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WORLDS OF IF SCIENCE FICTION

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ALL NEW STORIES

Cover by Gaughan from Muck Man

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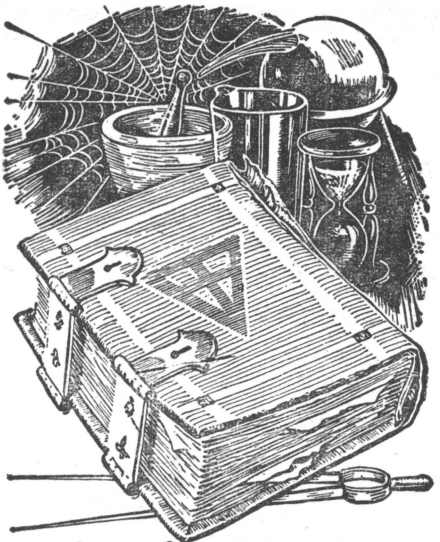
RESPONSE & ADDENDA

This is not the letter department—you'll find that elsewhere (and just by the way, it certainly has improved, hasn't it? One of these days we'll be back in the golden age of controversy and provocation, and screeds by people who are obviously destined to fill the rest of the book) —but from time to time something comes in which calls for more than the phrase of response which is all space allows back aft.

For example, we owe some attention to Mr. Ed Wegman, Promotion Manager for the UNESCO Publications Center. In our last issue, we described with justified hysterical enthusiasm the remarkable volume *Source Book for Science Teachers,* a handbook for the chewing-gum and string school of science buffs. We also went out of our way to be snide and cute about the lack of promotion for this shining gem of a book, since we had stumbled across it accidentally in a top company catalog



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and by press time had been unable to find out who sells it in the U.S. And inevitably, the moment the article was set in type and beyond correction, Mr. Wegman's kind and courteous letter comes in with all the needed information. Know all by these presents then, that the *Source Book* can be had from Unesco Publications Center, 801 Third Ave., New York 22. It's $4 in hardcover, $3 in paper, and a hundred times worth a missed meal.

Nothing we have done in these pages has sparked such a large *and* high-quality response as our recent piece on *The American Wishbook*, a discussion of the delights of catalogs. It "hit my sense of wonder squarely" said one respondent, which is almost as gratifying to an author of anything in a science-fiction magazine as a first acceptance. Now, company policy precludes our reporting prices or addresses in or of these catalogs, but we have answered each individual query, and in some cases, to save time (for these letters come from all over the world) have written ourselves to the companies, asking that their wishbooks be sent to the reader. This is only one way of saying that your letters mean a great deal to us.

We have asked that an exception be made to the publisher's taboo on price reporting on these two items, because we regard them as genuinely exciting news items. The Zuckermann harpsichord kit costs only $150 (plus your local lumber) and the Heath electronic organ kit goes for a mere $329.95 (less bench). Either one gives you an instrument you couldn't get elsewhere without kicking hell out of a thousand-dollar bill.

Ever use air letter sheets? You get them at the Post Office for 11c—a single sheet of lightweight paper, which folds up into envelope size and shape and is good for air postage to anywhere on earth. Well, many countries issue them, and one of the Wishbook letters came from New Zealand on an airletter sheet which bore a beautiful four-color scenic print; we've never seen anything like it and suggest that some enterprising American printer please copy.

Occasionally we get queries, ranging from genealogy ("Can you tell me where my name originated?) through confessions of fuggheadedness ("I see by the May issue that you are to become editor of *If*. When?"—though what the May issue clearly reported was that Fred Pohl, and not yr. hmbl. svt., was editor of *Worlds of Tomorrow*) to questions of genuine interest to a good many of us. These are handled severally by ignoring them, by individual letters, or, as in this case, by asking you all, as:

"Maybe you can help me. I sure would like a three dimensional coordinate system to which I can easily fix points to create mathematical figures and engineering projects. It could be photographed and used to show students and persons without great orientation-perception, facts that might not be apparent from drawings."

Maybe you can help him?

THS

THE GOVERNOR OF GLAVE

BY KEITH LAUMER

The revolution was over and peace restored — naturally Retief expected the worst!

ILLUSTRATED BY GAUGHAN

I

Retief turned back the gold-encrusted scarlet cuff of the mess jacket of a First Secretary and Consul, gathered in the three eight-sided black dice, shook them by his right ear and sent them rattling across the floor to rebound from the bulkhead.

"Thirteen's the point," the Power Section Chief called. "Ten he makes it!"

"Oh . . . Mr. Retief," a strained voice called. Retief looked up. A tall thin youth in the black-trimmed gray of a Third Secretary flapped a sheet of paper from the edge of the circle surrounding the game. "The Ambassador's compliments, sir, and will you join him and the staff in the conference room at once?"

Retief rose and dusted his knees. "That's all for now, boys," he said. "I'll take the rest of your money later." He followed the junior dip-

lomat from the ward room, along the bare corridors of the crew level, past the glare panel reading NOTICE — FIRST CLASS ONLY BEYOND THIS POINT, through the chandeliered and draped ballroom and along a stretch of soundless carpet to a heavy door bearing a placard with the legend CONFERENCE IN SESSION.

"Ambassador Sternwheeler seemed quite upset, Mr. Retief," the messenger said.

"He usually is, Pete." Retief took a cigar from his breast pocket. "Got a light?"

The Third Secretary produced a permatch. "I don't know why you smoke those things instead of dope sticks, Mr. Retief," he said. "The Ambassador hates the smell."

Retief nodded. "I only smoke this kind at conferences. It makes for shorter sessions." He stepped into the room. Ambassador Sternwheeler eyed him down the length of the conference table.

"Ah, Mr. Retief honors us with his presence. Do be seated, Retief." He fingered a yellow Departmental despatch. Retief took a chair, puffing out a dense cloud of smoke.

"As I have been explaining to the remainder of my staff for the past quarter-hour," Sternwheeler rumbled, "I've been the recipient of important intelligence." He blinked at Retief expectantly. Retief raised his eyebrows in polite inquiry.

"It seems," Sternwheeler went on, "that there has been a change in regime on Glave. A week ago, the government which invited the dispatch of this mission — and to which we're accredited — was overthrown. The former ruling class has fled into exile. A popular workers' and peasants' junta has taken over."

"Mr. Ambassador," Counsello Magnan broke in, rising. "I'd like to be the first —" he glanced around the table — "or one of the first, anyway, to welcome the new government of Glave into the family of planetary ruling bodies —"

"Sit down, Magnan!" Sternwheeler snapped. "Of course the Corps always recognizes *de facto* sovereignty. The problem is merely one of acquainting ourselves with the policies of this new group — a sort of blue-collar coalition, it seems. In what position that leaves this Embassy I don't yet know."

"I suppose this means we'll spend the next month in a parking orbit," Counsellor Magnan sighed.

"Unfortunately," Sternwheeler went on, "the entire affair has apparently been carried off without recourse to violence, leaving the Corps no excuse to move in — that is, it appears our assistance in restoring order will not be required."

"Glave was one of the old Contract Worlds," Retief said. "What's become of the Planetary Manager General and the technical staff? And how do the peasants and workers plan to operate the atmospheric purification system, the Weather Control station, the tide regulation complexes?"

"I'm more concerned at present with the status of the Mission! Will we be welcomed by these peasants or peppered with buckshot?"

"You say that this is a popular junta, and that the former leaders have fled into exile," Retief said. "May I ask the source?"

"The despatch cites a 'reliable Glavian source'."

"That's officialese for something cribbed from a broadcast news tape. Presumably the Glavian news services are in the hands of the revolution. In that case —"

"Yes, yes, there is the possibility that the issue is yet in doubt. Of course we'll have to exercise caution in making our approach. It wouldn't do to make overtures to the wrong side."

"Oh, I think we need have no fear on that score," the Chief of the Political Section spoke up. "I know these entrenched cliques. Once challenged by an aroused populace, they scuttle for safety — with large balances safely tucked away in neutral banks."

"I'd like to go on record," Magnan piped, "as registering my deep gratification at this fulfillment of popular aspirations —"

"The most popular aspiration I know of is to live high off someone else's effort," Retief said. "I don't know of anyone outside the Corps who's managed it."

"Gentlemen!" Sternwheeler bellowed. "I'm awaiting your constructive suggestions — not an exchange of political views. We'll arrive off Glave in less than six hours. I should like before that time to have developed some notion regarding to whom I shall expect to offer my credentials!"

There was a discreet tap at the door; it opened and the young Third Secretary poked his head in.

"Mr. Ambassador, I have a reply to your message — just received from Glave. It's signed by the Steward of the GFE, and I thought you'd want to see it at once..."

"Yes, of course; let me have it."

"What's the GFE?" someone asked.

"It's the revolutionary group," the messenger said, passing the message over.

"GFE? GFE? What do the letters SIGNIFY?"

"Glorious Fun Eternally," Retief suggested. "Or possibly Goodies For Everybody."

"I believe that's 'Glavian Free Electorate'," the Third Secretary said.

Sternwheeler stared at the paper, lips pursed. His face grew pink. He slammed the paper on the table.

"Well, gentlemen! It appears our worst fears have been realized! This is nothing less than a warning! A threat! We're advised to divert course and bypass Glave entirely. It seems the GFE wants no interference from meddling foreign exploiters, as they put it!"

Magnan rose. "If you'll excuse me Mr. Ambassador, I want to get off a message to Sector HQ to hold my old job for me —"

"Sit down, you idiot!" Sternwheeler roared. "If you think I'm consenting to have my career blighted — my first Ambassadorial post whisked out from under me — the Corps made a fool of —"

"I'd like to take a look at that

message," Retief said. It was passed along to him. He read it.

"I don't believe this applies to us, Mr. Ambassador."

"What are you talking about? It's addressed to me by name!"

"It merely states that 'meddling foreign exploiters' are unwelcome. Meddling foreigners we are, but we don't qualify as exploiters unless we show a profit — and this appears to be shaping up as a particularly profitless venture."

"What are you proposing, Mr. Retief?"

"That we proceed to make planetfall as scheduled, greet our welcoming committee with wide diplomatic smiles, hint at largesse in the offing and settle down to observe the lie of the land."

"Just what I was about to suggest," Magnan said.

"That might be dangerous," Sternwheeler said.

"That's why I didn't suggest it," Magnan said.

"Still it's essential that we learn more of the situation than can be gleaned from official broadcasts," Sternwheeler mused. "Now, while I can't justify risking the entire Mission, it might be advisable to dispatch a delegation to sound out the new regime."

"I'd like to volunteer," Magnan said, rising.

"Of course, the delegates may be murdered —"

"— but unfortunately, I'm under treatment at the moment." Magnan sat down.

"— which will place us in an excellent position, propaganda-wise."

"What a pity I can't go," the Military Attache said. "But my place is with my troops."

"The only troops you've got are the Assistant Attache and your secretary," Magnan pointed out.

"Say, I'd like to be down there in the thick of things," the Political Officer said. He assumed a grave expression. "But of course I'll be needed here, to interpret results."

"I appreciate your attitude, gentlemen," Sternwheeler said, studying the ceiling. "But I'm afraid I must limit the privilege of volunteering for this hazardous duty to those officers of more robust physique, under forty years of age —"

"Tsk. I'm forty-one," Magnan said.

"— and with a reputation for adaptability." His glance moved along the table.

"Do you mind if I run along now, Mr. Ambassador?" Retief said. It's time for my insulin shot."

Sternwheeler's mouth dropped open.

"Just kidding," Retief said." "I'll go. But I have one request, Mr. Ambassador: no further communication with the ground until I give the all-clear."

II

Retief grounded the lighter, incycled the lock and stepped out. The hot yellow Glavian sun beat down on a broad expanse of concrete, an abandoned service cart and a row of tall ships casting black

shadows toward the silent control tower. A wisp of smoke curled up from the shed area at the rim of the field. There was no other sign of life.

Retief walked over to the cart, tossed his valise aboard, climbed into the driver's seat and headed for the operations building. Beyond the port, hills rose, white buildings gleaming against the deep green slopes. Near the ridge, a vehicle moved ant-like along a winding road, a dust trail rising behind it. Faintly a distant shot sounded.

Papers littered the ground before the Operations Building. Retief pushed open the tall glass door, stood listening. Slanting sunlight reflected from a wide polished floor, at the far side of which illuminated lettering over empty counters read IMMIGRATION, HEALTH and CUSTOMS. He crossed to the desk, put the valise down, then leaned across the counter. A worried face under an oversized white cap looked up at him.

"You can come out now," Retief said. "They've gone."

The man rose, dusting himself off. He looked over Retief's shoulder. "Who's gone?"

"Whoever it was that scared you."

"Whatta ya mean? I was looking for my pencil."

"Here it is." Retief plucked a worn stub from the pocket of the soiled shirt sagging under the weight of braided shoulderboards. "You can sign me in as a Diplomatic Representative. A break for you — no formalities necessary. Where can I catch a cab for the city?"

The man eyed Retief's bag. "What's in that?"

"Personal belongings under duty-free entry."

"Guns?"

"No, thanks, just a cab."

"You got no gun? The man raised his voice.

"That's right, fellows," Retief called out. "No gun; no knife, not even a small fission bomb. Just a few pairs of socks and some reading matter."

A brown-uniformed man ran from behind the Customs Counter, holding a long-barreled blast-rifle centered on the Corps insignia stitched to the pocket of Retief's powder-blue blazer.

"Don't try nothing," he said. "You're under arrest."

"It can't be overtime parking. I've only been here five minutes."

"Hah!" The gun-handler moved out from the counter, came up to Retief. "Empty out your pockets!" he barked. "Hands overhead!"

"I'm just a diplomat, not a contortionist," Retief said, not moving. "Do you mind pointing that thing in some other direction?"

"Looky here, Mister, I'll give the orders. We don't need anybody telling us how to run our business."

"I'm telling you to shift that blaster before I take it away from you and wrap it around your neck," Retief said conversationally. The cop stepped back uncertainly, lowering the gun.

"Jake! Horny! Pud! come on out!"

Three more brown uniforms emerged from concealment.

"Who are you fellows hiding from, the top sergeant?" Retief glanced over the ill-fitting uniforms, the unshaved faces, the scuffed boots. "Tell you what. When he shows up, I'll engage him in conversation. You beat it back to the barracks and grab a quick bath —"

"That's enough smart talk." The biggest of the three newcomers moved up to Retief. "You stuck your nose in at the wrong time. We just had a change of management around here."

"I heard about it," Retief said. "Who do I complain to?"

"Complain? What about?"

"The port's a mess," Retief barked. "Nobody on duty to receive official visitors! No passenger service facilities! Why, do you know I had to carry my own bag —"

"All right, all right, that's outside my department. You better see the boss."

"The boss? I thought you got rid of the bosses."

"We did, but now we got new ones."

"They any better than the old ones?"

"This guy asks too many questions," the man with the gun said. "Let's let Sozier answer 'em."

"Who's he?"

"He's the Military Governor of the City."

"Now we're getting somewhere," Retief said. "Lead the way, Jake — and don't forget my bag."

Sozier was a small man with thin hair oiled across a shiny scalp, prominent ears and eyes like coal chips set in rolls of fat. He glowered at Retief from behind a polished desk occupying the center of a spacious office.

"I warned you off," he snapped. "You came anyway." He leaned forward and slammed a fist down on the desk. "You're used to throwing your weight around, but you won't throw it around here! There'll be no spies pussyfooting around Glave!"

"Looking for what, Mr. Sozier?"

"Call me General!"

"Mind if I sit down?" Retief pulld out a chair, seated himself and took out a cigar. "Curiously enough," he said, lighting up, "the Corps has no intention of making any embarrassing investigations. We deal with the existing government, no questions asked." His eyes held the other's. "Unless, of course, there are evidences of atrocities or other illegal measures."

The coal-chip eyes narrowed. "I don't have to make explanations to you or anybody else."

"Except, presumably, the Glavian Free Electorate," Retief said blandly. "But tell me, General — who's actually running the show?"

A speaker on the desk buzzed. "Hey, Corporal Sozier! Wes's got them two hellions cornered. They're holed up in the Birthday Cake —"

"General Sozier, damn you! and plaster your big mouth shut!" He gestured to one of the uniformed men standing by.

"You! Get Trundy and Little Moe up here — pronto!" He swiveled back to Retief. "You're in luck. I'm too busy right now to bother with

you. You get back over to the port and leave the same way you came — and tell your blood-sucking friends the easy pickings are over as far as Glave's concerned. You won't lounge around here living high and throwing big parties and cooking up your dirty deals to get fat on at the expense of the working man."

Retief dribbled ash on Sozier's desk and glanced at the green uniform front bulging between silver buttons.

"Who paid for your potbelly, Sozier?" he inquired carelessly.

Sozier's eyes narrowed to slits. "I could have you shot!"

"Stop playing games with me, Sozier," Retief rapped. "There's a squadron of Peace Enforcers standing by just in case any apprentice statesmen forget the niceties of diplomatic usage. I suggest you start showing a little intelligence about now, or even Horny and Pud are likely to notice."

Sozier's fingers squeaked on the arms of his chair. He swallowed.

"You might start by assigning me an escort for a conducted tour of the capital," Retief went on. "I want to be in a position to confirm that order has been restablished, and that normal services have been restored. Otherwise it may be necessary to send in a Monitor Unit to straighten things out."

"You know you can't meddle with the internal affairs of a sovereign world!"

Retief sighed. "The trouble with taking over your boss's job is discovering its drawbacks. It's disillusioning, I know, Sozier, but —"

"All right! Take your tour! You'll find everything running as smooth as silk! Utilities, police, transport, environmental control —"

"What about Space Control? Glave Tower seems to be off the air."

"I shut it down. We don't need anything and we don't want anything from the outside."

"Where's the new Premier keeping himself? Does he share your passion for privacy?"

The general got to his feet. "I'm letting you take your look, Mr. Big Nose. I'm giving you four hours. Then out! And the next meddling bureaucrat that tries to cut atmosphere on Glave without a clearance gets burned!"

"I'll need a car."

"Jake! You stick close to this bird Take him to the main power plant, the water works and the dispatch center. Ride him around town and show him we're doing okay without a bunch of leeches bossing us. Then dump him at the port — and see that he leaves."

"I'll plan my own itinerary, thanks· I can't promise I'll be finished in four hours — but I'll keep you advised."

"I warned you —"

"I heard you. Five times. And I only warned you once. You're getting ahead of me." Retief rose, motioned to the hulking guard. "Come on, Jake. We've got a lot of ground to cover before we come back for our dinner.

III

At the curb, Retief held out his hand. "Give me the power cylinder out of your rifle, Jake."

"Huh?"

"Come on, Jake. You've got a nervous habit of playing with the firing stud. We don't want any accidents."

"How do you get it out? They only give me this thing yesterday."

Retief pocketed the cylinder. "You sit in back. I'll drive." He wheeled the car off along a broad avenue crowded with vehicles and lined with flowering palms, behind which stately white buildings reared up into the pale sky.

"Nice looking city, Jake," Retief said conversationally. "What's the population?"

"I dunno. I only been here a year."

"What about Horny and Pud? Are they natives?"

"Whatta ya mean, natives? They're just as civilized as me."

"My boner, Jake. Known Sozier long?"

"Sure. He useta come around to the club."

"I take it he was in the army under the old regime?"

"Yeah — but he didn't like the way they run it. Nothing but band playing and fancy marching. There wasn't nobody to fight."

"Just between us, Jake — where did the former Planetary Manager General go?" Retief watched Jake's heavy face in the mirror. Jake jumped, clamped his mouth shut.

"I don't know nothing."

Half an hour later, after a tour of the commercial center, Retief headed towards the city's outskirts. The avenue curved, leading up along the flank of a low hill.

"I must admit I'm surprised, Jake," Retief said. "Everything seems orderly. No signs of riots or panic. Power, water, communications normal — just as the general said. Remarkable, isn't it, considering that the entire managerial class has packed up and left?"

"You wanta see the Power Plant?" Retief could see perspiration beaded on the man's forehead under the uniform cap.

"Sure. Which way?" With Jake directing, Retief ascended to the ridge top, cruised past the blank white facade of the station.

"Quiet, isn't it?" Retief pulled the car in to the curb. "Let's go inside."

"Huh? Corporal Sozier didn't say nothing —"

"You're right, Jake. That leaves it to our discretion."

"He won't like it."

"The corporal's a busy man, Jake. We won't worry him by telling him about it."

Jake followed Retief up the walk. The broad double doors were locked. "Let's try the back."

The narrow door set in the high blank wall opened as Retief approached. A gun barrel poked out, followed by a small man with bushy red hair. He looked Retief over.

"Who's this party, Jake?" he barked.

"Sozier said show him the plant," Jake said.

"What we need is more guys to pull duty, not tourists. Anyway, *I'm*

Chief Engineer here. Nobody comes in here 'less I like their looks." Retief moved forward, stood looking down at the redhead. The little man hesitated, then waved him past. "Lucky for you I like your looks." Inside, Retief surveyed the long room, the giant converter units, the massive busbars. Armed men — some in uniform, some in work clothes or loud sport shirts — stood here and there. Other men read meters, adjusted controls or inspected dials.

"You've got more guards than workers," Retief said. "Expecting trouble?"

The redhead bit the corner from a plug of spearmint. He glanced around the plant. "Things is quiet now; but you never know."

"Rather old - fashioned equipment isn't it? When was it installed?"

"Huh? I dunno. What's wrong with it?"

"What's your basic power source, a core sink? Lithospheric friction? Sub-crustal hydralics?"

"Beats me, Mister. I'm the boss here, not a dern mechanic."

A gray-haired man carrying a clipboard walked past, studied a panel, made notes, glanced up to catch Retief's eye, moved on.

"Everything seems to be running normally," Retief remarked.

"Sure. Why not?"

"Records being kept up properly?"

"Sure. Some of these guys, all they do is walk around looking at dials and writing stuff on paper. If it was me, I'd put 'em to work."

Retief strolled over to the gray-haired man, now scribbling before a bank of meters. He glanced at the clipboard.

Power off at sunset. Tell Corasol was scrawled in block letters across the record sheet. Retief nodded, rejoined his guard.

"All right, Jake. Let's have a look at the communications center."

Back in the car, headed west, Retief studied the blank windows of office buildings, the milling throngs in beer bars, shooting galleries, tattoo parlors, billiard halls, pinball arcades, bordellos and half-credit casinos.

"Everybody seems to be having fun," he remarked.

Jake stared out the window. "Yeah."

"Too bad you're on duty, Jake. You could be out there joining in."

"Soon as the corporal gets things organized, I'm opening me up a place to show dirty tri-di's. I'll get my share."

"Meanwhile, let the rest of 'em have their fun, eh Jake?"

"Look, Mister, I been thinking. Maybe you better gimme back that kick-stick you taken outa my gun..."

"Sorry, Jake; no can do. Tell me, what was the real cause of the revolution? Not enough to eat? Too much regimentation?"

"Naw, we always got plenty to eat. There wasn't none of that regimentation up til! I joined up in the corporal's army."

"Rigid class structure, maybe? Educational discrimination?"

Jake nodded. "Yeah, it was them schools done it. All the time trying

to make a feller to some kind of class. Big shots. Know it all. Gonna make us sit around and view tapes. Figgered they was better than us."

"And Sozier's idea was you'd take over, and you wouldn't have to be bothered."

"Aw, it wasn't Sozier's idea. He ain't the big leader."

"Where does the big leader keep himself?"

"I dunno. I guess he's pretty busy right now." Jake snickered. "Some of them guys call themselves colonels turned out not to know nothing about how to shoot off the guns."

"Shooting, eh? I thought it was a sort of peaceful revolution. The managerial class were booted out, and that was that."

"I don't know nothing," Jake snapped. "How come you keep trying to get me to say stuff I ain't supposed to talk about? You want to get me in trouble?"

"Oh, you're already in trouble, Jake. But if you stick with me, I'll try to get you out of it. Where exactly did the refugees head for? How did they leave? Must have been a lot of them; I'd say in a city of this size alone, they'd run into the thousands."

"I don't know."

"Of course, it depends on your definition of a big shot. Who's included in that category, Jake?"

"You know, the slick-talking ones; the fancy dressers; the guys that walk around and tell other guys what to do. We do all the work and they get all the big pay."

"I suppose that would cover scientists, professional men, executives, technicians of all sorts, engineers, teachers—all that crowd."

"Yeah, them are the ones."

"And once you got them out of the way, the regular fellows would have a chance. Chaps that don't spend all their time taking baths and reading books and using big words; good Joes that don't mind picking their noses in public."

"We got as much right as anybody —"

"Jake, who's Corasol?"

"He's — I don't know."

"I thought I overheard his name somewhere."

"Uh, here's the communication center," Jake cut in.

Retief swung into a parking lot under a high blank facade. He set the brake and stepped out.

"Lead the way, Jake."

"Look, Mister, the corporal only wanted me to show you the outside."

"Anything to hide, Jake?"

Jake shook his head angrily and stamped past Retief. "When I joined up with Sozier, I didn't figger I'd be getting in this kind of mess."

"I know, Jake. It's tough. Sometimes it seems like a fellow works harder after he's thrown out the parasites then he did before."

