable to the majority of humanoids. The lesser humanoid was being treated exceptionately well.

The room was momentarily silent as the two sipped at their drinks with black lips. The *beush*, as customary, spoke first. “Inform me of the pre-espionage intelligence accomplishments contra - Energi. I have not been previously informed. Do not spare the details.”

“Of certainty, *beush*,” began the assistant with all the grace of an informer. “The Light and Force Research of the Energi is executed in one center of one planet, the planet being Energa, as our intelligence

service has conveniently listed it. The Energi have negative necessity for secrecy in their Light and Force Research, because, first, all centers are crusted and protected by Force Domes. Second, it is near impossibility that one could so self-disguise that he would negatively be detectable." He hesitated.

"And these Energi," queried the *beush*, "are semi-telepathic or empathic?"

"Affirmative," the assistant mumbled.

"Then you have there a third reason," offered the *beush*.

"Graces be given you, *beush*."

The *beush* nodded in approval.

"Continue, but negatively hesitate frequently or it will be necessary to discuss this subject post-present."

His assistant trembled slightly. "Unequivocally affirmative. *Beush*, your memory relates that five periods ante-present, when there existed the Truce inter Energi, Terrans and ourselves, there was a certain period during which gifts of the three nucleus-planets were exchanged in friendship. The Terrans were self-contented to donate to the Energi an immense 'aquarium'—an 'aquarium' consisting of a partly transparent cell in which was placed a collection of Terran life-forms that breathed their oxygen from the dense atmosphere of Terran seas. But, as a warp-space message from the Terran Council indirectly proclaimed, the degenerate Terrans negatively possessed a ship of any Space type large or powerful enough to transport the 'aquarium'

to Energa. Our ships being the largest of the Truce, we were petitioned by the Terrans to transport it. These events developed before the Terrans grew pestiferous to our cause. We obliged, but even our vastest ship was slow, because the physical power necessary to bring the weight of the cell through warp-space quickly was too great for the solitary four generators. It was imperative that the trip be on a longer trajectory arranged through norm-space. During the duration of the trip, feelings of suspicion arose inter Three Truce Races. As your memory also relates, the 'aquarium' was still in space when we found it necessary to obliterate the total race of Terrans. The message of the annihilation arrived in retard to the Energi, so Time permitted us to devise a contra-Energi intelligence plan, a necessity since it was realized that the Energi would be disturbed by our action contra-Terrans and would, without doubt, take action contra-ourselves.

"Unknown to you, *beush*, or to the masses and highers, an insignificant pleasure craft was extracted from Terran Space and negatively consumed with a planet when the bombs were detonated. The ship accommodated two Terrans. Proper Terrans by birth, negatively by reference. One was male, other female. The two had been in their culture socially and religiously united in a ceremony called 'matrimony'. Emotions of sex, protection and an emotion we have negatively been able to analyze linked the two, and made them ideal for our purpose."

The assistant looked at the *beush*, picked up his partially full glass and, before he could sip it, was dashed to the floor beside the *beush* himself. The former helped the higher to his unstable legs, and was commented to by the same, "Assistant, proceed to the protecroom."

They entered the well-illuminated closet and immediately slipped into the unwieldy metallic suits. Once again they took their seats, the *beush* reflecting and saying, "As your memory relates, that explosion was a bomb-drop concussion from the Rebellers. We must now wear anti-radiation protection. For that reason, and the danger of the Energi, you *do* see why we need the formulae of the Force Domes, *immediately*."

There was menace in his voice. The assistant trembled violently. Using the rare smile of that humanoid race, the *beush* continued, "Do negatively self-preoccupy. Resume your information, if contented."

"Contented," came the automatic reply, and the assistant began, "The two humans were perfect for the Plan, I repeat. Before the Energi received the message of the race destruction, it was imperative that we establish an agent on Energa, near the Force Domes. We assumed that the 'aquarium' would be placed on Energa, in the greatest center. That was correct, but negatively yet knowing for certainty, we perpetuated the Plan, with the 'aquarium' as the basis.

"One of our most competent protoplasmic computers stabilized the final steps of the Plan. We were to

subject the two Terrans to radiation and have as a result two Terrans who could breathe their normal oxygen form H₂O—the atmosphere of the 'aquarium', I repeat. We were then to deprive them of memory, except of the inter-attracting emotions, to allow them to live in harmony. Thirdly, we were to place them in the 'aquarium' and have them forwarded under the reference of semi-intelligent aqua-beings from Terran seas. A simple, but quite effective plan, your opinion, *beush*?"

"Quite," was the reply. "And concerning the method of info-interception?"

The assistant continued without hesitation, embarrassed by his incompetency, "A hyper-complex spheroid with radio interceptors, a-matter viewers and recorders and the general intelligence instruments of micro-size was placed in the cranium of the male mutant. The spheroid has negative direct control over the organism. Size was too scarce for use on trivialities. Then an agent was placed behind the larger controls at our end of the instruments."

"And you are the agent?"

"Hyper-contentedly affirmative."

I have done two things today. I have found the word for my hatred of the Faces. The Voice gave it to me. When I asked the Voice, it laughed and told me the word to use was "damn". So today I have thrice said, "Damn the Faces. Damn them."

Diane and I have decided that we

want a baby. Maybe the other fish wanted them, so they got them. We want a baby.

"The two Terrans were so biologically mutated and are so nearly robotic, that it is physically impossible for reproduction on their part, *beush*."

The *beush* ignored the assistant's words and said, "I have received copies of the thought-patterns and translations. There was something strange and very powerful about the meaning of the male's thought, 'want'. I query."

"Be assured without preoccupation that there exists negative danger of reproduction."

The name I wanted to call Diane was not good, because her breasts are hard and large, as is her stomach. I think she is sick.

I do not think Diane is sick. I think she is going to have a baby.

"Entities, assistant! On your oath-body you proclaimed that there is negative danger of reproduction."

"Rest assured, peace, *beush*."

"But his thoughts!"

"Rest assured, *higher beush*."

There is much blood in the water today. Diane is having a baby; sharks have come. I have never seen so many sharks, and as big as they are I have never seen. I am afraid, but still some sneak among us near Diane.

We love the porpoises, so they help us now. They are chasing the

sharks away, injuring and killing some.

"Entities, Warp-spaced Entities! There has been reproduction."

"*Yorbeush*," cried the assistant in defense. "It is physically impossible. But they are mutants. It is negatively impossible that they possess Mind Force to a degree."

"To what degree? What degree could produce reproduction when it is physically impossible?" The *beush* was sarcastic. "How far can they go?"

"There is negatively great amount they can do. Negative danger, because we have studied their instincts and emotions and found that they will not leave the 'aquarium,' their 'home'. Unless someone tells them to, but there is no one to do so."

Today I damned the Faces nine times and finally wanted them to go away. The "view-ports" went black. It was like the sharks leaving when I wanted them to. I still do not understand.

There has been much useless noise and senseless talk from the Voice these days. It is annoying because I must concentrate on loving Diane and caring for the baby. So I wanted the Voice to leave it. It left.

"Entities Be Simply Damned! The spheroid ceased to exist, assistant. How far can they go, assistant?" The *beush* rose, screamed hysterically for three seconds and then fired the hand weapon point blank at the neck of his assistant.

The sharks come today, because Diane is having another baby. Diane hurts, and there is more blood than last time. Her face is not pretty when she hurts, as it is pretty when she sleeps. So I *want* her to sleep. Her face is pretty now with the smile on her lips.

“Fourteen thousand **E n e r g i** ceased to exist, spheroid ceased to exist, and another reproduction. Warspace! How far will they go?”

It has been hundreds of days. Faces keep appearing, but I continue to *want* them to go away. Diane has had eighteen babies. The oldest are swimming around and playing with the porpoises. Diane and I spend most of the time teaching the children by showing them things, and by giving them our thoughts by touching them.

Today I found that none of the children have Voices. I could *want* them to have Voices, but the children's thoughts tell me that it is not right to have a Voice.

The eldest boy says that we should leave the tank, that a greater “tank” is around us, and that it is easier to move around in that greater tank. He also says that we must guard ourselves against Faces outside. That is strange, but the boy is a good boy. Many times he knows that things will happen before they do. He is a good boy.

He is almost as tall as I am. The eldest girl is pretty like Diane, her

body very white and soft but, since I *wanted* it so, her hair is golden, instead of dark. The boy likes her very much, and I have seen them together, touching.

Tomorrow I will explain to him that if he *wants* something, he will get it. So he must *want* a baby.

“Query? The Energi will bombard the ‘aquarium’? War declared against us? War declared? Entities be wholly damned! Negative! Negative!” The disintegrator was fired once more, this time into the orange eye of the *beush* himself, by himself, and for the good of himself.

When, if I ever do *want* the Voice to come back, it will be very surprised to know that Diane has had twenty-four babies; that the three eldest boys have mated twice, once and twice, and have had four babies. The Voice will also be surprised to know that it took all twenty-nine of us to *want* all the Faces around the tank to die, as the eldest boy said to do. We could not tell, but the boy said that six million Faces were dead. That seems impossible to me, but the boy is always right.

Tomorrow we are leaving the tank. We will *want* to leave it; it is getting crowded. The boy says that beyond the greater tank, which we will also leave, there is enough space for all the babies Diane could have if she lived forever.

Forever, he said. It would be nice to live forever. I think I'll *want* . . . **END**

MIGHTIEST

QORN

BY KEITH LAUMER

ILLUSTRATED BY GAUGHAN

**Sly, brave and truculent,
the Qornt held all humans
in contempt — except one!**

I
Ambassador Nitworth glowered across his mirror-polished, nine-foot platinum desk at his assembled staff.

"Gentlemen, are any of you familiar with a race known as the Qornt?"

There was a moment of profound silence. Nitworth leaned forward, looking solemn.

"They were a warlike race known in this sector back in Concordiat times, perhaps two hundred years

ago. They vanished as suddenly as they had appeared. There was no record of where they went." He paused for effect.

"They have now reappeared — occupying the inner planet of this system!"

"But, sir," Second Secretary Magnan offered. "That's unhabited Terrestrial territory..."

"Indeed, Mr. Magnan?" Nitworth smiled icily. "It appears the Qornt do not share that opinion." He plucked a heavy parchment from a



folder before him, harrumphed and read aloud:

His Supreme Excellency The Qorn, Regent of Qornt, Over-Lord of the Galactic Destiny, Greets the Terrestrials and, with reference to the presence in mandated territory of Terrestrial squatters, has the honor to advise that he will require the use of his outer world on the thirtieth day. Then will the Qornt come with steel and fire. Receive, Terrestrials, renewed assurances of my awareness of your existence, and let Those who dare gird for the contest.

"Frankly, I wouldn't call it conciliatory," Magnan said.

Nitworth tapped the paper with a finger.

"We have been served, gentlemen, with nothing less than an Ultimatum!"

"Well, we'll soon straighten these fellows out—" the Military Attache began.

"There happens to be more to this piece of truculence than appears on the surface," the Ambassador cut in. He paused, waiting for interested frowns to settle into place.

"Note, gentlemen, that these invaders have appeared on terrestrial controlled soil — and without so much as a flicker from the instruments of the Navigational Monitor Service!"

The Military Attache blinked. "That's absurd," he said flatly. Nitworth slapped the table.

"We're up against something new,

gentlemen! I've considered every hypothesis from cloaks of invisibility to time travel! The fact is—the Qornt fleets are undetectable!"

The Military Attache pulled at his lower lip. "In that case, we can't try conclusions with these fellows until we have an undetectable drive of our own. I recommend a crash project. In the meantime—"

"I'll have my boys start in to crack this thing," the Chief of the Confidential Terrestrial Source Section spoke up. "I'll fit out a couple of volunteers with plastic beaks—"

"No cloak and dagger work, gentlemen! Long range policy will be worked out by Deep-Think teams back at the Department. Our role will be a holding action. Now I want suggestions for a comprehensive, well rounded and decisive course for meeting this threat. Any recommendation?"

The Political Officer placed his fingertips together. "What about a stiff Note demanding an extra week's time?"

"No! No begging," the Economic Officer objected. "I'd say a calm, dignified, aggressive withdrawal — as soon as possible."

"We don't want to give them the idea we spook easily," the Military Attache said. "Let's delay the withdrawal — say, until tomorrow."

"Early tomorrow," Magnan said. "Or maybe later today."

"Well, I see you're of a mind with me," Nitworth nodded. "Our plan of action is clear, but it remains to be implemented. We have a population of over fifteen million

individuals to relocate." He eyed the Political Officer. "I want five proposals for resettlement on my desk by oh-eight-hundred hours tomorrow." Nitworth rapped out instructions. Harried-looking staff members arose and hurried from the room. Magnan eased toward the door.

"Where are you going, Magnan?" Nitworth snapped.

"Since you're so busy, I thought I'd just slip back down to Com Inq. It was a most interesting orientation lecture. Mr. Ambassador. Be sure to let us know how it works out."

"Kindly return to your chair," Nitworth said coldly. "A number of chores remain to be assigned. I think you, Magnan, need a little field experience. I want you to get over to Roolit I and take a look at these Qornt personally."

Magnan's mouth opened and closed soundlessly.

"Not afraid of a few Qornt, are you, Magnan?"

"Afraid? Good lord, no, ha ha. It's just that I'm afraid I may lose my head and do something rash if I go."

"Nonsense! A diplomat is immune to heroic impulses. Take Retief along. No dawdling, now! I want you on the way in two hours. Notify the transport pool at once. Now get going!"

Magnan nodded unhappily and went into the hall.

"Oh, Retief," Nitworth said. Retief turned.

"Try to restrain Mr. Magnan from any impulsive moves — in any direction."

Retief and Magnan topped a ridge and looked down across a slope of towering tree-shrubs and glossy violet-stemmed palms set among flamboyant blossoms of yellow and red, reaching down to a strip of white beach with the blue sea beyond.

"A delightful vista," Magnan said, mopping at his face. "A pity we couldn't locate the Qornt. We'll go back now and report —"

"I'm pretty sure the settlement is off to the right," Retief said. "Why don't you head back for the boat, while I ease over and see what I can observe."

"Retief, we're engaged in a serious mission. This is not a time to think of sightseeing."

"I'd like to take a good look at what we're giving away."

"See here, Retief! One might almost receive the impression that you're questioning Corps policy!"

"One might, at that. The Qornt have made their play, but I think it might be valuable to take a look at their cards before we fold. If I'm not back at the boat in an hour, lift without me."

"You expect me to make my way back alone?"

"It's directly down-slope —" Retief broke off, listening. Magnan clutched at his arm.

There was a sound of crackling foliage. Twenty feet ahead, a leafy branch swung aside. An eight-foot biped stepped into view, long, thin, green-clad legs with back-bending knees moving in quick, bird-like

steps. A pair of immense black-lensed goggles covered staring eyes set among bushy green hair above a great bone-white beak. The crest bobbed as the creature cocked its head, listening.

Magnan gulped audibly. The Qornt froze, head tilted, beak aimed directly at the spot where the Terrestrials stood in the deep shade of a giant trunk.

"I'll go for help," Magnan squeaked. He whirled and took three leaps into the brush.

A second great green-clad figure rose up to block his way. He spun, darted to the left. The first Qornt pounced, grappled Magnan to its narrow chest. Magnan yelled, thrashing and kicking, broke free, turned — and collided with the eight-foot alien, coming in fast from the right. All three went down in a tangle of limbs.

Retief jumped forward, hauled Magnan free, thrust him aside and stopped, right fist cocked. The two Qornt lay groaning feebly.

"Nice piece of work, Mr. Magnan," Retief said. "You nailed both of them."

"Those undoubtedly are the most bloodthirsty, aggressive, merciless countenances it has ever been my misfortune to encounter," Magnan said. "It hardly seems fair. Eight feet tall *and* faces like that!"

The smaller of the two captive Qornt ran long, slender fingers over a bony shin, from which he had turned back the tight-fitting green trousers.

"It's not broken," he whistled

nasally in passable Terrestrial, eyeing Magnan through the heavy goggles, now badly cracked. "Small thanks to you."

Magnan smiled loftily. "I daresay you'll think twice before interfering with peaceable diplomats in future."

"Diplomats? Surely you jest."

"Never mind us," Retief said. "It's you fellows we'd like to talk about. How many of you are there?"

"Only Zubb and myself."

"I mean altogether. How many Qornt?"

The alien whistled shrilly.

"Here, no signalling!" Magnan snapped, looking around.

"That was merely an expression of amusement."

"You find the situation amusing? I assure you, sir, you are in perilous straits at the moment. I *may* fly into another rage, you know."

"Please, restrain yourself. I was merely somewhat astonished —" a small whistle escaped — "at being taken for a Qornt."

"Aren't you a Qornt?"

"I? Great snail trails, no!" More stifled whistles of amusement escaped the beaked face. "Both Zubb and I are Verpp. Naturalists, as it happens."

"You certainly *look* like Qornt."

"Oh, not at all — except perhaps to a Terrestrial. The Qornt are sturdily built rascals, all over ten feet in height. And, of course, they do nothing but quarrel. A drone caste, actually."

"A caste? You mean they're biologically the same as you?"

"Not at all! A Verpp wouldn't think of fertilizing a Qornt."

"I mean to say, you are of the same basic stock — descended from a common ancestor, perhaps."

"We are all Pud's creatures."

"What are the differences between you, then?"

"Why, the Qornt are argumentive, boastful, lacking in appreciation for the finer things of life. One dreads to contemplate descending to *their* level."

"Do you know anything about a Note passed to the Terrestrial Ambassador at Smorbrod?" Retief asked.

The beak twitched. "Smorbrod? I know of no place called Smorbrod."

"The outer planet of this system."

"Oh, yes. We call it Guzzum. I had heard that some sort of creatures had established a settlement there, but I confess I pay little note to such matters."

"We're wasting time, Retief," Magnan said. "We must truss these chaps up, hurry back to the boat and make our escape. You heard what they said."

"Are there any Qornt down there at the harbor, where the boats are?" Retief asked.

"At Tarroon, you mean? Oh, yes. Planning some adventure."

"That would be the invasion of Smorbrod," Magnan said. "And unless we hurry, Retief, we're likely to be caught there with the last of the evacuees!"

"How many Qornt would you say there are at Tarroon?"

"Oh, a very large number. Perhaps fifteen or twenty."

"Fifteen or twenty what?" Magnan looked perplexed.

"Fifteen or twenty Qornt."

"You mean that there are *only* fifteen or twenty individual Qornt in all?"

Another whistle. "Not at all. I was referring to the local Qornt only. There are more at the other Centers, of course."

"And the Qornt are responsible for the ultimatum—unilaterally?"

"I suppose so; it sounds like them. A truculent group, you know. And interplanetary relations *are* rather a hobby of theirs."

Zubb moaned and stirred. He sat up slowly, rubbing his head. He spoke to his companion in a shrill alien clatter of consonants.

"What did he say?"