A cautious guard let Retief and Jake inside, followed them along bright-lit aisles among consoles, cables, batteries of instruments. Armed men in careless uniforms lounged, watching. Here and there a silent technician worked quietly.

Retief paused by one, an elderly man in a neat white coverall, with a purple spot under one eye.

"Quite a bruise you've got there," Retief commented heartily. "Power failure at sunset," he added softly. The technician hesitated, nodded and moved on.

Back in the car, Retief gave Jake directions. At the end of three hours, he had seen twelve smooth-running, heavily guarded installations.

"So far, so good, Jake," he said. "Next stop, Sub-station Number Nine." In the mirror, Jake's face stiffened. "Hey, you can't go down there —"

"Something going on there, Jake?"

"That's where — I mean, no. I don't know."

"I don't want to miss anything, Jake. Which way?"

"I ain't going down there," Jake said sullenly.

Retief braked. "In that case, I'm afraid our association is at an end, Jake."

"You mean . . . you're getting out here?"

"No, you are."

"Huh? Now wait a minute, Mister! The corporal said I was to stay with you."

Retief accelerated. "That's settled, then. Which way?"

IV

Retief pulled the car to a halt two hundred yards from the periphery of a loose crowd of brown-uniformed men who stood in groups scattered across a broad plaza, overflowing into a stretch of manicured lawn before the bare, functional facade of sub-station number Nine. In the midst of the besieging mob, Sozier's red face and bald head bobbed as he harangued a cluster of green-uniformed men from his place in the rear of a long open car.

"What's it all about, Jake?" Retief enquired. "Since the parasites have all left peacefully, I'm having a hard time figuring out who'd be holed up in the pumping station — and why. Maybe they haven't gotten the word that it's all going to be fun and games from now on."

"If the corporal sees you over here —"

"Ah, the good corporal. Glad you mentioned him, Jake. He's the man to see." Retief stepped out of the car and started through the crowd. A heavy lorry loaded with an immense tank with the letter H blazoned on its side trundled into the square from a side street, moved up to a position before the building. A smaller car pulled alongside Sozier's limousine. The driver stepped down, handed something to Sozier. A moment later, Sozier's amplified voice boomed across the crowd.

"You in there, Corasol! This is General Sozier, and I'm warning you to come out now or you and your smart friends are in for a big surprise. You think I won't blast you out because I don't want to wreck the planet. You see the tank aboard the lorry that just pulled up? It's full of gas — and I got plenty of hoses out here to pump it inside with. I'll put men on the roof and squirt it in the ventilators."

Sozier's voice echoed and died. The militiamen eyed the station. Nothing happened.

"I know you can hear me, damn

you!" Sozier squalled. "You'd better get the doors open and get out here fast!"

Retief stepped to Sozier's side. "Say, Corporal, I didn't know you went in for practical jokes."

Sozier jerked around to gape at Retief.

"What are you doing here!" he burst out. "I told Jake — where is that —"

"Jake didn't like the questions I was asking," Retief said, "so he marched me up here to report to you."

"Jake, you damn fool!" Sozier roared. "I got a good mind —"

"I disagree, Sozier," Retief cut in. "I think you're a complete imbecile. Sitting out here in the open yelling at the top of your lungs, for example. Corasol and his party might get annoyed and spray that fancy car you've swiped with something a lot more painful than words."

"Eh?" Sozier's head whipped around to stare at the building.

"Isn't that a gun I see sticking out?"

Sozier dropped. "Where?"

"My mistake. Just a foreign particle on my contact lenses." Retief leaned on the car. "On the other hand, Sozier, most murderers are sneaky about it. I think making a public announcement is a nice gesture on your part. The Monitors won't have any trouble deciding who to hang when they come in to straighten out this mess."

Sozier scrambled back onto his seat. "Monitors?" he snarled. "I don't think so. I don't think you'll be around to do any blabbering to anybody." He raised his voice. "Jake! March this spy over to the sidelines. If he tries anything, shoot him!" He gave Retief a baleful grin. "I'll lay the body out nice and ship it back to your cronies. Accidents will happen, you know. It'll be a week or two before they get around to following up — and by then I'll have this little problem under control."

Jake looked at Retief uncertainly, fingering his empty rifle.

Retief put his hands up. "I guess you got me, Jake," he said. "Careful of that gun, now."

Jake glanced at Sozier, gulped, aimed the rifle at Retief and nodded toward the car. As Retief moved off, a murmur swept across the crowd. Retief glanced back. A turret on the station roof was rotating slowly. A shout rose; men surged away from the building, scuffling for way; Sozier yelled. His car started up, moved forward, horns blaring. As Retief watched, a white stream arced up from the turret, catching the sun as it spanned the lawn, plunged down to strike the massed men in a splatter of spray. It searched across the mob, came to rest on Sozier's car. Uniformed men scrambled for safety as the terrified driver gunned the heavy vehicle. The hose followed the car, dropping a solid stream of water on Sozier, kicking and flailing in the back seat. As the car passed from view, down a side street, water was overflowing the sides.

"The corporal will feel all the better for an invigorating swim in his

mobile pool," Retief commented. "By the way, Jake, I have to be going now. It wouldn't be fair to send you back to your boss without something to back up your story that you were outnumbered, so—"

Retief's left fist shot out to connect solidly with Jake's jaw. Jake dropped the gun and sat down hard. Retief turned and headed for the pumping station. The hose had shut down now. A few men were standing, eyeing the building anxiously. Others watched his progress across the square. As Retief passed, he caught scattered comments:

"— seen that bird before."

"— where he's headed."

"— feller Sozier was talking to..."

"Hey, you!"

Retief was on the grass now. Ahead, the blank wall loomed up. He walked on briskly.

"Stop that jasper!" a shout rang out. There was a sharp whine and a black spot appeared on the wall ahead. Near it, a small personnel door abruptly swung inward. Retief sprinted, plunged through the opening as a second shot seared the paint on the doorframe. The door clanged behind him. Retief glanced over the half dozen men confronting him.

"I'm Retief, CDT, acting Charge," he said. "Which of you gentlemen is Manager-General Corosol?"

Corasol was a tall, wide-shouldered man of fifty, with shrewd eyes, a ready smile, capable-looking hands and an urbane manner. He and Retief sat at a table at one side of the large room, under a maze of piping, tanks and valves. Corasol poured amber fluid into square glass tumblers.

"We spotted you by the blazer," he said. "Baby blue and gold braid stand out in a crowd."

Retief nodded. "The uniform has its uses," he agreed. He tried the drink. "Say, what is this? It's not bad."

"Sugarweed rum. Made from a marine plant. We have plenty of ocean here on Glave; there's only the one continent, you know, and it's useless for agriculture."

"Weather?"

"That's part of it. Glave is moving into what would be a major glaciation if it weren't for a rather elaborate climatic control installation. Then there are the tides. Half the continent would be inundated twice a year when our satellite is at aphelion; there's a system of baffles, locks and deep-water pumps that maintain the shore-line more or less constant. We still keep our cities well inland. Then there are the oxygen generators, the atmosphere filtration complex, vermin control and so on. Glave in its natural state is a rather hostile world."

"I'm surprised that your mines can support it all."

"Oh, they don't." Corasol shook his head. "Two hundred years ago, when the company first opened up Glave, it was economical enough. Quintite was a precious mineral in those days. Synthetics have long since taken over. Even fully automated, the mines barely support the public services and welfare system."

"I seem to recall a reference in the Post Report to the effect that a company petition to vacate its charter had been denied . . ."

Corasol nodded, smiling wryly. "The CDT seemed to feel that as long as any of the world's residents desired to remain, the Company was constrained to oblige them. The great majority departed long ago, of course. Relocated to other operational areas. Only the untrainables, living off welfare funds—and a skeleton staff of single men to operate the technical installations — have stayed on."

"That explains the mechanics of the recent uprising," Retief said.

The bottle clinked against glasses for a second round. "What about the good corporal?" Retief asked. "Assuming he's a strong swimmer, you should be hearing from him soon."

Corasol glanced at his finger watch. "I imagine he'll be launching his gas attack any minute."

"The prospect doesn't seem to bother you."

"Sozier is a clever enough chap in his own way," Corasol said. "But he has a bad habit of leaping to conclusions. He's gotten hold of a tank of what someone has told him is gas — as indeed it is. Hydrogen, for industrial use. It seems the poor fellow is under the impression that anything masquerading as gas will have a lethal effect."

"He may be right — if he pumps it in fast enough."

"Oh, he won't be pumping it. Not after approximately five minutes from now."

"Hmmm. I think I'm beginning to see the light. 'Power off at sunset.' "

Corasol nodded. "I don't think he realizes somehow that all his vehicles are operating off broadcast power."

"Still, he has a good-sized crowd of hopefuls with him. How do you plan to get through them?"

"We don't. We go under. There's an extensive system of service ways underlying the city; another detail which I believe has escaped the corporal's notice."

"You'll be heading for the port?"

"Yes — eventually. First, we have a few small chores to see to. Sozier has quite a number of our technical men working at gun point to keep various services going."

Retief nodded. "It won't be easy breaking them out. I made a fast tour of the city this afternoon. Locked doors, armed guards —"

"Oh, the locks are power-operated, too. Our fellows will know what to do when the power fails. I think the sudden darkness will eliminate any problem from the guards."

The lights flickered and died. The whine of the turbines was suddenly noticeable, descending. Faint cries sounded from outside.

Corasol switched on a small portable lantern. "All ready, gentlemen?" he called, rising. "Let's move out. We want to complete this operation before dawn."

Four hours later, Retief stood with Corasol in a low-ceilinged tunnel, white-tiled, brilliantly lit by a central glare strip, watching as the last of the column of men released from forced labor in the city's util-

ities installations filed past. A solidly-built man with pale blond hair came up, breathing hard.

"How did it go, Taine?" Corasol asked.

"They're beginning to catch on, Mr. Corasol. We had a brisk time of it at Station Four. Everybody's clear now. No one killed, but we had a few injuries."

Corasol nodded. "The last few crews in have reported trouble. Ah — what about —"

Taine shook his head. "Sorry, sir. No trace. No one's seen them. But they're probably at the port ahead of us, hiding out. They'd know we'd arrive eventually."

"I suppose so. You sent word to them well in advance . . ."

"Suppose I stand by here with a few men. We'll patrol the tunnels in case they show up. We have several hours before daylight."

"Yes. I'll go along and see to the preparations at Exit Ten. We'll make our sortie at oh-five-hundred. If you haven't seen anything of them by then . ."

"I'm sure they're all right."

"They'd better be." Corasol said grimly. "Let's be off, Retief."

"If it's all the same to you, Mr. Manager-General, I'll stay here with Taine. I'll join you later."

"As you wish. I don't imagine there'll be any trouble — but if there is, having a CDT observer along will lend a certain air to the operation." He smiled, shook Retief's hand and moved off along the tunnel. The echo of feet and voices grew faint, faded to silence. Taine turned to the three men detailed to him, conversed briefly, sent them off along branching corridors. He glanced at Retief.

"Mr. Retief, you're a diplomat. This errand is not a diplomatic one."

"I've been on a few like that, too, Mr. Taine."

Taine studied Retief's face. "I can believe that," he said. "However, I think you'd better rejoin the main party."

"I might be of some use here, if your missing men arrive under fire."

"Missing men?" Tine's mouth twisted in a sour smile. "You fail to grasp the picture, Mr. Retief. There'll be no missing men arriving."

"Oh? I understood you were waiting here to meet them."

"Not men, Mr. Retief. It happens that Corasol has twin daughters, aged nineteen. They haven't been seen since the trouble began."

V

Half an hour passed. Retief leaned against the tunnel wall, arms folded, smoking a cigar in silence. Taine paced, ten yards up the corridor, ten yards back . . .

"You seem nervous, Mr. Taine," Retief said.

Taine stopped pacing, eyed Retief coldly. "You'd better go along now," he said decisively. "Just follow the main tunnel. It's about a mile."

"Plenty of time yet, Mr. Taine." Retief smiled and drew on his cigar. "Your three men are still out."

"They won't be back here. We'll rendezvous at Exit Ten."

"Am I keeping you from something, Taine?"

"I can't be responsible for your safety if you stay here."

"Oh? You think I might fall victim to an accident?"

Taine narrowed his eyes. "It could happen," he said harshly.

"Where were the girls last seen?" Retief asked suddenly.

"How would I know?"

"Weren't you the one who got word to them?"

"Maybe you'd better keep out of this."

"You sent your men off; now you're eager to see me retire to a safe position. Why the desire for solitude, Taine? You wouldn't by any chance have plans?"

"That's enough," Taine snapped. "On your way. That's an order!"

"There are some aspects of this situation that puzzle me, Mr. Taine. Mr. Corasol has explained to me how he and his Division Chiefs — including you — were surprised in the executive suite at Planetary Central by a crowd of Sozier's bully-boys. They came in past the entire security system without an alarm. Corasol and the others put up a surprisingly good fight and made it to the service elevators — and from there to the sub-station. There was even time to order an emergency alert to the entire staff — but somehow, they were all caught at their stations and kept on the job at gun point. Now, I should think that you, as Chief of Security as well as Communications, should have some ideas as to how all this came about."

"Are you implying —"

"Let me guess, Taine. You have a deal with Sozier. He takes over, ousts the legal owners, and sets himself up to live off the fat of the land, with you as his technical chief. Then, I imagine, you'd find it easy enough to dispose of Sozier — and you'd be in charge."

Without warning Taine put his head down and charged. Retief dropped his cigar, sidestepped and planted a solid right on Taine's jaw. He staggered, went to his hands and knees.

"I suppose you'd like to get word to Sozier that his work force is arriving at the port at oh-five-hundred," Retief said. "Of course, he'll want to have a good-sized reception committee on hand as they come out."

Taine plunged to his feet, threw a vicious left that went past Retief's ear, then abruptly dropped, clamped a lock on Retief's leg, twisted —

The two men rolled, came to rest with Taine on top, Retief face-down, his arm bent back and doubled. Taine, red-faced and puffing, grunted as he applied pressure.

"You know a lot about me," he grated, "but you overlooked the fact that I've been Glavian Judo champion for the past nine years."

"You're a clever man, Taine," Retief said between clenched teeth. "Too clever to think it will work."

"It will work. Glave's never had a CDT mission here before. We're too small. Corasol invited your Embassy in because he had an idea there was something in the wind. That forced my hand. I've had to move hastily. But by the time I invite observers in to see for them-

selves, everything will be running smoothly. I can even afford to let Corasol and the others go — I'll have hostages for his good behavior."

"You've been wanting to boast about it to someone who could appreciate your cleverness, I see. Sozier must be an unappreciative audience."

"Sozier's a filthy pig — but he had his uses."

"What do you plan to do now?"

"I've been wondering that myself — but I think the best solution is to simply break your arm for now. You should be easy to control then. It's quite simple. I merely apply pressure, thus . . ."

"Judo is a very useful technique," Retief said. "But in order to make it work, you have to be a pretty good man . . ." He moved suddenly, shifting his position. Taine grabbed, holding Retief's arm by the wrist and elbow, his own arm levering Retief's back, back . . . Retief twisted onto his side, then his back. Tiane grunted, following the movement, straining. Slowly, Retief sat up against Taine's weight. Then, with a surge, he straightened his arm. Taine's grip broke. Retief came to his feet. Taine scrambled up in time to meet a clean uppercut that snapped him onto his back — out cold.

"Ah, there you are," Retief said as Taine's eyes fluttered and opened. "You've had a nice nap — almost fifteen minutes. Feeling better?"

Taine snarled, straining against the bonds on his wrists.

"Gold braid has its uses," Retief commented. "Now that you're back, perhaps you can answer a question a question for me. What's the Birthday Cake?"

Taine spat. Retief went to stand over him.

"Time is growing short, Mr. Taine. It will be dawn in another two hours. I can't afford the luxury of coaxing you."

"You won't get away with this."

Retief looked at the glowing end of his cigar. "This won't be subtle, I agree — but it will work."

"You're bluffing."

Retief leaned closer. "In my place — would you hesitate?" he asked softly.

Taine cursed, struggled to break free, eyes on the cigar.

"What kind of diplomat are you?" he snarled.

"The modern variety. Throat-cutting, thumb-screws, poison and stiletto work were popular in Machiavelli's time; nowadays we go in more for the administrative approach — but the cigar-end still has its role."

"Look, we can come to an agreement —"

"What's the Birthday Cake?" Retief snapped.

"I'm in a position to do a lot for you!"

"Last chance —"

"It's the official Residence of the Manager-General!" Taine screeched, writhing away from the cigar.

"Where is it? Talk fast!"

"You'll never get close! There's a seven-foot wall and by this time the grounds are swarming with Sozier's men."

"Nevertheless, I want to know where it is — and the information had better be good. If I don't come back, you'll have a long wait."

Taine groaned. "All right. Put that damned cigar away. I'll tell you what I can..."

Retief stood in the shadow of a vine-grown wall, watching the relief of the five-man guard detail at the main gate to the Residence grounds. The bluish light of the Glavian satellite reflected from the rain-pocked street, glinted from the leaves of a massive tree ten yards from the gate. The chill in the air cut through Retief's wet clothes. The men at the gate huddled, hands in pockets, coat collars turned up, backs to the wind — and to Retief. He moved silently forward, caught a low branch of the tree, pulled himself up.

The men at the gate exchanged muttered remarks. One lit a cigarette. Retief waited, then moved higher. The guards talked in low voices, edged closer to the shelter of the gate-house. Retief lowered himself onto the wall, dropped down onto the sodden lawn, crouched, waiting. There was no alarm.

Through the trees the dark shape of the house loomed up, its top storey defiantly ablaze with lights. Retief moved off silently, from the shadow of one tree to the next, swinging in an arc that would bring him to the rear of the great round structure. He froze as the heavy footfalls of one of Sozier's pickets slogged past five yards from him, then moved on. The glow of a campfire flickered near the front of the house. Retief could make out the shapes of men around it — a dozen or two, at least. Probably as many more warmed themselves at each of the other fires visible on the grounds — and most of the rest had doubtless found dryer shelter in the lee of the house itself.

Retief reached the conservatory at the rear of the house, studied the dark path leading to the broad terrace, picked out the squat shape of the utilities manifold behind a screen of shrubbery. So far, Taine's information had been accurate. The next step was to —

There was a faint sound from high above, followed by a whoosh! Then with a sharp crack! a flare appeared overhead, rocking gracefully, flosting down gently under a small parachute. Below it, inky shadows rocked in unison.

In the raw white light, Retief counted eighteen men clinging to handholds on the side of the house, immobile in the pitiless glare. Above them, a face appeared, then a second, peering over the edge of the fourth-storey gallery. Both figures rose, unlimbering four-foot bows, fitting arrows to strings —

Whok! Whok! Two men lost their holds and fell, yelling, to slam into the heavy shrubbery. A second flight of arrows found marks. Retief watched from the shadows as man after man dropped to flounder in the wet foliage. Several jumped before the deadly bows were turned on them. As the flare faded, the last of the men plunged down to crash among their fellows. Retief stepped

out, ran swiftly to the manifold, forcing his way among the close-growing screen, scrambled to its top. His hand fell on a spent arrow. He picked it up.

It was a stout wooden shaft twenty inches long, terminating in a rubber suction cup. Retief snorted, dropped the arrow and started up.

VI

Twenty feet above ground level, the wide windows of the third floor sun terrace presented a precarious handhold as Retief swung back a foot and kicked in a panel. Inside, he dimly made out the shape of a broad carpeted room, curving out of sight in both directions. There were wide-leaved tropical plants in boxes, groups of padded chairs, low tables with bowls of fruit. Retief made his way past them, found an inner door, went into a dark hall. At the far end, voices exchanged shouted questions. Feet pounded. A flicker of light from a hand lantern splashed across the wall, disappeared. Retief found a stair, went up it noiselessly. According to Taine, the elevator to the top floor apartment should be to the left —

Retief flattened himself to the wall. Footsteps sounded near at hand. He moved quickly to a doorway. There was a murmur of voices, the wavering light of lanterns. A party of uniformed men tiptoed past a cross corridor, struggling under the weight of a massive log, two feet in diameter and twelve feet long.

"... on signal, hit it all together. Then ..." someone was saying.

Retief waited, listening. There was the creak of a door, the fumbling of awkwardly laden feet on a stair, hoarse breathing, a muffled curse.

"... got my fingers, you slob!" a voice snarled.

"Shaddup!" another voice hissed.

There was a long moment of silence, then a muffled command — followed an instant later by a thunderous crash, a shout — cut off abruptly by a ponderous *blam*! followed instantly by a roar like a burst dam, mingled with yells, thumps, crashes. A foamy wash of water surged along the cross corridor, followed a moment later by a man sliding on his back, then another, two more, the log, fragments of a door, more men.

In the uproar, Retief moved along to the elevator, felt over the control panel, located a small knurled button. He turned it. The panel came away. He fumbled cautiously, found a toggle switch, flipped it. A light sprang up in the car. Instantly Retief flipped the light switch; the glow faded. He waited. No alarm. Men were picking themselves up, shouting.

"... them broads dropped a hundred-gallon bag of water ..." Someone complained.

"... up there fast, men. We got the door okay!"

Feet thumped. Yells sounded.

"No good, Wes! They got a safe or something in the way!"

Retief silently closed the lift door, pressed the button. With a sigh, the car slid upward, came to a gentle

stop. He eased the door open, looked out into a dim-lit entrance hall. Footsteps sounded beyond a door. He waited; the clack of high heels crossing a floor. Retief stepped out of the car, went to the door, glanced into a spacious lounge with rich furniture, deep rugs, paintings, a sweep of glass, and in an alcove at the far side, a bar. Retief crossed the room, poured a stiff drink into a paper-thin glass and drained it.

The high-heeled steps were coming back now. A door opened. Two leggy young women in shorts, with red-gold hair bound back by ribbons — one green, one blue — stepped into the room. One girl held a coil of insulated wire; the other, a heavy-looking gray-enameled box eight inches on a side.

"Now, see if you can tinker that generator to get a little more juice, Lyn," the girl with the wire said. "I'll start stringing . . . "

Her voice died as she caught sight of Retief. He raised his glass. thing to put out about a thousand "My compliments, ladies. I see you're keeping yourselves amused."

"Who . . . who are you?" Lyn faltered.

"My name's Retief. Your father sent me along to carry your bags. It's lucky I arrived when I did, before any of those defenseless chaps outside were seriously injured."

"You're not . . . one of them?"

"Of course he's not, Lyn," the second girl said. "He's much too good-looking."

"That's good," Lyn said crisply. "I didn't want to have to use this thing." She tossed a bright-plated 2 mm needler onto a chair and sat down. "Dad's all right, isn't he?"

"He's fine, and we've got to be going. Tight schedule, you know. And you'd better get some clothes on. It's cold outside."

Lyn nodded. "Environmental Control went off the air six hours ago. You can already feel snow coming."

"Don't you suppose we have time to just rig up one little old circuit?" the other twin wheedled. "Nothing serious; just enough to tickle."

"We planned to wire all the window frames, the trunk we used to block the stair, the lift shaft —"

"And then we thought we'd try to drop a loop down and pick up the gallery guard rail, and maybe some of that wrought-iron work around the front of the house —"

"Sorry, girls; no time."

Five minutes later, the twins were ready, wrapped in fur robes. Retief had exchanged his soaked blazer for a down-lined weatherproof.

"The lift will take us all the way down, won't it?" he asked.

Lyn nodded. "We can go out through the wine cellar."

Retief picked up the needler and handed it to Lyn. "Hang on to this," he said. "You may need it yet."

A cold wind whipped the ramp as dawn lightened the sky.

"It's hard to believe," Corasol said. "What made him do it?"

"He saw a chance to own it all."

"He can have it," Corasol's communicator beeped. He put it to his ear. "Everything's ship-shape and ready to lift," a tiny voice said.

Corasol turned to Retief. "Let's go aboard."

"Hold it," Retief said. "There's someone coming."

Corasol spoke into the communi-

The man slogging across the concator. "Keep him covered."

crete was short, wrapped in heavy garments. Over his head a white cloth fluttered from a stick.

"From the set of those bat-ears, I'd say it was the good corporal."

"I wonder what he wants."

Sozier stopped twenty feet from Retief and Corasol.

"I want to . . . ah . . . talk to you, Corasol," he said.

"Certainly, General. Go right ahead."

"Look here, Corasol. You can't do this. My men will freeze. We'll starve. I've been thinking it over, and I've decided that we can reach an understanding."

Corasol waited.

"I mean, we can get together on this thing. Compromise. Maybe I acted a little hasty." Sozier looked from Corasol to Retief. "You're from the CDT. You tell him. I'll guarantee his people full rights . . ."

Retief puffed at his cigar in silence. Sozier started again.

"Look, I'll give you a full voice in running things. A fifty-fifty split. Whatta you say?"

"I'm afraid the proposal doesn't interest me, General," Corasol said.

"Never mind the General stuff," Sozier said desperately. "Listen, you can run it. Just give me and my boys a little say-so."

"Sorry." Corasol shook his head. "Not interested, General."

"Okay, okay! You win! Just come on back and get things straightened out! I got a belly full of running things!"

"I'm afraid I have other plans, General. For some time I've wanted to transfer operations to a world called Las Palmas on which we hold a charter. It has a naturally delightful climate, and I'm told the fishing is good. I leave Glave to the Free Electorate with my blessing. Goodby, General." He turned to the ship.

"You got to stay here!" Sozier howled. "We'll complain to the CDT! And don't call me General! I'm a Corporal —"

"You're a General now — whether you like it or not." Corasol said bluntly. He shivered. There was a hint of ice in the air. "If you or any of your men ever decide to go to work, General, I daresay we can train you for employment on Las Palmas. In the meantime — Long Live the Revolution!"

"You can't do this! I'll sue!"

"Calm down, Sozier," Retief said. "Go back to town and see if you can get your radio working. Put in a call for Mr. Magnan aboard the CDT vessel. Tell him your troubles. It will make his day. And a word of advice: Mr. Magnan hates a piker — so ask for plenty."

"My boy, I'm delighted," Ambassador Sternwheeler boomed. "A highly professional piece of work. A stirring testimonial to the value of the skilled negotiator!"

"You're too kind, Mr. Ambassador," Retief said, glancing at his watch.

"And Magnan tells me that not only will the Mission be welcomed, and my job secure for another year — that is, I shall have an opportunity to serve — but a technical mission has been requested as well. I shall look forward to meeting General Sozier. He sounds a most reasonable chap."

"Oh, you'll like him, Mr. Ambassador. A true democrat, willing to share all you have."

Counsellor of Embassy Magnan tapped and entered the office.

"Forgive the intrusion, Mr. Ambassador," he said breathlessly, "but I must—"

"Well, what is it, man? The deal hasn't gone sour?"

"Oh, far from it! I've been exploring General Sozier's economic situation with him via scope, and it seems he'll require a loan."

"Yes, yes? How much?"

Magnan inhaled proudly. "Twenty. Million. Credits."

"No!"

"Yes!"

"Magnificent! Good lord, Magnan, you're a genius! This will mean promotions all around. Why, the administrative load alone —"

"I can't wait to make planetfall, Mr. Ambassador. I'm all a-bubble with plans. I hope they manage to get the docking facilities back in operation soon."

"Help is on the way, my dear Magnan. I'm assured the Environmental Control installations will be coming back in operation again within a year or two."

"My, didn't those ice-caps form quickly. And in the open sea."

"Mere scum ice. As my Counsellor for Technical Affairs, you'll be in charge of the ice-breaking operation once we're settled in. I imagine you'll want to spend considerable time in the field. I'll be expecting a record of how every credit is spent."

"I'm more the executive type," Magnan said. "Possibly Retief—"

A desk speaker hummed. "Mr. Corasol's lighter has arrived to ferry Mr. Retief across to the Company ship . . ."

"Sorry you won't be with us, Retief," Sternwheeler said heartily. He turned to Magnan. "Manager-General Corasol has extended Retief an exequatur as Consul General to Las Palmas."

Retief nodded. "Much as I'd like to be out in that open boat with you, breaking ice, I'm afraid duty calls elsewhere."

"Your own post? I'm not sure he's experienced enough, Mr. Ambassador. Now, I —"

"He was requested by name, Magnan. It seems the Manager-General's children took a fancy to him."

"Eh? How curious. I never thought you were particularly interested in infant care, Retief."

"Perhaps I haven't been, Mr. Magnan." Retief draped his short blue cape over his left arm and turned to the door. "But remember the diplomat's motto: be adaptable . . ."

END

THE SECOND-CLASS CITIZEN

BY DAMON KNIGHT

ILLUSTRATED BY NODEL

We've taught the dolphins English. Sooner or later, though, there may be something for them to teach us!

Though he was used to the tropical sun, a sliver of light reflected from one of the laboratory windows stabbed into Craven's head as he crossed the walkway, leading his little group of mainlanders. He felt uneasy and feverish, more than the previous night's drinking would account for. Perhaps he was coming down with something, God forbid. It would be a rotten time for it, with the rest of the staff over in Charlotte Amalie for the weekend.

"What time did you say that plane's coming from Miami?" asked the gray, paunchy man with the clipped mustache. Hurrying to catch up with Craven, and glancing at his wristwatch, he stumbled and swore. "I ought to be back in New York right now. I hate to be out of the country with the situation the way it is."

"Two-fifteen," said Craven shortly. "You'll have plenty of time."

"What do *you* think about the

crisis, Dr. Craven?" one of the women asked. She was plump and gray-haired. "Aren't you worried to be out here all by yourself? My goodness, I would be."

"Oh, I expect it'll blow over," Craven said indifferently. "They always do."

"Well, that's right, they always *have*," the paunchy man said, sounding relieved. He paused, squinting his eyes to peer out past the white concrete pens to the harbor. "Saw something jump out there. There's another. Are those some of the animals?"

"Yes, those are the dolphins," Craven said. Irritably he strode forward to open the laboratory door. "This way, please."

Inside, it was cooler than outdoors, but full of sunlight from the big windows overlooking the sea. On the wall was an alphabet chart, with brightly colored pictures of simple objects. The floor was a concrete slab, cut away across the far side of the room to form a channel open at both ends. The water in the channel rose and fell with a slow, vertiginous surge. Craven's head was beginning to ache.

"Here's where we do most of our work with the dolphins," he said. "Just a moment, I'll see if I can get one for you." He stepped to a wall panel, pressed a switch, and spoke into the microphone. "Pete, this is Charles. Come in, please."

A quacking gabble of sound from the wall speaker answered him.

"Okay, come on in," Craven said, and switched off the mike.

"What was that?" one of the matrons demanded. "Was that one of the dolphins *talking?*"

Craven smiled. "That's right. That was Pete, our star pupil. Look out the window. And stand back a little from the channel, please."

There was a nervous shuffling of feet as some of the visitors moved away from the edge, others crowded closer to the windows. Down the concrete channel that led past the pens directly to the wall of the laboratory, something gray was moving with surprising speed. It was submerged, but kicked up an occasional burst of spray. The visitors began to murmur in alarm; some backed away from the window.

"Look out!" someone yelled. The gray shape burst into the room; the water in the channel lifted as if about to overflow, then fell back with a slapping sound. There was a shriek, then nervous laughter.

In the channel, balancing itself half out of the water, was a streamlined, water-bright shape. It spoke, in the same quacking gabble as before.

"Okay, Pete," Craven said. "Out you come."

"Was it really *talking?*" someone asked behind him. "Could you understand what it said?"

Craven, without bothering to reply, pressed a switch on the control panel. Out of a recess in the wall came an electric hoist supporting a curved, heavily braced metal platform. The platform lowered itself into the water; the dolphin swam into position over it. Craven pressed another switch; the platform rose,

streaming water. The hoist moved forward again, then lowered its passenger onto a wheeled framework that stood beside the channel. There was a click. The supporting arms of the hoist rose out of the way.

On the platform, which now formed the bed of the wheeled cart, lay a bulky eight-foot mammal. One eye was cocked alertly at Craven. The mouth, open in what seemed a pleasant smile, was full of sharp conical teeth.

"Goodness!" said one of the women. "I hope he doesn't bite!"

"Dolphins have never been known to attack a human being," Craven said perfunctorily. He pressed a button on the control panel. "Say hello to our visitors, Pete."

The dolphin glanced alertly at the people standing behind Craven, then emitted one of its high-pitched bursts of sound. To Craven's accustomed ear the words were blurred but understandable. To the others, he knew, they were only noise.

He pressed another button on the panel. After a moment, the dolphin's recorded voice, slowed down and deeper in pitch, came out of the speaker.

"Hello, lai'ss and ge'men."

There was a general murmur, some nervous laughter, one clear voice: "*What* did he say?"

"His mouth didn't move when he talked," someone commented suspiciously.

Craven grinned. "He doesn't use it for talking. That's for fish. He talks through his blowhole — there, on the top of his head. Come on over, Pete, let's have a look at you."

Obediently, the dolphin glided nearer on his cart, trailing a long plastic hose. Sprays of water had begun to spurt out of perforated tubes along either side of the cart, making the dolphin's skin gleam wetly. Out of this tiny personal rainstorm, the dolphin stared up at the visitors with friendly interest.

"He's shaped just like a jet plane!" one of the male visitors remarked. "Look at the curve of his head and, uh, snout —"

Craven smiled at the man. "Similar solutions for similar problems," he said. "Pete's streamlined, just like a pet. He's a bottle-nosed dolphin— *Tursions truncatus*—the same species Lilly used in his original work. He weighs about four hundred pounds; his brain is a little bigger than a man's. Pete is more intelligent than a dog or a monkey. He can not only understand commands in English — he can talk back to us. That's why we feel this research is so important. What we're doing is teaching another species to enter the human community."

There was a moment of impressed silence. *That will hold them,* Craven thought.

"What are all the gadgets for?" another man asked.

"He controls the cart motors with those bars under his flukes," Craven said. "The other levers on either side are for manipulation — he works those with his flippers. Pete's great lack is that he hasn't any hands or feet, you see — but we're trying to make up for that. Show them, Pete, okay?"

"Okay, Charless," said the dolphin cheerfully. The cart wheeled, glided across the floor to the low bench on the far side, leaving a wet path behind it. Jointed arms extended from the front of the cart, groped for a pointer, picked it up in metal pincers.

"Show us the apple, Pete," Craven said.

The pointer rose, wavered, came to rest with its tip on the bright picture of an apple on the wall chart.

"Now the boy," Craven said. There were murmurs of admiration as the dolphin pointed to the boy, the dog, the boat. "Now spell cat, Pete," said Craven. The pointer spelled out C-A-T.

"Good boy, Pete," Craven said. "Plenty of fish for you today."

The dolphin opened his jaws wide, emitted a Bronx cheer, then a burst of crackling dolphin laughter. There was a nervous stir among the visitors.

"You said dolphins have never been known to attack a person," said a gray-eyed girl. It was the first time she had spoken, but Craven had been aware of her; she was slender and pretty, held herself very erect.

"That's right," he said, facing her. "It isn't that they couldn't — you know they kill sharks — but they just never have."

"Even when people have hurt them?" she asked. Her gray eyes were sober.

"That's correct," Craven said.

"And it's true, isn't it, that many dolphins have been killed in the course of this research?"

Craven felt a little irritated. "There were some fatalities, before we learned how to handle them," he said shortly. He turned away. "Now let's try something more difficult. Show them the chemistry experiment, Pete."

As the dolphin turned toward the bench again, Craven commented, "This is something Pete has just been learning. We're pretty proud of it."

On the bench was a little stand with several stoppered bottles, a beaker and a row of test tubes. Controlling the jointed arms with his flippers, the dolphin reached out, picked up a bottle and pulled the stopper. One set of metal pincers held the bottle; the other picked up a test tube. Slowly Pete made the bottle pour into the test tube. It ran full and spilled over. The dolphin rocked back and forth nervously in his cart.

"Okay, Pete," Craven said soothingly. "Don't get nervous — it's all right — go ahead."

The dolphin set the bottle down with a crash, poured the contents of the test tube into the beaker. The pincers reached for another bottle, slipped and tried again. They got the bottle on the second try, tilted it but missed the test tube. Overcorrecting, the dolphin crashed bottle and test tube together, and the test tube broke. The bottle dropped, spilled.

The dolphin backed his cart away, swiveled toward Craven. "Too hard, Charless," he said plaintively. "Too hard."

Craven's fists clenched with disappointment. The creature had done it perfectly on the last three tries!

"Never mind, Pete," he said. "It's okay — you did fine. Go on out and play now."

"All finiss?" Pete asked.

"Yes. So long."

"So long." The dolphin wheeled his cart around, glided over to the edge of the channel. The jointed arms retracted. The cart bed tilted slowly; the dolphin slid off it into the water, almost without a splash. There was a glimpse of his gray body darting underwater; then the channel was empty.

On the way down to the seaplane, Craven found himself walking beside the gray-eyed girl. "Well, what did you make of it all?" he asked her.

"I thought it was *pathetic*," she said. Her gray eyes were indignant. "You talk about making them enter the human community. It's all wrong! He's a dolphin, not a man. He was trying so hard, but the best you could turn him into was something like a retarded, crippled child. I felt so *sorry*."

After the visitors were gone, Craven was restless. He kept remembering what the girl had said; there was just enough truth in it to make it rankle. His headache had not improved. The sunlight was still oppressive. He prowled through his living quarters, glanced with distaste at the black headlines of the day-old Miami paper, finally turned on the television.

"... initials stand for 'non-radioactive heat emitters,'" a chubby, gray-haired man was saying, enunciating each word clearly. "Now the question is, what would be the consequences to *us* if these weapons —"

His voice cut off suddenly and a placard filled the screen: NEWS SPECIAL. Nothing more happened for a moment. Craven lit a cigarette and waited patiently: probably it was something more about the interminable peace talks in New Delhi.

A voice said abruptly, "We interrupt this program to bring you —" Then it stopped, and the placard vanished. There was nothing on the screen but a raster, and nothing but a hiss coming out of the speaker.

After a moment Craven put his cigarette down and punched the channel selector. There was nothing on any of the channels except 13, where a faint gray picture came in for a moment, then vanished.

Craven stared at the machine, feeling abruptly frightened. If there was something wrong with the set, then why would channel 13 —?

He discovered that he was shaking. Without trying to understand what he was doing, he began to rip off his shirt and trousers. Naked except for shoes, he ran to the locker, pulled out mask, flippers, air tanks and regulator.

The sky was bright and empty as he ran toward the dock — not even a plane in sight. Craven shrugged into his harness, buckled it hastily. He glanced toward the buoy that marked the underwater station, then dropped into the water.

Halfway out toward the station, swimming two fathoms deep, Craven knew he had been right. A sudden hissing patter came above him,

and looking up, transfixed, he saw a shower of golden sparks descending, each in its furious cloud of bubbles. One came so near that he felt its heat on his skin. He writhed from it, staring incredulously as it fell to the bottom ten fathoms below.

It came to Craven's stunned mind that the thing that must not happen had happened: someone had used the weapons that were too terrible for use.

The underwater station was in sixteen fathoms, as deep as it could have been built without pressurizing the dome. It stood on a rocky shelf in deep water, and although several of the golden sparks had fallen around it, none seemed to have clung to the dome. Craven swam to the lock, let himself in, and sat hugging himself, shaken by chills, as air slowly filled the chamber.

Inside, he stared wildly around.

He heard himself say aloud, "My God, what am I going to do?" Scraps of information from other TV broadcasts came back to his mind. Those infernal little pellets would go on emitting heat for months. And this must be only an accidental scattering: on the mainland, in populated centers, they would have fallen thick as hail . . .

There was a compressor here in the station, and a tide-driven standby generator; he could recharge his tanks indefinitely; but what about food, after the canned stuff on the shelves was gone?

Fish.

Craven felt weak with reaction, but could not be still. He adjusted his mask and mouthpiece again, went out through the lock.

There seemed to be no more of the pellets on the bottom than before, and none were falling. Craven plucked up his courage, swam to the surface. Treading water, he put his mask up to stare at the island.

The laboratories were in flames. Behind them, the mountain was one mass of yellowish-white smoke: the whole island was on fire.

The sky seemed empty, but Craven could not endure its gigantic blue stare. He lowered his mask and dived again.

Down in the clear blue depths, Craven heard the high-pitched gabble of dolphin conversation, and once or twice saw their gray shapes flitting by. A school of plump blues swam into view. Craven started, then went after it.

There were spear-guns in the station, but he had not thought to bring one. He swam at the fish, grasping ineffectually with his hands, but they scattered easily around him.

I've got to learn, Draven's mind was telling him. *This is my element now, the sea — I've got to adapt . . .*

Something large and gray swam up toward him. Craven stiffened, but it was only Pete, gazing at him with friendly curiosity.

The school of blues had reformed not far away. Abruptly the dolphin wheeled, darted away with a lazy surge of his flukes. In a moment he was gliding back, with a fat bluefish in his jaws.

"Look, Charless," he said kindly, "this is the way to catch a fiss . . ."

END

MUCK MAN

BY FREMONT DODGE

The work wasn't hard, but there were some sacrifices. You had to give up hope and freedom — and being human!

ILLUSTRATED BY GAUGHAN

I

The girl with the Slider egg glittering in her hair watched the bailiff lead Asa Graybar out of the courtroom. He recognized her as old Hazeltyne's daughter Harriet, no doubt come to see justice done. She didn't have the hothouse-flower look Asa would have expected in a girl whose father owned the most valuable of the planetary franchises. She was not afraid to meet his eye, the eye of a judicially certified criminal. There was, perhaps, a crease of puzzlement in her brow, as if she had thought crimes were committed by shriveled, rat-faced types, and not by young biological engineers who still affected crewcuts.

Tom Dorr, Hazeltyne's general manager, was her escort. Asa felt certain, without proof, that Dorr was the man who had framed him for the charge of grand theft by secreting a fresh Slider egg in his laboratory. The older man stared at

Asa coldly as he was led out of the courtroom and down the corridor back to jail.

Jumpy, Asa's cellmate, took one look at his face as he was put back behind bars.

"Guilty," Jumpy said.

Asa glared at him.

"I know, I know," Jumpy said hastily. "You were framed. But what's the rap?"

"Five or one."

"Take the five," Jumpy advised. "Learn basket-weaving in a nice air-conditioned rehab clinic. A year on a changeling deal will seem a lot longer, even if you're lucky enough to live through it."

Asa took four steps to the far wall of the cell, stood there briefly with his head bent and turned to face Jumpy.

"Nope," Asa said softly. "I'm going into a conversion tank. I'm going to be a muck man, Jumpy. I'm going out to Jordan's Planet and hunt Slider eggs."

"Smuggling? It won't work."

Asa didn't answer. The Hazeltyne company had gone after him because he had been working on a method of keeping Slider eggs alive. The Hazeltyne company would be happy to see him mark time for five years of so-called social reorientation. But if he could get out to Jordan's Planet, with his physiology adapted to the environment of that wretched world, he could study the eggs under conditions no laboratory could duplicate. He might even be able to cause trouble for Hazeltyne.

His only problem would be staying alive for a year.

An interview with a doctor from the Conversion Corps was required for all persons who elected changeling status. The law stated that potential changelings must be fully informed of the rights and hazards of altered shape before they signed a release. The requirement held whether or not the individual, like Asa, was already experienced.

By the time humanity traveled to the stars, medical biology had made it possible to regenerate damaged or deficient organs of the body. Regeneration was limited only by advanced age. Sometime after a man's two hundredth year his body lost the ability to be coaxed into growing new cells. A fifth set of teeth was usually one's last. As long as senescence could be staved off, however, any man could have bulging biceps and a pencil waist, if he could pay for the treatment.

Until the medical associations declared such treatments unethical there was even a short fad of deliberate deformities, with horns at the temples particularly popular.

From regeneration it was a short step to specialized regrowth. The techniques were perfected to adapt humans to the dozen barely habitable worlds man had discovered. Even on Mars, the only planet outside Earth in the solar system where the human anatomy was remotely suitable, a man could work more efficiently with redesigned lungs and temperature controls than he could inside a pressure suit. On more bizarre planets a few light-years away the advantages of changeling bodies were greater.

HUCK MAN

Unfortunately for planetary development companies, hardly anyone wanted to become a changeling. High pay lured few. So a law was passed permitting a convicted criminal to earn his freedom by putting in one year as a changeling for every five years he would otherwise have had to spend in rehabilitation.

"What types of changelings do you have orders for right now, doctor?" Asa asked the man assigned to his case. It would look suspicious if he asked for Jordan's Planet without some preliminary questions.

"Four," answered the doctor. "Squiffs for New Arcady. Adapted for climbing the skycraper trees and with the arm structure modified into pseudo-wings or gliding. Then we need spiderinos for Von Neumann Two. If you want the nearest thing we have to Earth, there's Caesar's Moon, where we'd just have to double your tolerance for carbon monoxide and make you a bigger and better gorilla than the natives. Last, of course, there's always a need for muck men on Jordan's Planet."

The doctor shrugged, as if naturally no one could be expected to choose Jordan's Planet. Asa frowned in apparent consideration of the alternatives.

"What's the pay range?" he asked.

"Ten dollars a day on Caesar's Moon. Fifteen on New Arcady or Von Neumann Two. Twenty-five on Jordan's."

Asa raised his eyebrows.

"Why such a difference? Everyone knows about muck men living in the mud while they hunt Slider eggs. But don't your conversions make the changeling comfortable in his new environment?"

"Sure they do," said the doctor. "We can make you think mud feels better than chinchilla fur and we can have you jumping like a grasshopper despite the double gravity. But we can't make you like the sight of yourself. And we can't guarantee that a Slider won't kill you."

"Still," Asa mused aloud, "it would mean a nice bankroll waiting at the end of the year."

He leaned forward to fill in the necessary form.

Since it was cheaper to transport a normal human than to rig special environments in a spaceship, every planet operated its own conversion chambers. On the space freighter that carried him from Earth Asa Graybar was confined to a small cabin that was opened only for a guard to bring meals and take out dirty dishes. He was still a prisoner.

Sometimes he could hear voices in the passageway outside, and once one of them sounded like a woman's. But since women neither served on spaceships nor worked in the dome settlements on harsher worlds, he decided it was his imagination. He might have been dead cargo for all he learned about space travel.

Nevertheless his time was not wasted. He had as a companion, or cellmate, another convict who had elected conversion to muck man. More important, his companion had done time on Jordan's Planet before and had wanted to return.

"It's the Slider eggs," explained Kershaw, the two-time loser. "The ones you see on Earth knock your eyes out, but they've already begun to die. There's nothing like a fresh one. And I'm not the first to go crazy over them. When I was reconverted and got home I had nine thousand dollars waiting for me. That'll buy a two-year-old egg that flashes maybe four times a day. So I stole a new one and got caught."

Asa had held a Slider egg in his hand as he gazed into it. He could understand. The shell was clear as crystal, taut but elastic, while the albumen was just as clear around the sparkling network of organic filaments that served as a yolk. Along these interior threads played tiny flashes of lightning, part of some unexplained process of life. Electrical instruments picked up static discharges from the egg, but the phenomenon remained a mystery.

Hardly anyone faced with the beauty of a Slider's egg bothered to question its workings. For a few expectant moments there would be only random, fitful gleamings, and then there would be a wild coruscation of light, dancing from one filament to the next in a frenzy of brillance.

It took about four years for a Slider egg to die. Beauty, rarity and fading value made the eggs a luxury item like nothing the world had ever seen. If Asa had found a means of keeping them alive it would have made him wealthy at the expense of the Hazeltyne monopoly.

"You know what I think?" Kershaw asked. "I think those flashes are the egg calling its momma. They sparkle like a million diamonds when you scoop one out of the muck, and right away a Slider always comes swooping out of nowhere at you."

"I've been meaning to ask you," Asa said. "How do you handle the Sliders?"

Kershaw grinned.

"First you try to catch it with a rocket. If you miss you start leaping for home. All this time you're broadcasting for help, you understand. When the Slider catches you, you leap up while it buries its jaws in the mud where you were just standing. You dig your claws in its back and hang on while it rolls around in the mud. Finally, if the 'copter comes — and if they don't shoot off your head by mistake — you live to tell the tale."

II

Asa Graybar kept his normal form on Jordan's Planet just long enough to learn the discomfort of double gravity. He was told he needed another physical examination and was taken right in to a doctor. His heart was pounding to keep his blood circulating on this massive world, but the doctor had apparently learned to make allowances.

"Swallow this," said the doctor after making a series of tests.

Asa swallowed the capsule. Two minutes later he felt himself beginning to lose consciousness.

"This is it!" he thought in panic.

He felt someone ease him back down onto a wheeled stretcher. Be-

fore consciousness faded completely he realized that no one got a chance to back out of becoming a changeling, that he was on his way to the conversion tank right now.

When he finally awoke he felt well rested and very comfortable. But for a long time he was afraid to open his eyes.

"Come on, Graybar," said a deep, booming voice. "Let's test our wings."

It was not Kershaw's voice, but it had to be Kershaw. Asa opened his eyes.

Everyone had seen pictures of muck men. It was different having one stand beside you. Kershaw looked much like an enormous frog except that his head was still mostly human. He was sitting on webbed feet, his lower legs bent double under huge thighs, and his trunk tilted forward so that his arms dangled to the ground. The arms were as thick around as an ordinary man's legs. The hands had become efficient scoops, with broad fingers webbed to the first joint and tipped with spade-like claws. The skin was still pinkish but had become scaly. Not a thread of hair showed anywhere on the body, not even on the head.

This, Asa realized, was what he looked like himself.

It would have been more bearable if the head had not retained strong traces of humanity The nostrils flared wide and the jaws hardly emerged from the neck, but the ears were human ears and the eyes, under those horny ridges, were human eyes. Asa felt sure that the eyes could still weep.

He started to walk forward and tipped over on his side. Kershaw laughed.

"Come to daddy, babykins," Kershaw said, holding out his hands. "Only try hopping this time. And take it easy."

Asa pushed himself upright with one arm and tried a small hop. Nerve and muscle coordination was perfect. He found himself leaping as high as Kershaw's head.