"Poor Zubb. He blames me for his bruises, since it was my idea to gather you as specimens."

"You should have known better than to tackle that fierce-looking creature," Zubb said, pointing his beak at Magnan.

"How does it happen that you speak Terrestrial?" Retief asked.

"Oh, one picks up all sorts of dialects."

"It's quite charming, really," Magnan said. "Such a quaint, archaic accent."

"Suppose we went down to Tarroon," Retief asked. "What kind of reception would we get?"

"That depends. I wouldn't recommend interfering with the Gwil or the Rheuk; it's their nest-mending time, you know. The Boog will be busy mating — such a tedious business — and of course the Qornt

are tied up with their ceremonial feasting. I'm afraid no one will take any notice of you."

"Do you mean to say," Magnan demanded, "that these ferocious Qornt, who have issued an ultimatum to the Corps Diplomatique Terrestrienne — who openly avow their occupied world — would ignore Terrestrials in their midst?"

"If at all possible."

Retief got to his feet.

"I think our course is clear, Mr. Magnan. It's up to us to go down and attract a little attention."

III

"I'm not at all sure we're going about this in the right way," Magnan puffed, trotting at Retief's side. "These fellows Zubb and Slun — Oh, they seem affable enough, but how can we be sure we're not being led into a trap?"

"We can't."

Magnan stopped short. "Let's go back."

"All right," Retief said. "Of course there may be an ambush —"

Magnan moved off. "Let's keep going."

The party emerged from the undergrowth at the edge of a great brush-grown mound. Slun took the lead, rounded the flank of the hillock, halted at a rectangular opening cut into the slope.

"You can find your way easily enough from here," he said. "You'll excuse us, I hope —"

"Nonsense, Slun!" Zubb pushed forward. "I'll escort our guests to Qornt Hall." He twittered briefly to

his fellow Verpp. Slun twittered back.

"I don't like it, Retief," Magnan whispered. "Those fellows are plotting mischief."

"Threaten them with violence, Mr Magnan. They're scared of you."

"That's true. And the drubbing they received was well-deserved. I'm a patient man, but there are occasions —"

"Come along, please," Zubb called. "Another ten minutes' walk —"

"See here, we have no interest in investigating this barrow," Magnan announced. "We wish you to take us direct to Tarroon to interview your military leaders regarding the ultimatum!"

"Yes, yes, of course. Qornt Hall lies here inside the village."

"This is Tarroon?"

"A modest civic center, sir, but there are those who love it."

"No wonder we didn't observe their works from the air," Magnan muttered. "Camouflaged." He moved hesitantly through the opening.

The party moved along a wide, deserted tunnel which sloped down steeply, then leveled off and branched. Zubb took the center branch, ducking slightly under the nine-foot ceiling lit at intervals with what appeared to be primitive incandescent panels.

"Few signs of an advanced technology here," Magnan whispered. "These creatures must devote all their talents to warlike enterprise."

Ahead, Zubb slowed. A distant susurration was audible, a sustained high-pitched screeching. "Softly,

now. We approach Qornt Hall. They can be an irascible lot when disturbed at their feasting."

"When will the feast be over?" Magnan called hoarsely.

"In another few weeks, I should imagine, if, as you say, they've scheduled an invasion for next month."

"Look here, Zubb." Magnan shook a finger at the tall alien. "How is it that these Qornt are allowed to embark on piratical ventures of this sort without reference to the wishes of the majority?"

"Oh, the majority of the Qornt favor the move, I imagine."

"These few hotheads are permitted to embroil the planet in war?"

"Oh, they don't embroil the planet in war. They merely —"

"Retief, this is fantastic! I've heard of iron-fisted military cliques before, but this is madness!"

"Come softly, now." Zubb beckoned, moving toward a bend in the yellow-lit corridor. Retief and Magnan moved forward.

The corridor debouched through a high double door into a vast oval chamber, high-domed, gloomy, paneled in dark wood and hung with tattered banners, scarred halberds, pikes, rusted longswords, crossed spears over patinaed hauberks, pitted radiation armor, corroded power rifles, the immense mummified heads of horned and fanged animals. Great guttering torches in wall brackets and in stands along the length of the long table shed a smoky light that reflected from the mirror polish of

the red granite floor, gleamed on polished silver bowls and paper-thin glass, shone jewel-red and gold through dark bottles — and cast long flickering shadows behind the fifteen trolls at the board.

Lesser trolls — beaked, bush-haired, great-eyed — trotted briskly, bird-kneed, bearing steaming platters, stood in groups of three strumming slender bottle-shaped lutes, or pranced an intricate-pattered dance, unnoticed in the shrill uproar as each of the magnificently draped, belted, feathered and jeweled Qornt carried on a shouted conversation with an equally noisy fellow.

"A most interesting display of barbaric splendor," Magnan breathed. "Now we'd better be getting back."

"Ah, a moment," Zubb said. "Observe the Qornt — the tallest of the feasters — he with the head-dress of crimson, purple, silver and pink."

"Twelve feet if he's an inch," Magnan estimated. "And now we really must hurry along —"

"That one is chief among these rowdies. I'm sure you'll want a word with him. He controls not only the Tarroonian vessels but those from the other Centers as well."

"What kind of vessels? Warships?"

"Certainly. What other kind would the Qornt bother with?"

"I don't suppose," Magnan said casually, "that you'd know the type, tonnage, armament and manning of these vessels? And how many units comprise the fleet? And where they're based at present?"

"They're fully automated twenty-thousand-ton all-purpose dreadnaughts. They mount a variety of weapons. The Qornt are fond of that sort of thing. Each of the Qornt has his own, of course. They're virtually identical, except for the personal touches each individual has given his ship."

"Great heavens, Retief!" Magnan exclaimed in a whisper. "It sounds as though these brutes employ a battle armada as simpler souls might a set of toy sailboats!"

Retief stepped past Magnan and Zubb to study the feasting hall. "I can see that their votes would carry all the necessary weight."

"And now an interview with the Qorn himself," Zubb shrilled. "If you'll kindly step along, gentlemen. . ."

"That won't be necessary," Magnan said hastily, "I've decided to refer the matter to committee."

"After having come so far," Zubb said, "it would be a pity to miss having a cosy chat."

There was a pause.

"Ah . . . Retief," Magnan said. "Zubb has just presented a most compelling argument. . ."

Retief turned. Zubb stood gripping an ornately decorated power pistol in one bony hand, a slim needler in the other. Both were pointed at Magnan's chest.

"I suspected you had hidden qualities, Zubb," Retief commented.

"See here, Zubb! We're diplomats!" Magnan started.

"Careful, Mr. Magnan; you may goad him to a frenzy."

"By no means," Zubb whistled. "I much prefer to observe the frenzy of the Qornt when presented with the news that two peaceful Verpp have been assaulted and kidnapped by bullying interlopers. If there's anything that annoys the Qornt, it's Qornt-like behavior in others. Now step along, please."

"Rest assured, this will be reported!"

"I doubt it."

"You'll face the wrath of Enlightened Galactic Opinion!"

"Oh? How big a navy does Enlightened Galactic Opinion have?"

"Stop scaring him, Mr. Magnan. He may get nervous and shoot." Retief stepped into the banquet hall, headed for the resplendent figure at the head of the table. A trio of flute-players broke off in mid-bleat, staring. An inverted pyramid of tumblers blinked as Retief swung past, followed by Magnan and the tall Verpp. The shrill chatter at the table faded.

Qorn turned as Retief came up, blinking three-inch eyes. Zubb stepped forward, gibbered, waving his arms excitedly. Qorn pushed back his chair — a low, heavily padded stool — and stared unwinking at Retief, moving his head to bring first one great round eye, then the other, to bear. There were small blue veins in the immense fleshy beak. The bushy hair, springing out in a giant halo around the grayish, porous-skinned face, was wiry, stiff, moss-green, with tufts of chartreuse fuzz surrounding what appeared to be tympanic membranes. The tall headdress of scarlet silk and purple

feathers was slightly askew, and a loop of pink pearls had slipped down above one eye.

Zubb finished his speech and fell silent, breathing hard.

Qorn looked Retief over in silence, then belched.

"Not bad," Retief said admiringly. "Maybe we could get up a match between you and Ambassador Sternwheeler. You've got the volume on him, but he's got timbre."

"So," Qorn hooted in a resonant tenor. "You come from Guzzum, eh? Or Smorbrod, as I think you call it. What is it you're after? More time? A compromise? Negotiations? Peace?" He slammed a bony hand against the table. "The answer is *no!*"

Zubb twittered. Qorn cocked an eye, motioned to a servant. "Chain that one." He indicated Magnan. His eyes went to Retief. "This one's bigger; you'd best chain him, too."

"Why, your Excellency —" Magnan started, stepping forward.

"Stay back!" Qorn hooted. "Stand over there where I can keep an eye on you."

"Your Excellency, I'm empowered —"

"Not here, you're not!" Qorn trumpeted. "Want peace, do you? Well, I don't want peace! I've had a surfeit of peace these last two centuries! I want action! Loot! Adventure! Glory!" He turned to look down the table. "How about it, fellows? It's war to the knife, eh?"

There was a momentary silence from all sides.

"I guess so," grunted a giant

Qorn in iridescent blue with flame-colored plumes.

Qorn's eyes bulged. He half rose. "We've been all over this," he basked. He clamped bony fingers on the hilt of a light rapier. "I thought I'd made my point!"

"Oh, sure, Qorn."

"You bet."

"I'm convinced."

Qorn rumbled and resumed his seat. "All for one and one for all, that's us."

"And you're the one, eh, Qorn?" Retief commented.

Magnan cleared his throat. "I sense that some of you gentlemen are not convinced of the wisdom of this move," he piped, looking along the table at the silks, jewels, beaks, feather-decked crests and staring eyes.

"Silence!" Qorn hooted. "No use your talking to my loyal lieutenants anyway," he added. "They do whatever I convince them they ought to do."

"But I'm sure that on more mature consideration —"

"I can lick any Qorn in the house." Qorn said. "That's why I'm Qorn." He belched again.

A servant came up staggering under a weight of chain, dropped it with a crash at Magnan's feet. Zubb aimed the guns while the servant wrapped three loops around Magnan's wrists, snapped a lock in place.

"You next!" The guns pointed at Retief's chest. He held out his arms. Four loops of silvery-gray chain in half-inch links dropped around them. The servant cinched them up

tight, squeezed a lock through the ends and closed it.

"Now," Qorn said, lolling back in his chair, glass in hand. "There's a bit of sport to be had here, lads. What shall we do with them?"

"Let them go," the blue and flame Qornt said glumly.

"You can do better than that," Qorn hooted. "Now here's a suggestion: we carve them up a little — lop off the external labiae and pinnae, say — and ship them back."

"Good lord! Retief, he's talking about cutting off our ears and sending us home mutilated! What a barbaric proposal!"

"It wouldn't be the first time a Terrestrial diplomat got a trimming," Retief commented.

"It should have the effect of stimulating the Terries to put up a reasonable scrap," Qorn said judiciously. "I have a feeling that they're thinking of giving up without a struggle."

"Oh, I doubt that," the blue-and-flame Qornt said. "Why should they?"

Qorn rolled an eye at Retief and another at Magnan. "Take these two," he hooted. "I'll wager they came here to negotiate a surrender!"

"Well," Magnan started.

"Hold it, Mr. Magnan," Retief said, "I'll tell him."

"What's your proposal?" Qorn whistled, taking a gulp from his goblet. "A fifty-fifty split? Monetary reparations? Alternate territory? I can assure you, it's useless. We Qornt like to fight."

"I'm afraid you've gotten the wrong impression, your Excellency,"

Retief said blandly. "We didn't come to negotiate. We came to deliver an Ultimatum."

"What?" Qorn trumpeted. Behind Retief, Magnan spluttered.

"We plan to use this planet for target practice," Retief said. "A new type hell bomb we've worked out. Have all your people off of it in seventy-two hours, or suffer the consequences."

IV

"You have the gall," Qorn stormed, "to stand here in the center of Qornt Hall — uninvited, at that — and in chains —"

"Oh, these," Retief said. He tensed his arms. The soft aluminum links stretched and broke. He shook the light metal free. "We diplomats like to go along with colorful local customs, but I wouldn't want to mislead you. Now, as to the evacuation of Roolit I —"

Zubb screeched, waved the guns. The Qornt were jabbering.

"I told you they were brutes," Zubb shrilled.

Qorn slammed his fist down on the table. "I don't care what they are!" he honked. "Evacuate, hell! I can field eighty-five combat-ready ships!"

"And we can englobe every one of them with a thousand Peace Enforcers with a hundred megatons/second firepower each."

"Retief." Magnan tugged at his sleeve. "Don't forget their super-drive."

"That's all right. They don't have one."

"But —"

"We'll take you on!" Qorn Frenchhorned. "We're the Qorn! We glory in battle! We live in fame or go down in —"

"Hogwash," the flame-and-blue Qorn cut in. "If it wasn't for you, Qorn, we could sit around and feast and brag and enjoy life without having to prove anything."

"Qorn, you seem to be the firebrand here," Retief said. "I think the rest of the boys would listen to reason —"

"Over my dead body!"

"My idea exactly," Retief said. "You claim you can lick any man in the house. Unwind yourself from your ribbons and step out here on the floor, and we'll see how good you are at backing up your conversation."

Magnan hovered at Retief's side. "Twelve feet tall," he moaned. "And did you notice the size of those hands?"

Retief watched as Qorn's aides helped him out of his formal trappings. "I wouldn't worry too much, Mr. Magnan. This is a light-Gee world. I doubt if old Qorn would weigh up at more than two-fifty standard pounds here."

"But that phenomenal reach —"

"I'll peck away at him at knee level. When he bends over to swat me, I'll get a crack at him."

Across the cleared floor, Qorn shook off his helpers with a snort.

"Enough! Let me at the upstart!"

Retief moved out to meet him, watching the upraised backward-jointed arms. Qorn stalked forward,

long lean legs bent, long horny feet clacking against the polished floor. The other aliens — both servitors and bejeweled Qornt — formed a wide circle, all eyes unwaveringly on the combatants.

Qorn struck suddenly, a long arm flashing down in a vicious cut at Retief, who leaned aside, caught one lean shank below the knee. Qorn bent to haul Retief from his leg — and staggered back as a haymaker took him just below the beak. A screech went up from the crowd as Retief leaped clear.

Qorn hissed and charged. Retief whirled aside, then struck the alien's off-leg in a flying tackle. Qorn leaned, arms windmilling, crashed to the floor. Retief whirled, dived for the left arm, whipped it behind the narrow back, seized Qorn's neck in a stranglehold and threw his weight backward. Qorn fell on his back, his legs squatted out at an awkward angle. He squawked and beat his free arm on the floor, reaching in vain for Retief.

Zubb stepped forward, pistols ready. Magnan stepped before him.

"Need I remind you, sir," he said icily, "that this is an official diplomatic function? I can brook no interference from disinterested parties."

Zubb hesitated. Magnan held out a hand. "I must ask you to hand me your weapons, Zubb."

"Look here," Zubb began.

"I *may* lose my temper," Magnan hinted. Zubb lowered the guns, passed them to Magnan. He thrust them into his belt with a sour smile, turned back to watch the encounter.

Retief had thrown a turn of violet silk around Qorn's left wrist, bound it to the alien's neck. Another wisp of stuff floated from Qorn's shoulder. Retief, still holding Qorn in an awkward sprawl, wrapped it around one outflung leg, trussed ankle and thigh together. Qorn flopped, hooting. At each movement, the constricting loop around his neck, jerked his head back, the green crest tossing wildly.

"If I were you, I'd relax," Retief said, rising and releasing his grip. Qorn got a leg under him; Retief kicked it. Qorn's chin hit the floor with a hollow clack. He wilted, an ungainly tangle of over-long limbs and gay silks.

Retief turned to the watching crowd. "Next?" he called.

The blue and flame Qornt stepped forward. "Maybe this would be a good time to elect a new leader," he said. "Now, my qualifications —"

"Sit down," Retief said loudly. He stepped to the head of the table, seated himself in Qorn's vacated chair. "A couple of you finish trussing Qorn up for me."

"But we must select a leader!"

"That won't be necessary, boys. I'm your new leader."

"As I see it," Retief said, dribbling cigar ashes into an empty wine glass, "you Qornt like to be warriors, but you don't particularly like to fight."

"We don't mind a little fighting — within reason. And, of course, as Qornt, we're expected to die in battle. But what I say is, why rush things?"

"I have a suggestion," Magnan said. "Why not turn the reins of government over to the Verpp? They seem a level-headed group."

"What good would that do? Qornt are Qornt. It seems there's always one among us who's a slave to instinct — and, naturally, we have to follow him."

"Why?"

"Because that's the way it's done."

"Why not do it another way?" Magnan offered. "Now, I'd like to suggest community singing—"

"If we gave up fighting, we might live too long. Then what would happen?"

"Live too long?" Magnan looked puzzled.

"When estivating time comes there'd be no burrows for us. Anyway, with the new Qornt stepping on our heels—"

"I've lost the thread," Magnan said. "Who are the new Qornt?"

"After estivating, the Verpp moult, and then they're Qornt, of course. The Gwil become Boog, the Boog become Rheuk, the Rheuk metamorphosize into Verpp —"

"You mean Slun and Zubb — the mild-natured naturalists — will become warmongers like Qorn?"

"Very likely. 'The milder the Verpp, the wilder the Qorn,' as the old saying goes."

"What do Qornt turn into?" Retief asked.

"HmMMM. That's a good question. So far, none have survived Qornthood."

"Have you thought of forsaking your warlike ways?" Magnan asked. "What about taking up shepherd-

ing and regular church attendance?"

"Don't mistake me. We Qornt like a military life. It's great sport to sit around roaring fires and drink and tell lies and then go dashing off to enjoy a brisk affray and some leisurely looting afterward. But we prefer a nice numerical advantage. Not this business of tackling you Terrestrials over on Guzzum — that was a mad notion. We had no idea what your strength was."

"But now that's all off, of course," Magnan chirped. "Now that we've had diplomatic relations and all —"

"Oh, by no means. The fleet lifts in thirty days. After all, we're Qornt; we have to satisfy our drive to action."

"But Mr. Retief is your leader now. He won't let you!"

"Only a dead Qornt stays home when Attack day comes. And even if he orders us all to cut our own throats, there are still the other Centers — all with their own leaders. No, gentlemen, the Invasion is definitely on."

"Why don't you go invade somebody else?" Magnan suggested. "I could name some very attractive prospects — outside my sector, of course."

"Hold everything," Retief said. "I think we've got the basis of a deal here. . ."

V

At the head of a double column of gaudily caparisoned Qornt, Retief and Magnan strolled across the ramp toward the bright tower of the CDT Sector HQ. Ahead,

gates opened, and a black Corps limousine emerged, flying an Ambassadorial flag under a plain square of white.

"Curious," Magnan commented. "I wonder what the significance of the white ensign might be?"