"That's the way," Kershaw said approvingly. "Now get this on and we'll go outside."

Asa snapped on a belt and breech cloth combination that had flaps of fabric dangling from the belt in front and behind. He followed as Kershaw pushed open a sliding door to lead the way out of the room where they had been left to revive from conversion.

They went into a courtyard partly covered by a roof projecting from the Hazeltyne company's dome settlement. The far half of the courtyard was open to the gray drizzle that fell almost ceaselessly from the sky of Jordan's Planet and turned most of its surface into marsh and mud flats. A high wall enclosed the far portion of the courtyard. Ranged along the wall were thirty stalls for muck men.

From fifty yards across the courtyard a muck man bounded over to them in two leaps. Attached to a harness across his shoulders and chest were a gun and a long knife.

"Names?" he growled. He was a foot taller than Graybar and big everywhere in proportion.

"Kershaw. I'm back, Furston."

"I'm Graybar."

"Kershaw again? Just start in where you left off, sucker. Come on, you." He pointed to Asa and leaped to the open portion of the courtyard.

"Do what he says," Kershaw whispered to Graybar. "He's sort of a trusty and warden and parole officer rolled into one."

Asa was put through a series of exercises to get him used to his distorted body, to teach him how to leap and how to dig. He was shown how to operate the radio he would carry and how to fire the pencil-slim rockets of this gun. Finally he was told to eat a few berries from a native vine. He did so and immediately vomited.

Furston laughed.

"That's to remind you you're still a man," Furston said, grinning. "Everything that grows on this planet is poison. So if you got any ideas of hiding out till your term is up, forget 'em. Right here is where you eat."

Asa turned without a word and hopped feebly away from Furston. He lifted his head to breathe deeply and saw two humans watching him from an observation tower on the roof.

He leaped twenty feet into the air for a closer look.

Gazing at him with repugnance, after witnessing the end of his session with Furston, were Harriet Hazeltyne and general manager Tom Dorr.

The girl's presence merely puzzled Asa, but Dorr's being here worried him. Dorr had tried to get rid of him once and was now in an excellent position to make the riddance permanent.

At supper that night, squatting on the ground beside a low table with the dozen other muck men operating from the dome, Asa asked what the two were doing out here.

"The girl will inherit this racket some day, won't she?" asked one of the others. "She wants to see what kind of suckers are making her rich."

"Maybe that guy Dorr brought her along to show her what a big wheel he is," said one of the others. "Just hope he doesn't take over the operations."

III

Next morning Furston passed out guns, knives, radios, and pouches to carry any eggs the muck men found. He gave each man a compass and assigned the sectors to be worked during the day. Finally he called Graybar aside.

"In case you don't like it here," Furston said, "you can get a week knocked off your sentence for every egg you bring in. Now get out there and work that muck."

Furston sent Graybar and Kershaw out together so that the veteran could show Asa the ropes. Asa had already learned that the wall around the courtyard was to keep Sliders out, not muck men in. He leaped over it and hopped along after Kershaw.

Feet slapping against the mud, they went about five miles from the

Hazeltyne station, swimming easily across ponds too broad to jump. The mud, if not precisely as pleasant to the touch as chinchilla fur, was not at all uncomfortable, and the dripping air caressed their skins like a summer breeze back on Earth. Tiny, slippery creatures skidded and splashed out of their way. Finally Kershaw stopped. His experienced eye had seen a trail of swamp weeds crushed low into the mud.

"Keep your eyes open," Kershaw said. "There's a Slider been around here lately. If you see something like an express train headed our way, start shooting."

At each leap along the trail they peered quickly around. They saw no Sliders, but this meant little, for the beasts lived under the mud as much as on top of it.

Kershaw halted again when they came to a roughly circular area some ten yards in diameter where the weeds had been torn out and lay rotting in the muck.

"We're in luck," he said as Asa skidded to a stop at his side. "An egg was laid somewhere here within the last week. These places are hard to spot when the new weeds start growing."

Kershaw took a long look around.

"No trouble in sight. We dig."

They started at the center of the cleared area, shoveling up great gobs of mud with their hands and flinging them out of the clearing. Usually a muck man dug in a spiral out from the center, but Graybar and Kershaw dug in gradually widening semi-circles opposite each other. They had to dig four feet deep, and it was slow going until they had a pit big enough to stand in. Each handful of mud had to be squeezed gently before it was thrown away, to make sure it didn't conceal an egg. As he worked, Asa kept thinking what an inefficient system it was. Everything about the operation was wrong.

"Got it!" Kershaw shouted. He leaped out of the pit and started wiping slime off a round object the size of a baseball. Asa jumped out to watch.

"A big one," Kershaw said. He held it, still smeared with traces of mud, lovingly to his cheek, and then lifted it to eye level. "Just look at it."

The egg was flashing with a mad radiance, like a thousand brilliant sun. Static crackled in Asa's diamonds being splintered under a earphones and he thought of what Kershaw had said, that the scintillation of an egg was an effect of its calls to a mother Slider for help. Asa looked around.

"Jump!" he shouted.

At the edge of the clearing a segmented length of greenish black scales, some two feet thick and six feet high, had reared up out of the weeds. The top segment was almost all mouth, already opened to show row upon row of teeth. Before Asa could draw his gun the Slider lowered its head to the ground, dug two front flippers into the mud and shot forward.

Asa leaped with all his strength, sailing far out of the clearing. While he was still in the air he snapped

the mouthpiece of his radio down from where it was hinged over his head. As he landed he turned instantly, his gun in his hand.

"Calling the 'copter!" he spoke rapidly into the mouthpiece. "Kershaw and Graybar, sector eight, five miles out. Hurry!"

"Graybar?" asked a voice in his earphone. "What's up?"

"We've got an egg but a Slider wants it back."

"On the way."

Asa hopped back to the clearing. Kershaw must have been bowled over by the Slider's first rush, for he was trying to hop on one leg as if the other had been broken. The egg lay flickering on top of the mud where Kershaw had dropped it. The Slider, eight flippers on each side working madly, was twisting its thirty feet of wormlike body around for another charge.

Aiming hastily, Asa fired a rocket at the monster's middle segment. The rocket smashed through hard scales and exploded in a fountain of gray flesh. The Slider writhed, coating its wound in mud, and twisted toward Asa. He leaped to one side, firing from the air and missing, and saw the Slider turn toward the patch of weeds where he would land. His legs were tensed to leap again the moment he hit the mud, but he saw the Slider would be on top of him before he could escape. As he landed he thrust his gun forward almost into the mouth of the creature and fired again.

Even as he was knocked aside into the muck, Asa's body was showered with shreds of alien flesh scattered by the rocket's explosion. Desperately pushing himself to his feet, he saw the long headless body shiver and lie still.

Asa took a deep breath and looked around.

"Kershaw!" he called. "Where are you?"

"Over here." Kershaw stood briefly above the weeds and fell back again. Asa leaped over to him.

"Thanks," Kershaw said. "Muck men stick together. You'll make a good one. I wouldn't have had a chance. My leg's busted."

"The helicopter ought to be here pretty soon," Asa said. He looked over at the dead Slider and shook his head. "Tell me, what are the odds on getting killed doing this?"

"Last time I was here there was about one mucker killed for every six eggs brought out. Of course you're not supposed to stand there admiring the eggs like I did while a Slider comes up on you."

Asa hopped over to the egg, which was still full of a dancing radiance where it rested on the mud. He scooped a hole in the muck and buried the egg.

"Just in case there are any more Sliders around," he explained.

"Makes no difference," said Kershaw, pointing upward. "Here comes the 'copter, late as usual."

The big machine circled them, hovered to inspect the dead Slider, and settled down on broad skids. Through the transparent nose Asa could see Tom Dorr and Harriet Hazeltyne. The company manager swung the door open and leaned out.

"I see you took care of the Slider," he said. "Hand over the egg."

"Kershaw has a broken leg," Asa said. "I'll help him in and then I'll get the egg."

While Kershaw grabbed the door frame to help pull himself into the helicopter, Asa got under his companion's belly and lifted him by the waist. He hadn't realized before just how strong his new body was. Kershaw, as a muck man, would have weighed close to three hundred pounds on Earth, close to six hundred here.

Dorr made no move to help, but the girl reached under Kershaw's shoulder and strained to get him in. Once he was inside, Asa saw, the cabin was crowded.

"Are you going to have room for me too?" he asked.

"Not this trip," Dorr answered. "Now give me the egg."

Asa didn't hesitate. "The egg stays with me," he said softly.

"You do what I tell you, mucker," said Dorr.

"Nope. I want to make sure you come back." Asa turned his head to Harriet. "You see, Miss Hazeltyne, I don't trust your friend. You might ask him to tell you about it."

Dorr stared at him with narrowed eyes. Suddenly he smiled in a way that worried Asa.

"Whatever you say, Graybar," Dorr said. He turned to the controls. In another minute the helicopter was in the sky.

A round trip for the helicopter should have taken no more than twenty minutes, allowing time for Kershaw to be taken out at the settlement.

After an hour passed Asa began to worry. He was sure Dorr would return for the egg. Finally he realized that Dorr could locate the egg approximately by the body of the dead Slider. Dorr could return for the egg any time with some other muck man to dig for it.

Asa pulled down the mouthpiece of his radio.

"This is Graybar, calling the helicopter," he said. "When are you coming?"

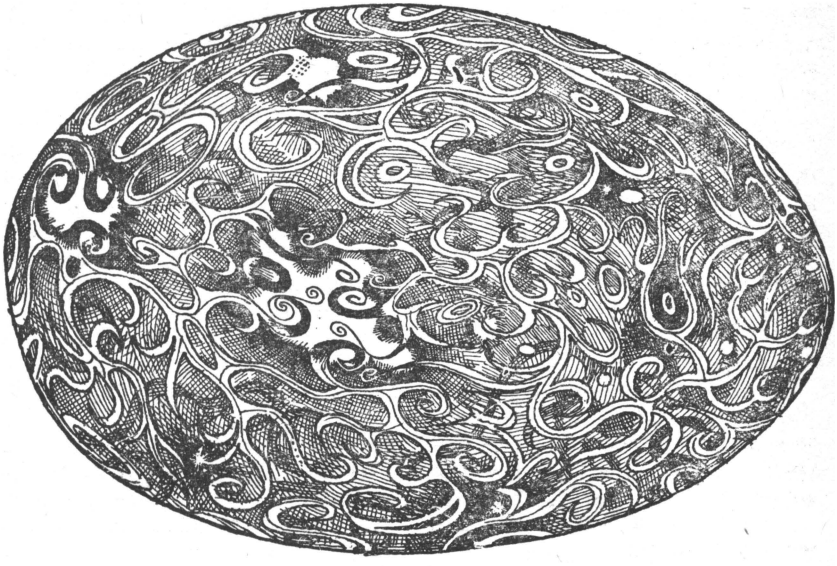
There was no answer except the hum of carrier wave.

If he tried to carry the egg back, Asa knew, Sliders would attack him all along the way. A man had no chance of getting five miles with an egg by himself. He could leave the egg here, of course. Even so he would be lucky if he got back, following a hazy compass course from which he and Kershaw had certainly deviated on their outward trip. There were no landmarks in this wilderness of bog to help him find his way. The workers were supposed to home in on radio signals, if they lost their bearings, but Dorr would deny him that help.

What was the night like on Jordan's Planet? Maybe Sliders slept at night. If he could stay awake, and if he didn't faint from hunger in this strange new body, and if the Sliders left him alone...

A whirring noise made Asa jump in alarm.

Then he smiled in relief, for it was the helicopter, the blessed helicopter, coming in over the swamp.



A SLIDER EGG

But what if it was Dorr, coming back alone to dispose of him without any witnesses? Asa leaped for the carcass of the dead Slider and took shelter behind it.

No machine-gun blast of rockets came from the helicopter. The big machine swooped low dizzily, tilted back in an inexpert attempt to hover, thumped down upon the mud and slid forward. As Asa jumped aside, the landing skids caught against the Slider's body and the helicopter flipped forward on its nose, one of the rotor blades plunging deep into the mud.

Asa leaped forward in consternation. Not only was his chance of safe passage back to the settlement wrecked, but now he would have the extra burden of taking care of the pilot. When he reached the nose of the helicopter he saw that the pilot, untangling herself from the controls to get up, was Harriet Hazeltyne.

IV

"Are you hurt?" Asa asked her. She reached for his shoulder to steady herself as she climbed out of the machine.

"I guess not," she said. "But taking a fall in this gravity is no fun. From the way my face feels I ought to be getting a black eye pretty soon."

"What happened?"

"I made a fool of myself." She made a face back in the direction of

the settlement. "Dorr wasn't going to come after you. He said anyone who talked back to him should try arguing with the Sliders."

She looked up at the machine-gun on the helicopter.

"They feed at night, you know. And they eat their own kind," she said. "The Slider you killed would draw them like ants to jam."

Asa glanced around quickly to make sure no Sliders had already come. He eyed the helicopter with distaste at the thought of what a flimsy fort it would make.

"Anyway," Harriet said, "I told him he couldn't just leave you here and we started arguing. I lost my temper. He thought he had brought me to Jordan's Planet on a fancy tour. I told him the real reason I was here was to check up for my father on the way he was running things and there seemed to be a lot wrong. So he told me very politely I could run things to suit myself and he walked off."

She shrugged, as if to indicate that she had made a mess of things.

"And you took the helicopter by yourself," Asa said, as if he could hardly believe it yet.

"Oh, back on Earth I can make a helicopter do stunts. But I wasn't used to this gravity. I don't suppose you could make this machine stand up straight?"

Asa tugged at the body of the Slider until he got it off the skids of the plane. He pulled with all his strength at the rotor blade sunk in the mud, but the weight of the helicopter was upon it and the mud held it with a suction of its own. After a few minutes he had to give up.

"We fight off the Sliders, then," she said, as matter of factly as if that problem was settled. "If it's any comfort, I know how to handle the machine-gun."

"Nope. In this drizzle, at night, the Sliders would be on us before we could see them. We've got to try to get back." He stood in thought while she stared at him patiently. "What happened to the other muck men who went out today?" he asked.

"They were called in when the 'copter came out the first time. Some of them may not have got back yet."

Asa started talking into his radio.

"Calling all muck men. This is Asa Graybar. All muck men, listen. This is Graybar. I am five miles out with Miss Hazeltyne, who came to rescue me after I saved Kershaw from a Slider. The helicopter is smashed. We're slogging in."

He looked at her for a nod of confirmation and repeated the message.

"Graybar?" came a voice in his earphones. "What do you want?"

Asa grinned at Harriet as he continued.

"Go on back to the settlement. Tell the others. Then organize a party to come help us. Bearing 150 degrees."

"Right," said the unidentified voice.

"I got it too," said another voice in the headset. "Muck men stick together."

Good, Asa thought. At least two

muckers were still out. They would tell the others.

"Cancel all that," said a third voice. "This is Dorr speaking. Nobody goes out until I give the word."

Asa didn't fancy waiting.

"By authority of Miss Hazeltyne," he said rapidly, "Dorr is no longer manager. I am acting manager." He saw Harriet's eyebrows go up, for she couldn't hear the other end of what was going on. "Disregard Dorr," he continued. "If you can help us get back, Miss Hazeltyne will make changes to benefit all of us."

Before he could say any more his ear was stricken with the noise of loud static. Dorr was making sure no more radio messages got through. Asa quickly told Harriet what had happened.

The girl smiled with one side of her mouth.

"Fine," she said, "but how am I supposed to cross the muck?"

"On my back," Asa turned and entered the helicopter cabin. All the time he had been talking he had been worrying about the fact that he had only three rockets left for his gun. Quickly he checked the ammunition for the machinegun, found it was the same caliber, and felt that at last one break had gone his way. He took the plastic ammunition belts outside.

"Load your pockets with these," he told the girl, pulling the rockets from their loops. Then, tying the plastic belts together, he fashioned a sling she could sit in with her legs at his sides. Finally he handed her his gun.

"If you see a Slider," he said, "shoot for the head. Now climb on and hold tight to my gun harness and we'll try our luck."

When she was astride his back Asa checked his compass and started jumping. At once he knew that the going would be much harder than he had imagined. Alone he could leap twenty-five yards, but her weight cut him down to about five yards. He kept going, realizing that the task was almost beyond his strength and not daring to tell her that even if his strength held out they might not even find the settlement in this drizzle.

Hopping, sometimes staggering, skirting the wider pools in the swamp, Asa managed to go about a mile before he had to stop and rest. Harriet climbed out of the sling and settled down on a patch of weeds, a wet and slippery mat upon the mud.

"We're going to make it," she said cheerfully.

"I hope so," he said. "Not just for ourselves. A lot of changes should be made. There must be millions of eggs on this planet. You're getting only a couple hundred a year."

He was panting between sentences and stopped talking until he could catch his breath.

"For one thing," he continued, "rockets are the wrong weapon against the Sliders. Flame throwers would be better. Of course they're a lot heavier than guns. But everything about the way you go after eggs is wrong. It's criminal to send one man out alone. It's utterly irresponsible to have only one heli-

copter. You're putting a price on eggs in terms of human lives. Muck men are human, you know, no matter what we look like."

"You are very human," she said softly, "and very brave."

He returned her smile, adding, "And we'll both be very dead unless we get going."

They had traveled considerably less than a mile when he had to stop again.

"How would you run things here? Harriet asked.

"Start with new premises. There's no need to make monsters out of the muck men. Double their strength, and perhaps give them web feet, but why legs like a frog? If I could walk normally I could be pulling you on a sled. And why shovel hands instead of proper tools? Of course you would still have to give them a skin for this weather.

Harriet's clothing was sodden and streaked with mud, and her hair was hanging down her head in wet, dark tangles that looked like so much boiled spinach. The bump when the helicopter fell had raised a blue-black swelling around her left eye. Yet, it occurred to Asa, she hadn't voiced the slightest complaint. She was listening intently to his advice.

"I would send parties of three men out in a helicopter," he continued. "One would guard the ship while the other two hunted eggs. As soon as they found an egg they'd hop into the ship and be safe."

They started off again. At the first leap Asa saw a Slider a hundred yards away. As soon as his feet hit the ground he whispered to Harriet. She climbed out of the sling and held her gun ready while he drew his knife to wait. Long minutes passed before he decided they had not been seen and it was safe to continue.

Next time they stopped the girl turned to Asa with a frown and asked, "Just how does Dorr think he can get away with this?"

"Simple." Asa shrugged. "He'll say the Sliders got us despite all he could do. No muck man who could tell a different story will live long enough to get back to Earth."

The sound of a rocket explosion came from somewhere off to their right. It was the loveliest sound Asa had ever heard.

"The rescue party!" he shouted. "Let's go!"

Knowing that rockets meant Sliders, but knowing also that no Slider was a match for a team of armed men, Asa leaped forward with renewed vigor. Once he misjudged his strength and landed in a puddle, splashing both of them with slimy water, but the girl on his back only laughed. They heard the sound of another rocket, and Harriet fired three shots of her own to attract attention. In a few more minutes they were happily welcoming six muck men.

"I heard your message," said one of them, "and back at the settlement Kershaw told us what had happened. Furston tried to stop us and wound up with a knife in his belly. A couple of the others were afraid to come, and two were shot from the tower by

Dorr, but the rest are with you."

"Tom Dorr will be tried for murder," Harriet promised grimly.

With different men taking turns carrying Harriet for short distances they began to make progress rapidly. The Slider the men had been firing at was dead and no more were sighted before they came to the settlement.

Dorr was waiting for them. He fired from the tower, his machine-gun burst of rockets cutting through one man in mid-leap. Asa's party hugged the mud and fired back. Plastic showered from the tower window, and dust spurted from the concrete around it.

"Keep me covered," Asa shouted. He took the gun from Harriet and leaped madly forward until he was under the shelter of the side of the dome. He waited for one more salvo from his party and jumped to the tower itself.

Dorr had vanished, driven out of the tower by the rockets. Asa waved to the others to come forward and hopped into the main quarters of the dome.

He had never been in this part of the settlement. Dorr could be lying in ambush for him. Asa moved cautiously, but he was confident that his own adjustment to the gravity of the planet would give him the advantage in any sudden meeting.

He looked around the corner and down some stairs just in time to see the discredited manager, holding a sack in one hands, struggle to open a door. Asa fired and missed. The next moment Dorr was outside. Asa leaped to the floor below.

One of the normal humans who lived in the settlement came out of another room, saw Asa and dodged back out of sight.

Outside, Asa could see Dorr laboring to run along the paved road that led to the spaceship a quarter of a mile away. The fugitive turned once and fired wildly as Asa leaped after him. The mist was turning into heavy rain, and it was getting harder to see.

Another rocket exploded somewhere out in front of Asa. The sound was followed by a scream. One more leap and Asa began firing himself.

A Slider was gently taking into its mouth three eggs spilled from the sack lying beside what was left of Tom Dorr.

One of Asa's shots destroyed the Slider, destroying the eggs, too as the monster's head exploded. Asa didn't think the eggs mattered much right now.

He shuffled slowly back to the settlement, deciding to accept when Harriet offered him the managership. Some day, if he had his way, Slider eggs would be as common on Earth as diamonds. END

LONG DAY IN COURT

BY JONATHAN BRAND

The man who bears the Earthman's burden must give justice to the Lesser Tribes without the Law — who may give it back!

The wakey-wakey played *Earth Is Where My Heart Is* and Mark Hassall sat up with a pounding heart. Every simulated morning for the last simulated three weeks he had woken to the gentle sound of *Earth Is Where My Heart Is*. But whatever you set the wakey-wakey to play, he reflected sadly, after a time it gave you a cold sweat to hear it. For any signal which brings you to life in the morning after the mental death of sleep becomes associated with that shock to the system. The fear of death is nothing, compared to the fear of life.

He flicked on the sound transmission of his telephone and left the visual pickup off. "Yup," he groaned into it.

The telephone built up the unblushing image of Marylou, Transit Station J's nubile communications expert.

"Marco," she cooed. "You're sitting up in bed."

"You're damn right I am," he said. "But not any more!" And he curled himself modestly up in his electric blanket. "Anyway how in hell would you know? I've got the visual off."

"I've eyes in the back of my head."

"You just might have at that," he

answered. For a communications expert on a Transit Station is considerably more than a mere switchboard girl.

"Why don't you get dressed?" said Marylou.

"I'll really try and remember to do that before I go on duty," said Mark rolling towards the shower. "But I don't promise I'll get the time."

"You just find the time," she said. When she heard the shower start she leaned forward across the control panel and turned the knob that accentuated the yellow register. She was a connoisseur about the performance of her telephone and loved it best of all her instruments.

"I saw that," said Mark, just to keep her on her toes.

"I was only turning up the yellow," said Marylou. "It was a little low. That's all."

"You're a liar. You wanted to show off your pretty yellow hair."

Marylou pouted a little. "Just because you're being so tiresome this morning I'll tell you now why I called you."

"Oh, God, no! You couldn't do that," he said from under the shower. "Not before breakfast."

"You've got no time for breakfast. It's sim-0545 now. At sim-0615 you've got a case."

"Oh, boy. Oh, boy," he moaned. "In the good old days bringers of bad news got killed. I'm surprised you dare. Why in space does this trial have to happen in the middle of the sim-night?"

"Colonel's orders, Marco. He says a summary trial will impress the natives."

The colonel of Transit Station J was Colonel Prince Banerji of Haipur, and his ideas of discipline were inherited from an ancestor who once personally beheaded 409 English people, including 14 women and 27 children, back in his home state of Haipur on his home planet Earth, because he thought the English residents were becoming insubordinate. When the British soldiers came to take vengeance he told them that he had been no more severe with their late compatriots than he would be with his own people, and this was doubtless true.

His descendant carried on the tradition by such endearing maneuvers as holding the monthly Emergency Evacuation Drill at sim-1100, the morning hour that is consecrated throughout the civilized universe to a pull at the Venusian drug-weed and a cup of coffee. "Constant and Effortful Vigilance," was his motto for his Transit Station. It was rumored that he never slept. Nobody had ever called him on the telephone without finding him immaculately uniformed and sitting at his desk.

It was clear to Mark that he had been picked for the Station's most unpleasant job this sim-morning, probably for some good reason like Banerji had seen him smile or heard him whistle the sim-day before. The Station's most unpleasant job, of course, was sitting in on trials. Every Earthman on the Station, from the colonel to Roderick MacMack, the junior engineer, and Mark Hassall, the junior transport controller, held a commissioned rank in the Space

Police, and under the terms of the Re-Foundation of Government in 2085, an officer in the Space Police had to be ready and trained to act the role of congressman, detective, judge, lawyer or jailer on demand.

This happy sim-morning Mark Hassall had been chosen for judge. Standing Orders said that every dispute on the Station must be attended by an Earth officer. This Order meant, for instance, that Mark had once been forced to sit for 14 sim-hours in total silence alone in the courtroom with two tankfuls of Aldeberan-4 creatures while they thrashed out what they alleged was a theological dispute. The Alds are the interpreters of the universe, and they had said that the subject matter of their dispute was ineffable. "And if ineffable," they added, "then untranslatable." Mark hadn't even dared peruse a novel, for though no one but Alds could tell when Alds were having a break, the colonel, if he cared to look in, would know if Mark was.

"This isn't my lucky sim-day," said Mark to Marylou while he brushed his teeth.

"It could be much worse, friend," said the delectable communicator. "It's only an intra-species affair."

In those days the difference between intra-species law and inter-species law really meant something. Intra-species litigation was purgatorial, but inter-species litigation was hellish. In those days all cases were technically settled by Earth law, and in every judgment the judge had to produce a complicated formula reconciling his Earth-derived settlement with the law and practice of the relevant alien race. If two alien races were involved in a dispute, then the unhappy magistrate had to wrestle with a three-way compromise.

With some sense of relief Mark turned on the visuals and gave Marylou a sight of his shining morning face.

"What's the rap?" he asked, airing a bit of jargon he had picked up watching old television films in the Station library. (The Station had half a million books, many of them genuine antiques like the "Perry Mason" series he was quoting from.)

"Wait for it," said Marylou roguishly, and brightened the contrast control to show off her roguish dimples. "Wife beating."

"Oh, for God's sake! Only a tenth of them have arms to beat with! And only a tenth of *them* have wives."

"Well, one in a hundred's a wife-beater."

"I've heard it all. What could be next?"

"It Could Be You, Mark darling," said Marylou.

"Kindly remember your place," he said with mock roughness, and leaned forward as unobtrusively as he could in order to turn down the red register. "The Court at sim-0615 then."

"Good luck, Marco," said the Station's sole communications expert and sole Earth woman, and switched off.

"Thank you, honeychile," said Mark meditatively into the gray screen. "Thank you."

When he got to the courtroom and took his place on the Tribunal the trial was already set up. Beside him on the table was his water carafe, and about a quart of the Station's complement of Aldeberan-4 people in their aquarium-like traveling quarters, with earphone pickups already connected. Mark put on the earphones.

"Good morning, sir," said an electronically produced voice. "This is the Court Interpreter."

"Good morning, Alds," he said.

"Miss Marylou said to tell you that your container of body-fluid includes a toxic additive."

Mark looked inside the vacuum flask which held water for the Judge and found it full of steaming black coffee.

"Thank you, Alds. Convey my thanks to Miss Marylou. Sorry to see so many of you here this morning."

The Alds made no answer. About two-thirds of the Station's complement of Alds had turned up that simmorning. They always sent to court just as many individuals as could cope with the complexity of the case as they saw it. They seldom misjudged. To see so many of them at once was a bad omen.

He looked around the Court. Below him, in what they called the dock, were two bedraggled Fomalhaut-9s, one male, one female. He had no idea what the female Fomalhaut was doing there. The only wheeled race known at the time, they were circling round each other in the gyration labeled by the Ethological Handbook for their race "Repose: without joy", and which MacMack had rechristened "constant and effortful vigilance" after the tyrannous Banerji's watchword. Beyond them, in the position technically known as "Counsel for the Defense" was the Station's senior lieutenant, Gil Mulrooney, a thickset, grizzled veteran of the Last Trans-Stellar War. Beside him sat his opposite number, counsel for the prosecution, in the person of the Station's dapper Administrative Adjutant, Jules Monterey.

The titles they bore for the occasion dated from a time when the government was divided into many separate departments — like judiciary, administration, police, army or the Bar. But by the end of the 21st century, government was government and no longer a species of public debate or carnival tug-of-war, and any government officer could take any role. The two counsels' jobs were roughly to list the points on two opposing sides, and Mark's was to pronounce judgment.

But all government is of course implicit in each individual. Next time they would probably trade jobs.

Beyond the court itself ranged the tiered compartments reserved for spectators. Each compartment was adapted to the physique of one of the 25 trans-stellar races living on the Station, with the front row reserved for Earthmen and Martians, whose solar system the Station happened to be in. Most of the compartments had someone inside. It looked to Mark as if an average number of every race had come to see the fun. You had to say "average" because the actual number of

individuals of any race which constituted a quorum varied so much. For instance there was a quart of Alds on his desk: that would be around 150,000,000 individuals. There were around 400 Loon-birds sparsely roosting in their three-dimensional knitting safely (of course) behind glass. There were three Earthmen in the court, all in official capacities. There was one Leprechaun with his eye extruded. And, luckily, there was no Phoenix-cloud within a billion miles of the Station. There is only one Phoenix-cloud known, but that one can be dangerous enough to a lonely Transit Station.

It is the job of a Station to offer shelter and to offer sustenance — but not if the first bite is the Station itself.

"Thanks be for small mercies, anyway," thought Mark. Aloud he said, "We'll begin."

On the recording strip sunk into the desk at the right of his chair he saw the words "The Court sits" appear. This was also the work of the Alds, who activated the official court record. The difference between languages and the difference between two styles in one language were both the same difference to them. So far as they knew it was all translation. So whatever one said in court in English was minced up by their infallible brain-circuitry and emerged on the record in the sort of legal jargon with which lawyers have baffled laymen since the invention of justice.

All round the court bodies relaxed in the way appropriate to their physique.

"What gives in this case?" said Mark.

"Set forth the Plaint," said the record.

Gil Mulrooney got up slowly. "That's not hard," he said. "I was on Station watch this sim-morning. At sim-0149 I got a call from the automatic monitor on 9th level, at the intersection of the Fomalhaut avenue and 12th Freeway, a call of 'believed disturbance'. I immediately went down by chute in person."

"Leaving the watch monitor active in the guardroom," Mark put in.

"Of course," said Gil. "Activating the watch monitor." This would look right in the record. It wasn't that Mark doubted that Gil had taken this simple precaution, just that he might have forgotten to say so. It was Mark's job to keep the record straight and, more than that, to keep the colonel sweet.

"Go on," said Mark.

"The corridor monitor was quite correct. There was considerable disturbance coming from cell 34 on the Fomalhaut avenue, the cell assigned to Mr. and Mrs. Daap-daap. I could hear great clouts against the partition wall and a squealing that could be heard four blocks away. I thought at least a band of loon-birds had got loose in there."

Mark shuddered at the picture. "Sounds bad. What did you do then?"

"I activated the calling circuits and I was let in."

"Immediately? You made me

think all Hell was let loose in there."

"Well, it calmed down the moment I keyed the calling circuit. Almost as if they'd been waiting for me."

"That doesn't sound very likely," said Mark, "if the noise was as bad as you say."

"The noise was very bad," said Mulrooney grimacing "One wouldn't be mistaken about a noise like that."

"Well, it was a sleep-period," said Monterey from the other counsel's box.

"I don't see the relevance," said Mulrooney slowly. "The Fomalhauts don't sleep. You know that."

"I do," said Monterey, conscientiously needling his opposite number as a good Counsel should. "But Earthmen do sleep. I call the judge's attention to that."

"You're claiming I dreamt it then," shouted Mulrooney furiously.

"You were probably as bleary as a gigolo on Sunday morning," answered Monterey.

The record paused for a few seconds, then produced this impartial translation. "I submit that Lieutenant Mulrooney was suffering from disorientation of the reality-sense brought on by cultural shock, the cultural shock being due in this case to his foregoing a fundamental Earth custom, namely that of undergoing a period of unconsciousness between sim-0001 and sim-0801."

"Nonsense," said Mark hurriedly. "Gil's a policeman, for God's sake."

The Alds printed: "Objection formally noted. The judgment of this court in this is that, firstly, the Earth race is exceptionally immune to cultural shock, and, secondly, vigilance during the sleep-period is an old and honored custom of the Earth police subculture and would thus be entirely natural to Lieutenant Mulrooney." It looked damn good.

"This is all off the point," said Mark. "Whatever interpretation we may put upon it, the court accepts that the Fomalhauts in question stopped quarreling and let you in. Then what?"

"On gaining entrance I found the defendant, Fomalhaut-male Daap-daap, holding in one tentacle a carved Fomalhaut food-pipe some 90 cms long (Exhibit A), and the co-defendant Fomalhaut-female Mrs. Daap-daap —"

"Oh, for God's sake!" said Mark, interrupting. "(Strike that from the Record.) I thought this was a wife-beating case. Tell me whose wife was beaten, and if Mrs. Daap-daap was the victim, why does she appear as co-defendant? Or isn't that Fomalhaut-female down there Mrs. Daap-daap?"

"Well, Mrs. Daap-daap did get beaten," said Gil. "And she appears as co-defendant at her own request. And that is her in the dock. To tell the truth, this case is a daddy-o."

"Certain features of this case render it unusually complex," typed the Record.

"Yes, but is anybody going to explain it to me?" said Mark.

"Honestly, I'd rather you thrash it out with the defendants themselves. This court's already too full of mouthpieces." And Mulrooney

favored the tank of Alds with a mournful Bronx cheer, which they forebore, as near as Mark could see, to translate. "I talked with both Daap-daaps, of course, and the facts are clear enough, but I haven't the faintest idea what their plea is."

"I'll confirm that, Judge," said Monterey. "Will you take over?"

"Right," said Mark. "Don't go to sleep, though."

Mulrooney glared at him, but the tactful Alds cut out the sleep metaphor and confined their Record to, "Maintain, however, general surveillance, Counsels." Mark signed to the two Fomalhauts to hook themselves to the direct Interpreter's Link.

He addressed Mrs. Daap-daap. "I see that your front wheel is gravely contused, to the extent that you are resting it on a surgical trolley. Is that the result of a fight this sim-morning?"

"Yes, sir," came the reply.

"Witness?" said Mark.

"Deposition of doctor," said the Alds, acting as his remembrancer. "Exhibit B."

They were right as usual. Mark found the document in one of the slits under the Record. Its signer was an Asclepiad, amid-gravity race with a speciality in biophysics, who had been the Galaxy's doctors long before Man came on the scene. It certified that when he attended Mrs. Daap-daap at 0310 that morning she had been suffering from widespread surface contusions, and from a fractured bearing-joint in her front ankle — all caused within 2 sim-hours of the treatment time.

Mark addressed Mr. Daap-daap. "Did you do this to your wife?" he asked.

"I did," he answered. He evidently did not want to hide it, for the Alds on the Record had added "(Relaxedly; without hesitation)".

"Well, that's frank. And why did you hit her?"

"Because I did wrong."

"And why should you hit her when you do wrong?"

"Because it is the duty of wives to suffer punishment for what their husbands do wrong."

"I see. But why is she too in the dock?"

"Because it is the duty of wives to suffer punishment for what their husbands do wrong."

To the Alds, Mark said, "Come on. You're a question behind. I'm asking now why Mrs. Daap-daap is in the dock."

"Unquote," said the Alds to show they were talking in their, or its, proper person. "The defendant's answer was as it appears in the Record."

"But that can't be the answer to both questions!" Mark protested.

"Unquote is that a statement or a question? To the defendants or to the interpreter?"

"Well, don't let's waste breath," said Mark, knowing that the Alds enjoyed a good idiom. "If you know the answer, you tell."

"Unquote I know why the defendant's wife is in the dock. You will remember that the reason is in the Fomalhaut Ethology Handbook paragraph 975." (The Alds, being the only purely intellectual life form in the universe, could never conceive

the difference between a memory and a reference book. They meant Mark could look the information up in the Fomalhaut Ethology. The advantage of their ignorance was that the colonel would never know that Mark hadn't remembered the information for himself, because the paragraph number would merely appear in the Alds' record as a reference.)

Mark flipped over the pages of the Ethology. Para 975 was in Part II ("Social Behavior"), Chapter 17 ("Justice"), item 9a ("Punishment"). It said:

> "Punishment for wrong-doing is customarily inflicted on the females—wife, or, if unavailable, mother, or, if unavailable, female guardian. The accepted forms of punishment are physical chastisement or deprival of nutriment (see paras 304-356) —both these can be inflicted by Earth officials — and deprival of Joy see (para 2)—which cannot."

"Joy" was obviously pretty basic, judging by its paragraph number, but this wasn't the time for looking it up.

"I've got that sewn up, Alds," said Mark, laying the idioms on thick to gain time. "I'm right in there with you regarding why Daap-daap's little girl is in the dock. Now you give with the info why he was hitting her this sim-morning."

"Roger," said the Alds, never at a loss how to beat interlocutors at their own game. "Can do, skipper. He was beating her then 'cos he just dun wrong. You will remember the same para."

"I see that," said Mark. "That explains why he was beating *her*, and the note on methods of punishment explains why he was *beating* her, but I still don't know why he was beating her."

There was a pause, and then the Alds produced another line on the Record. It said: "Defendant: Because I had done wrong according to Earth code. My wife must suffer punishment for that."

"I see," said Mark. Daap-daap was of course technically quite right. Transit Station J had its legal existence under an archaic type of agreement known as a "lease". This mean basically that under a reciprocal benefit agreement drawn up according to the law of Jupiter (in whose orbit the Station hung) the Earth Government controlled the area covered by the Station's orbit. The agreement specifically added that unless 17 sim-months (a Jupiter time-span) notice were given to the contrary, Earth law should be observed by all organic matter aboard.

So much was true enough. But there were some Earth laws which some organic matter simply had to break, particularly (he glanced wryly at the 400 or so Loon-birds — by God, there were now about a thousand of them — swarming in the Spectators' area) the organic matter aboard his Station. And in their setup an individual could make trouble quicker by citing the letter of the law than any other way short

of opening both doors of the air-lock simultaneously. With something like anxiety in the corner of his mind, he said, "And what Earth law did you break?"

"A law concerning Grievous Bodily Harm and Assault. I was beating my wife."

"You acted quite rightly. That sort of thing could land you up in the courts," said Mark judiciously.

"It has landed me up in court," said Daap-daap— "(sternly)", according to the Record. "And my wife has already paid the penalty."

For a couple of heartbeats Mark spun dizzily in the no-space of the Fomalhauts' moral metaphysics. Then he was back in command. "This is the situation, then," he said ("sternly"). No organic matter, wheeled or otherwise, in the Station would fool him. "You admit to beating your wife, and recognize that this is illegal under Earth law. Your defense against the charge of Assault is Justification within Racial Mores, and within your code of mores the justification is that your act of Assault was a legitimate punishment for a wrong which you had committed. or, at least. for an act which was illegal according to the laws of your domicile place; that wrong being that same act of Assault. The situation so far is simple." (He would show them who was master.) "However, your explanation is unsatisfactory in this particular, that under Earth law punishment may not be inflicted before the crime is committed. Therefore the same act cannot be both crime and punishment."

"We deny that punishment was inflicted before the crime was committed. Nor was it inflicted afterwards. It was simultaneous."

"Oh. I see."

"Is our reasoning satisfactory? Did we do right in doing what we did? Will you acquit us?"

"The court will adjourn for sim-60-minutes to consider judgment."

The human beings in the Court stood up. The Fomalhauts formed themselves into the Obeisance Pattern and the Loon-birds — there were now thousands of them in their sealed cubicle — rose in a humming cloud. Mark stepped swiftly round the back of his Tribunal and closed behind him the door of the small robing-room. He found his hands shaking as he sat at the bare desk in the small robing-room, and he suddenly realized that the trial had started a whole row of alarm bells shrieking in his mind.

Analyzing what those alarm bells were, he came first and inevitably to the thought of the colonel. Everyone in the Station knew from experience what the colonel's repayment for a clumsy judgment could be — something nasty, like a tour of the exit vents of the air system, or a patrol in the high-grav sector. But the colonel, though savage, was fair. Mark was pretty sure he had done as well so far as could be expected. Anyway, there wasn't a moment of the sim-day when he wasn't scared of Banerji.

The next thought he came to was "put-up job". The story of how they

had stopped fighting the moment Mulrooney called them was suspicious enough. And then there was no denying that they had him pretty well tied up. He could acquit them by accepting a plea of justification. But if Daap-daap was to be excused for hitting his wife, then he had done no wrong — and justification no longer applied. For how could he justifiably be hitting his wife if he had nothing for which to punish her? You get in the same mess, only the other way round, Mark thought, if you find them guilty. He was familiar with such paradoxes on paper, but he was very unhappy indeed to meet one in the flesh.

His last thought, the worst of all, was, "This isn't just a Fomalhaut family quarrel. The whole Station's in on this."

The spectators' benches had been filling up ever since the start of the trial. Reviewing in his mind's eye the patchwork of color which had been his view from the Tribunal, he came to the conclusion that every race in the mid-grav sector had sent at least one representative. For that matter, all the Loon-birds in the Station were in there — the Loon-birds, the emotional carrion-eaters of the universe who congregated wherever there was trouble, the Loon-birds whom the Earth government employed as military personnel only. It was a bad omen when Loon-birds gathered. But one corner of his mental view-screen was blank. Which race might have been there but wasn't?

Of course. He knew which: the Murrays.

A few of them often came to court, particularly to hear a family quarrel. None had come today. If he could locate the blind spot in the Murrays' psychology which had kept them away today, he would have an insight into the real nature of today's case, and into what it meant to the inhabitants of the Station. For they had mostly known each other long before they had known Man, and they hadn't gotten the habit of confiding in Man.

He called up the Alds (who have no hates or loves, no prejudices or dislikes — just intellect). "What's with the Murrays?"

"You will remember the Murray Ethology para 4. They are the only known life-form parasitic on an object smaller than themselves."

"No. Try again."

"You will remember page xiv of the Introduction. They were discovered by Arthur Murray, later one of the victims of the sensational Heat-death Murders."

"No, *no*. Something to do with this case."

"How will you not remember paras 112-117? Surely those pages of your memory are not missing? They deal with the control of Murray behavior. Murrays cannot be taught to do anything except those actions specified in the Ethology, nor can they be prevented in any way from doing those actions if the appropriate signal has been given. Thus their behavior fails completely to be plastic, and thus they have not the conception of wrong, guilt, punishment or law."

All trials deal implicitly with wrong, guilt, punishment and law, and the fact that the Murrays had stayed away showed that these were not just implicit in this case but explicit. No point of conduct was on trial; the system itself was on trial. This was a testcase to decide if Earth law should continue to hold on the Station. It was as if one were to feed a certain problem into a computer, not to get an answer but to test the computer. Only this problem, he was pretty sure, included a proposition which damaged the computer itself.

In the ordinary course of things, if a trial starts going sour you consult the law further until gradually the tangle comes clear. But in this case the very statement of the charge and the defense tampered with the structure of the law itself. Any further recourse to the same machine could only sent it into a positive feedback, which at each cycle would take it further into absurdity.

There was, of course, Mark reflected, one further technique he could use if native wit could not sort out the Fomalhauts' disingenous pleas. He could go above the law, to the mechanism designed for dealing with treason, to that body of brutal fact known as "martial law." But was he a Banerji, who would force a decision by merciless insistence instead of trying reasonable discussion? All the same he called the Alds, and together they refreshed his memory on the use of extralegal coercion in settling disputes. And he began to run over in his mind, not the Perry Mason series but the equally old and famous Mickey Spillane adventures.

When the hour was up Mark took his place with as much calmness as he could.

"Trial resumes," he said. The audience settled back into their seats, perches, hovering-heights or floating-depths. "Have the principals anything further to say before judgment be delivered?"

"We wish the charge set aside," said the Fomalhauts. "We have been mistaken on a point of law and a point of ethics."

Mark heaved a secret sigh. "We are glad that you should agree," he answered in a satisfactorily judicious tone. "What is the cause of your change of mind?"

"We have a custom, one custom only, that corresponds to your 'law'. It is this: 'To each and from each according as he is'. This is the whole of our law. For instance, it is right for a Fomalhaut being to obey Fomalhaut custom; for an Earth being to obey Earth custom. Thus for us there exist many versions of 'right'. There is Earth 'right', there is Fomalhaut 'right', there is Aldeberan 'right' and so on." Mark nodded happily. "Now, it is Fomalhaut-right for a Fomalhaut to obey Fomalhaut custom. It is Fomalhaut-right for an Earth man to obey Earth custom. But here we are troubled. For it is no part of Fomalhaut-right to determine the right of Earth according to Fomalhaut thinking. Thus in no way may we who are Fomalhauts either approve or disapprove the workings of an Earth court. All talk

of justice here is meaningless. We will withdraw now."

Then the truth was on the table. Not only was the problem one to break the machine, but it said right there in the packet, "This problem breaks the machine."

He felt a prickle of apprehension run down his spine, for he observed the Fomalhauts in the dock and in the spectators' benches melting and weaving into the hollow square of Active Hostility.

"Wait a minute before you go," he said, smiling. Heck, he thought, this is insane. Surely if he could only think on his feet long enough he could solve this whole absurd problem. If this sordid family bickering was the revolt flag of half a universe, then this was a universe populated solely by dumb blonde mothers-in-law and vicars in the wood. He started talking. "Can we be sure there is a case to answer here? I mean, beating one's wife is one of the few honest and innocent pleasures in this over-civilized universe, and I imagine beating one's husband is too. And if this pastime may not be innocently indulged in, what do we all go through marriage for?"

Surprisingly, the Alds said in his ear, "Is that a joke?"

"I suppose it is."

"A moment, please. Jokes take a little longer." Mark paused. He had taught the Station Alds to have a sense of humor because he liked to have someone around to construct new stories for him to tell — bizarre as the Alds' jokes usually were. And he had been most gratified to discover from them — probably the first Earth man to do so — that most of the trans-stellars had an analogue of a sense of humor too. So presumably the Alds meant to amuse the whole Station with his feeble quip. They might well have a tough time, for the races which composed the audience had no fixed sexual organization which would make such a joke comprehensible. There were examples in front of him of gyniphagy (wife-eating) and of metazygy - with - stomach - sharing (sexual union of Siamese twins) and of endosomatogamy (where an individual chooses his mate not merely from within his own tribe but from among the cells of his own body) and many others.

There was a silence. Then apparently the Alds said something to the Asclepiad group, and they answered. Then the Alds spoke simultaneously to every group in the room.

With a lift of the heart Mark realized that his job was done. Like the wind over a plain of grass a change ran over the room. The Loon-birds empurpled, whistled with disappointment and zipped out through their ventilator. The Wood-weevils swallowed each other up until they had re-assembled their single persona. The Leprechaun opened its eye, drew its ear down into it, closed the eye on the ear and shut them both in its mouth. All round the room it was the same. Everyone reckoned the case was happily resolved. Even the original culprits, or plaintiffs, (whichever they were) the Fomalhauts, who before had

sulked over the wrong they had suffered or been detected in inflicting (whichever it was), relaxed their hollow square into the interlocking circle of Quiet Pleasure.

A soft answer turneth indeed away wrath, thought Mark. Aloud he said:

"Okay, that's it."

The Record printed: "Court adjourns sine die."

Mark sat watching the assembled creatures leave in their own way. When they were gone he said confidentially to the Alds, "How did you do it?"

"It was nothing," answered the Alds. "I made to each group the same basic suggestion, that, if performed with a life-partner (and I use the word in a punning sense, indicating thereby both cohabitors and commensals), actions which normally produce aversive stimuli actually produce reinforcing ones. And, with the permission of the Asclepiads, I cited certain contusions and abrasions for which they had to treat Miss Marylou."

Mark was appalled. After a moment he asked, "And that wouldn't be a joke if something about someone and Miss Marylou wasn't supposed to be a secret?"

"No, sir."

"You know, you'll end on the gallows."

"Yes, sir."

"A joke's hardly a joke if it's a joke on you, is it?"

"We wouldn't care to answer that, sir."

"Good morning to you, then. Thank you for your help."

Back in his quarters, Mark changed his shirt and reflected grimly that the whole trial, including the Alds' version of a joke, would be on the Record, and the Record would very likely be at this moment in the colonel's hands. The now menacing tones of *Earth Is Where My Heart Is* interrupted his gloomy musings.

Marylou appeared on the telephone. "Get your tie straight!" she shouted without preamble. "You're to see the colonel."

"Oh, boy. Heap big trouble. This paleface is up the totem for sure this time."

"This is no time for joking," she shouted agonizedly. "This is real trouble. He wants to see you *in person*!"

She knew what she was talking about. The last time the colonel had met anyone officially in person was at the trial of an Earth man for murder — at his execution.

"Man, I'm gone!" shouted Mark, and ran down the corridor towards the colonel's office, buttoning his cuffs as he went. He knocked once and heard the colonel's "Come in" before he dropped his hand.

Inside the colonel sat at his desk, hard, strong, young-looking and ruthlessly efficient as he had often appeared on the telephone. His smooth coppery face was set as usual in an unrelenting expression of contemptuous dislike.

"Sit down, Mark. I won't hurt you," he said surprisingly.

Mark did so.

"Look, Mark, this is my last command. I shall never make the

little hop back to Earth and to my own country, let alone see other countries on other stars as you will. Why? Because I'm old. Not in appearance, perhaps. But inside each cell totes up its own time-reckoning and there's nothing we can do to put the clock back. If you want to know the truth, this body's 103 years old. But I'm skillful at my job, and my job is to command you. And part of my skill is in knowing how to look when I command. You rarely see me. You know that. But do you know that when I telephone you, the words are mine but the speaker is an electronic face-voice simulacrum cooked up by Marylou? And when I have to appear in person I spend half a day down in the Asclepiads' stinking surgery, where the walls are lined with the pickled limbs of half the creatures of the galaxy and where the death-tubes are loaded with the day's quota? For in the morning I wake an old man, and no-one may see me until my physician has remade me as the beautiful and terrible Indian prince. I'll show you something."