Retief raised a hand. The column halted with a clash of accoutrements and a rasp of Qornt boots. Retief looked back along the line. The high white sun flashed on bright silks, polished buckles, deep-dyed plumes, butts of pistols, the soft gleam of leather.

"A brave show indeed," Magnan commented approvingly. "I confess the idea has merit."

The limousine pulled up with a squeal of brakes, stood on two fat-tired wheels, gyros humming softly. The hatch popped up. A portly diplomat stepped out.

"Why Ambassador Nitworth," Magnan glowed. "This is very kind of you."

"Keep cool, Magnan," Nitworth said in a strained voice. "We'll attempt to get you out of this."

He stepped past Magnan's outstretched hand and looked hesitantly at the ramrod-straight line of Qornt, eighty-five strong — and beyond, at the eighty-five tall Qornt dreadnaughts.

"Good afternoon, sir . . . ah, Your Excellency," Nitworth said, blinking up at the leading Qornt. "You are Commander of the Strike Force, I assume?"

"Nope," the Qornt said shortly.

"I . . . ah . . . wish to request seventy-two hours in which to evacuate Headquarters," Nitworth plowed on.

"Mr. Ambassador," Retief said. "This —"

"Don't panic, Retief. I'll attempt to secure your release," Nitworth hissed over his shoulder. "Now —"

"You will address our leader with more respect!" the tall Qornt hooted, eyeing Nitworth ominously from eleven feet up.

"Oh, yes indeed, sir . . . your Excellency . . . Commander. Now, about the invasion —"

"Mr. Secretary," Magnan tugged at Nitworth's sleeve.

"In heaven's name, permit me to negotiate in peace!" Nitworth snapped. He rearranged his features. "Now your Excellency, we've arranged to evacuate Smorbrod, of course, just as you requested —"

"Requested?" the Qornt honked.

"Ah . . . demanded, that is. Quite rightly of course. Ordered. Instructed. And, of course, we'll be only too pleased to follow any other instructions you might have."

"You don't quite get the big picture, Mr. Secretary," Retief said. "This isn't —"

"Silence, confound you!" Nitworth barked. The leading Qornt looked at Retief. He nodded. Two bony hands shot out, seized Nitworth and stuffed a length of bright pink silk into his mouth. then spun him around and held him facing Retief.

"If you don't mind my taking this opportunity to brief you, Mr. Ambassador," Retief said blandly. "I think I should mention that this isn't an invasion fleet. These are the new recruits for the Peace Enforcement Corps."

Magnan stepped forward, glanced

at the gag in Ambassador Nitworth's mouth, hesitated, then cleared his throat. "We felt," he said, "that the establishment of a Foreign Brigade within the P. E. Corps structure would provide the element of novelty the Department has requested in our recruiting, and at the same time would remove the stigma of Terrestrial chauvinism from future punitive operations."

Nitworth starred, eyes bulging. He grunted, reaching for the gag, caught the Qornt's eye on him, dropped his hands to his sides.

"I suggest we get the troops in out of the hot sun," Retief said. Magnan edged close. "What about the gag?" he whispered.

"Let's leave it where it is for a while," Retief murmured. "It may save us a few concessions."

An hour later, Nitworth, breathing freely again, glowered across his desk at Retief and Magnan.

"This entire affair," he rumbled, "has made me appear to be a fool!"

"But we who are privileged to serve on your staff already know just how clever you are," Magnan burbled.

Nitworth purpled. "You're skirting insolence, Magnan," he roared. "Why was I not informed of the arrangements? What was I to assume at the sight of eighty-five war vessels over my headquarters, unannounced?"

"We tried to get through, but our wavelengths —"

"Bah! Sterner souls than I would have quailed at the spectacle!"

"Oh, you were perfectly justified in panicking—"

"I did *not* panic!" Nitworth belatedly. "I merely adjusted to the apparent circumstances. Now, I'm of two minds as to the advisability of this foreign legion idea of yours. Still, it may have merit. I believe the wisest course would be to dispatch them on a long training cruise in an uninhabited sector of space—"

The office windows rattled. "What the devil!" Nitworth turned, stared out at the ramp where a Qornt ship rose slowly on a column of pale blue light. The vibration increased as a second ship lifted, then a third.

Nitworth whirled on Magnan. "What's this! Who ordered these recruits to embark without my permission?"

"I took the liberty of giving them an errand to run, Mr. Secretary," Retief said. "There was that little matter of the Groaci infiltrating the Sirenian System. I sent the boys off to handle it."

"Call them back at once!"

"I'm afraid that won't be possible. They're under orders to maintain total communications silence until completion of the mission."

Nitworth drummed his fingers on the desk top. Slowly, a thoughtful expression dawned. He nodded.

"This may work out," he said. "I *should* call them back, but since the fleet is out of contact, I'm unable to do so, correct? Thus I can hardly be held responsible for any over-enthusiasm in chastising the Groaci."

He closed one eye in a broad wink at Magnan. "Very well, gentlemen, I'll overlook the irregularity this

time. Magnan, see to it the Smorbodian public are notified they can remain where they are. And by the way, did you by any chance discover the technique of the undetectable drive the Qornt use?"

"No, sir. That is, yes, sir."

"Well? Well?"

"There isn't any. The Qornt were there all the while. Underground."

"Underground? Doing what?"

"Hibernating— for two hundred years at a stretch."

Outside in the corridor, Magnan came up to Retief, who stood talking to a tall man in a pilot's coverall.

"I'll be tied up, sending through full details on my—our—your recruiting theme, Retief," Magnan said. "Suppose you run into the city to assist the new Verpp Consul in settling in."

"I'll do that, Mr. Magnan. Anything else?"

Magnan raised his eyebrows. "You're remarkably compliant today, Retief. I'll arrange transportation."

"Don't bother, Mr. Magnan. Cy here will run me over. He was the pilot who ferried us over to Roolit I, you recall."

"I'll be with you as soon as I pack a few phone numbers, Retief," the pilot said. He moved off. Magnan followed him with a disapproving eye. "An uncouth sort, I fancied. I trust you're not consorting with his kind socially."

"I wouldn't say that, exactly," Retief said. "We just want to go over a few figures together." END

IN THE ARENA

BY BRIAN W. ALDISS

ILLUSTRATED BY NODEL

**They were the doomed captives
of alien creatures . . . on the
planet where Mankind was born!**

The reek and noise at the back of the circus were familiar to Javlin Bartramm. He felt the hard network of nerves in his solar plexus tighten.

There were crowds of the reduls here, jostling and staring to see the day's entry arrive. You didn't have to pay to stand and rubberneck in the street; this lot probably couldn't afford seats for the arena. Javlin looked away from them in scorn. All the same, he felt some gratification when they sent up a cheeping cheer at the sight of him. They loved a human victim.

His keeper undid the cart door and led him out, still chained. They went through the entrance, from blinding sunshine to dark, into the damp unsavory warren below the

main stadium. Several reduls were moving about here, officials mainly. One or two called good luck to him; one chirped, "The crowd's in a good mood today, vertebrate." Javlin showed no response.

His trainer, Ik So Baar, came up, a flamboyant redul towering above Javlin. He wore an array of spare gloves strapped across his orange belly. The white tiara that fitted round his antennae appeared only on sports days.

"Greetings, Javlin. You look in the rudest of health. I'm glad you are not fighting me."

"Greetings, Ik So." He slipped the lip-whistle into his mouth so that he could answer in a fair approximation of the redul language. "Is my opponent ready to be slain? Remember I go free if I win this bout"—



It will be my twelfth victory in succession."

"There's been a change in the program, Javlin. Your Sirian opponent escaped in the night and had to be killed. You are entered in a double double."

Javlin wrenched at his chains so hard that the keeper was swung off balance.

"Ik So! You betray me! How much cajsh have I won for you? I will not fight a double double."

There was no change of expression on the insect mask.

"Then you will die, my pet vertebrate. The new arrangement is not my idea. You know by now that I get more cajsh for having you in a solo. Double double it has to be. These are my orders. Keeper, Cell 107 with him!"

Fighting against his keeper's pull, Javlin cried, "I've got some rights, Ik So. I demand to see the arena promoter."

"Pipe down, you stupid vertebrate! You have to do what you're ordered. I told you it wasn't my fault."

"Well, for God's sake, who am I fighting with?"

"You will be shackled to a fellow from the farms. He's had one or two preliminary bouts; they say he's good."

"From the farms..." Javlin broke into the filthiest redulian oaths he knew. Ik So came back towards him and slipped one of the metal gloves on to his forepincers; it gave him a cruel tearing weapon with a multitude of barbs. He held it up to Javlin's face.

"Don't use that language to me, my mammalian friend. Humans from the farms or from space, what's the difference? This young fellow will fight well enough if you muck in with him. And you'd better muck in. You're billed to battle against a couple of yillibeeth."

Before Javlin could answer, the tall figure turned and strode down the corridor, moving twice as fast as a man could walk.

Javlin let himself be led to Cell 107. The warder, a worker-redul with a gray belly, unlocked his chains and pushed him in, barring the door behind him. The cell smelt of alien species and apprehensions.

Javlin went and sat down on the bench. He needed to think.

He knew himself for a simple man — and knew that that knowledge meant the simplicity was relative. But his five years of captivity here under the reduls had not been all wasted. Ik So had trained him well in the arts of survival; and when you came down to brass tacks, there was no more proper pleasure in the universe than surviving. It was uncomplicated. It carried no responsibilities to anyone but yourself.

That was what he hated about the double double events, which till now he had always been lucky enough to avoid. They carried a responsibility to your fellow fighter.

From the beginning he had been well equipped to survive the gladiatorial routine. When his scoutship, the *Plunderhorse*, had been captured by redul forces five years ago,

Javlin Bartramm was duelling master and judo expert, as well as Top Armament Sergeant. The army ships had a long tradition, going back some six centuries, of sport aboard; it provided the ideal mixture of time-passer and needed exercise. Of all the members of the *Plunder-horse's* crew who had been taken captive, Javlin was — as far as he knew — the only survivor after five years of the insect race's rough games.

Luck had played its part in his survival. He had liked Ik So Baar. Liking was a strange thing to feel for a nine-foot armored grasshopper with forearms like a lobster and a walk like a tyrannosaurus's run, but a sympathy existed between them — and would continue to exist until he was killed in the ring, Javlin thought. With his bottom on the cold bench, he knew that Ik So would not betray him into a double double. The redul had had to obey the promoter's orders. Ik So needed his twelfth victory, so that he could free Javlin to help him train the other species down at the gladiatorial farm. Both of them knew that would be an effective partnership.

So. Now was the time for luck to be with Javlin again.

He sank on to his knees and looked down at the stone, brought his forehead down on to it, gazed down into the earth, into the cold ground, the warm rocks, the molten core, trying to visualize each, to draw from them attributes that would help him: cold for his brain, warm for his temper, molten for his energies.

Strengthened by prayer, he stood up. The redul workers had yet to bring him his armor and the partner he was to fight with. He had long since learnt the ability to wait without resenting waiting. With professional care, he exercised himself slowly, checking the proper function of each muscle. As he did so, he heard the crowds cheer in the arena. He turned to peer out of the cell's further door, an affair of tightly set bars that allowed a narrow view of the combat area and the stands beyond.

There was a centaur out there in the sunlight, fighting an Aldebaran bat-leopard. The centaur wore no armor but an iron cuirass; he had no weapons but his hooves and his hands. The bat-leopard, though its wings were clipped to prevent it flying out of the stadium, had dangerous claws and a great turn of speed. Only because its tongue had been cut out, ruining its echo-location system, was the contest anything like fair. The concept of fairness was lost upon the reduls, though; they preferred blood to justice.

Javlin saw the kill. The centaur, a gallant creature with a human-like head and an immense gold mane that began from his eyebrows, was plainly tiring. He eluded the bat-leopard as it swooped down on him, wheeling quickly round on his hind legs and trampling on its wing. But the bat-leopard turned and raked the other's legs with a slash of claws. The centaur toppled hamstrung to the ground. As he fell, he lashed out savagely with his forelegs, but the

bat-leopard nipped in and tore his throat from side to side above the cuirass. It then dragged itself away under its mottled wings, like a lame prima donna dressed in a leather cape.

The centaur struggled and lay still, as if the weight of whistling cheers that rose from the audience bore him down. Through the narrow bars, Javlin saw the throat bleed and the lungs heave as the defeated one sprawled in the dust.

"What do you dream of, dying there in the sun?" Javlin asked.

He turned away from the sight and the question. He sat quietly down on the bench and folded his arms.

When the din outside told him that the next bout had begun, the passage door opened and a young human was pushed in. Javlin did not need telling that this was to be his partner in the double double against the yillibeeth.

It was a girl.

"**Y**ou're Javlin?" she said. "I know of you. My name's Awn."

He kept himself under control, his brows drawn together as he stared at her.

"You know what you're here for?"

"This will be my first public fight," she said.

Her hair was clipped short as a man's. Her skin was tanned and harsh, her left arm bore a gruesome scar. She held herself lithely on her feet. Though her body looked lean and hard, even the thick one-piece gown she wore to thigh length did

not conceal the feminine curves of her body. She was not pretty, but Javlin had to admire the set of her mouth and her cool gray gaze.

"I've had some stinking news this morning, but Ik So Baar never broke it to me that I was to be saddled with a woman," he said.

"Ik probably didn't know — that I'm a woman, I mean. The reduls are either neuter or hermaphrodite. unless they happen to be a rare queen. Didn't you know that? They can't tell the difference between human male and female."

He spat. "You can't tell me anything about reduls."

She spat. "If you knew, why blame me? You don't think I like being here? You don't think I asked to join the great Javlin?"

Without answering he bent and began to massage the muscles of his calf. Since he occupied the middle of the bench, the girl remained standing. She watched him steadily. When he looked up again, she asked, "What or who are we fighting?"

No surprise was left in him. "They didn't tell you?"

"I've only just been pushed into this double double, as I imagine you have. I asked you, what are we fighting?"

"Just a couple of yillibeeths."

He injected unconcern into his voice to make the shock of what he said the greater. He massaged the muscles of the other calf. An aphro-ale would have come in very welcome now. These crazy insects had no equivalent of the terrestrial prisoner-ate-a-hearty-breakfast routine. When he glanced up under his eyebrows,

the girl still stood motionless, but her face had gone pale.

"Know what the yillibeeths are, little girl?"

She didn't answer, so he went on, "The reduls resemble some terrestrial insects. They go through several stages of development, you know; reduls are just the final adult stage. Their larval stage is rather like the larval stage of the dragon fly. It's a greedy, omnivorous beast. It's aquatic and it's big. It's armored. It's called a yillibeeth. That's what we are going to be tied together to fight, a couple of big hungry yillibeeth. Are you feeling like dying this morning, Awn?"

Instead of answering, she turned her head away and brought a hand up to her mouth.

"Oh, no! No crying in here, for Earth's sake!" he said. He got up, yelled through the passage door, "Ik So, Ik So, you traitor, get this bloody woman out of here!" ... recalled himself, jammed the lip-whistle into his mouth and was about to call again when Awn caught him a backhanded blow across the face.

She faced him like a tiger.

"You creature, you cowardly apology of a man! Do you think I weep for fear? I don't weep. I've lived nineteen years on this damned planet in their damned farms. Would I still be here if I wept? No — but I mourn that you are already defeated, you, the great Javlin!"

He frowned into her blazing face.

"You don't seriously think you make me a good enough match for us to go out there and kill a couple of yillibeeth?"

"Damn your conceit, I'm prepared to try."

"Fagh!" He thrust the lip-whistle into his mouth, and turned back to the door. She laughed at him bitterly, jeeringly.

"You're a lackey to these insects, aren't you, Javlin? If you could see what a fool you look with that phoney beak of yours stuck on your mouth."

He let the instrument drop to the end of its chain. Grasping the bars, he leaned forward against them and looked at her over his shoulder.

"I was trying to get this contest called off."

"Don't tell me you haven't already tried. I have."

To that he had no answer. He went back and sat on the bench. She returned to her corner. They both folded their arms and stared at each other.

"Why don't you look out into the arena instead of glaring at me? You might pick up a few tips." When she did not answer, he said, "I'll tell you what you'll see. You can see the rows of spectators and a box where some sort of bigwig sits. I don't know who the bigwig is. It's never a queen — as far as I can make out, the queens spend their lives underground, turning out eggs at the rate of fifty a second. Not the sort of life Earth royalty would have enjoyed in the old days. Under the bigwig's box there is a red banner with their insect hieroglyphs on. I asked Ik So once what the hieroglyphs said. He told me they meant

— well, in a rough translation — *The Greatest Show on Earth*. It's funny, isn't it?"

"You must admit we do make a show."

"No, you miss the point. You see, that used to be the legend of circuses in the old days. But they've adopted it for their own use since they invaded Earth. They're boasting of their conquest."

"And that's funny?"

"In a sort of way. Don't you feel rather ashamed that this planet which saw the birth of the human race should be overrun by insects?"

"No. The reduls were here before me. I was just born here. Weren't you?"

"No, I wasn't. I was born on Washington IV. It's a lovely planet. There are hundreds of planets out there as fine and varied as Earth once was — but it kind of rankles to think that this insect brood rules Earth."

"If you feel so upset about it, why don't you do something?"

He knotted his fists together. You should start explaining history and economics just before you ran out to be chopped to bits by a big rampant thing with circular saws for hands?

"It would cost mankind too much to reconquer this planet. Too difficult. Too many deaths just for sentiment. And think of all those queens squirting eggs at a rate of knots; humans don't breed that fast. Humanity has learnt to face facts."

She laughed without humor.

"That's good. Why don't you learn to face the fact of me?"

Javlin had nothing to say to that; she would not understand that directly he saw her he knew his hope of keeping his life had died. She was just a liability. Soon he would be dying, panting his juices out into the dust like that game young centaur ... only it wouldn't be dust.

"We fight in two foot of water," he said. "You know that? The yilli-beeth like it. It slows our speed a bit. We might drown instead of having our heads bitten off."

"I can hear someone coming down the corridor. It may be our armor," she said coolly.

"Did you hear what I said?"

"You can't wait to die, Javlin, can you?"

The bars fell away on the outside of the door, and it opened. The keeper stood there. Ik So Baar had not appeared as he usually did. The creature flung in their armor and weapons and retreated, barring the door again behind him. It never ceased to astonish Javlin that those great dumb brutes of workers had intelligence.

He stooped to pick up his uniform. The girl's looked so light and small. He lifted it, looking from it to her.

"Thank you," she said.

"It looks so small and new."

"I shouldn't want anything heavier."

"You've fought in it?"

"Twice." There was no need to ask whether she had won.

"We'd better get the stuff strapped on, then. We shall know when they are getting ready for us; you'll hear

the arena being filled with water. They're probably saving us for the main events just before noon."

"I didn't know about the two feet of water."

"Scare you?"

"No. I'm a good swimmer. Swam for fish in the river on the slave farm."

"You caught fish with your bare hands?"

"No, you dive down and stab them with a sharp rock. It takes practice."

It was a remembered pleasure. She'd actually swum in one of Earth's rivers. He caught himself smiling back into her face.

"Ik So's place is in the desert," he said, making his voice cold. "Anyhow, you won't be able to swim in the arena. Two foot of muddy stinking water helps nobody. And you'll be chained on to me with a four-foot length of chain."

"Let's get our armor on, then you'd better tell me all you know. Perhaps we can work out a plan of campaign."

As he picked up the combined breastplate and shoulder guard, Awn untied her belt and lifted her dress over her head. Underneath she wore only a ragged pair of white briefs. She commenced to take those off.

Javlin stared at her with surprise — and pleasure. It had been years since he had been within hailing distance of a woman. This one — yes, this one was a beauty.

"What are you doing that for?" he asked. He hardly recognized his own voice.

"The less we have on the better in

that water. Aren't you going to take your clothes off?"

He shook his head. Embarrassed, he fumbled on the rest of his kit. At least she wouldn't look so startling with her breastplate and skirt armor on. He checked his long and short swords, clipping the one into the left belt clip, the other into the right. They were good swords, made by redul armorers to terrestrial specifications. When he turned back to Awn, she was fully accoutred.

Nodding in approval, he offered her a seat on the bench beside him. They clattered against each other and smiled.

Another bout had ended in the arena. The cheers and chirrups drifted through the bars to them.

"I'm sorry you're involved in this," he said with care.

"I was lucky to be involved in it with you." Her voice was not entirely steady, but she controlled it in a minute. "Can't I hear water?"

He had already heard it. An unnatural silence radiated from the great inhuman crowd in the circus as they watched the stuff pour in. It would have great emotional significance for them, no doubt, since they had all lived in water for some years in their previous life stage.

"They have wide-bore hoses," he said. His own voice had an irritating tremor. "The arena fills quite rapidly."

"Let's formulate some sort of plan of attack then. These things, these yillibeeths must have some weaknesses."

"And some strengths! That's what you have to watch for."

"I don't see that. You attack their weak points."

"We shall be too busy looking out for their strong ones. They have long, segmented gray bodies—about twenty segments, I think. Each segment is of chitin or something tough. Each segment bears two legs equipped with razor combs. At tail end and top end they have legs that work like sort of buzz saws, cut through anything they touch. And there are their jaws, of course."

The keepe. was back. Its antennae flopped through the grating and then it unbolted the door and came in. It bore a length of chain as long as the cell was wide. Javlin and Awn did not resist as it locked them together, fitting the bracelets on to Javlin's right arm and Awn's left.

"So." She stared at the chain. "The yillibeeths don't sound to have many weak points: They could cut through our swords with their buzz saws?"

"Correct."

"Then they could cut through this chain. Get it severed near one of our wrists, and the other has a better long distance weapon than a sword. A blow over the head with the end of the chain won't improve their speed. How fast are they?"

"The buzz saws take up most of their speed. They're nothing like as fast as the reduls. No, you could say they were pretty sluggish in movement. And the fact that the two of them will also be chained together should help us."

"Where are they chained?"

"By the middle legs."

"That gives them a smaller arc of destruction than if they were chained by back or front legs. We are going to slay these beasts yet, Javlin! What a murderous genus it must be to put its offspring in the arena for the public sport."

He laughed.

"Would you feel sentimental about your offspring if you had a million babies?"

"I'll tell you that when I've had the first of them. I mean, if I have the first of them."

He put his hand over hers.

"No if. We'll kill the bloody larvae okay."

"Get the chain severed, the one of us with the longest bit of chain goes in for the nearest head, the other fends off the other brute. Right?"

"Right."

There was a worker redul at the outer door now, the door that led to the arena. He flung it open and stood there with a flaming torch, ready to drive them out if they did not emerge.

"We've — come to it then," she said. Suddenly she clung to him.

"Let's take it at a run, love," he said.

Together, balancing the chain between them, they ran towards the arena. The two yillibeeth were coming out from the far side, wallowing and splashing. The crowd stretched up toward the blue sky of earth, whistling their heads off. They didn't know what a man and a woman could do in combination. Now they were going to learn.

END

DOWN TO THE WORLDS OF MEN

BY ALEXEI PANSHIN

ILLUSTRATED BY NODEL

The ancient rule was sink or swim — swim in the miasma of a planet without spaceflight, or sink to utter destruction!

I

The horses and packs were loaded before we went aboard the scoutship. The scout bay is no more than a great oversized airlock with a dozen small ships squatting over their tubes, but it was the last of the Ship that I might ever see, so I took a long final look from the top of the ramp.

There were sixteen of us girls and thirteen boys. We took our places in the seats in the center of the scout. Riggy Allen made a joke that nobody bothered to laugh at, and then we were all silent. I was feeling lost and just beginning to enjoy it when Jimmy Dentremonst came over to me. He's red-headed and has a face that makes him look about ten. An intelligent runt like me.

He said what I expected. "Mia, do you want to go partners if we can get together when we get down?"

I guess he thought that because we were always matched on study I liked him. Well, I did when I wasn't mad at him, but now I had that crack he'd made about being a snob in mind, so I said, "Not likely. I want to come back alive." It wasn't fair, but it was a good crack and he went back to his place without saying anything.

My name is Mia Haverø. I'm fourteen, of course, or I wouldn't be telling this. I'm short, dark and scrawny, though I don't expect that scrawniness to last much longer. Mother is very good looking. In the meantime, I've got brains as a consolation.

After we were all settled, George Fuhonin, the pilot, raised the ramps. We sat there for five minutes while they bled air out of our tube and then we just . . . dropped. My stomach turned flips. We didn't have to leave that way, but George thinks it's fun to be a hot pilot.

Thinking it over, I was almost sorry I'd been stinking to Jimmy D. He's the only competition I have my own age. The trouble is, you don't go partners with the competition, do you? Besides, there was still that crack about being a snob.

The planet chosen for our Trial was called Tintera. The last contact the Ship had had with it — and we were the ones who dropped them — was almost 150 years ago. No contact since. That had made the Council debate a little before they dropped us there, but they decided

it was all right in the end. It didn't make any practical difference to us kids because they never tell you anything about the place they're going to drop you. All I knew was the name. I wouldn't have known that much if Daddy weren't Chairman of the Council.

I felt like crawling in a corner of the ship and crying, but nobody else was breaking down, so I didn't. I did feel miserable. I cried when I said good-bye to Mother and Daddy — a real emotional scene — but that wasn't in public.

It wasn't the chance of not coming back that bothered me really, because I never believed that I wouldn't. The thought that made me unhappy was that I would have to be on a planet for a whole month. Planets make me feel wretched.

The gravity is always wrong, for one thing. Either your arches and calves ache or every time you step you think you're going to trip on a piece of fluff and break your neck. There are vegetables everywhere and little grubby things just looking for *you* to crawl on. If you can think of anything creepier than that, you've got a real nasty imagination. Worst of all, planets stink. Every single one smells — I've been on enough to know that. A planet is all right for a Mud-eater, but not for me.

We have a place in the Ship like that — the Third Level — but it's only a thousand square miles and any time it gets on your nerves you can go up a level or down a level and be back in civilization.

When we reached Tintera, they started dropping us. We swung over the sea from the morning side and then dropped low over gray-green forested hills. Finally George spotted a clear area and dropped into it. They don't care what order you go in, so Jimmy D. jumped up, grabbed his gear and then led his horse down the ramp. I think he was still smarting from the slap I'd given him.

In a minute we were airborne again. I wondered if I would ever see Jimmy — if he would get back alive.

It's no game we play. When we turn fourteen, they drop us on the nearest colonized planet and come back one month later. That may sound like fun to you, but a lot of us never come back alive.

Don't think I was helpless. I'm hell on wheels. They don't let us grow for fourteen years and then kick us out to die. They prepare us. They do figure, though, that if you can't keep yourself alive by the time you're fourteen, you're too stupid, foolish or unlucky to be any use to the Ship. There's sense behind it. It means that everybody on the Ship is a person who can take care of himself if he has to. Daddy says that something has to be done in a closed society to keep the population from decaying mentally and physically, and this is it. And it helps to keep the population steady.

I began to check my gear out — sonic pistol, pickup signal so I could be found at the end of the month, saddle and cinches, food and clothes. Venie Morlock has got a crush on Jimmy D., and when she

saw me start getting ready to go, she began to check her gear, too. At our next landing, I grabbed Ninc's reins and cut Venie out smoothly. It didn't have anything to do with Jimmy. I just couldn't stand to put off the bad moment any longer.

The ship lifted impersonally away from Ninc and me like a rising bird, and in just a moment it was gone. Its gray-blue color was almost the color of the half-overcast sky, so I was never sure when I saw it last.

II

The first night was hell, I guess because I'm not used to having the lights out. That's when you really start to feel lonely, being alone in the dark. When the sun disappears, somehow you wonder in your stomach if it's really going to come back. But I lived through it — one day in thirty gone.

I rode in a spiral search pattern during the next two days. I had three things in mind — stay alive, find people and find some of the others. The first was automatic. The second was to find out if there was a slot I could fit into for a month. If not, I would have to find a place to camp out, as nasty as that would be. The third was to join forces, though not with that meatball Jimmy D.

No, he isn't really a meatball. The trouble is that I don't take nothing from nobody, especially him, and he doesn't take nothing from nobody, especially me. So we do a lot of fighting.

I had a good month for Trial. My birthday is in November — too close to Year End Holiday for my taste, but this year it was all right. It was spring on Tintera, but it was December in the Ship, and after we got back we had five days of Holiday to celebrate. It gave me something to look forward to.

In two days of riding, I ran onto nothing but a few odd-looking animals. I shot one small one and ate it. It turned out to taste pretty good, though not as good as a slice from Hambone No. 4, to my mind the best meat vat on the Ship. I've eaten things so gruey-looking that I wondered that anybody had the guts to try them in the first place and they've turned out to taste good. And I've seen things that looked good that I couldn't keep on my stomach. So I guess I was lucky.

On the third day, I found the road. I brought Ninc down off the hillside, losing sight of the road in the trees, and then reaching it in the level below. It was narrow and made of sand spread over a hard base. Out of the marks in the sand, I could pick out the tracks of horses and both narrow and wide wheels. Other tracks I couldn't identify.

One of the smartest moves in history was to include horses when they dropped the colonies. I say "they" because, while we did the actual dropping, the idea originated with the whole evac plan back on Earth. Considering how short a time it was in which the colonies were established, there was not time to set up industry, so they had to have draft animals.

The first of the Great Ships was finished in 2025. One of the eight, as well as the two that were being built then, went up with everything else in the Solar System in 2041. In that sixteen years 112 colonies were planted. I don't know how many of those planets had animals that *could* have been substituted but, even if they had, they would have had to be domesticated from scratch. That would have been stupid. I'll bet that half the colonies would have failed if they hadn't had horses.

We'd come in from the west over the ocean, so I traveled east on the road. That much water makes me nervous, and roads have to go somewhere.

I came on my first travelers three hours later. I rounded a tree-lined bend, ducking an overhanging branch, and pulled Ninc to a stop. There were five men on horseback herding a bunch of the ugliest creatures alive.

They were green and grotesque. They had squat bodies, long limbs and knobby bulges at their joints. They had square, flat animal masks for faces. But they walked on their hind legs and they had paws that were almost hands, and that was enough to make them seem almost human. They made a wordless, chilling, lowing sound as they milled and plodded along.

I started Ninc up again and moved slowly to catch up with them. All the men on horseback had guns in saddle boots. They looked as nervous as cats with kittens. One of them

had a string of packhorses on a line and he saw me and called to another who seemed to be the leader. That one wheeled his black horse and rode back toward me.

He was a middle-aged man, maybe as old as my Daddy. He was large and he had a hard face. Normal enough, but hard. He pulled to a halt when we reached each other, but I kept going. He had to come around and follow me. I believe in judging a person by his face. A man can't help the face he owns, but he can help the expression he wears on it. If a man looks mean, I generally believe that he is. This one looked mean. That was why I kept riding.

He said, "What be you doing out here, boy? Be you out of your head? There be escaped Losels in these woods."

I told you I hadn't finished filling out yet, but I hadn't thought it was that bad. I wasn't ready to make a fight over the point, though. Generally, I can't keep my bloody mouth shut, but now I didn't say anything. It seemed smart.

"Where be you from?" he asked.

I pointed to the road behind us.

"And where be you going?"

I pointed ahead. No other way to go.

He seemed exasperated. I have that effect sometimes. Even on Mother and Daddy, who should know better.

We were coming up on the others now, and the man said, "Maybe you'd better ride on from here with us. For protection."

He had an odd way of twisting his sounds, almost as though he had

a mouthful of mush. I wondered whether he were just an oddball or whether everybody here spoke the same way. I'd never heard International English spoken any way but one, even on the planet Daddy made me visit with him.

One of the other outriders came easing by then. I suppose they'd been watching us all the while. He called to the hard man.

"He be awfully small, Horst. I doubt me a Losel'd even notice him at all. We mought as well throw him back again."

The rider looked at me. When I didn't dissolve in terror as he expected, he shrugged and one of the other men laughed.

The hard man said to the others, "This boy will be riding along with us to Forton for protection."

I looked down at the plodding, unhappy creatures they were driving along and one looked back at me with dull, expressionless golden eyes. I felt uncomfortable.

I said, "I don't think so."

What the man did then surprised me. He said, "I do think so," and reached for the rifle in his saddle boot.

I whipped my sonic pistol out so fast that he was caught leaning over with the rifle half out. His jaw dropped. He knew what I held and he didn't want to be fried.

I said, "Ease your rifles out and drop them gently to the ground."

They did, watching me all the while with wary expressions.

When all the rifles were on the ground, I said, "All right, let's go."

They didn't want to move. They

didn't want to leave the rifles. I could see that. Horst didn't say anything. He just watched me with narrowed eyes. But one of the others held up a hand and in wheedling tones said, "Look here, kid. . ."

"Shut up," I said, in as mean a voice as I could muster, and he did. It surprised me. I didn't think I sounded *that* mean. I decided he just didn't trust the crazy kid not to shoot.

After twenty minutes of easy riding for us and hard walking for the creatures, I said, "If you want your rifles, you can go back and get them now." I dug my heels into Ninc's sides and rode on. At the next bend I looked back and saw four of them holding their packhorses and the creatures still while one beat a dust-raising retreat down the road.

I put this episode in the "file and hold for analysis" section in my mind and rode on, feeling good. I think I even giggled once. Sometimes I even convince myself that I'm hell on wheels.

III

When I was nine, my Daddy gave me a painted wooden doll that my great-grandmother brought from Earth. The thing is that inside it, nestled one in another, are eleven more dolls, each one smaller than the last. I like to watch people when they open it for the first time.

My face must have been like that as I rode along the road.

The country leveled into a great rolling valley and the trees gave way

to great farms and fields. In the fields, working, were some of the green creatures, which surprised me since the ones I'd seen before hadn't seemed smart enough to count to one, let alone do any work.

But it relieved me. I thought they might have been eating them or something.

I passed two crossroads and started to meet more people, but nobody questioned me. I met people on horsback, and twice I met trucks moving silently past. And I overtook a wagon driven by the oldest man I've seen in my life. He waved to me, and I waved back.

Near the end of the afternoon I came to the town, and there I received a jolt that sickened me.

By the time I came out on the other side, I was sick. My hands were cold and sweaty and my head was spinning, and I wanted to kick Ninc to a gallop.

I rode slowly in, looking all around, missing nothing. The town was all stone, wood and brick. Out of date. Out of time, really. There were no machines more complicated than the trucks I'd seen earlier. At the edge of town, I passed a newspaper office with a headline pasted in the window — INVASION! I remember that. I wondered about it.

But I looked most closely at the people. In all that town, I didn't see one girl over ten years old and no grown-up women at all. There were little kids, there were boys and there were men, but no girls. All the boys and men wore pants, and so did I, which must have been why Horst and his buddies assumed I was

a boy. It wasn't flattering; but I decided I'd not tell anybody different until I found what made the clocks tick on this planet.

But that wasn't what bothered me. It was the kids. My God! They swarmed. I saw a family come out of a house — a father and *four* children. It was the most foul thing I've ever seen. It struck me then — these people were Free Birthers! I felt a wave of nausea and I closed my eyes until it passed.

The first thing you learn in school is that if it weren't for idiot and criminal people like these, Earth would never have been destroyed. The evacuation would never have had to take place, and eight billion people wouldn't have died. There wouldn't have *been* eight billion people. But, no. They bred and they spread and they devoured everything in their path like a cancer. They gobbled up all the resources that Earth had and crowded and shoved one another until the final war came.

I am lucky. My great-great-grandparents were among those who had enough foresight to see what was coming. If it hadn't been for them and some others like them, there wouldn't be any humans left anywhere. And I wouldn't be here. That may not scare you, but it scares me.

What happened before, when people didn't use their heads and wound up blowing the Solar System apart, is something nobody should forget. The older people don't let *us* forget. But these people had, and that the Council should know.

For the first time since I landed on Tintera, I felt *really* frightened. There was too much going on that I didn't understand. I felt a blind urge to get away, and when I reached the edge of town, I whomped Ninc a good one and gave him his head.

I let him run for almost a mile before I pulled him down to a walk again. I couldn't help wishing for Jimmy D. Whatever else he is, he's smart and brains I needed.

How do you find out what's going on? Eavesdrop? That's a lousy method. For one thing, people can't be depended on to talk about the things you want to hear. For another, you're likely to get caught. Ask somebody? Who? Make the mistake of bracing a fellow like Horst and you might wind up with a sore head and an empty pocket. The best thing I could think of was to find a library, but that might be a job.

I'd had two bad shocks on this day, but they weren't the last. In the late afternoon, when the sun was starting to sink and a cool wind was starting to ripple the tree leaves, I saw the scoutship high in the sky. The dying sun colored it a deep red. Back again? I wondered what had gone wrong.

I reached down into my saddlebag and brought out my contact signal. The scoutship swung up in the sky in a familiar movement calculated to drop the stomach out of everybody aboard. George Fuhonin's style. I triggered the signal, my heart turning flips all the while. I didn't know why he was back, but I wasn't really sorry.

The ship swung around until it was coming back on a path almost over my head, going in the same direction. Then it went into a slip and started bucking so hard that I knew this wasn't hot piloting at all, just plain idiot stutter-fingered stupidity at the controls. As it skidded by me overhead, I got a good look at it and knew that it wasn't one of ours. Not too different, but not ours.

One more enigma. Where was it from? Not here. Even if you know how, and we wouldn't tell these Mud-eaters how, a scoutship is something that takes an advanced technology to build.

I felt defeated and tired. Not much farther along the road, I came to a campsite with two wagons pulled in for the night, and I couldn't help but pull in myself. The campsite was large and had two permanent buildings on it. One was a well enclosure and the other was little more than a high-walled pen. It didn't even have a roof.