Banerji leant forward and slowly unbuttoned his creaseless tunic. Inside Mark saw with a sudden sick horror that it was thickly and artfully padded. Underneath, his chest was the chest of an old man. Sharp edges of bone seemed ready to pierce the dry, wrinkled skin, and below his immaculate neckline the surface of his body was an ugly patchwork of brown and purple and fungoid white.

"Now you know," said Banerji in his uncannily youthful voice. "And now I think you will understand that this Station is maintained and kept in order not by any mass of rules in a rulebook but by personal command. And that command is exercised by me. By my commanding words and by my commanding body. I am telling you this so that you will understand what you did today. You exercised command as I would do. Not perhaps in the way I would have done, but choosing your own method, imposing order on disorder, bringing submission out of revolt."

"Why do you tell me this, sir?" asked Mark.

"Because soon I shall go to my fathers, and you will go to take up a command of your own. And for that reason you must learn everything I have to teach."

Mark was honestly proud that the colonel should thus treat him as an equal, but secretly he protested that he would never have to act the slave-driver in front of his own crew.

"You are smiling now," said Banerji, "because you know that you will never have to use the proud airs and sordid subterfuges that I use. But I leave you with one thought. Your genius for command comes out in an admirably frank comradeliness, in a charming and self-deprecating gift of humor. It is the gift of your American heritage. But if as time goes on and your responsibility for the Government of your fellow beings becomes ever wider and greater, sometimes, in the privacy of your quarters, you need to

practice and rehearse your charmingly spontaneous good humor — then do not be ashamed."

They sat for many moments in silence, and then the Indian said, "Back to your duties, Lieutenant. Constant and effortful vigilance."

"Contsant and effortful vigilance, sir." Mark snapped and was gone.

Back in his office he switched on the Alds.

"Alds," he said in a phoney Australian accent. "You tell black-fellow Fomalhaut that white man savvy good-good make black fellow and black - fellow - woman chum-chum."

After a pause the adaptable Alds whined back, "Fair dinkum, cobber."

"Cheerioh, old matey," said Mark, and switched to Marylou's channel. "Hiya handsome," he breathed intimately. "How about I take you over to the Mess and we stop all this Deprival of Joy?"

Her face lit up. "Sure thing, Marco-boy. As soon as you like."

"Five sim-minutes, then," he said and grinned boyishly at her. As she faded he buried his face in his hands. When you took up government, he thought, you take up a load as massy as the galaxy itself. He felt a thousand years old.

But if that crazy old wreck Banerji can take it, so can Mark Hassall!

He got up, loosened his tie, tousled his hair and set out whistling for the Mess. END

GLOP GOOSH and GILGAMESH

BY THEODORE STURGEON

"Let us," says the feller, "eat up the street."

"Oh no," says his girl friend, "I don't like asphalt."

Which only goes to show how bubble-headed some guys' girl-friends can get, for few substances known to man have proved so useful for so long. If today the number of uses for asphalt is pushing its second hundred thousand, it's only the result of an early start and straight A's ever since.

There seems little doubt that the substance which forms the expansion joints between the concrete slabs of a superhighway is the same gunk used to coat the basket in which Moses was found amongst the bulrushes. The interlining of that paper bag you brought your ice cream home in yesterday is impregnated with much the same glop which waterproofed the Hanging Gardens of Babylon. "6 sars of bitumen I poured over its outside; 3 sars I poured over its interior," says the Babylonian Epic of Gilgamesh, quoting one Noah, noted local ark-builder.

"Bitumen" once was, and in some places still is, a synonym for "asphalt." The Romans used the former as a generic term for all natural hydrocarbons, for although "petroleum"—literally "rock oil"—is a perfectly sound term, it was not used in classical Latin. Up until fifty years ago these hydrocarbons were, commercially, divided into three main groups—natural gas, the liquid petroleum, and asphalt: gas, liquid, solid, all neat and convenient. The name "asphalt" or "asphaltum" comes from the Greek: actually it was called *pissasphaltum*, the derivation being the same, no kidding, as the word "pitch."

Ancient references to these sub-

stances are plentiful and fascinating, especially since the stuff has world-wide distribution, though of course uneven. Not only is it found almost everywhere, it occurs throughout the whole range of geological strata, from the really old Laurentian rocks to the most recent Quarternary layers. Hence you can match a Bob Hope wisecrack about the La Brea Tar Pits with Diodorus's account of the Dead Sea asphalt industry, which collected the material for shipment to Egypt, where it was used to preserve the dead. As a matter of fact, the Egyptian word "mummy" comes from the ancient Persian word "mummai" which means nothing else in the world but—asphalt.

In the King James Bible you'll find, in the account of the construction of the Tower of Babel (Genesis *ix*, 3) that "slime had they for mortar," and further on (*xiv*, 10) that the vale of Siddim "was full of slime-pits." The Tower, as a boondoggle, had a bad enough reputation without this kind of slur on the contractors; so let's look at the Vulgate Bible, where, sure enough, we find the word translated "bitumen" instead of "slime" and "slime-pits." These pits figure elsewhere in Genesis. It seems there were four kings of the Babylonian region who had themselves a war with the five kings of the Low Plain of Siddim. As Genesis *xiv* puts it: "Now the Low Plain of Siddim was pits upon pits of bitumen; and the kings of Sodom and Gomorrah took to flight and went falling into them, and those who remained fled into the mountainous region." And the GI's used to complain about mud! Anyway, there was so much bitumen around the Dead Sea, especially the southern tip, that the Romans used to call the Sea "Lake Asphaltitis."

There are "lakes" of asphalt which are by no means mere figures of speech. The most celebrated of these is the one on the island of Trinidad. My oldest reference, which goes back sixty years, describes it as a hair over 99 acres, firm enough in most places to support a team of horses, though softer in the center. A "tramway", or mine railroad, was laid on palm leaves, and the asphalt was dug with pick and shovel, down to about two feet. In a day or so the excavated area would fill up again with soft material which hardened as it contacted the air. At that time they were pulling 130,000 tons annually, and the owners were paying the government a royalty of £10,000 a year. My most recent reference gives the area as 100 acres and says it has increased 23 acres in the past half-century; you can take your choice of the figures, but they're a quibble compared to the monstrous amounts that have come out of that sticky hole in the ground. The oldest estimate I can find for the amount of asphalt in the lake is figured on 158,400 tons per foot of depth. But nobody knows how deep it is. A guess of 20 feet (average) would mean a reserve of 3,168,000 tons, which was the 1910 estimate. Since then it has yielded over 7.5 million tons and they're still calling it 100 acres. Some say it's 300 feet deep. Some say it's bottomless.

There's a wonderfully consistent vagueness throughout the whole subject. Asphalt, like political convictions or science fiction, being a mixture not a compound, has a wide array of physical (non)constants, like specific gravity, melting point and solubility. Nobody seems to know just how it's formed, for the best guess—that it's what's left of a petroleum deposit after the more volatile elements have evaporated — really explains very little about what happens underground during the process, nor why, nor how come it has happened in so many places and times. The requirements would seem to be a very special combination of heat, gases, petroleum and mud, and some long-term churning. The result, quantitatively, for a representative sample, is about 0.17 per cent water; 51.87 per cent volatile bitumen; 10 per cent sulphur; ash, earth and such garbage, 28.30 per cent; and fixed carbon, 9.72 per cent. Chemically it's about 80 per cent carbon, 6 per cent hydrogen, 0.5 per cent nitrogen, 1.5 oxygen, and the rest, around 12 per cent sulphur. Some of the sulphur together with some of the oxygen and the asphalt, especially in the softer parts (like the gooshy pool in the center of the lake, which is locally called "mother of the lake") gives off considerable quantities of sulphur dioxide, a fragrance of rotten eggs. It keeps this up for some time after it's dug.

Asphalt is now pumped, tanked and piped, for it can flow quite readily at around 200 degrees. Long cooking of a mash like this, however, can have frightening results, as for example the recent explosion of an asphalt tanker on a routine Gulf coast run. Nobody knows exactly what happened, but whatever it was, it happened swiftly and with great enthusiasm. Nothing was ever found of the ship or its crew but a few empty lifebelts and some scorched boards.

Most asphalt, of course — close to 70 per cent — is used in road making. It's the tar in tarmac (the mac in macadam, a crushed-stone mix) and the black in blacktop. The rest goes into hundreds of thousands of other products and processes. As a component in concretes of various kinds, it makes wonderful shockproof foundations for hydraulic hammers, turret-lathes and such muscular machinery. It waterproofs swimming pools and roofing felt, makes rust-preventive paints and lacquers, floors, walks and trouble. (My brother and I, before we had two digits to our ages, discovered roofing tar as a substitute for bubble gum. We sat for hours in the hot sun, just chewing. It was the tarred roof we sat on. After our pants were pried off, we were sent to bed. My brother still had his cud. During the night it fell out of his face and welded his hair to the sheet. He couldn't get undraped until they shaved him bald as a bullet.) Tile-makers couldn't get along without asphalt, nor automobile manufacturers, nor tree-surgeons.

Nor could you.

END

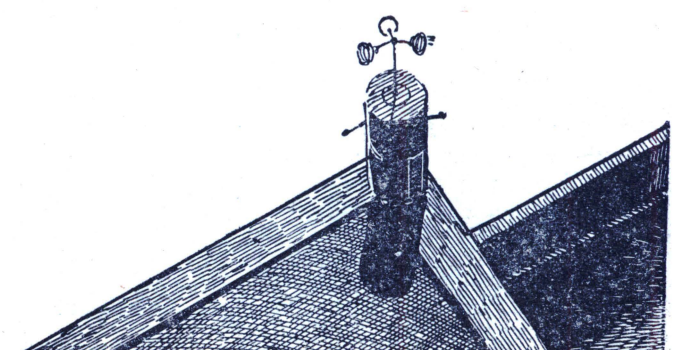
His past had been destroyed. He had no future. Yet he bore, buried within himself, the seeds of Man's only hope!

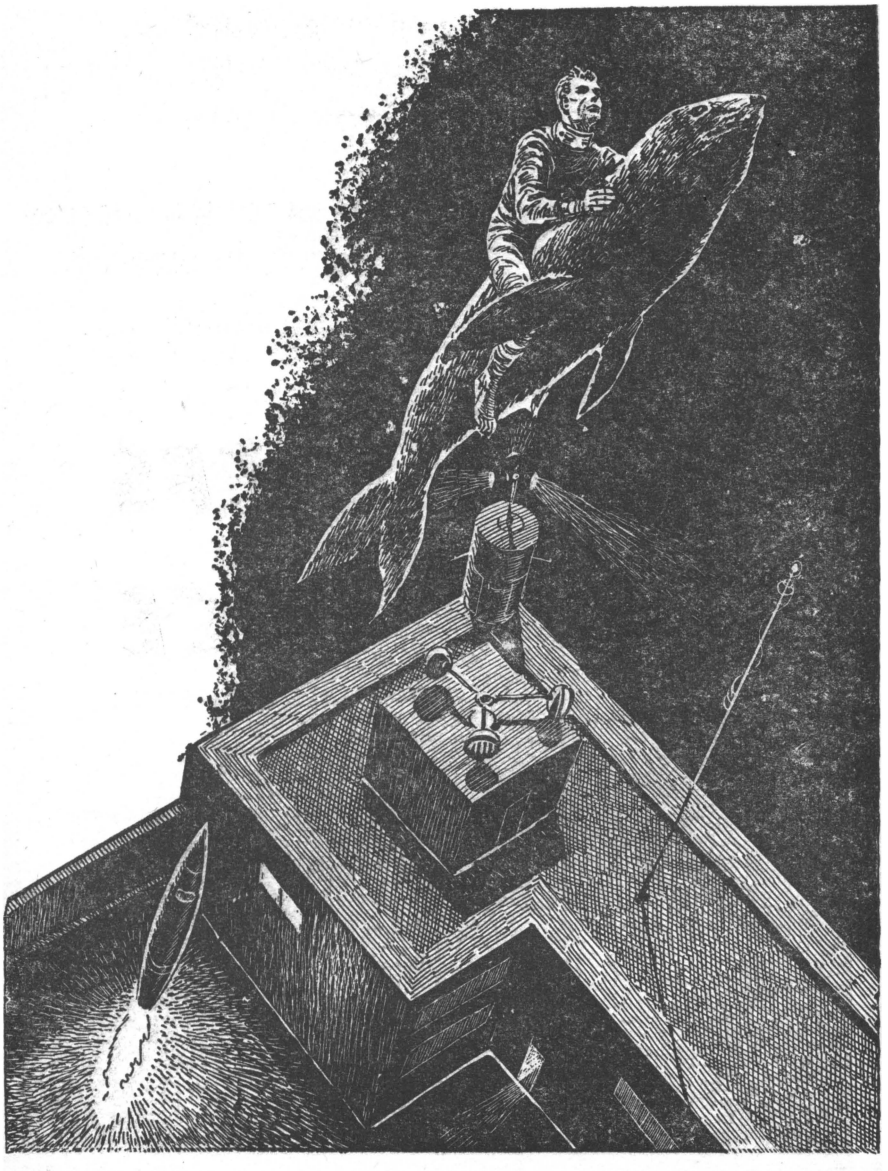
BY JACK WILLIAMSON AND FREDERIK POHL

ILLUSTRATED BY EMSH

THE REEFS OF SPACE

CONCLUSION





The Characters

STEVE RYELAND knew that he was a criminal who had failed the Plan of Man but he could not remember his crime, though the iron collar he wore around his neck reminded him of it night and day. Chosen by

THE PLANNER, the great, powerful spokesman for the Planning Machine, to take charge of a special research project, Ryeland found himself giving orders to generals, colonels, celebrated scientists—who resented it, and showed their resentment in a thousand ways. It was a puzzling situation. Even more puzzling was the project itself, which was simply to develop "a jetless drive"—a new space-propulsion system which would allow the forces of the Plan of Man to expand into the half-mythical bodies that circled the Sun far beyond Pluto. It seemed impossible. And yet—there was the spaceling, the queer creature from the distant Reefs of Space that itself seemed to have such a drive. Ryeland was given the captive spaceling to experiment on, though it was the property of

DONNA CREERY, the lovely daughter of the Planner, half child and half tempestuous woman, who would surely find revenge if he harmed the creature that was her pet. It was a difficult life, and it led to catastrophe . . for Ryeland's rebellious subordinates found a way to discredit him with the Machine, and he was ordered off the jetless-drive project and thrown into the Body Bank, that scrapheap for waste citizens and criminals too far gone for salvage, where their sole remaining task was to give up the organs of their bodies to repair more useful men and women. It was the end of the line, there was no doubt of it. Yet fate held a still more shattering blow. In the Body Bank Ryeland met again

ANGELA, the girl who had testified against him, the girl who could tell him what his crime had been and why he could not remember it. To his horror, she did. Ryeland learned why so much of his memory was shadowy and confused . . . for he was not a natural man! He was a "junk man"—created out of castoff parts and bits of tissue, nothing but a dummy that some more fortunate victim of the Body Bank had contrived as a screen to cover his escape!

Desperate, Ryeland tried to flee the Body Bank—but he was caught and hurried to the Administration Building where someone waited to see him. He did not know who; he did not know why. But surely it could not matter any more. Nothing worse could happen—he had nothing left, not even a body of his own!

PART III

XIV

They rushed him through the corridors, into a room, left him there for a moment; they threw a pair of coveralls at him, gave him barely time to squirm into them and paid no attention to the fact that they were four sizes too small. "It doesn't matter where you're going," rumbled the guard with the white tunic and the red heart. "Come on!" And they led him to another room and once again left him.

Through an open door Ryeland saw an operating theater.

Thank heaven for meprobomate, he thought without emotion, for this was undoubtedly the end of the trail. The asepsis lights were burning over the twin tables; a full O. R. crew was in view behind the transparent contamination-bar. On one table was a man of Ryeland's approximate build, with a great sighing bellows box pumping air through a complicated nest of piping. A lung machine? Yes. And the man, Ryeland knew, was about to get new lungs. And the lungs would have to come, of course, from Ryeland . . .

Or would they? Ryeland was baffled. For both tables were occupied, the one with a cadaver from Heaven as well as the one with a useful citizen come to collect a new part.

It was very queer.

But it only meant, probably, he assured himself, that he would be the donor for the next useful part. It was not kind of them to make him witness the operation, of course. But the Plan of Man was only impersonally kind. He glanced at the scene, looked away, then watched with helpless fascination. Faintly he could hear the brisk, businesslike orders of the surgeon, slitting skin, slicing through muscle, sculpting bone . . .

The operation was nearly over when he heard a sound behind him.

He turned.

Donna Creery walked in the door.

Donna Creery! She looked at him as though he were furniture. "Took you long enough to get him," she said grumpily to the man behind her — chief surgeon of the Clinic, by his bearing and his frown. "All right. I've got this —" she waved a radar gun—"so he won't give me any trouble. Will you, Ryeland?"

The surgeon said doubtfully, "It's most irregular."

"You've seen the Machine's order," purred Donna Creery, and waved a strip of factape.

"Oh," said the surgeon hastily, "of course, Miss Creery. You know I wouldn't — But it's most irregular, all the same."

Donna nodded coldly and beckoned to Ryeland. "The Machine does not have to be regular," she said. "Now show us how to get to my rocket."

They were out of the clinic beyond the wall, out to a landing pit. And there was Donna Creery's rocket speedster, squatting on its fins. The girl whispered: "Chiquita!"

Ryeland said strongly, "Wait a

minute, Miss Creery. Where are you taking me?"

She looked at him thoughtfully. "I have orders from the Machine," she said after a moment. "They direct me to take you to another Heaven, where you are needed for a rush repair job on an important member of the Planning staff."

"That sounds peculiar," he protested.

"Oh, very. Chiquita!" The girl stamped her foot and glared into the ship.

There was a golden movement inside, then a faint blue luminous haze.

The spaceling floated out.

Its tawny eyes were fixed worshipfully on Donna Creery. It wriggled felinely in the air, curled, spun — in pure joy, it seemed — and halted, poised in the air, before her.

Ryeland started to speak. "Shut up," whispered the girl. "There isn't time to argue. You've got to get out of here before they come to take you back."

"Back? But why should they do that? The travel orders from the Machine — "

"— are forged." She met his gaze calmly. "Yes. I forged them myself, so I should know. So the surgeon will be looking for you, as soon as he gets around to filing a routine report of compliance with the Machine. And that will be — what would you say? Five minutes?"

"But I don't understand!"

"You don't have to understand!" the girl blazed. "There isn't time! I'm trying to save your life. Also—" she hesitated. "Truthfully there's another reason. My father needs you."

"The Planner? But — but — why would *he* have to forge orders from the Machine?"

"I can't tell you now." She stared around. No one was in sight. She said grimly, "Heaven help you if anything goes wrong. I can't take you in my rocket; there isn't room. Anyway, that's the first place they'll look. I don't think they'll bother *me*. But if you're there —" She shrugged.

"Then what am I supposed to do?"

"Do?" she cried. "Why get on Chiquita's back! What do you think I brought her for? Just get on — she knows where to take you!"

Ryland rode the spaceling; it was like mounting a running stream.

A slim golden shape, more slender than a seal, floating in the air; gold, pure gold that blended into black at the tail, it was the strangest mount a man ever bestrode. Donna said a quick word of command. The spaceling purred faintly, rippled its lazy muscles and *whoom*. It was like a muffled slap of metal. Suddenly they had leaped a hundred feet into the air.

There was no shock, no crushing blow of acceleration. There was just a quick vibrant lift, and they were high in the air.

Through the thin coveralls that were his only garment Ryeland felt the purring vibration of the spaceling's body. Down below he saw the Planner's daughter already entering

her rocket. She did not intend to wait for trouble. The jets flared. Ryeland heard the sound — but it was receding, receding although the rocket had already begun to climb; they were climbing too, and *fast*. Ryeland was breathless. He clung to the spaceling. There was no pressure; only his arms held him to that bare, warm, smooth back. His stomach fluttered. His breathing caught. Down below he saw men moving, insects on the lawn and the walks. But they were not looking up, probably couldn't see him if they did; it was still night, and the hovering helicopters, with their floodlights were between him and the ground.

They were nearly a thousand feet in the air now. Donna's rocket, a black dot in the center of its own petaled flame, seemed plastered against the concrete of the pit below. Only the fact that its size stayed constant showed that it was following them; then even it began to dwindle.

Off to the northeast was a storm, the warning cirrus veil across the sky, the dark towering cumulonimbus, the rain squalls already marching across the dark mountains of Cuba. The spaceling turned toward the storm. "Wait!" cried Ryeland. "Don't go into *that*!" But the spaceling didn't understand, or wouldn't. It purred warmly, like a fat kitten, and arrowed toward the menacing cloud with its violent gusts.

And still Ryeland felt no motion.

All his body was accelerated uniformly by the spaceling's field, whatever it was. The air came with them, the pocket which the spaceling wore like a halo, its blue shroud of faintly glowing light. Their flight was not quite noiseless, though nearly; the only sound was a faint distant tearing, though they were barreling through the sky at surely sonic speed. Incredible! Ryeland's mathematician's mind fitted pieces together; the spaceling, he thought, must form a capsule which instantly shapes itself to meet the resistance— forming the perfect streamline shape for its needs, blunt teardrop at a hundred miles an hour, needle as it approached sound's speed, probably wasp-waisted area-rule profile at higher speeds.

And still there was no sense of motion, though Heaven had dropped away behind them and was gone.

Now they were over water. All around them was cloud. They were hurtling into the furious wall of towering thunderstorms that was the forefront of a hurricane.

Cold rain drenched him in an instant. That was curious, thought the objective, never-stilled part of his mind; rain penetrated the capsule where the rush of air did not! But there was no time to think of it. The rain was pelting icewater, uncomfortable, chilling. It disturbed the spaceling, too. Its satisfied purr changed to a complaining mew; it shook and shuddered. But it plunged on.

Ryeland was hopelessly lost.

The storm was the same in all directions, a dim void of fog and icy water, flickering with distant lightning. But the spaceling knew where it was going... he hoped.

They drilled through the top of the clouds and came out above them into clear air. Underneath them the shape of the storm revealed itself in a great spiral, the hurricane wheeling around its open eye. A bright light burst on him. It was the sun, rising again on the western horizon — they were *that* high! It was a blaze of incandescence in the dark; and still they climbed.

A great elation possessed Ryeland.

He had done the impossible! He had escaped, with all his limbs and faculties, from the hell they called Heaven!

He was no longer a numbered carcass; he was a man again. And Donna Creery had done it, where he had failed; he owed her something. He wondered briefly what it was she had failed to tell him about her father; then dismissed it. That wonder was lost in the greater soaring wonder of free flight. The sky was black around them — surely the air was thin now. And still they climbed, while the vast hazy floor of sea and cloud became visibly convex.

And still they climbed; and the air *was* thin now.

That was all wrong! Ryeland knew that much; the spaceling's field should hold the air. But the creature itself was gasping now, panting. Its purring and mewing had turned into the choking cough of a tiger. They still climbed, but Ryeland could feel the creature falter.

They were at a dangerous altitude. Suddenly he was breathless. His drenched body was chilled through, even in the white, bright glare of the naked sun.

It was the spaceling's wounds that were endangering them now, Ryeland realized. Gottling's torture chamber had left its marks. The creature's symbiotes had been destroyed, or some of them had. Its fusorians that gave it power, its parasitic Reef animalcules that made it possible for a warm-blooded air-breather to live in space in the first place, their numbers had been greatly diminished. They were not all gone, for there was still some air. It filled his grasping lungs, kept his body fluids from boiling out, screened him at least a little from the cold and the even more deadly UV of the sun. There was some air . . . but was there enough?

Ryeland laughed grimly, with almost the last of his breath. "That's what I'll find out," he panted, hoarsely . . . and passed out. He was not conscious of the moment when he blacked out; he only knew that he was going.

When he awoke, it was with sheer wonder that he was alive.

Donna Creery's perfect face bent over him, making the wonder all the greater. "I made it," he whispered incredulously.

The girl said seriously, "Yes, so far. But don't crowd your luck, Ryeland. We're still in trouble."

He stirred to get up — and floated free, until the girl's restraining hand pushed him back against the metal acceleration couch. They were in a spaceship, apparently in

free-fall. He looked around. Automatically he said, "I've got to find a —" He stopped. He had been about to ask where the teletype was, so that he could check in with the Machine. But that was no longer necessary, of course.

Donna Creery gestured at the cabin of the spaceship. "You like it, Steven? It's yours."

He was startled. "Mine?"

"Oh, yes. Do you remember the ship that General Fleemer equipped for you, with remote controls from Point Triangle Gray? This is it — with some changes. I've removed the remote controls. But it was a perfectly good interplanetary rocket, right in orbit where Chiquita could bring you to it. Only —" she looked worried. "Only I'm surprised that Father isn't here."

Ryeland shook his head.

"I'm sorry," he said. "I don't understand. Why does the Planner want me here?"