I set up camp and ate my dinner. In the wagon closest to me were a man, his wife and their three children. The kids were running around and playing, and one of them ran close to the high-walled pen. His father came and pulled him away.

The kids weren't to blame for their parents, but when one of them said hello to me, I didn't even answer. I know how lousy I would feel if I had two or three brothers and sisters, but it didn't strike me until that moment that it wouldn't even seem out of the ordinary to these kids. Isn't that horrible?

About the time I finished eating, and before it grew dark, the old man I had seen earlier in the day drove his wagon in. He fascinated me. He had white hair, something I had read about in stories but had never seen before.

When nightfall came, they started a large fire. Everybody gathered around. There was singing for awhile, and then the father of the children tried to pack them off to bed. But they weren't ready to go, so the old man started telling them a story. In the old man's odd accent, and sitting there in the campfire light surrounded by darkness, it seemed just right.

It was about an old witch named Baba Yaga who lived in the forest in a house that stood on chicken legs. She was the nasty stepmother of a nice little girl, and to get rid of the kid, she sent her on a phony errand into the deep dark woods at nightfall. I could appreciate the poor girl's position. All the little girl had to help her were the handkerchief, the comb and the pearl that she had inherited from her dear dead mother. But, as it turned out, they were just enough to defeat nasty old Baba Yaga and bring the girl safely home.

I wished for the same for myself.

The old man had just finished and they were starting to drag the kids off to bed when there was a commotion on the road at the edge of the camp. I looked but my eyes were adjusted to the light of the fire and I couldn't see far into the dark.

A voice there said, "I'll be damned if I'll take another day like this one,

Horst. We should have been here hours ago. It be your fault we're not."

Horst growled a retort. I decided that it was time for me to leave the campfire. I got up and eased away as Horst and his men came up to the fire, and cut back to where Ninc was parked. I grabbed up my blankets and mattress and started to roll them up. I had a pretty good idea now what they used the high-walled pen for.

I should have known that they would have to pen the animals up for the night. I should have used my head. I hadn't and now it was time to take leave.

I never got the chance.

I was just heaving the saddle up on Ninc when I felt a hand on my shoulder and I was swung around.

"Well, well. Horst, look who we have here," he called. It was the one who'd made the joke about me being beneath the notice of a Losel. He was alone with me now, but with that call the others would be up fast.

I brought the saddle around as hard as I could and then up, and he went down. He started to get up again, so I dropped the saddle on him and reached inside my jacket for my gun. Somebody grabbed me then from behind and pinned my arms to my side.

I opened my mouth to scream — I have a good scream—but a rough smelly hand clamped down over it before I had a chance to get more than a lungful of air. I bit down hard — 5000 lbs. psi, I'm told — but he

didn't let me go. I started to kick, but Horst jerked me off my feet and dragged me off.

When we were behind the pen and out of earshot of the fire, he stopped dragging me and dropped me in a heap. "Make any noise," he said, "and I'll hurt you."

That was a silly way to put it, but somehow it said more than if he'd threatened to break my arm or my head. It left him a latitude of things to do if he pleased. He examined his hand. There was enough moonlight for that. "I ought to club you anyway," he said.

The one I'd dropped the saddle on came up then. The others were putting the animals in the pen. He started to kick me, but Horst stopped him.

"No," he said. "Look through the kid's gear, bring the horse and what we can use."

The other one didn't move. "Get going, Jack," Horst said in a menacing tone and they stood toe to toe for a long moment before Jack finally backed down. It seemed to me that Horst wasn't so much objecting to me being kicked, but was rather establishing who did the kicking in his bunch.

But I wasn't done yet. I was scared, but I still had the pistol under my jacket.

Horst turned back to me and I said, "You can't do this and get away with it."

He said, "Look, boy. You may not know it, but you be in a lot of trouble. So don't give me a hard time."

He still thought I was a boy. It

was not time to correct him, but I didn't like to see the point go unchallenged. It was unflattering.

"The courts won't let you get away with this," I said. I'd passed a courthouse in the town with a carved motto over the doors: EQUAL JUSTICE UNDER THE LAW or TRUTH OUR SHIELD AND JUSTICE OUR SWORD or something stuffy like that.

He laughed, not a phony, villain-type laugh, but a real laugh, so I knew I'd goofed.

"Boy, boy. Don't talk about the courts. I be doing you a favor. I be taking what I can use of your gear, but I be letting you go. You go to court and they'll take everything and lock you up besides. I be leaving you your freedom."

"Why would they be doing that?" I asked. I slipped my hand under my jacket.

"Every time you open your mouth you shout that you be off one of the Ships," Horst said. "That be enough. They already have one of you brats in jail in Forton."

I was about to bring my gun out when up came Jack leading Ninc, with all my stuff loaded on. I mentally thanked him.

He said, "The kid's got some good equipment. But I can't make out what this be for." He held out my pickup signal.

Horst looked at it, then handed it back. "Throw it away," he said.

I leveled my gun at them — Hell on Wheels strikes again! I said, "Hand that over to me."

Horst made a disgusted sound.

"Don't make any noise," I said,

"or you'll fry. Now hand it over."

I stowed it away, then paused with one hand on the leather horn of the saddle. "What's the name of the kid in jail in Forton."

"I can't remember," he said. "But it be coming to me. Hold on."

I waited. Then suddenly my arm was hit a numbing blow from behind and the gun went flying. Jack pounced after it and Horst said, "Good enough," to the others who'd come up behind me.

I felt like a fool.

Horst stalked over and got the signal. He dropped it on the ground and said in a voice far colder than mine could ever be, because it was natural and mine wasn't, "The piece be yours." Then he tromped on it until it cracked and fell apart.

Then he said, "Pull a gun on me twice. Twice." He slapped me so hard that my ears rang. "You dirty little punk."

I said calmly, "You big louse."

It was a time I would have done better to keep my mouth shut. All I can remember is a flash of pain as his fist crunched against the side of my face and then nothing.

Brains are no good if you don't use them.

IV

I remember pain and sickness, and motion, but my next clear memory is waking in a bed in a house. I had a feeling that time had passed but how much I didn't know. I looked around and found the old man who had told the story sitting by my bed.



NODEL

"How be you feeling this morning, young lady?" he asked. He had white hair and a seamed face and his hands were gnarled and old. His face was red, and the red and the white of his hair made a sharp contrast with the bright blue of his deep-set eyes. It was a good face.

"Not very healthy," I said. "How long has it been?"

"Two days," he said. "You'll get over it soon enough. I be Daniel Kutsov. And you?"

"I'm Mia Haverø."

"I found you dumped in a ditch after Horst Fanger and his boys had left you," he said. "A very unpleasant man . . . as I suppose he be bound to be, herding Losels."

"Those green things were Losels? Why are they afraid of them?"

"The ones you saw beed drugged. They wouldn't obey otherwise. Once in awhile a few be stronger than the drug and they escape to the woods. The drug cannot be so strong that they cannot work. So the strongest escape. They be some danger to most people, and a great danger to men like Horst Fanger who buy them from the ships. Every so often, hunters go out to thin them down."

"That seems like slavery," I said, yawning.

It was a stupid thing to say, like some comment about the idiocy of a Free Birth policy. Not the sentiment, but the timing.

Mr. Kutsov treated the comment with more respect than it deserved. "Only God can decide a question like that," he said gently. "Be it slavery to use my horses to work

for me? I don't know anyone who would say so. A man be a different matter, though. The question be whether a Losel be like a horse or like a man, and that I can't answer. Now go to sleep again and in a while I will bring you some food."

He left then, but I didn't go to sleep. I was in trouble. I had no way to contact the scoutship. There was only one way out, and that was to find somebody else who did have his signal. That wasn't going to be easy.

Mr. Kutsov brought me some food later in the day, and I asked him then, "Why are you doing all this for me?"

He said, "I don't like to see children hurt, by people like Horst Fanger or by anyone."

"But I'm from one of the Ships," I said. "You know that, don't you?"

Mr. Kutsov nodded. "Yes, I know that."

"I understand that is pretty bad around here."

"With some people, true. But all the people who hate the Ships don't realize that if it beedn't for the Ships they wouldn't be here at all. They hold their grudge too close to their hearts. There be some of us who disagree with the government though it has lost us our families or years from our lives, and we would not destroy what we cannot agree with. When such an one as Horst Fanger uses this as an excuse to rob and injure a child, I will not agree. He has taken all that you have and there is no way to reclaim it, but what I can give of my house be yours."

I thanked him as best I could and then I asked him what the grudge was that they held against the Ships.

"It ben't a simple thing," he said. "You have seen how poor and backward we be. We realize it. Now and again, when you decide to stop, we see you people from the Ships. And you ben't poor or backward. You could call what we feel jealousy, if you wanted, but it be more than that and different. When we beed dropped here, there beed no scientists or technicians among us. I can understand. Why should they leave the last places where they had a chance to use and develop their knowledge for a backward planet where there is no equipment, no opportunity? What be felt here be that all the men who survived the end of Earth and the Solar System be the equal heirs of man's knowledge and accomplishment. But by bad luck, things didn't work out that way. So ideas urged by the Ships be ignored, and the Ships be despised, and people from the Ships be treated as shamefully as you have beed or worse."

I could think of a good example of an idea that the Ships emphasized that had been ignored. Only it was more than an idea or an opinion. It was a cold and deadly lesson taught by history. It was: Man becomes an organism that ultimately destroys itself unless he regulates his own size and growth. That was what I was taught.

I said, "I can understand how they might feel that way, but it's not fair. We pretty much support ourselves.

As much as we can, we re-use things and salvage things, but we still need raw materials. The only thing we have to trade is knowledge. If we didn't have anything to trade for raw materials, that would be the end of us. Do we have a choice?"

"I don't hold you to blame," Mr. Kutsov said slowly, "but I can't help but to feel that you have made a mistake and that it will hurt you in the end."

I didn't say it, but I thought — when you lay blame, whom do you put it on? People who are obviously sick like these Mud-eaters, or people who are normal like us?

After I got better, I had the run of Mr. Kutsov's house. It was a small place near the edge of Forton, surrounded by trees and with a small garden. Mr. Kutsov made a regular shipping run through the towns to the coast and back every second week. It was not a profitable business, but he said that at his age, profit was no longer very important. He was very good to me, but I didn't understand him.

He gave me lessons before he let me go outside into the town. Women were second class citizens around here, but prejudice of that sort wasn't in Mr. Kutsov. Dressed as I was, as scrawny as I am, when people saw me here, they saw a boy. People see what they expect to see. I could get away with my sex, but not my accent. I might sound right on seven Ships and on 111 other planets, but here I was wrong. And I had two choices — sound right or shut up. One of these choices was impossible for me. so I

set out to learn to sound like a Tinteran, born and bred, with Mr. Kutsov's aid.

It was a long time before he was willing to give me a barely passing grade. He said, "All right. You should keep listening to people and correcting yourself, but I be satisfied. You talk as though you have a rag in your mouth, but I think you can get by."

Before I went out into town, I found out one more important thing. It was the answer to a question that I didn't ask Mr. Kutsov. I'd been searching for it in old newspapers, and at last I found the story I was looking for. The last sentence read: "After sentencing, Dentermount was sent to the Territorial Jail in Forton to serve his three-month term."

I thought, they misspelled his name. And then I thought, trust it to be Jimmy D. He gets in almost as much trouble as I do.

Though you may think it strange, my first stop was the library.

I've found that it helps to be well-researched. I got what I could from Mr. Kutsov's books during the first days while he was outdoors working in his garden. In his library, I found a novel that he had written himself called *The White Way*.

He said, "It took me forty years to write it, and I have spent forty-two years since living with the political repercussions. It has been an interesting forty-two years, but I am not sure that I would do it again. Read the book if you be interested."

I did read it, though I couldn't

understand what the fuss was about. It seemed reasonable to me. But these Mud-eaters were crazy anyway. I couldn't help but think that he and Daddy would have found a lot in common. They were both fine, tough-minded people, and though you would never know it to look at them, they were the same age. Except that at the age of eighty Mr. Kutsov was old, and at the age of eighty Daddy was not.

It cost me an effort to walk through the streets of Forton, but after my third trip, the pain was less, though the number of children still made me sick.

In the library, I spent four days getting a line on Tintera. I read their history. I studied their geography and, as sneakily as I could, I tore out the best local maps I could find.

On my trips through town, I took the time to look up Horst Fanger's place of business. It was a house, a shed and pen for the Losels, a stable, a truck garage (one truck — broken down) and a sale block, all house in one rambling, shanty building. Mr. Horst Fanger was apparently a big man. Big deal.

When I was ready, I scouted out the jail. It was a raw unpleasant day, the sort that makes me hate planets, and rain was threatening when I reached the jailpen. It was a solid three-story building of great stone blocks, shaped like a fortress and protected by bars, an iron-spike fence and two nasty-looking dogs. On my second trip around, the rain began. I beat it to the front and dodged in the entrance.

I was standing there, shaking the rain off, when a man in a green uniform came stalking out of one of the offices that lined the first-floor hallway. My heart stopped for a moment, but he went right by without giving me a second look and went upstairs. That gave me some confidence and so I started poking around.

I had covered the bulletin boards and the offices on one side of the hall when another man in green came into the hall and made straight for me. I didn't wait, I walked toward him, too. I said, as wide-eyed and innocent as I could, "Can you help me, sir?"

"Well, that depends. What sort of help do you need?" He was a big, rather slow man with one angled cloth bar on his shirt front over one pocket and a plate that said ROBARDS pinned over the pocket on the other side. He seemed good-natured.

I said, "Jerry had to write about the capital, and Jimmy got the Governor, and I got you."

"Hold on there. First, what be your name?"

"Billy Davidow," I said. "I don't know what to write, sir, and I thought you could show me around and tell me things."

"I be sorry, son," he said. "We be pretty caught up today. Could you make it some other afternoon or maybe some evening?"

I said slowly, "I have to hand the paper in this week."

After a minute, he said, "All right. I'll take you around. But I

can't spare much time. It'll have to be a quick tour."

The offices were on the first floor. Storage rooms, an arms room and a target range were in the basement. Most of the cells were on the second floor, with the very rough cases celled on the third.

"If the judge says maximum security, they go on the third, everybody else on the second unless we have an overflow. Have a boy upstairs now."

My heart sank.

"A real bad actor. Killed a man."

Well, that wasn't Jimmy. Not with a three-month sentence.

Maximum security had three sets of barred doors plus an armed guard. Sgt. Robards pointed it all out to me. "By this time next week, it will all be full in here," he said sadly. "The Governor has ordered a round-up of all political agitators. The Anti-Redemptionists be getting out of hand and he be going to cool them off. Uh, don't put that in your paper."

"Oh, I won't," I said, crossing off on my notes.

The ordinary cells on the second floor were behind no barred doors and I got a guided tour. I stared Jimmy D. right in the face, but he had the brains to keep his mouth shut.

When we had finished, I thanked Sgt. Robards enthusiastically. "It sure has been swell, sir."

"Not at all, son," he said. "I enjoyed it myself. If you have time some evening, drop by when I have the duty. My schedule bees on the bulletin board."

"Thank you, sir," I said. "Maybe I will."

V

Before I scouted the jail I had only vague notions of what I was going to do to spring Jimmy D. I had spent an hour or so, for instance, toying with the idea of forcing the Territorial Governor to release Jimmy at the point of a gun. I spent that much time with it because the idea was fun to think about, but I dropped it because it was stupid.

I finally decided on a very simple course of action, one that could easily go wrong. It was my choice because it was the only thing I could pull off by myself that had a chance of working.

Before I left the jail building, I copied down Sgt. Robards' duty schedule from the bulletin board. Then I went home.

I spent the next few days shoplifting. Mr. Kutsov was laying in supplies, too, loading his wagon for his regular trip. I helped him load up, saving my shopping for my spare time. Mr. Kutsov wanted me to go along with him, but I couldn't, of course, and I couldn't tell him why. He didn't want to argue and he couldn't *make* me do anything I didn't want to do, so I had an unfair advantage. I just dug in my heels.

Finally he agreed it was all right for me to stay alone in the house while he was gone. It was what I wanted, but I didn't enjoy the process of getting my own way as much

as I did at home. There it is a more even battle.

The day he picked to leave was perfect for my purposes. Mr. Kutsov said, "I'll be back in six days. Be you sure that you will be all right?"

I said, "Yes. I'll be careful. You be careful, too."

"I don't think it matters much any more at my age," he smiled. "Stay out of trouble."

"I'll try," I said, and waved goodbye. That was what I meant to do, stay out of trouble.

Back in the house, I wrote a note of explanation for Mr. Kutsov and thanked him for all he had done. Then I dug my two small packs out of hiding and I was ready.

I set out just after dark. It was sprinkling lightly, but I didn't mind it. It surprised me, but I enjoyed the feel of the spray on my face. In one pocket I had pencil and paper for protective coverage. In another pocket I had a single sock and a roll of tape.

Just before I got to the jail, I filled the sock with wet sand.

Inside there were lights on in only two first floor offices. Sgt. Robards was in one of them.

"Hello, Sgt. Robards," I said, going in. "How be you tonight?"

"Well enough," he said. "It be pretty slow down here tonight. They be busy up on the Third Floor tonight, though."

"Oh?"

"They be picking up those Anti-Redemptionists tonight. How did your paper go?"

"I handed it in," I said. "I should

get a good grade with your help.”

“Oh, you found out everything you needed to know.”

“Oh, yes. I just came by to visit tonight. I wondered if you’d show me the target range again. That was keen.”

“Sure,” he said. “Would you like to see me pop some targets? I be the local champion, you know.”

“Gee, would you?”

We went downstairs, Sgt. Robards leading the way. This was the place I’d picked to drop him. He was about to slip the key in the door to the range when I slugged him across the back of the neck with my sock full of sand. I grabbed him and eased him down.

I tried the keys on either side of the target door key and opened the arsenal on the second try. I dragged him in there and got out my roll of tape I took three quick turns about his ankles, then did the same with his wrists. I finished by putting a bar and two crosspieces over the mouth.

I picked out two weapons then. They had no sonics, of course, so I picked out two of the smallest and lightest pistols in the room. I figured out what cartridges fit them, and then dropped guns and cartridge clips into my pocket.

I swung the door shut and locked it again, leaving Sgt. Robards inside. I stood for a moment in the corridor with the keys in my hand. There were only ten keys, not enough to cover each individual cell. Yet Sgt. Robards had clinked these keys and said that he could unlock the cells.

Maybe I would have done better to stick up the Territorial Governor.

Well, here goes.

I eased up to the first floor. Nobody came out of the second office to check on the noise made by my pounding heart, which surprised me. Then up to the second floor. It was dark here, but light from the first and third floors leaking up and down the stairs made things bright enough for me to see what I was doing. There were voices on the third floor and somebody laughed up there. I held my breath and moved quietly to Jimmy’s cell.