She said, "He ought to tell you himself, but perhaps I can. Did you know, Steven, that in the past two months there have been over a hundred major seismic shocks? And they always seem to strike centers of population. My father thinks — well, it doesn't sound right when I say it. He thinks the Machine is doing it."

"The Machine!"

"I know, Steven. But Father is worried. He has discovered that General Fleemer and others have been tampering with the Machine! Father is a good man, Steven, and he says he does not understand this. But I do. Fleemer wants to control

the Machine — because he wants to control the Plan of Man—and destroying the project for discovery of a jetless drive is only one step in his plan. All those seismic shocks and accidents with subtrain tubes and fusion reactors and the new ion drives — they're all part of it, too. Deliberate sabotage!

"And, oh, Steven! How well it has worked! The Machine is only transistors and relays, you know; it knows nothing but what is fed into it. Fleemer has managed to corrupt its input circuits, and now the Machine is almost openly hostile to Father, and the whole crux of the matter right now is the jetless drive. The Machine has come to think that such a drive will destroy the Plan of Man. It has overruled Father's orders on it — oh, a thousand times — so that Father has to resort to subterfuge and tricks. He let me rescue you, as one of his moves. But I'm afraid it's too late."

She moved away, peering worriedly at the viewports on the spaceship's panel. "They don't seem to be following. Not yet, anyhow."

Ryeland noticed he was shivering. It was not cold in the ship, but he had only the ill-fitting coveralls to wear and they were soaked through. "Who?" he demanded.

"The Plan police," she said, surprised. "General Fleemer will be after Chiquita, even if they don't suspect you are with me. Though we can't count on that, of course; it wouldn't be unreasonable for the Machine to inform them that I had rescued you from Heaven He was going to kill Chiquita, you see, so I stole her." She frowned as Ryeland shook his head.

"Why shouldn't I steal her?" the girl flared. "She was mine! And the only safe place for Chiquita is out in space — out on the Reefs, if I can get her there. And, of course, that's the only safe place for you."

Ryeland said angrily, "You're asking me to run away from the Machine! You want me to be an outlaw!"

"Oh, Steven, what do you think you are? Have you forgotten Heaven already? I saved your life... You're lucky you got here," she said seriously, stroking the spaceling. "I wasn't at all sure Chiquita could make the jump from atmosphere."

"Neither was I."

She smiled, and for a moment she was the impish, confident girl who had interviewed him in her bath. But quickly her face clouded again. "I wish Father would come," she said. "Chiquita can't live forever without getting back to the Reefs to replenish her fusorians. And I — well, I sent my own rocket back to Earth and crashed it where they'll find it. Perhaps they'll think we were both killed. But," she said calmly, "they would have to be stupid to be deceived very long, and the Machine is never stupid. It's — I don't know — unbalanced, now. But it is thorough. Father and I discussed it thoroughly; he knows the Machine well. He thinks we have about twelve hours."

"Then what?"

"Why, then the Machine will trigger your collar."

Involuntarily Ryeland's fingers came up to touch the dull metal that encircled his neck.

The girl was right; that was what the machine would do. Twelve hours? He didn't know; but probably the Planner did. All right. Then in twelve hours they had to be out of range.

"Can we get away from the Machine's radar beam in twelve hours?" he demanded.

"I don't know, Steven. I think so. The Machine may not realize that you are in space."

The girl restlessly prowled toward the viewports. "But Father isn't here. I don't know how long we can afford to wait. Once we get out to the Reefs, of course, there's nothing to worry about. You won't have your collar any more."

He looked startled. She smiled. "Don't you remember, Steven? Ron Donderevo. The man who got his iron collar off; he's out there. I'm sure he can do the same with yours."

Restlessly Ryeland touched his collar. "Please," he begged. "Tell me what you know about Donderevo" . . . about, he thought silently, the man this junk body of mine was built to replace.

"You know everything there is to tell. Or almost," she said. "He was once a friend of my father — in spite of all their differences over the future of the Plan of Man. It was Donderevo who first told my father something about the spacelings and the reefs, and convinced him that the Machine should try to develop a jetless drive.

"Unfortunately, when the Plan took over his people, Donderevo engaged in disloyal activities. For that reason he was classified as a Risk and finally sent to the stockpile. The fact that Father communicated with him while he was in the stockpile, and finally connived at his escape, is one of the charges that Fleemer is using now in his effort to discredit Father with the Machine.

"I think Donderevo might be able to help Father now, in this fight with Fleemer for control of the Machine and the future of the Plan. At least he could tell the Machine more about the reefs than it got from Lescure's reports — after Fleemer had finished doctoring them. And that's where we must go, Steve — to find Donderevo, out to the Reefs of Space!"

Ryeland was suddenly afraid to tell Donna how desperately he wanted to see Ron Donderevo. Donderevo might help him remove the iron collar. Donderevo might help him clear up the fog of oblivion and contradiction in his past. But it was also possible that Donderevo would tell him that the collar could not be removed — not without the elaborate surgical facilities available only at the stockpile. It was even possible that Donderevo would affirm what Angela had told him — that he was a junk man, a meat machine patched together from a few bits of waste tissue, not worth saving from the collar.

If that were true, he thought, he couldn't stand for Donna Creery ever to find it out. The Planner's daughter — and a few pounds of

salvaged human garbage. The gulf between them would be too wide for any warm emotion to cross.

Donna Creery looked again at the viewports and sighed. "I don't know why Father isn't here," she said, "but we dare not wait any longer. I'll send him a message and we'll go. Even the Machine's normal radar beam might reach out this far; we've got to get out of range." She smiled. "It isn't only for your sake, you know. If that collar were triggered in this little ship . . . "

She pursed her lips gravely and shook her head.

XV

Ryeland was deep in a dream of an armless, legless blonde with Oporto's grinning face coming at him with a sonic hacksaw. When the earth began to shake, his body vibrated like a harpstring . . . and he awoke. Donna Creery was leaning over him.

Uncomfortably he stretched and rubbed his tingling hands and ankles. It took him several seconds to wake up. Not unusual; the sleep that spans interplanetary distances is not lightly thrown off. They had put themselves under for what was to have been a voyage of a hundred and fifty days. Were they at the end of it already?

But Donna's face was worried, and there was a loud excited mewing from the ship's cargo lock. Ryeland groaned and tried to shake the aches out of his bones. Thank heaven they were in space, he thought. The mild thrust of Hohmann-minima orbits kept the endless contact of body-to-bed from producing the bed sores and bruises that would have been inevitable on Earth. "Steven!" the girl cried frantically.

"Sorry," he mumbled, shook himself and woke up at last. "What's the matter?"

"Chiquita's gone crazy!" He grunted and climbed up, peering into the cargo hold. The spaceling was flashing about the lock like a tom on the trail of a skulking mouse. She was mewing frantically.

"Are we here?"

"No, Steven! But Chiquita got so excited that she triggered the alarms and woke me up. We should be traveling for days yet!"

"All right. Let's see what's bothering her."

"But there's nothing to see. We're in deep space now, Steven. Far out beyond Pluto — and yet surely not as far as the Reefs. There couldn't possibly be anything here that could bother her . . . "

She stopped, listening.

Both of them heard it at the same moment. It was an irritated hammering sound.

They stared at each other.

It came again, a muffled banging on their ship's hull. "Let's take a look," Ryeland said grimly. The viewports showed nothing, but on the outer door of the airlock was a small window, shielded against chance radiation. Ryeland slipped the catch and slid open the shields.

A man stared in, with an expression of impatient annoyance.

A man!

Ryeland and the girl looked at

each other and then at the face that peered in on them. It was quite impossible. But it was undeniably true.

The man did not even wear a spacesuit. He wore a ragged blanket, hammering on the valve of the airlock with the handle of a long knife. He was a lean little red-bearded man, not young.

Donna cried out suddenly. "Steven! I know him. His name is Quiveras. Why, he brought Chiquita to Earth — to rescue Donderevo from the stockpile." She hesitated, then said abruptly: "Open the lock, Steven."

"What?"

"Open the lock, man!"

"But the air —"

"Oh, there's no worry about that," she said impatiently. "Look!" She pointed behind the man's head where a smooth-lined shape rippled. Another spaceling! No wonder Chiquita had been so upset; undoubtedly she had sensed its presence, a creature like herself though larger and darker. "He's got his own air. The spaceling carried it. How do you suppose he lives? Open the lock!"

Ryeland hesitated. Reason told him the girl was right; there could be no other explanation. Reason was certain; but his emotional conditioning against opening a door to the great exploding suck of space was too powerful to give in to mere reason without combat; it took a great deal of self-discipline for Ryeland to turn the valve key. But he did it. A metallic whine; a hiss of equalizing pressure. And the lock was open, and they were still breathing air — queerly scented air, with a faint, hot, chemical bouquet, but not unpleasant.

The little man hurried inside.

He whistled sharply and his spaceling followed. It was a red-nosed, stub-winged seal, its nose pulsing with red light. Its huge eyes peered around the chamber; it was whining shrilly with pleasure and excitement.

"Wait!" cried the little man. The spaceling was frantic, but obedient; it paused in the lock while the man spun the closing valve. Then Quiveras said, "All right, Adam. Go meet your friend."

The two spacelings flew at each other.

Around and around the narrow cargo compartment they spun, mewing and purring in soprano-baritone counterpoint. Quiveras grinned. "Ah, the children! How happy to see each other they are!" He bowed and took off his rag of a hat. "And I, sir and madam. I am Quintano Quivaro Quiveras, your humble servant."

He looked again at Donna Creery and smiled with real pleasure. "Ah, the Planner's daughter! It is good to see you! And you, sir; it is good to see you as well, though I do not as yet know your name."

"Steve Ryeland." He put out his hand, and gravely they shook.

Donna managed to say: "We're pleased to see you too, Mr. Quiveras. But —"

"But what is Quiveras doing here?" The man smiled and bowed again. "Ah, perhaps I may help. My Adam felt the presence of Chiquita

here." He reached out and stroked the golden she-spaceling; the two of them hung poised, their flanks touching, just behind him. "So he wished to join you; and then, there is another reason." The smile left his face. "My Adam and I, we have been watching you for some time. Adam has excellent vision, apart from the way that spacelings have of knowing another spaceling is near even when vision is of no use. And Adam saw something. With his help, I saw it too."

"What's that?"

"Why," said Quiveras seriously, "perhaps you do not know it, but you are being followed by a heavy war rocket of the Plan of Man."

Involuntarily Ryeland's fingers stole up to touch his collar. Donna Creery's face turned chalk-white. Their signal to the Planner must have been intercepted; Fleemer knew where they were.

The equations of military affairs in open space admit of only one solution: The faster vessel could always force battle on the slower. The logic of the radar-pulse that would trigger the collar on Ryeland's neck made it certain that the battle could be decided only one way. If they fled, the Plan cruiser would overtake them. If they stopped their jets, it would calculate course and position from the last recorded points with no chance whatsoever of error. The jets made a magnificent target, their light and heat a beacon for a million miles. Every effort at escape would plot another blip on the Plan cruiser's thermal screens.

And then the radar pulse would detonate the collar.

Ryeland said harshly: "Can we fight? Are there any arms on the ship?"

Quiveras's gnarled face took on an expression of surprise. "Fight against the Plan? Oh, no, my young friend. We do not fight them; that is their way. We follow our way. We merely run away." He nodded. "We are some millions of miles from the Reefs, yes; it is a considerable journey. But at the end of the journey is freedom. Perhaps even — " he followed Ryeland's stroking fingers on the collar with his eyes — "freedom from that thing about your neck."

"We have no lifeboat!"

Quiveras pursed his lips. He pointed to the two spacelings, frolicking about.

Ryeland said with quick comprehension: "The jetless drive! Of course. They can get us away from our rocket, and as they do not use thermal propulsion, the Plan ship won't be able to spot them. But — the female is injured, Quiveras. She almost killed me before, in just a few minutes in space. Look." He indicated the ridged scars Colonel Gottling had left on her golden fur.

"But she's had time to heal, Steven!" cried Donna Creery. "Don't forget we've been aspace for over four months!"

Quiveras looked suddenly worried. Ignoring the girl, he dropped to one knee and crooned to the spaceling. Chiquita frolicked over and hung before him, purring faintly as he stroked the scars. At last Quiveras

looked up, his gnarled face concerned. "These were bad wounds, Miss Creery. I did not think you would treat her like that."

"It wasn't I!"

Quiveras shook his head. Obstinately, he said, "They are bad. I do not know if she will ever altogether heal."

Ryeland said stonily, "Are you telling us that we can't get away by spaceling, then?"

"Oh, no!" The little man was upset. "I did not mean to frighten you. My Adam can hold enough air for us all, I promise. We must go quickly."

"No," said Ryeland.

The girl and Quiveras paused, staring at him.

"Not like that," he said. "This rocket was equipped for me, to work out some of the problems of the jetless drive. I need that equipment — for, if it is as important as you say, we must have it. The spacelings will have to tow it — No," he said, not letting Quiveras object. "I know it will be difficult. But I must have it. And one other thing."

Quiveras looked at him coldly, then at last smiled. "Very well. If you are willing to go slowly, Adam and Chiquita can pull along whatever it is you want. What is the other thing?"

Ryeland said: "I want to set a fuse on this ship's fuel compartment. I don't want them poking around in it after we go; I want to blow it up."

In ten minutes they had locked out some tons of computers, electronic instruments, a power source and a handful of other gear; Ryeland took another five to wire contacts to a time-clock and set them to explode the ship's fuel, and then they were ready to leave the spaceship.

It was like making up one's mind to leap off a building. They stood in the open airlock, and there outside was the universe of stars. Ryeland felt more helpless and small than ever before in his life; how could human flesh survive that great cold barrage of light?

But Quiveras assured them that the spaceling's bubble of gas had remained about the ship, held there by the spaceling even through the ship's hull. And in fact, they could see strange shapes and colors, hardly visible with their eyes, still used to the bright ship's interior and dazzled by the distant display of multitudinous suns.

Ryeland and the girl joined hands and leaped, and they floated into the world of the spaceling.

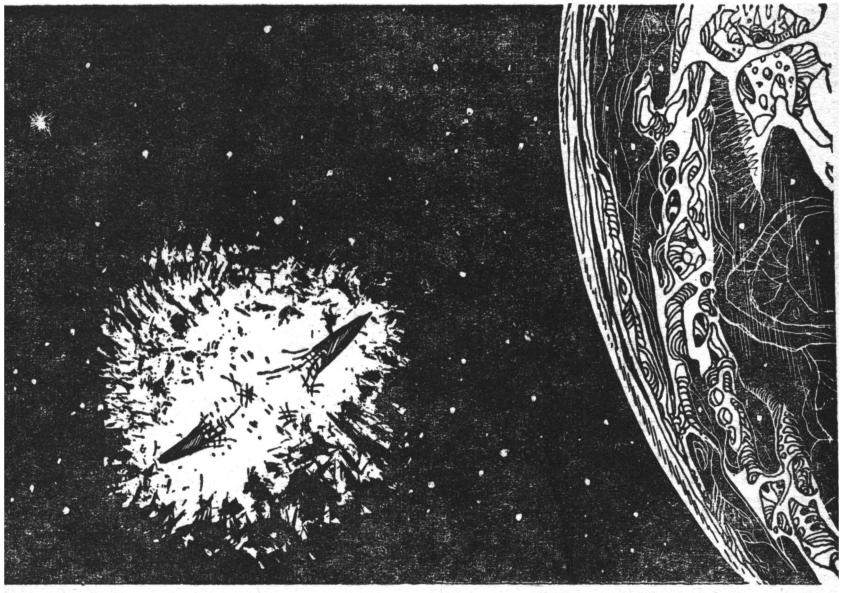
They felt nothing, but they began to move away. The two spacelings swam among them, apparently unheeding, but the jetless drive their bodies produced was moving them all at a tangent to the rocket's line of flight, diverging from it slowly. As they drew off from the ship, the captive air the spaceling carried with it detached itself from its resting places along the hull of the ship. The bubble condensed. The air became denser. Scraps of solid material drifted into place.

Behind them, in a long string pointing toward the rocket ship they had left, an occasional glint of star-

shine showed the trail of instruments Ryeland had demanded they take with them. But they saw them only briefly, and then the spaceling's world was coalescing about them, and it was a fairyland.

It was incredible! Donna and Ryeland stared about, unbelieving. As the bits and pieces sorted themselves into their accustomed relationships they became a cool green cloud, so bright that Ryeland could hardly see the stars outside. Strange-leafed vines twined through the cloud, laden with clusters of unfamiliar fruit. Small creatures that were half fish and half bird flitted through the vines.

They were at the center, and as the air reached earth-normal density the invisible small creatures that gave it light and life were thickly packed about them. They could move. Ryeland roamed restlessly around the mad little bubble of life they inhabited, with naked space only yards away, staring, thinking, asking quick questions of Quiveras. The little man had apologetically few answers for him, but the facts spoke for themselves. "Incredible!" he muttered. "Fantastic!" He caught himself on a tendril of vine eighteen inches from the faint veil that marked the end of the bubble and stared out at the stars. He could recognize no constellations; great Orion and the mighty Southern Cross alike were out there, but buried in a swarm of thousands of lesser lights, invisible on earth but here a snow-sprinkling of radiance. One great blue-white needle lanced



him, and he knew that he had found one star at least. That could only be Sirius, many magnitudes brighter than from Earth's surface, painful to look at directly.

Behind him Donna said hesitantly, "Steven, what is all this?"

Ryeland turned at last to confront her. "It's remarkable! I think I understand it, though . . . The drive field holds this little cloud of air. Moving through space, it picks up dust and hydrogen gas. These vines have fusorian cells, that fuse the hydrogen into oxygen, carbon and all the other elements — and also release light and heat enough for the spaceling's metabolism, or for ours. I'd guess," he said thoughtfully, "that there's a fair proportion of heavy elements in those plants. Conservation of energy. Fusion liberates nuclear energy at the light end of the scale; if the fusorians made only light elements there would be too much release of energy, we'd all be dead in a moment, one way or another. But up past silver fusion *takes* energy . . . ." He shook his head. "Sorry. But I can't help running on about it. This is a complete little world, with its own complete economy."

Donna asked simply, "What about food?"

Quiveras interrupted. "Ah, *food*!" he cried. He launched himself through the air like a swimmer in water, the vines like a strange seaweed. He gathered his hands full of the bright fruits and came soaring back. He begged: "Try them! They are good. Platinum? Gold? I do not know about heavy elements, Mr.

Ryeland. But I know about flavor!"

At that moment a great soundless flower of fire unfolded behind them. They all whirled to look.

Ryeland said soberly: "There goes our rocket. I hope we're going to like this place, Donna. It's all we've got now."

They gathered close to the film at the very rim of the bubble, peering out. "Not too close," warned Quiveras. "You must not stick even your little finger through it. You will be blown out, you see."

Ryeland looked startled, then, after a moment, nodded. "Of course. Anything much larger than a molecule is not reflected, eh? And once the field was penetrated, it would be forced out by the pressure differential." Very cautiously they settled themselves to peer out at the ship they had left behind. The flame was gone, but even in its microseconds it had heated metal to red incandescence and they could see a ruddy skeleton that was all that was left of the craft's main supporting beams. The hull and fitting were scattered by the blast; but near the dark red glow they could make out faint points of light. The war rocket, Quiveras declared positively. The lights they saw were the flare of its auxiliary rockets as it matched position with the abandoned hulk.

The spacelings hung looking out through the tangle of glowing vines, searching the dark outward sky. They made soft murmuring and whimpering sounds. Quiveras listened to them, stroking their sleek fur, crooning to them gently.

"They are watching the Plan rocket," he told the others. "The ship radiates its own infrared. They can see it well, now that it is coming closer."

"Closer?" Ryeland was startled.

"Of course, Mr. Ryeland. The Plan is not stupid."

"But — they must think we are dead! And even if not, they have no way of tracing the spacelings' jetless drive —"

"Nor have they," Quiveras told him solemnly. "The Plan is merely thorough. I can understand what they are saying in that cruiser. 'Did they have an escape vessel? If so, where would they be going?' To the Reefs. And the Plan knows where the Reefs must be."

The spacelings were growing uneasy. "And our friends here are tiring," Quiveras said soberly. "They need rest. Carrying all of us, and all of your equipment, Mr. Ryeland — even for two of them it is a great load. They cannot go faster, and so they are going to try to hide. There."

He pointed out through the glowing vines.

Ryeland looked. The brilliance of their little atmosphere was in his way. He kicked himself — very warily! — to the other end of their bubble and hung, clutching a vine and staring; but if there was something to see his untrained eyes could not make it out.

Quiveras followed. "It is a cluster of Reefs," he explained. "There, near those three blue-white stars."

Ryeland's Earth-adapted eyes were not equal to the task. But Chiquita and Adam slipped close to him

and hung among the bright leaves, their sad eyes staring into the star-sprinkled space ahead. Ryeland shook his head. "I don't see anything at all."

"Nor did I," Quiveras agreed, "until the spacelings showed me. We are not equipped to find a pebble in the dark, countless miles away; but they are."

Ryeland said doubtfully, "Even if there are Reefs there, and we get to them — can't the Plan rocket follow us?"

Quiveras shrugged. "Of course. But the Reefs are in a thicker cloud than this little bubble of Adam's, Mr. Ryeland. There are swarms of the little fireflies that you call fusorians; they'll fog his search screens. There are hunks of bigger stuff that will slow him down — perhaps even wreck him, Mr. Ryeland, if he should be careless! Still, he may get through and find us. Yes. It is a chance, but we have no choice but to take it."

They drove on for hours, there was no way of measuring just how long. As destination and pursuer were alike invisible to Ryeland, there were only the shrouded stars as reference points, and their great distance was not affected by the tiny crawl of the spacelings. Adam and Chiquita seemed hardly to be working, as they slipped supplely about through the vines, yet Quiveras assured Ryeland they were moving nearly as fast as the Plan cruiser, in spite of the trail of machines that followed them.

Then Quiveras said, "We are almost there!"

Ryeland sought among the stars for "there". What made it hardest was that there was neither bow nor stern to their tiny captive world, no sure way of knowing which way they were going. He could find nothing. The stars shone splendid and unobscured, as he hung at nearly the edge of their air capsule — red stars, blue-white giants, clouds of nebular matter . . .

Then he saw the Reef ahead.

XVI

It appeared first as a pale point of light that suddenly grew into a bulging, uneven sphere of splendor. It was a jeweled ball, floating in space, and the jewels were forests of crystal.

They came closer, like a comet, then slower. Ryeland saw spiked trees of crystal carbon — diamond! — glittering with their own inner light. There were strange bulging brain-shaped masses of blue and violet, patches of ghostly white sand, a frozen forest with bright metal leaves.

It was an incredible fairyland to Ryeland and the girl, but Quiveras surveyed it with a shrewd professional eye and shook his head.

"Not a good place to hide," he said, peering at the glowing ball. "Still, that solid part might be useful. The Reefs are mostly hollow — because they're dead inside."

Ryeland nodded. "I suppose the surface organisms are the ones that pick up the free hydrogen and grow. The ones inside die of starvation."

Quiveras was not listening. He

cried gleefully: "Yes! There is a cave! — If it is not already occupied."

Ryeland stared at him. Quiveras shrugged. "These Reefs do not have much gravitation; something must be holding the air there, as the spacelings do. It could be another spaceling. It could be small cells in the Reef itself — each Reef is its own world, I do not pretend that I know what to expect on this one. But it could be something quite bad." He raised a hand. "Wait. Let us see."

The jeweled ball swam closer. "Watch," ordered Quiveras. "See how Chiquita enters the air of this Reef. Adam is pulling us now; Chiquita is controlling our atmosphere. Do you see?"

The female spaceling was darting about, while Adam hung motionless. "I did wonder about that," admitted Ryeland. "When the two spheres meet, air pressure will be forcing them apart."

Quiveras shook his head. "See, she airlocks the Reef in." Ryeland stared. They came closer to the Reef and closer. From the frightened movements of the little fishbirds, he saw that the shell was being contracted; yet there was no increase of pressure — "I see!" he cried suddenly. "She is setting up another shell, big enough for both us and the Reef! Then she'll collapse our inner shell, letting the air leak out as it contracts to keep the pressure steady!"

Quiveras nodded. There was a sudden vibration, as though the shock-front of a distant explosion had raced past them, and a clicking in their ears. The inner shell was finally gone.

Ryeland stared about his new world. The steady rain of starlight, even through their light-fogged atmosphere, gave him a view of a wonderland. The sun itself, hardly brighter than Sirius, made yellowish sparkles in the crystal branches of the—could he call it "vegetation"? But Quiveras gave him little time to admire the world.

"Now we must do our part, Mr. Ryeland," he grinned.

Ryeland saw that the two spacelings were hanging at a distance from the dark cave mouth, regarding it with huge wet eyes. Their red noses flickered swiftly. They whimpered, and a shudder ran along Chiquita's scarred flank. "What is our part?"

Quiveras said calmly: "The spacelings have natural enemies — clumsy, armored killers. Very slow — too slow to catch the spacelings out in space. But extremely deadly. They wait for them in places like these." He said politely, "So we must ferret into this burrow, Mr. Ryeland, if you will do me the honor to join me."