I whispered, “Jimmy!” and he came alert and moved to the door.

“Am I glad to see you,” he whispered back.

I held up the keys. “Do any of these fit?”

“Yes, the D key. The D key. It fits the four cells in this corner.”

I fumbled through until I had the key tagged D. I opened the cell with as few clinking noises as possible. “Come on,” I said. “We’ve got to get out of here in a hurry.”

He slipped out and pushed the door shut behind him. We headed for the stairs and were almost there when I heard somebody coming up. Jimmy must have heard it, too, because he grabbed my arm and pulled me back. We flattened out as best we could.

Talk about walking right into it! The policeman looked over at us and said, “What are you doing up here, Robards? Hey, you’re not. . .”

I stepped out and brought out one of the pistols. I said, “Easy now. If things go wrong for us, I have noth-

ing to lose by shooting you. If you want to live, play it straight."

He apparently believed me, because he put his hands where I could see them and shut up.

I herded him into Jimmy's cell and let Jimmy do the honors with the loaded sock. We taped him up and while Jimmy was locking him in, I heard somebody in one of the cells behind me say, "Shut up, there," to somebody else. I turned and said, "Do you want to get shot?"

The voice was collected. "No. No trouble here."

"Do you want to be let out?"

The voice was amused. "I don't think so. Thank you just the same."

Jimmy finished and I asked, "Where is your signal? We have to have that."

"In the basement with the rest of my gear."

The signal was all we took. When we were three blocks away and on a dark side street, I handed Jimmy his gun and ammunition. As he took them, he said, "Tell me something, Mia. Would you really have shot him?"

I said. "I couldn't have. I hadn't loaded my gun yet."

I led him through town following the back ways I'd worked out before. Somebody once said that good luck is no more nor less than careful preparation, and this time I meant to have good luck. I led Jimmy toward the Losel-selling district.

Jimmy is short and red-headed with a face that makes him look about four years younger than he is.

That's a handicap any time. When you stand out anyway, it's likely to make you a little bit tart. But Jimmy's all right most of the time.

He said, "We're in trouble."

"That's brilliant."

"No," Jimmy said. "They have a scoutship from one of the other Ships. This is going to sound wild, but they intend to use the scout to take over a Ship and then use that to destroy the rest of the Ships. They're going to try. The police are rounding up everybody who is opposed who has any influence and is putting them in jail."

"So what?"

"Mia, are you mad at me for something?"

"What makes you think so?"

"You're being bitter about something."

"If you must know, it's that crack you made about me being a snob."

"That was a month ago."

"I still resent it."

"Why?" Jimmy asked. "It's true. You think that because you're from a Ship that you're automatically better than any Mud-eater. That makes you a snob."

"Well, you're no better," I said.

"Maybe not, but I don't pretend. Hey, look, we can't get anywhere if we fight and we've got to stick together. I'll tell you what. I'll apologize. I'm sorry I said it, even if it is true. Make up?"

"Okay," I said. But that was a typical trick of his. Get the last blow in and then call the whole thing off.

When we got to Horst Fanger's place, I said, "I've got our packs all set up. This is where we get our

horses." I'd left this until last, not wanting people running around looking for stolen horses while I was trying to break somebody out of the police jail pen. Besides, for this I wanted somebody along as lookout.

There was a fetid, unwashed odor that hung about the pens that the misting rain did nothing to dispel. We slipped by the pens, the Losels watching us but making no noise, and came to the stables, which smelled better. Jimmy stood guard while I broke the lock and slipped inside.

Ninc was there, good old Nincompoop, and a quick search turned up his saddle as well. I saddled him up and then stood watch while Jimmy picked himself out a horse and gear. I did one last thing before I left. I took out the pencil and paper in my pocket and wrote in *correct* Inter E, in great big letters: I'M A GIRL, YOU STINKER. I hung it on a nail. It may have been childish, but it felt good.

We rode from there to Mr. Kutsov's house, still following back alleys. As we rode, I told Jimmy about Mr. Kutsov and what he'd done for me.

When we got there, we rode around to the back.

"Hold the horses," I said. "I'll slip in and get the packs. They're just inside."

We both dismounted and Jimmy took Ninc's reins. I bounded up the steps.

Mr. Kutsov was waiting in the dark inside. He said, "I read your note."

"Why did you come back?" I asked.

He smiled. "It didn't seem right to leave you here by yourself. I be sorry. I think I underestimated you. Be that Jimmy Dentremont outside?"

"You're not mad?"

"No. I ben't angry. I understand why you couldn't tell me."

For some reason, I started crying and couldn't stop. The tears ran down my face. "I'm sorry," I said. "I'm sorry."

The front door signal sounded then and Mr. Kutsov answered the door. A green-uniformed policeman stood in the doorway. "Daniel Kutsov?" he asked.

Instinctively, I shrank back out of sight of the doorway. I swiped at my face with my sleeve.

Mr. Kutsov said, "Yes. What can I do for you?"

The policeman moved one step inside the house where I could see him again. He said in a flat voice, "I have a warrant for your arrest."

There was only one light on in the house, in the front room. From the shadows at the rear I watched them both. The policeman had a hard mask for a face, no more human than a Losel. Mr. Kutsov was determined and I had the feeling that he had forgotten my presence.

"To jail again? For my book?" He shook his head. "No."

"It be nothing to do with any book I know of, Kutsov. It be known that you be an Anti-Redemptionist. So come along." He grasped Mr. Kutsov's arm.

Mr. Kutsov shook loose. "No. I won't go to jail again. It be no crime to be against stupidity. I won't go."

The policeman said "You be coming whether you want to or not. You be under arrest."

Mr. Kutsov's voice had never shown his age before, but it shook now. "Get out of my house!"

A sense of coming destruction grew on me as I saw the policeman lift his gun from its holster and say, "You be coming if I have to shoot."

Mr. Kutsov swung his fist at the policeman and missed and, as though the man could afford to let nothing pass without retaliation, he swung the barrel of his pistol dully against the side of Mr. Kutsov's head. It rocked Mr. Kutsov, but he didn't fall. He raised his fist again. The policeman struck once more and waited but Mr. Kutsov still didn't fall. Instead, he swung again, and for the first time he landed, a blow that bounced weakly off the man's shoulder. Almost inevitably, it seemed, the policeman raised his pistol and fired directly at Mr. Kutsov, and then again, and as the second report rang Mr. Kutsov slid to the floor.

The silence was loud and gaunt. The policeman stood looking down at him and said, "Old fool!" under his breath. Then he came to himself and looked around. Then he picked a candlestick off the table and dropped it with a thud by Mr. Kutsov's empty outstretched hand.

The noise was a release for me and I moved for the first time. The policeman grunted and looked up

and we stared at each other. Then again, slowly, he raised his gun and pointed it at me.

I heard a snickering sound and the three reports rang out, one following another. The policeman stood for a moment, balanced himself and then, like a crumpled sheet of paper, he fell to the floor. I didn't even look at Jimmy behind me. I started to cry and I went to Mr. Kutsov, passing by the policeman without even looking at him. As I bent down beside him, his eyes opened and he looked at me.

I couldn't stop crying. I held his head and cried. "I'm sorry," I said. "I'm sorry."

He smiled and said faintly, but clearly, "It be all right." After a minute he closed his eyes, and then he died.

After another minute, Jimmy touched my arm and said, "There's nothing we can do. Let's leave now, Mia, while we still can."

Outside, it was still raining. Standing in the rain I felt deserted.

VI

The final morning on Tintera was a fine day. We and the horses were in a rock-enclosed aerie where we had dodged the day before for shelter. In the aerie were grass and a small rock spring, and this day, the final day, was bright with blue and piled clouds riding high.

From where we sat, looking from the top of the rock wall, we could see over miles of expanse. Lower hills and curving valleys all covered

with a rolling carpet of trees, a carpet of varying shades of gray and green. There were some natural upland meadows, and clearings in the valleys, and far away a line drawn in the trees that might be the path of a river. Down there, under that carpet, were all sorts of things — wild Losels, men hunting us, and— perhaps — some of the others from the Ship. We had seen the Losels and they had seen us; they had gone their way and we had gone ours. The men hunting us for blowing up their scoutship we hadn't seen for four days, and even then they hadn't seen us. As for the others, we hadn't seen them at all. But they might be there, under the anonymous carpet.

Jimmy got up from the ground and brushed himself off. He brought the signal over to me and said, "Should I. or do you want to?"

"Go ahead," I said.

He triggered it.

George Fuhonin was piloting and we were the sixth and seventh aboard. The other five crowded around and helped us put our gear away. Jimmy went on inside and I went upstairs to talk to George.

I was up there by the time we were airborne. "Hello, Halfpint," George said.

"Hi, Georgie-Worgie," I said, dealing blow for blow. "Have you had any trouble picking us up?"

"No trouble yet. You trying to wish me problems?"

"No," I said. "This is a real nasty planet. They had Jimmy D. locked up in jail. They hate everybody from the Ships."

"Oh." George raised his eyebrows.

"Well, that might explain the board." He pointed to the board of lights above and to his left. Twenty-nine were marked for the twenty-nine of us. Of the twenty-nine, only twelve were lit. "The last light came on two hours ago. If there aren't any more, this will be the most fatal Triab Group I've ever picked up."

I stayed upstairs through two more pickups. Joe Fernandez-Fragoso, and then another double of which Venie Morlock was one half. I went downstairs to say hello to her:

We were just settling down when George set off the alarm. He was speaking in the elder brother tone that I can't stand.

"All right, kids — shut up and listen. One of our people is down there. I didn't get close enough to see who. Whoever it is is surrounded by some of the local peasantry and we've got to bust him out. I'm going to buzz down and try to land on some of them. Then I want all of you outside and laying down a covering fire. Got that? I'm starting on down now."

Some of the kids had their weapons with them, but Jimmy and I didn't. We hopped for the gear racks and got out our pistols. There were ten of us and four ramps to the outside. Jimmy and I had No. 3 to ourselves. George is a hotrodder, as I've said, and after he gave us a long moment to get in place, he started down, a stomach-heaving swoop. Then he touched down light as a feather and dropped the ramps.

Jimmy and I dived down the

ramp and I went left and he went right. We were on a slight slope facing down and my momentum and the slant put me right where I wanted to be — flat on my face. I rolled behind a tree and looked over to see Jimmy almost hidden in a bush.

Here, hundreds of miles from where we had been picked up, it was misting under a familiar rolled gray sky. In my ears was the sound of gunfire from the other side of the ship and from below us. Our boy was pinned fifty yards down the slope behind some rocks that barely protected him. He was fighting back. I could see the sighting beam of his sonic pistol slapping out. About thirty feet away from him toward us was the body of his horse. I recognized him then — a meatball named Riggy Allen.

I took all this in in seconds, and then I raised my pistol and fired, aiming at his attackers. They were dug in behind trees and rocks, at least partly hidden from Riggy as he was hidden from them. From where we were, though, above and looking down, they could be picked out. The distance was too great for my shot and it plowed up earth ten feet short, but the man I aimed at ducked back behind cover.

There was a certain satisfaction in one of these guns. Where a sonic pistol is silent, these made enough noise that you knew you were doing something. And when you missed with a sonic pistol, all you could expect at most was a shriveled branch or a sere and yellow leaf, but a miss with this gun could send up a gout of earth or drive a hole in a tree

big enough to scare the steadiest man you can find.

I aimed higher and started to loft my shots in. Jimmy was doing the same thing, and the net effect was to keep their heads down. Riggy finally got the idea after a long moment. He stood up and started racing up the hill. Then my gun clicked empty, and a second later the firing to my right stopped. I started to fumble for another clip.

As our fire stopped, those heads popped back up again and took in the situation. They began to fire again and our boy Riggy took a long step and then dived over the body of his horse and went flat.

In a moment I was firing again, and then Jimmy was, too, and Riggy was up and running again. Then I started thinking clearly and held my fire while Jimmy emptied his clip. The instant he stopped, I started again, a regular squeeze, squeeze, squeeze. As I finished, Jimmy opened with his new clip and then Riggy was past us and up the ramp. He went flat in the doorway there and started firing his sonic pistol; its range was greater than our peashooters and he hosed the whole area down while Jimmy and I sprinted for the ramp.

As we hit the inside of the ship, I yelled, "Raise No. 3!" George had either been watching or listening, because it lifted smoothly up and locked in place.

Shots were still coming from the other sides of the ship, so I yelled at Jimmy to go left. Riggy just stood there for a moment fuzzy-headed,

but Jimmy gave him a shove to the right and he finally got the idea. I cut through the middle. In the doorway of No. 1, I skidded flat on my face again and looked for targets. I dropped all my clips in front of me and began to fire. When the clip was empty, in two quick motions I pulled out the old one and slapped in the new and fired again. The three I was covering for used their heads and slipped in one at a time.

As the second one came aboard, I heard Jimmy's voice call to raise No. 2 from my left. My third was Venie Morlock and as she ran aboard, I couldn't resist tripping her flat. I yelled to George to raise No. 1.

Venie glared at me and demanded, "What was that for?" as the ramp swung up.

"Just making sure you didn't get shot," I said, lying.

A second later, Riggy yelled that his side was okay and the last ramp was raised. My last view of Tintera was of a rainsoaked hillside and men doing their best to kill us, which all seems appropriate somehow. As the last ramp locked in place, George lifted the ship again and headed for the next pickup.

I went over to say hello to Riggy. He'd been completely unhurt by the barrage, but he had a great gash on his arm that was just starting to heal. He said that he was minding his own business in the woods one day when a Losel jumped out from behind a bush and slashed him. That may sound reasonable to you, but you don't know Riggy. I do. My opinion is that it was probably the other way around —the Losel was walking along in the woods one day, minding his own business, when Riggy jumped out from a bush and scared him. That is the sort of thing Riggy is inclined to do.

Riggy had been sneaking a look at my gun, and now he said, "Where did you get that neat pistol? Let me see it."

I handed it over.

After a minute of inspection, Riggy asked, "You wouldn't want to trade, would you?"

"For your sonic pistol?"

"Yes. You want to?"

I considered it for a minute, and then I said, "All right," and we traded. There is a certain amount of satisfaction in shooting an antique like that, but I know which is the

Clifford D. Simak's Finest Science-Fiction Novel

HERE GATHER THE STARS

begins in the current (June) issue of *Galaxy*, plus stories and features by Keith Laumer, Gordon R. Dickson, Willy Ley and others. June issue still on sale — get your copy today!

more effective weapon. Besides, I only had one full clip of ammunition left.

There is a certain amount of prestige in coming back alive from Survival. It's your key to adulthood. There were no brass bands waiting for us when we got back, but our families were there, and that was enough.

The fifteen of us went down the lowered ramp, and when I stood again on solid rock, I looked around that ugly, bare scout bay and just drank it in. Home.

I turned to Jimmy then and I said, "Jimmy, it's a relief to be back, isn't it? And that isn't snobbery. It might have been before, but I don't think I am now."

And Jimmy nodded.

The waiting room wasn't bare. They had the decorations up for Year End, colored mobiles with

lights that ranged through the spectrum, and more decorations on the walls. In the crowd of people waiting for us, I saw Jimmy's mother and her present husband, and Jimmy's father and *his* wife. When they saw Jimmy, they started waving and shouting.

Just as I said, "I'll see you tonight," I saw Mother and Daddy standing off to one side, and I waved. It was as though I had left the real world entirely for a month, and now at last I was back where things were going on and I wasn't missing a thing. I ran to them and I kissed Mother and hugged Daddy. Mother was crying.

I leaned back in Daddy's arms and looked up at him. He put a measuring hand over my head and said, "Mia, I believe you've grown some."

It might be so. I felt taller.

END

Now in Worlds of Tomorrow—

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Special Report:

MEN OF SPACE

BY THEODORE STURGEON

Men of Space;

by Shirley Thomas; 5 volumes (so far); Chilton Co., Philadelphia; Each 230 to 300 pp., king-sized (6 x 9 $\frac{1}{4}$). Indexed and illustrated. Each \$4.95.

Now here's a set of books it's easy to throw rocks at. It's big, glossy and authored by a lady with more than trace amounts of Wide-eye and Gush. It's big, and most irritatingly peopled by men who, absolutely and unnaturally without exception, are dedicated, fearless, patriotic, brilliant and visionary—to the point where you'd weep for joy at a single small mention of a wart or a pair of dirty feet or a touch of greed. It's big . . . and utterly uncritical of the moral posture, the philosophies and the political convictions of its subjects. Most of all, it's an easy target . . . it's so *big*.

Be it known at this point that we've thrown all the rocks we're going to throw. We further depose and say that the above carping has to be modified in every particular. If Miss Thomas exhibits gush, it is not in *much* more than trace amounts. As

to the rest, they are purely destructive criticisms. What the alternatives would be to the uncritical approach in a work of this kind, we simply can't imagine. And a writer who wouldn't, on occasion fall into hyperbole when handling such a subject would have no soul and negligible glands. For—it's big.

Big as space. Big as human doggedness and human aspiration. And if you don't rise to these for themselves, the books have something else that's very special.

First, a simple statement of what Miss Thomas has set out to do. Back of the spacemen are the space-men, just as a pilot is only the apex of a widening spearhead of crew, ground-crew, maintenance, field operations, manufacture and design personnel. Shepard, Glenn, Gagarin, Crossfield are names which readily come to mind in the spaceman category, and behind them, everyone knows, are von Braun, Teller, Doolittle, Pierce. Now, how freely can you identify Kantrowitz, Flickinger, Ramo and Toftoy?

The Glens and the von Brauns would be the first to say—and have said—that without these others, the space effort would be nothing at all, nor would they themselves be anything but anonymous (and probably angry).

Overwhelmed at first by the sheer size of the volumes and their subjects, the reader will skim through some of the names and events he knows—and will suddenly find he now knows more than he did. He then wets a toe in a Truax or a Townes (who he?) and, before he knows it, he's nostril deep in the torrent.

Mrs. Thomas does her homework. Her usual format is some sort of narrative hook, a few paragraphs of refresher material (reminding you what you vaguely remember about this or that device or development—satellite tracking or Dyna-Soar), then an account of how it was brought about and finally a biography of the man himself, with a very genuine effort to understand what shaped the man to this particular end.

It is in the body of each narrative, the part which explains what it is the man did, that Miss Thomas gives you that something special we mentioned above. If she is going to tell you who invented the travelling wave tube (which she does) she will tell you what it is, what it's for, how it works and what it means. She does it clearly and lucidly and as accurately as a non-scientific vocabulary can manage. And you find yourself—perhaps even in spite of yourself—gradually oiling your irri-

tations with the balm of wonder, as she uses her really remarkable ability to translate technicalities into meaningful American. Sometimes even she has her hands full, as in her determined effort to convey to you the essence of Samuel Herrick's paper, *Step-by-Step Integration of $x=f(x,y,z,t)$ Without a Corrector or A Modification of the "Variation of Constants" Method for Special Perturbations*; but by golly, she makes it; and you find it's important and germane, for Samuel Herrick is the tracker supreme—a man who out of his own talent and curiosity made a practical discipline out of the problem of locating bodies in orbit. As a young man, already deeply interested, he wrote to the only authority he knew of for guidance. ". . . as far as I know, no courses (are) given anywhere on the subject," answered Dr. Robert H. Goddard . . .

Let us, for sampling, take Vol. 3 from the top. It has an impressive *imprimatur*, as have they all; the advisory board for the series is Lt. Gen. (U.S.A.F.) Donald Putt, Senator Styles Bridges Dr. E. M. Emme (N.A.S.A. historian), M. W. MacFarlane (Guggenheim Chair of Aeronautics, Library of Congress), Capt. Grayson Merrill, USN, Dr. F. Sorenson, U. of Nebraska, Sen. Stuart Symington and Dr. E. C. Walsh, (Exec. Sec., N.A.S.A.). The foreword is by General Schreiber, AF Systems Command, the preface by Captain Merrill. The biographies are:

James H. Doolittle; C. Stark Draper, M.I.T., instrumentation and guidance; Louis G. Dunn, r&d man for Atlas, Thor, Titan and Minute-

man; Don D. Flickinger, space medicine; Yuri Gagarin; Arthur Kantrowitz, nose-cones and re-entry; Admiral Raborn, the Polaris man; Harold W. Ritchey, solid fuel developer—X-17, Nike, Hercules; Alan Shepard; and H. N. Toftoy, who originated "Paperclip", the effort that brought German rocket scientists to the U.S. after the war, and then sparked Redstone and Jupiter. Then the index; and in the middle is a photographic section, covering each of these men and/or his work.

Let us stress again that these are not Who's-Who type thumbnail sketches. In every case, Miss Thomas has researched the man's work as well as the man, and she just won't let go until she understands it and then does the same for you. And this, in the long run, is the true value of these books. But if you're at all interested in space—and it would be hard to imagine that you weren't, or you wouldn't be reading this particular page—you'll see the huge advantage in having, in one package, an indexed treasure-trove of readily understandable space sub-

jects—practically anything you can think of—history, biography, fuels, guidance systems, tracking, nuclear- and thermo-nuclear energy, astrophysics and -dynamics and -mechanics and just plain -nomy, and anything else you can think of and a lot you won't until you spin through those indexes.

And don't let that heavy price tag throw you. Go down to your public library and ask them to put in the set, and keep the new ones on order. Not so much to get definitive and complete information on all these sciences and disciplines, but to get enough of a grasp of them to enable you to go on to more specialized reading. And don't be surprised if the librarian and the Book Committee, or whatever setup your library has, eagerly buys the books for you. It happens that we are on the Book Committee of our local library, and can attest how wonderful it is when the public requests something which doesn't happen to be on the glop-of-the-month folder, or the breast-seller list.

END



THE SHADOW OF WINGS

BY ROBERT SILVERBERG

ILLUSTRATED BY FINLAY

**The alien came as a friend.
He could not help looking
like man's ultimate Enemy!**

The children came running toward him, laughing and shouting, up from the lakeside to the spot on the grassy hill where he lay reading; and as Dr. John Donaldson saw what was clutched in the hand of his youngest son, he felt an involuntary tremor of disgust.

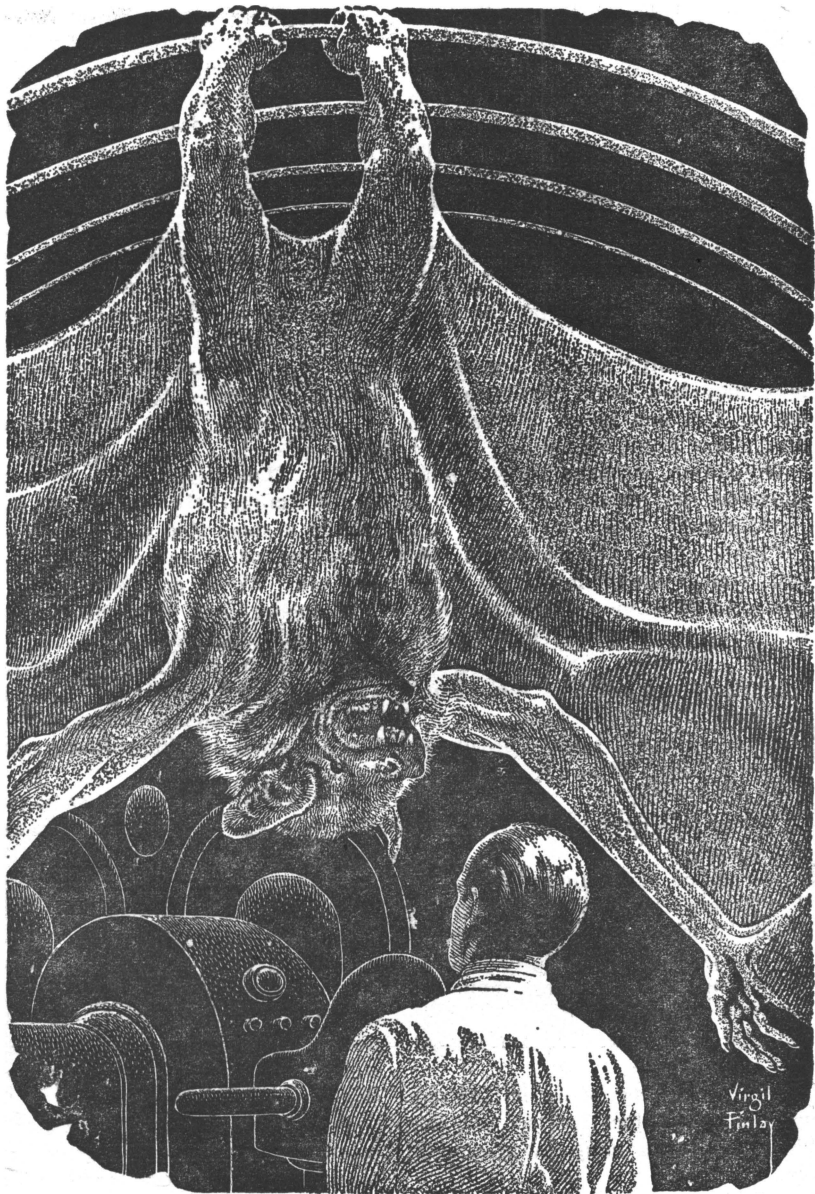
"Look, John! Look what Paul caught!" That was his oldest, Joanne. She was nine, a brunette rapidly growing tan on this vacation trip. Behind her came David, eight, fair-haired and lobster-skinned, and in the rear was Paul, the six-year-old, out of breath and gripping in

his still pudgy hand a small green frog.

Donaldson shoved his book — Haley, *Studies in Morphological Linguistics* — to one side and sat up. Paul thrust the frog almost into his face. "I saw it hop, John — and I caught it!" He pantomimed the catch with his free hand.

"I saw him do it," affirmed David.

The frog's head projected between thumb and first finger; two skinny webbed feet dangled free at the other end of Paul's hand, while the middle of the unfortunate batrachian was no doubt being pain-



Virgil
Finlay

fully compressed by the small clammy hand. Donaldson felt pleased by Paul's display of coordination, unusual for a six-year-old. But at the same time he wished the boy would take the poor frog back to the lake and let it go.

"Paul," he started to say, "you really ought to —"

The direct-wave phone at the far end of the blanket bleeped, indicating that Martha, back at the bungalow, was calling.

"It's Mommy," Joanne said. Somehow they had never cared to call her by her first name, as they did him. "See what she wants, John."

Donaldson sprawled forward and activated the phone.

"Martha?"

"John, there's a phone-call for you from Washington. I told them you were down by the lake, but they say it's important and they'll hold on"

Donaldson frowned. "*Who* from Washington?"

"Caldwell, he said. Bureau of Extraterrestrial Affairs. Said it was urgent."

Sighing, Donaldson said, "Okay. I'm coming."

He looked at Joanne and said, as if she hadn't heard the conversation at all, "There's a call for me and I have to go to the cottage to take it. Make sure your brothers don't go into the water while I'm gone. And see that Paul lets that confounded frog go."

Picking up his book, he levered himself to his feet and set out for the phone in the bungalow at a brisk trot.

Caldwell's voice was crisp and efficient and not at all apologetic as he said, "I'm sorry to have to interrupt you during your vacation, Dr. Donaldson. But it's an urgent matter and they tell us you're the man who can help us."

"Perhaps I am. Just exactly what is it you want?"

"Check me if I'm wrong on the background. You're Professor of Linguistics at Columbia, a student of the Kethlani languages and author of a study of Kethlani linguistics published in 2087."

"Yes, yes, that's all correct. But —"

"Dr. Donaldson, we've captured a live Kethlan. He entered the System in a small ship and one of our patrol vessels grappled him in, ship and all. We've got him here in Washington and we want you to come talk to him."

For an instant Donaldson was too stunned to react. A live Kethlan? That was like saying, We've found a live Sumerian, or, We've found a live Etruscan.

The Kethlani languages were precise, neat and utterly dead. At one time in the immeasurable past the Kethlani had visited the Solar System. They had left records of their visit on Mars and Venus, in two languages. One of the languages was translatable, because the Martians had translated it into their own, and the Martian language was still spoken as it had been a hundred thousand years before.

Donaldson had obtained his doctorate with what was hailed as a brilliant Rosetta Stone type analysis

of the Kethlani language. But a live Kethlan? Why —

After a moment he realized he was staring stupidly at his unevenly-tanned face in the mirror above the phone cabinet, and that the man on the other end of the wire was making impatient noises.

Slowly he said, "I can be in Washington this afternoon, I guess. Give me some time to pack up my things. You won't want me for long, will you?"

"Until we're through talking to the Kethlan," Caldwell said.

"All right," Donaldson said. "I can take a vacation any time. Kethlani don't come along that often."

He hung up and peered at his face in the mirror. He had had curly reddish hair once, but fifteen years of the academic life had worn his forehead bare. His eyes were mild, his nose narrow and unemphatic, his lips thin and pale. As he studied himself, he did not think he looked very impressive. He looked professorial. That was to be expected.

"Well?" Martha asked.

Donaldson shrugged. "They captured some kind of alien spaceship with a live one aboard. And it seems I'm the only person who can speak the language. They want me right away."

"You're going?"

"Of course. It shouldn't take more than a few days. You can manage with the children by yourself, can't you? I mean —"

She smiled faintly, walked around behind him and kneaded the muscle of his sun-reddened back in an af-

fectionate gesture. "I know better than to argue," she said. "We can take a vacation next year."

He swiveled his left hand behind his back, caught her hand and squeezed it fondly. He knew she would never object. After all, his happiness was her happiness — and he was never happier than when working in his chosen field. The phone-call today would probably lead to all sorts of unwanted and unneeded publicity for him. But it would also bring him academic success, and there was no denying the genuine thrill of finding out how accurate his guesses about Kethlani pronunciation were.

"You'd better go down to the lake and get the children," he said. "I'll want to say good-by before I leave."

They had the ship locked in a stasis-field in the basement of the Bureau of E-T Affairs Building, on Constitution Avenue just across from the National Academy of Sciences. The great room looked like nothing so much as a crypt, Donaldson thought as he entered. Beam-projectors were mounted around the walls, focussing a golden glow on the ship. Caught in the field, the ship hovered in midair, a slim, strange-looking torpedo-like object about forty feet long and ten feet across the thickest place. A tingle rippled up Donaldson's spine as he saw the Kethlani cursives painted in blue along the hull. He translated them reflexively: *Bringer of Friendship*.

"That's how we knew it was a

Kethlani ship," Caldwell said, at his side. He was a small, intense man who hardly reached Donaldson's shoulder; he was Associate Director of the Bureau, and in his superior's absence he was running the show.

Donaldson indicated the projectors. "How come the gadgetry? Couldn't you just sit the ship on the floor instead of floating it that way?"

"That ship's heavy," Caldwell said. "Might crack the floor. Anyway, it's easier to maneuver this way. We can raise or lower the ship, turn it, float it in or out of the door."

"I see," Donaldson said. "And you say there's a live Kethlan in there?"

Caldwell nodded. He jerked a thumb toward a miniature broadcasting station at the far end of the big room. "We've been in contact with him. He talks to us and we talk to him. But we don't understand a damned bit of it, of course. You want to try?"

Donaldson shook his head up and down in a tense affirmative. Caldwell led him down to the radio set, where an eager-looking young man in military uniform sat making adjustments.

Caldwell said, "This is Dr. Donaldson of Columbia. He wrote the definitive book on Kethlani languages. He wants to talk to our friend in there."

A microphone was thrust into Donaldson's hands. He looked at it blankly, then at the pink face of the uniformed man, then at the ship. The inscription was in Kethlani. A language, for which Donaldson was grateful. There were two Kethlani

languages, highly dissimilar, which he had labeled A and B. He knew his way around in A well enough, but his mastery of Kethlani B was still exceedingly imperfect.

"How do I use this thing?"

"You push the button on the handle, and talk. That's all. The Kethlan can hear you. Anything he says will be picked up here." He indicated a tape-recorder and a speaker on the table.

Donaldson jabbed down on the button, and, feeling a strange sense of disorientation, uttered two words in greeting in Kethlani A.

The pronunciation, of course, was sheer guesswork. Donaldson had worked out what was to him a convincing Kethlani phonetic system, but whether that bore any relation to fact remained to be seen.

He waited a moment. Then the speaker emitted a series of harsh, unfamiliar sounds—and, buried in them like gems in a kitchen-midden, Donaldson detected familiar-sounding words.

"Speak slowly," he said in Kethlani A. "I ... have only a few words."

The reply came about ten seconds later, in more measured accents. "How . . . do . . . you . . . speak our language?"

Donaldson fumbled in his small vocabulary for some way of explaining that he had studied Kethlani documents left behind on Mars centuries earlier, and compared them with their understandable Martian translations until he had pried some sense out of them.

He glimpsed the pale, sweat-beaded faces of the E-T men around him; they were mystified, wondering what he was saying to the alien but not daring to interrupt. Donaldson felt a flash of pity for them. Until today the Bureau had concerned itself with petty things: import of Martian antiquities, study visas for Venus, and the like. Now, suddenly, they found themselves staring at an extra-solar spaceship, and all the giant problems that entailed.

"Find out why he came to the Solar System," Caldwell whispered.

"I'm trying to," Donaldson murmured with some irritation. He said in Kethlani, "You have made a long journey."

"Yes... and alone."

"Why have you come?"

There was a long moment of silence; Donaldson waited, feeling tension of crackling intensity starting to build within him. The unreality of the situation obsessed him. He had been fondly confident that he would never have the opportunity to speak actual Kethlani, and that confidence was being shattered.

Finally: "I . . . have come . . . why?"

The inversion was grammatically correct. "Yes," Donaldson said. "Why?"

Another long pause. Then the alien said something which Donaldson did not immediately understand. He asked for a repeat.

It made little sense — but, of course, his Kethlani vocabulary was a shallow one, and he had additional difficulty in comprehending because he had made some mistakes

in interpreting vowel values when constructing his Kethlani phonetics.

But the repeat came sharp and clear, and there was no mistaking it:

"I do . . . do not like to talk this way. Come inside my ship and we will talk there."

“What’s he saying?” Caldwell prodded.

Shaken, Donaldson let the mike dangle from limp fingers. "He — he says he wants me to come inside the ship. He doesn't like long-distance conversations."

Caldwell turned at a right angle and said to a waiting assistant. "All right. Have Mathews reverse the stasis-field and lower the ship. We're going to give the Kethlan some company."

Donaldson blinked. "Company? You mean you're sending me in there?"

"I sure as hell do mean that. The Kethlan said it's the only way he'd talk, didn't he? And that's what you're here for. To talk to him. So why shouldn't you go in there, eh?"

"Well — look, Caldwell, suppose it isn't safe?"

"If I thought it was risky, I wouldn't send you in," Caldwell said blandly.

Donaldson shook his head. "But look—I don't want to seem cowardly, but I've got three children to think about. I'm not happy about facing an alien being inside his own ship, if you get me."

"I get you," said Caldwell tiredly. "All right. You want to go home? You want to call the whole business off right here and now?"

"Of course not. But —"

"But then you'll have to go in."

"How will I be able to breathe?"

"The alien air is close enough to our own. He's used to more carbon dioxide and less oxygen, but he can handle our air. There's no problem. And no risk. We had a man in there yesterday when the Kethlan opened the outer lock. You won't be in any physical danger. The alien won't bother you."

"I hope not," Donaldson said. He felt hesitant about it; he hadn't bargained on going inside any extra solar spaceships. But they were clustered impatiently around him, waiting to send him inside, and he didn't seem to have much choice. He sensed a certain contempt for him on their faces already. He didn't want to increase their distaste.

"Will you go in?" Caldwell asked.

"All right. All right. Yes. I'll go in."

Nervously Donaldson picked up the microphone and clamped a cold finger over the control-button.

"Open your lock," he said to the alien being. "I'm coming inside."

There was a moment's delay while the stasis-field projectors were reversed, lowering the ship gently to floor level. As soon as it touched, a panel in the gleaming golden side of the ship rolled smoothly open, revealing an inner panel.

Donaldson moistened his lips, handed the microphone to Caldwell and walked uncertainly forward. He reached the lip of the airlock, stepped up over it, and into the ship. Immediately the door rolled shut be-

hind him, closing him into a chamber about seven feet high and four feet wide, bordered in front and back by the outer and inner doors of the lock.

He waited. Had he been claustrophobic he would have been hysterical by now. *But I never would have come in here in the first place then*, he thought.

He waited. More than a minute passed; then, finally, the blank wall before him rolled aside, and the ship was open to him at last. He entered.

At first it seemed to him the interior was totally dark. Gradually, his retinal rods conveyed a little information.

A dim light flickered at one end of the narrow tubular ship. He could make out a few things: rows of reinforcing struts circling the ship at regularly spaced distances; a kind of control-panel with quite thoroughly alien-looking instruments on it; a large chamber at one end which might be used for storage of food.

But where's the alien? Donaldson wondered.

He turned, slowly, through a three hundred sixty degree rotation, squinting in the dimness. A sort of mist hung before his eyes; the alien's exhalation, perhaps. But he saw no sign of the Kethlan. There was a sweetish, musky odor in the ship, unpleasant though not unbearable.

"Everything okay?" Caldwell's voice said in his earphones.

"So far. But I can't find the alien. It's damnably dark in here."

"Look up," Caldwell advised. "You'll find him. Took our man a while too, yesterday,"

Puzzled, Donaldson raised his head and stared into the gloom-shrouded rafters of the ship, wondering what he was supposed to see. In Kethlani he said loudly, "Where are you? I see you not."

"I am here," came the harsh voice, from above.

Donaldson looked. Then he backed away, double-taking, and looked again.

A great shaggy thing hung head down against the roof of the ship. Staring intently, Donaldson made out a blunt, piggish face with flattened nostrils and huge flaring ears; the eyes, bright yellow but incredibly tiny, glittered with the unmistakable light of intelligence. He saw a body about the size of a man, covered with darkish thick fur and terminating in two short, thick, powerful-looking legs. As he watched the Kethlan shivered and stretched forth its vast leathery wings. In the darkness, Donaldson could see the corded muscular arm in the wing, and the very human-looking fingers which sprouted from the uppermost part of the wing.

Violent disgust rose in him, compounded from his own general dislike for animals and from the half-remembered Transylvanian folktales that formed part of every child's heritage. He felt sick; he controlled himself only by remembering that he was in essence an ambassador, and any sickness would have disastrous consequences for him and for Earth. He dared not offend the Kethlan.

My God, he thought. An intelligent bat!

He managed to stammer out the words for greeting, and the alien responded. Donaldson, looking away, saw the elongated shadow of wings cast across the ship by the faint light at the other end. He felt weak, wobbly-legged; he wanted desperately to dash through the now-closed airlock. But he forced himself to recover balance. He had a job to do.

"I did not expect you to know Kethlani," the alien said. "It makes my job much less difficult."

"And your job is—?"

"To bring friendship from my people to yours. To link our worlds in brotherhood."

The last concept was a little muddy to Donaldson; the literal translation he made mentally was *children-of-one-cave*, but some questioning eventually brought over the concept of brotherhood.

His eyes were growing more accustomed to the lighting, now, and he could see the Kethlan fairly well. An ugly brute, no doubt of it—but probably I look just as bad to him, he thought. The creature's wingspread was perhaps seven or eight feet. Donaldson tried to picture a world of the beasts, skies thick with leather-winged commuters on their way to work.

Evolution had made numerous modifications in the bat structure, Donaldson saw. The brain, of course; and the extra fingers, aside from the ones from which the wings had sprouted. The eyes looked weak, in typical bat-fashion, but probably there was compensation by way of keen auditory senses.

Donaldson said, "Where is your world?"

"Far from here. It —"

The rest of the answer was unintelligible to Donaldson. He felt savage impatience with his own limited vocabulary; he wished he had worked just a little harder on translating the Syrtis Major documents. Well, it was too late for that now, of course.

Caldwell cut in suddenly from outside. "Well? We're picking up all the jabber. What's all the talk about?"

"Can't you wait till I'm finished?" Donaldson snapped. Then, repenting, he said: "Sorry. Guess I'm jumpy. Seems he's an ambassador from his people, trying to establish friendly relations with us. At least, I think so. I'll tell you more when I know something about it."

Slowly, in fits and starts the story emerged. Frequently Donaldson had to ask the Kethlan to stop and double back while he puzzled over a word. He had no way of recording any of the new words he was learning, but he had always had a good memory, and he simply tucked them away.

The Kethlani had visited the Solar System many years ago. Donaldson was unable to translate the actual figure, but it sounded like a lot. At that time, the Martians were at the peak of their civilization, and Earth was just an untamed wilderness populated by naked primates. The Kethlan wryly admitted that they had written off Earth as a potential place of civilization because

a study of the bat population of Earth had proved unpromising. They had never expected the primates to evolve this way.

But now they had returned, thousands of years later. Mars was bleak and its civilization decayed, but the third world had unexpectedly attained a high degree of culture and was welcome to embrace the Kethlani worlds in friendship and amity.

"How many worlds do you inhabit?"

The Kethlan counted to fifteen, by ones. "There are many others we do not inhabit, but simply maintain friendly relations with. Yours would be one, we hope."

The conversation seemed to dwindle to a halt. Donaldson had run out of questions to ask, and he was exhausted by the hour-long strain of conversing in an alien language, under these conditions, within a cramped ship, talking to a creature whose physical appearance filled him with loathing and fear.

His head throbbed. His stomach was knotted in pain and sweat made his clothes cling clammy to his body. He started to grope for ways to terminate the interview; then an idea struck him.

He quoted a fragment of a document written in pure Kethlani B.

There was an instant of stunned silence; then the alien asked in tones of unmistakable suspicion, "Where did you learn that language?"

"I haven't really learned it. I just know a few words."

He explained that he had found

examples of both Kethlani A and Kethlani B along with their Martian equivalents; he had worked fairly comprehensively on the A language, but had only begun to explore the B recently.

The Kethlan seemed to accept that. Then it said: "That is not a Kethlani language."

Surprised, Donaldson uttered the interrogative expletive.

The Kethlan said, "It is the language of our greatest enemies, our rivals, our bitter foes. It is the Thygnor tongue."

"But—why did we find your language and the other side-by-side, then?"

After a long pause the alien said, "Once Thygnor and Kethlan were friends. Long ago we conducted a joint expedition to this sector of space. Long ago, before the rivalry sprang up. But now—" the alien took on a sorrowful inflection—"now we are enemies."

That explained a great many things, Donaldson realized. The differences between Kethlani A and Kethlani B had been too great for it to seem as if one race spoke both of them. But a joint expedition—that made it understandable.

"Some day, perhaps, the Thygnor will visit your world. But by then you will be on guard against them."

"What do they look like?"

The alien described them, and Donaldson listened and was revolted. As far as he could understand, they were giant intelligent toads, standing erect, amphibian but warm-blooded, vile-smelling, their bodies exuding a nauseous thick secretion.

THE SHADOW OF WINGS

Giant toads, bats, the lizards of Mars—evidently the primate monopoly of intelligence was confined solely to Earth, Donaldson realized. It was a humbling thought. His face wrinkled in displeasure at the mental image of the toad-people the Kethlan had created for him, as he recalled the harmless little frog Paul had captured by the lake. .

He spoke in English, attracting Caldwell's attention, and explained the situation.

"He wants me to swear brotherhood with him. He also says there's another intelligent race with interstellar travel—toads, no less—and that they're likely to pay us a visit some day too. What should I do?"

"Go ahead and swear brotherhood," Caldwell said after a brief pause. "It can't hurt. We can always unswear it later, if we like. Say we had our fingers crossed while we were doing it, or something. Then when the frogs get here we can find out which bunch is better for us to be in league with."

The cynicism of the reply annoyed Donaldson, but it was not his place to raise any objections. He said to the alien, "I am prepared to pledge brotherhood between Earth and the Kethlan worlds."

The Kethlan fluttered suddenly down from its perch with a rustle of great wings, and stood facing Donaldson, tucking its wings around its thick shaggy body. Alarmed, Donaldson stepped back.

The alien said reassuringly, "The way we pledge is by direct physi-

cal embrace, symbolizing harmony and friendship across the cosmos." He unfurled his wings. "Come close to me."

No! Donaldson shrieked inwardly, as the mighty wings rose high and wrapped themselves about him. *Go away! Don't touch me!* He could smell the sweet, musky smell of the alien, feel its furry warmth, hear the mighty heart pounding, pounding in that massive ribcage . . .

Revulsion dizzied him. He forced himself to wrap his arms around the barrel of a body while the wings blanketed him, and they stood that way for a moment, locked in a tight embrace.

At length the alien released him. "Now we are friends. It is only the beginning of a long and fruitful relationship between our peoples. I hope to speak with you again before long."

It was a dismissal. On watery legs Donaldson tottered forward toward the opening airlock, pausing only to mutter a word of farewell before he stumbled through and out into the arms of the waiting men outside.

"Well?" Caldwell demanded.

"What happened? Did you swear brotherhood?"

"Yes," Donaldson said wearily. "I swore." The stench of the alien clung to him, sweet in his nostrils. It was as though throbbing wings still enfolded him. "I'm leaving now," he said. "I still have a little of my vacation left. I want to take it."

He gulped a drink that someone handed him. He was shaking and gray-faced, but the effect of the embrace was wearing off. *Only an irrational phobia*, he told himself. *I shouldn't be reacting this way.*

But already he was beginning to forget the embrace of the Kethlani, and the rationalization did him no good. A new and more dreadful thought was beginning to develop within him.

He was the only Terrestrial expert on Kethlani B, too—the Thygnor tongue. And some day, perhaps soon, the Thygnor were going to come to Earth, and Caldwell was going to impress him into service as an interpreter again.

He wondered how the toad-people pledged eternal brotherhood.

END

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The Place Where Readers And Editor Meet...

Dear Editor:

If may not be a slick magazine, but it is the most fun to read of any science-fiction magazine on the market today. It is nice to know that there is a magazine where not only new authors can try their talents, but where the greats like Heinlein can use a freer style than the restrictions of the other magazines, with their strictly set editorial policies, will allow.

The ending of the Heinlein novel was a novelette in itself, with too little continuity with the first two installments. Presumably this will be toned down and abridged and then hardbacked as a juvenile, which is a pity, since the way it is now it packs an impact in spite of its disjointed style. As in most Heinlein novels the description was more entertaining than the action, and there were a number of loose ends in the plot. I certainly don't want a detailed explanation breaking in, mystery story style, but there is no reason I can

see for "Uncle Tom" being set free without a more certain hold on him than they had, for example. The big trouble is that Heinlein let his reputation get in the way, and avoided the melodramatic action sequences which would have been less believable but more appropriate, and more fun.

The letter column was much too short. Now that you have room for "another full length novelette", you should have room for a five-page letter column at least. Admittedly you seem to have an unbelievable wealth of story material to use, with Heinlein and McIntosh in this issue, and Clement and Budrys in the next, but it won't hurt to spread all this talent over a very slightly longer space, and give the reader a chance to comment on it.

Rick Norwood
Bellingrath
Southwestern
Memphis 12, Tennessee

Dear Editor:

For the first time in perhaps half a year, I believe I will write you one of my interminable letters of comment on your sterling publications, each of which pretends to come from a different publishing house. Perhaps your Mr. Guinn is a megalomaniac?

As usual, *Galaxy* is good for its long fiction and disappointing in its short. Out of even short stories in the last three issues, only one (*On the Fourth Planet*) was good. This is the sort of sf that is really rewarding.

Worlds of Tomorrow looks quite promising, assuming that the first issue is indicative of the editorial policy. These stories are all good, to one degree or another, and I can't quite put my finger on whatever it is about the total effect that makes it so different from *Galaxy* or *If*. I think it's because these stories are almost entirely straightforward.

If: Who was it who referred to it as *Worlds of Galaxy Rejects*? That is not very fair, but *If* certainly does read as a poor man's *Galaxy*. *When Whirlybirds Call* should not have been published; *This Way to the Egress* was unintelligible, for me. *The Shipshape Miracle* had a very Sheckleyish plot—but Sheckley should have handled it, since he knows how to do it right. With Simak (who is used to an entirely different type of story) at the helm, it reads rather clumsily.

Captain of the Kali: Wow! You're right, there is a find! Gary Wright has done a fine job with an interesting story, and I hope you will encourage him to keep writing. I particularly appreciate a story which is well enough expressed that one can pick out one sentence that will

give the theme of the story; here, you have: "There was no alien here but himself."

To keep on a happy note, *The Time Tombs* was another good story. Ballard is a writer who does give a good clear picture of the society he has placed his plot in, and the plot was worthwhile one.

Saline Solution: I for one enjoy Retief. I'm fully happy with him as long as the readers don't go around screaming about what a wonderful writer he is. Or else, how terrible the series is. Let's get one thing straight: Retief is sheer space opera . . . but what on Earth is wrong with well-handled space opera?

The Ten-Point Princess is yet another good story. Considering the usual half-and-half quality of *If*, this seems to be a bumper crop. McIntosh just touched on the important and debatable point, ". . . Only we don't call it prostitution. What do you dislike about the way the Leontans do it, General?" But he did drive in his main point pretty well. Hmmm, I wonder if he purposely wrote *The Ten-Point Princess* as an answer to Vercors' *Le Silence De La Mer*.

And now, *Podkayne of Mars*. Boy, is that Heinlein getting lazy. In the first installment nothing happens. It could have taken up one chapter, or possibly two, in a well-balanced novel. The second installment could have been cut down a good deal, and the third was reasonably full the way it stood. Or, in other words, this novel was quite incomplete, as such. Ah, well you may ask, what else might Heinlein have said? Where could the plot have gone? Not very far, certainly, but certainly it is not an unworkable plot. No, the problem is simply this: *Podkayne* should have been what you

call a Novella. But Heinlein was too lazy to condense, when he had almost guaranteed sales, anyway. And there was obviously another reason: a novella could not be sold to Scribner's or some such as a juvenile, which is what will clearly happen to this one. To be brief, it appears to have been a mistake for Heinlein to use this plot, unless he could make more of a story of it. And if he could, why didn't he?

And that's it. I no longer have the strength to comment on anything but the fiction. And it is a good thing that this letter is not even vaguely aimed at "Hue and Cry". By my count, it holds more words than the last three installments of "Hue and Cry" put together!

Paul Williams
163 Brighton Street
Belmont, Mass.

* * *

Dear Editor:

There are a few things about science fiction that might arouse some worthwhile response from your formidable readers.

First: Science-fiction distribution is a problem. Not all towns get all science-fiction titles, even when the titles which do appear sell out in a day or two. Better distribution means better sales and better sales could mean a better magazine.

Second: According to hearsay, science-fiction pocketbooks outsell science-fiction magazines about 3 to 1. Pocketbooks depend largely on sf magazines for their material. The reader has little friendly newsy discourse with the pocketbook. The reader can't know when the pocketbook should be on the stands or what is coming out. So if the pocketbook doesn't strike the wholesaler as profitable he can warehouse it and swear it didn't sell. In places I have seen

several people read science fiction, but most of them read only pocketbooks. Why? "Magazines have cheap comic-book type covers and the stories are probably on the same level." Or more often: "Magazine stories are too short. I like long novels." Is this true everywhere?

Third: Sf magazines seem better than ever and may be selling better lately. Yet they ought also to reach the pocketbook audience so they can read the "better" stories "earlier" when they first appear. How can this be done? Large format suggests quality to many people. Arty pocketbook covers sell to still more people. Long novels sell to still more people. Slicker paper will sell a few copies. Color inside will sell more copies; color sells, in this culture of ours.

Fourth: Does science fiction need another "almost hopeless cause" like space flight used to be? Now, how about promoting interstellar travel, something besides rocket drives, religion and space, what is human and what is food, the general ethics of man in the universe, the sea, genetic improvement of the human race, overpopulation, DNA, human creativeness vs. the regurgative memory, or the human mind. These are all science-fiction themes, but the general public only recognizes cigar-shaped spaceships as the content of science fiction. Or does science fiction need only color, wonder and conviction? Or does it need to catch the eye and flatter the intellect of more readers? Or are we a closed corporation actually afraid of new people and new ideas? Is science fiction our own private, secure, finished outpost from which we will not venture? Are we really more venturesome than Mrs. Fuddelfade next door who is still afraid of science fiction? The art work in our maga-

sines, which is still mostly rehash of 1934 hack pulp art, suggests we might need a little intellectual courage. We might face a tiger, but new ideas make us tremble. Or is the great body of science-fiction world still raring to go to Hell and back for the sheer hell of proving it's there?

Five: could a well established magazine like *Galaxy* go 8½ by 11 inches, 250 pages, contain a complete BOOK LENGTH NOVEL IN EACH ISSUE plus a substantial body of shorter material, and maybe two-color art, better paper, and a small science section to pick up ads, and sell for 75 cents or a dollar per copy per month? Don't yell yet, readers. *Because three poor or mediocre sf magazines cost you \$1.05 a month anyway.* Why not get it all in one good package? Such a package could attract the best writers and artists and put science fiction on a very substantial footing. It would take nerve and money to start it. EDITOR, is such a thing possible?

Six: I'm not an upstart newcomer or a senile oldster. I've purchased about every science-fiction magazine published since 1938, the exceptions being *Planet*, *Captain Future* and a certain Shaver matter. I care a lot about science fiction and how beautifully it is printed and how well it sells *How about you?*

Roscoe Wright
West. Mont. College
Art Department
Dillon, Montana

* Is it possible? Probably not—or not at 75c or a dollar, anyway. Or not without a far heavier volume of advertising than any sf magazine has ever had. . . or is ever likely to get. But it's an attractive thought! *Editor*

Dear Editor:

Congratulations on raising your price; hope it stays that way because I've thought out the grim alternatives: you fold, or you go back to your rut. Seems to me as if you'll be trying for a Hugo in 1964, if you can keep up this quality for five more issues.

One thing about a long letter: You can chop out one paragraph and run it as a letter.

* * *

Nathan A. Bucklin
P. O. Box 4
Docketon, Mass.

*Or—as in this case—a paragraph and a half!

But even with such Herculean measures, we're out of space again. To those who didn't get their missives in—sorry, and please don't stop sending them!

This issue's "first" is a young fellow named Bruce McAllister who hails from California—and Italy, Washington, D.C., the Riviera and wherever else the orders of his Navy captain father took him; we liked *The Faces Outside*, and hope you will too. Not quite a "first", but still an unfamiliar name in science-fiction magazines, is Alexei Panshin. *Down to the Worlds of Men* is actually the second story he sold, but we don't count the first, because it appeared in one of those slick-paper things that have nothing to offer their contributors but prestige, pleasure, pride and money.

By the way, did you notice who leads off our next issue? He's practically a discovery, at that; he hasn't written a new story for a science-fiction magazine in nearly fifteen years, until he finally gave in and wrote this one for us. Name's Van Vogt. We think he'll catch on.

Editor

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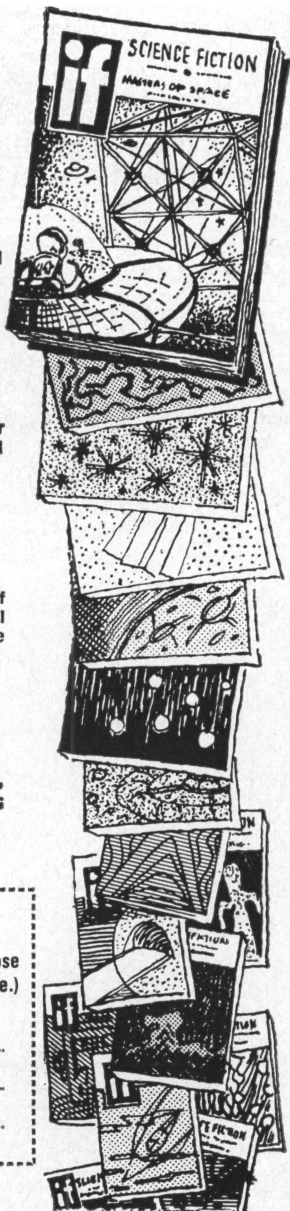
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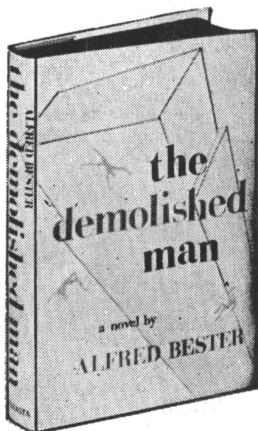


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