Quiveras propelled himself to the mouth of the cave, peered inside, looked at the others and shrugged. "We will see," was all he said. Calmly he unwrapped a bundle of rags and took out an old Plan Police handweapon. He was not very skillful with it; he worried at it until he had opened the clip, checked the number of charges it contained — Ryeland saw that it only held four;

undoubtedly Quiveras had found it difficult to obtain them — snapped it closed and balanced it in his hand. Then with the heel of his worn boot he kicked at a stalagmite of greenish crystal until it broke free. It was eighteen inches long or more and quite sharp. It made a queer but serviceable sword, Ryeland thought, and then realized that it made an even better torch. The interior of the cave was dark. The crystal sword glowed with its trapped fusorian cells.

Quiveras scrambled into the cave and Ryeland followed, unable to look at the girl.

It was a strange dark lair of winding passages. The entrance was worn smooth — alarmingly — as though large bodies had been scraping in and out. Ryeland thought swiftly of the probable age of the Reef, and felt somewhat reassured. Time moved along different scales out here. Change could be lightning fast, or ponderously slow; those ledges might have been worn smooth a hundred million years ago. The dark passages, smooth-worn rock walls made of the bodies of once-living fusorians, had perhaps been dead when the Earth was still a boiling incandescent blob. There simply was no way to tell. Nor had Ryeland any idea of how long or deep the passages might be. They were as labyrinthine as the maze inside a head of sea-coral, where tiny crustaceans wait for tinier fish to blunder in.

Quiveras paused where the passage branched — and, within sight, both divisions inside a dozen yards branched again. He was staring at the wall. As Ryeland joined him, he saw what Quiveras had seen.

The worn sides of some of the passages bore curving parallel scars, as though they had been rasped by the claws of some incredible monster.

Quiveras said cheerfully, "That one looks the most used, Mr. Ryeland. If we only knew when, eh? Well, I'll try it — asking you, if you please, to remain here on guard." He turned away, hesitated and said solemnly: "You see, it is you who must take the post of danger. For if a pyropod should come from one of the other passages while I am gone . . ." He made a grave face, spread his hands politely and left.

Ryeland clung to a projection of rock and waited.

Pyropod . . .

He heard the word again, in the soft, apologetic, wheezy voice of Dr. Thrale. He was lying again on the therapy couch in the recreation center, clamped into the cold electrodes, helplessly enduring the merciless probing into his blank memory. He shuddered again, flinching from that pitiless pressure to make him reveal the secret he had never known —

Or had he really ever known how to build a jetless drive? That haunting fog of black oblivion and insane contradiction flowed into his brain. Through it, he heard the lazy malice of Angela's voice, mocking him with her explanation of the riddle. He was a junk man, a meat machine designed to sabotage the plan, without

a memory because he lacked a past.

A queer companion for the Planner's daughter. He resolved again not to tell her what he was. Now when they were alone, when he and Quiveras were the only human beings in her world, — could she stand the shock of learning that even he was no real human being?

He shook himself impatiently, as if mere motion might dispel! that paralyzing fog and reveal his true identity. That old riddle would have to wait — perhaps until the timing mechanism detonated the collar, and answered it forever. The problems of the present were more urgent now.

It was warm in the cavern, far from the surface of the little deformed globe, where the fusorian cells poured endless heat and light into the atmosphere. But he found himself shivering. Pyropod? Yes. He had heard the term. He did not want to recall just what he had heard about it.

Quiveras disappeared, the needle-sharp crystal blade giving a strange light. It disappeared around a bend in the passage, and then for a time there was no light at all.

Time passed.

It was dark . . . silent . . . empty. Ryeland felt as though the dead walls around him were closing in. He wiped slippery sweat from his palms, listening, reaching out, because he could not help himself, to touch the walls to make sure that they were not about to squeeze him . . . Then involuntarily he felt himself grinning. Claustrophobia — here! Billions of miles from the Earth, a floating dust mote in the middle of absolute emptiness! The incongruity reassured him; and he was calm and cheerful when, at last, he saw the glow of light appear again in the passage Quiveras had taken.

The crystal sword came into sight and Quiveras hailed him cheerfully. "A dead end, and nothing there. Very well." He drew even with Ryeland and gazed at the other passages. "I think," he said, with some doubt, "that we will leave these others for now. They do not seem occupied, and it would take us weeks to explore them all. Consider yourself fortunate, my friend. You have not yet been introduced to a pyropod."

At Quiveras's hail the spacelings came swimming gracefully down the tunnel, their red noses blinking as they probed its depths with infrared. Donna Creery followed more slowly, exploring the caves with a child's wonder and awe. "Is it safe?" she asked.

Quiveras said calmly, "We will never be safe while Ryeland's collar is with us. If you mean are we safe from pyropods, I do not know. From a full-grown one, yes. I do not guarantee there is not a cub lurking somewhere, but if there is we will find it out and meanwhile shall we not try to make this place into a home?"

They worked for three hard days, while the spacelings fluttered and mewed restlessly — because, Quiveras said without emotion, the Plan cruiser was still somewhere about.

As there was nothing they could do about it, they did nothing. To their little world they did a great deal.

They carried aerial fusorian vines into the caverns, choosing cubicles for sleeping, for eating, for rest, curtaining and cushioning them with the vines, bringing shining crystals of ruby and topaz for heat and illumination. Donna cried out at its beauty. Indeed it was beautiful; and they were not finished. With Quiveras for a teacher, Ryeland learned how to weave nets and ropes out of the fiber from the vines. The surface of the reef provided crystal and great branching arms of metal, pure copper, pure aluminum, pure silver. They hammered the metal into crude tools. And finally they made a sort of curtain, woven from the vines and crusted with broken pieces of crystal, which they stretched across the mouth of the cave to conceal it.

Quiveras stood back and regarded it.

"Well," he said doubtfully, "it could be thicker and it could look more natural and those gadgets of yours could be hidden in better places. But if the Plan cruiser sniffs around here it might miss you, at that."

"Miss us? What about you?"

"I, Miss Creery, will go out to the main Reefs." Quiveras's gnarled face looked eager. "I'll get help, more spacelings. And I'll bring back Ron Donderevo!"

Ryeland and the girl were sorry to see him go, but their sorrow was nothing compared to the unhappiness of the two spacelings at being separated. Adam would carry Quiveras; Chiquita would have to stay with them, to maintain their atmosphere and to be ready to carry them away in desperate flight if the Plan cruiser should grow too inquisitive.

They watched him leave, all three of them, Ryeland, Donna Creery and the spaceling. He was gone out of sight in a moment. Ryeland thought he caught a single reddish wink from Adam's nose — perhaps the male spaceling turning restlessly as it drove away, to bid a last farewell to Chiquita. Then there was nothing. They stared till their eyes watered, but it was useless. The Plan cruiser could be lurking a mere hundred miles away — a thousand men on spacelings could be within ten miles. Without radar gear they were blind. Out there were only the stars.

Ryeland's mind drifted out among those stars wonderingly. He tried to imagine the clouds of new hydrogen, constantly being born of the Hoyle effect, and the myraid drifting fusorians that built the hydrogen into heavier elements that might someday be planets. There were other Reefs out there, the first concentrations of matter like the one they occupied, the larger ones that provided a home for the exiles of the Plan — great ones, even, that might in some remote millenium become the cores for first condensations of titanic new suns. They were all invisible.

Donna Creery touched his arm. "It's—lonely," she whispered. "Let's go back inside."

"Inside our cave!" he said harshly.

"Back to the stone age! Is this the sort of life that's fit for a princess of the Plan?"

She shrank away from him, and in a moment went with the spaceling silently inside the sheltering drift of vines. Ryeland roamed about, trying to work off the sudden storm of anger and helplessness that was besieging him. He tried to calm himself.

But calm was impossible to him. Calm, he knew, was a sensation he would not be likely to feel, until he had managed to rid himself of the choking, threatening thing about his neck — and until he had managed to bridge that gap in his past, until he had escaped that dreadful, creeping cloud of forgetfulness and contradiction —

Or until the collar's explosion brought him the permanent calm of the grave.

Time passed. They both found plenty to do. Alone now, except for the spaceling, they were queerly constrained in each other's company. Ryeland hardly recognized the bright, sure brat of the bath, with the angry Peace Dove and the fighting guard within instant call. Donna was quieter and younger now. They spoke of her father, and for the first time Ryeland was able to think of that semi-legendary Olympian figure as a human being. Donna was terribly worried about her father. "But we *couldn't* wait for him, Steven. Only — I wish we had."

He asked her again why the Planner had had to hide from the Machine, and got the same answer he had been given before. It was no answer. "I don't know, Steven, but he was worried. And it's your equations that are the key to it." And that, of course, drove Ryeland out to stare at the banked machines he had brought with him from the rocket, but all he could do was stare. They needed space and order, and on this little reefling there was neither.

They lived like primitive islanders, catching the tiny flying things with nets made of vines, feasting on the shining fruits. Ryeland's mind was queasy at the thought of the radiation they were absorbing with every luscious bite, but his stomach was delighted. And, he thought, they were not the first to eat them and live. Perhaps the radiation was purely photonic; perhaps a sort of bioluminescence, like the green glow of a firefly.

Ryeland asked the girl again how Fleemer and his allies had got the better of her father, and got the same answer he had been given before. It was no answer. "I don't know, Steve. Except that it is all about the jetless drive. Father told me that he approved the search for an interstellar drive as part of the original Plan, built into the Machine. When he first learned about the spacelings, from Donderevo, he knew that a reactionless drive was possible. He began to organize an effort to learn how to build it. Immediately, he ran into fanatical opposition from men like Fleemer. I don't know the reason for their opposition. It must have been some-

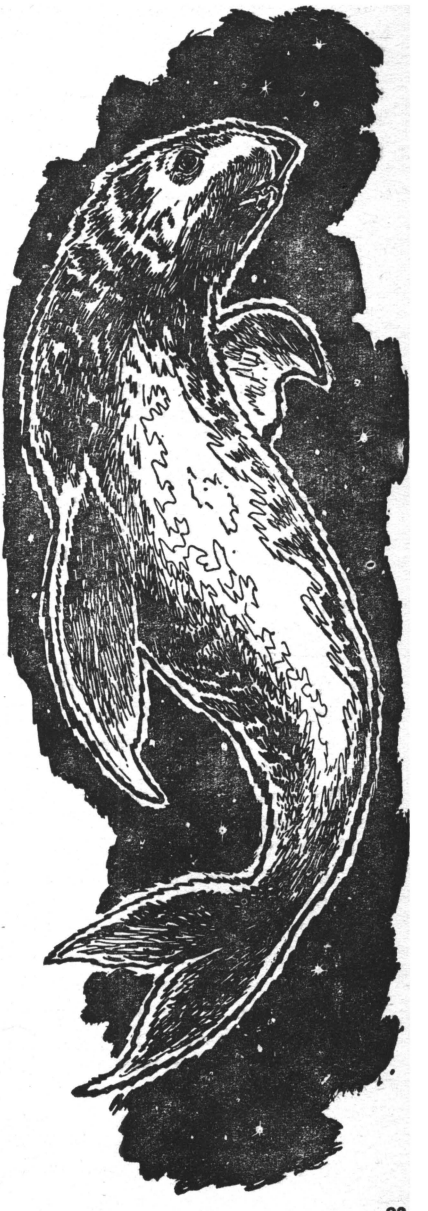
thing more than just the desire to grab Father's place. Somehow, they were able to manipulate the Machine. They have got it under their own control. But I still believe that we could rescue the Machine and Father and the Plan of Man — if we knew the secret of the spacelings."

That, of course, drove Ryeland to begin assembling and testing the computers he had brought from the rocket. But the crawling fog was thicker in his mind. He sat staring at the banked computers, but he could think of no approach more promising than those he had tried when he was still on Fleemer's team. He couldn't be sure that the failure of the team attack was altogether due to Fleemer's sabotage.

Anyhow, he reflected, t h e r e wasn't much that he could do in his cave on this reeflet. Even if he had been given the blueprints for a perfected reactionless drive, he had no shop equipment.

Hopelessly, he gave up the effort.

Days passed. Weeks passed. The spaceling roamed sadly around their little world, still worried. They could not read its ways as Quiveras had, but its worry was plain. Was it the Plan cruiser, still skulking about? Or a nearer menace? They simply could not tell. Donna grew sulky and unhappy, until they had a brief, brittle quarrel of words one day and it exploded into weeping. She clung to him. "I'm sorry. It's just that I always had so much. Servants, clean clothes, cooked food. Power, too. And now —"



She smiled up at him. Queerly, Ryeland thrust her away then. He was churned up inside with feelings he could neither analyze nor handle. It was his turn to be sulky and irritable, because, though he did not know it, his inner self was becoming a battle ground — the site of a struggle between his common sense, on one hand, and on the other a growing, potent love for the Planner's daughter . . .

Even his dreams were haunted.

He slept restlessly, and felt that he was choking . . . He was in his office, miles under the surface of the Earth in the hidden complex of air-conditioned tunnels that held the Machine and its attendants. He heard the knocking on the locked door, and got up to open it for Angela.

But it wasn't Angela.

It was Donna Creery, white-smocked like the nurses at the stockpile. She had brought the coffee and sandwiches on a plastic tray, but she screamed and threw them on the floor when she saw his face.

"It's Donderevo!" she was screaming. "It was Ron Donderevo—"

He wanted to tell her who he was, but suddenly he was strapped to the therapy couch in the recreation center, with shocks of paralyzing agony stabbing from the electrodes on his body. She was coming toward him again, in the white smock with a stitched red heart on her perfect breast, reaching for him with a long hooked scalpel.

"You might as well tell us now." She was wheezing at him with Dr. Thrale's apologetic, asthmatic voice. "Tell us how to build a jetless drive."

He wanted to tell her. The specifications were clear in his mind, amazingly simple; he couldn't understand why there had to be so much fuss about such a simple thing. But his voice was paralyzed with the the shocks that made waves of dazing pain from the collar around his neck. And Donna wouldn't let him talk.

Now she wore a horned radar helmet. She was taunting him, with Fleemer's ugly voice. *One touch, Ryeland. Only one little touch on the detonation button, and your precious secret will die with you!*

Now she had Angela's face.

But she still had hands, like Donna. He saw her touch the deadly little button. The collar about his neck blossomed and swelled —

He awoke strangling.

"I was dreaming!" He tugged frantically at the collar. No! It was no dream. The collar was there, and surely it was about to explode. His exacerbated imagination felt it pulsing against his rasped throat. He thought he heard a sound from it, a tick, a whine, a purring of faint unstoppable engines. "No!" he shouted and leaped up out of the little nest of leaves where he slept. It was exploding! Not in a year, not in a minute — *now*. He flung himself wildly about in the no-gravity, shouting.

Donna Creery came swiftly to him, and the terror in her face woke him, drowning his imaginary terrors.

"What's the matter?" he demanded harshly.

"Steven! It's Chiquita. She — she

was wandering about the lower passages, where we've never been, and —" She stopped, unable to speak on. Behind her the spaceling came, slowly, painfully, mewing tragically.

Chiquita's flank was a horror, raw flesh and golden ichor, with the mark of a great sharp claw.

XVII

There were four cartridges in the clip. Ryeland checked them, blessed Quiveras for having left the gun and started down the passages. He didn't say anything to Donna Creery; he didn't know what to say.

Then there was a pyropod on their Reef . . .

Ryeland's throat was raw and dry. Pyropods. "Flame-feet." Outer-space animals which, Ryeland thought, sounded vaguely like Earthly squids. Ryeland tried to picture one, and failed; but Quiveras had said there was a possibility that the caverns in their Reef might house one. And Chiquita's terrible wounds had converted that possibility into something far stronger.

Ryeland paused at the end of the passages they had explored, and picked up the discarded crystal sword Quiveras had left there. It was still bright; it was all the light he had. Then he drove into the first of the great convoluted burrows.

In five minutes he was at an end; the tunnel narrowed sharply, so that he could hardly move, and poised bits of rubble showed that nothing of any size had passed that way in finite time.

He went back again. Another tunnel, a much longer one this time, but again a dead end. It was difficult to maneuver; in no-gravity, he could not walk, and the shape and constriction of the tunnel made it hard to leap.

He came to another branch and stopped.

There were two tunnels, both enormous, both dark and soundless. The air was the air the spaceling had brought, but it had a sharp strange odor, like burning gunpowder.

And one of the tunnels was scarred with the enormous claws that had left their sign near the surface.

Ryeland plunged in without giving himself time to think.

He came almost at once to a chamber. He paused and hung in its entrance, peering about in the faint light his crystal sword gave. It was roughly spherical, so vast that its farther walls were dim; and in a niche at one side of it was a clutter of tangled objects.

Warily he approached.

It seemed to be a sort of midden, and the blood began to pulse in his ears. It contained odd-shaped objects that might have resembled the bones and fangs and carapaces of animals like no animals that had ever lived on earth. He stood staring at it, every sense poised. Then, with infinite pain, he approached. There was no sound. There was no motion. Gently he poked the crystalline light into a gap in the tangle. But nothing moved and there was nothing revealed.

Ryeland moved back and considered.

Space had its own scale of time. The discarded bones and the claw-marks in the rock might look just as fresh after another hundred million years. Undoubtedly the cave had been abandoned.

He turned.

Something screamed behind him. He had only time to halt his turn, to start to move his head back.

And the heap of bones exploded.

What kept Ryeland from dying at once was the tiny scope of the cavern, compared to the scale of interplanetary distances. The pyropod, rocket driven, enormously strong, hadn't the room to maneuver or even to build up speed. But it blasted up at him with frightening speed. It was huge — as Earth animals go — larger than a horse, and armored with mirror-bright scales. It had a solitary eye, a wide mirror on a stalked central organ. It had a single, enormous claw at the end of a writhing, flexible trunk. It roared like a rocket at takeoff — which it was — and the great heavy-metal claw snapped violently.

But the trash in its way screened Ryeland for a moment; he was thrust back and out of the way, and the pyropod flew past to gouge great chips out of the wall of the cavern.

Ryeland took quick aim and fired.

Even in the roar of the pyropod's drive, he could hear his bullet scream away, and knew that it had hit that armor and ricocheted off The pyropod did not turn to strike toward him again; it turned away, in fact, and its thin bright tail whipped toward him. White fire jetted out furiously. The tail! The tail was a more fearsome weapon than the claw — the mighty drive that could hurl it through space could char him in a second! But Ryeland was already moving, and the blast missed him entirely, though a backwash of flame from the wall caught his leg and (he discovered later) raised great angry blisters on his skin. Ryeland crashed into the wall, spun like a racing swimmer in a pool, raised the gun again and fired — rapidly — one, two, three!

And then his cartridges were gone . . .

But one of those bullets had struck a target. The stalk that held its eye was hit. The bulb exploded; the creature was blinded. It blundered about the chamber like a rocket gone mad, colliding with the walls, recoiling, plunging wildly again. The blazing jet licked perilously close —

And then the jet was screaming away, bouncing and roaring through the tunnel, out, out and away . . .

Ryeland was hurt badly, burned, bleeding, aching in every muscle; and he had no breath left at all after that quick violent encounter. But he did not pause. He leaped to follow the pyropod. Donna was up there!

He sailed through dark space, his crystal torch long since lost, tried to see through the utter dark, tried to shield his head from striking against the wall. It was good, now, that the tunnel was so narrow; there was really only one way to go.

And after interminable moments there was light.

He drove toward it, rounded a bend, and saw Donna Creery hurrying toward him — alive! She bore a coiled branch of the vine with its moons of luminous fusorians.

"Steven! Thank God!"

She tossed a loop of the vine to him; he caught it, and they drew themselves together. Ryeland caught her roughly. "The pyropod! What became of it?"

"Gone," said Donna Creery. "It went right by, out into space. Not having a nucleonic harpoon, I let it go. I think we've seen the last of it."

"It was hiding in a pile of bones," said Ryeland, suddenly drained. "I — I think I hit its eye."

"Yes. At least, it acted blind. And — oh, Steven!"

He looked at her, not comprehending. Reaction? He tried to reassure her. "It won't be back, Donna. You said yourself —"

"No, no. It's Chiquita, Steven. I think she's dying."

He nodded, hardly hearing. "Poor thing. Well, we've avenged her, I guess."

"And what about avenging ourselves? Have you forgotten, Steve — if Chiquita dies, there's nothing to hold our air!"

The spaceling lay motionless in a little cave lined with vines.

Now and then she struggled restlessly — not to move, but to bring fresh air about her. She seemed both bloated and gaunt. And the great wounds along her side were now crusted with dirty ocher scabs.

"Poor Chiquita," the girl whispered, stroking the soft fur. Donna crooned at the creature, and its great dull eyes fastened on her.

Ryeland looked the spaceling over. Her belly was swollen angrily, but the flesh had shrunk from the rest of her body. Her fur was lusterless and unkempt. The flame-red brilliance was gone from her nose; it was cold, black, dry. He touched her: hot. Did she have a fever? Ryeland could not know, but surely she was hotter than when he had clung to her neck, fleeing the body bank. The spaceling seemed to know that he was trying to help. She licked her black tongue out at him feebly; it was all the effort she could make.

Ryeland said reluctantly, "I don't think there's anything we can do for her."

"The light seems to bother her."

"All right. That much we can do." But it wasn't easy, in this little world of luminous crystal and vine. They found some growths that glowed only faintly and tugged them into place, thicker and thicker, until the little nook where Chiquita lay became a dim green hiding-hole. Chiquita looked faintly grateful, but mostly she looked sick.

They left her and went out to the surface to look at the stars. It was maddening, it was utterly maddening, to be so helpless! Ryeland clung to the edge of the tunnel, staring out toward emptiness. Somewhere out there, invisible but sure, lay the other Reefs. The great outer Reefs where fugitive humans managed lives that were free of the Plan — where, above all, lived Ron Donder-

evo, the native spaceman who had been a student of the science of the Plan, a guest and a prisoner of the Planner. He had worn the iron collar of a Risk — the selfsame collar that choked Ryeland now, if Angela had told the truth. He had talked to the Planner about a jetless drive, had been consigned to the stockpile, had ridden Chiquita back to the Reefs.

But — was he superhuman?

Could he remove Ryeland's collar — here in the reefs, without all the elaborate surgical facilities that had been available at the stockpile? Could he fill the gap in Ryeland's tormented memory — or was there really any gap to fill, except the time before the dissected scraps of a hundred salvaged enemies of the Plan had been assembled to make a thinking thing without a past?

By now Quiveras might have reached him. By now they might be on their way! Perhaps in a few days Quiveras and the stranger would come to the little Reef and look for Ryeland and the girl.

By now Quiveras might have reached him. By now they might be on their way! Perhaps in a few days Quiveras and the stranger would come to the little Reef and look for Ryeland and the girl.

And what would they find?

Ryeland knew that the most probable answer was . . . death.

Time passed, and the spaceling stayed alive. But she was weaker and worse every day.

The Reef became a dream to Ryeland. He lost all sense of time. He had no watch and there were no celestial objects to mark days or years very conveniently. He thought of a calendar, and tried to construct one. The sun was bright enough to be visible, but the trouble was that their little Reef had no perceptible rotation. No force from another object had ever set it spinning, perhaps; the same stars hung always over the tunnel mouth. It could tell them nothing of time. Painfully Ryeland located winking Algol and began a star-watch; its period would be his clock.

Donna said gently: "It won't help. You don't know when the collar will go off."

And he realized that she had seen farther into his mind than he himself. It was the ticking year that he was trying to measure, the year which was in any event his maximum hope of life as long as that collar sat sullenly about his neck. Chiquita might not die, the Plan cruiser might not return, but his assassin was with him at every moment. At one of those moments it would strike. That was the ultimate deadly promise of the iron collar. You could flee the radar guns of the Plan Police and even outrun their cruisers. You could in the Reefs of Space perhaps even avoid the wash of pulsed radar which the Machine would flood through the system. But the timing element would not be stopped and would not be merciful. In less than a year it would go off . . .

And Ryeland's guess, based on Algol's cycle and a careful recollection of how they had slept and eaten,

was that no less than six months had already passed.

Chiquita was now terribly sick.

The great claw-gashes had begun to heal, but her fever was high. She seemed thirsty, but she would not drink; she seemed in pain, but she hardly moved. Only a low whimpering mew came from the little bower they had made for her.

Ryeland made a decision and went out onto the shell of their Reef to put it into practice. It was only a matter of moments before Donna followed. "What are you doing?" she demanded sharply. He stopped, caught working over the equipment the spacelings had transported from the ship for him — the equipment that he had not used and now was proposing to put to a use completely unconnected with his original intention.

He said, "How's Chiquita?" But she would not be diverted.

"*What are you doing?*"

Ryeland said, "Rigging up a radio. I've got all the parts. I — I thought I might be able to reach Quiveras and ask him to hurry —"

"Or maybe you thought you might reach that Plan cruiser?"

Ryeland said strongly: "All right. Why not? Maybe we pushed our luck too far! Things weren't so bad back in the B — back on Earth, I mean. The Plan of Man is reasonable. They'll take us back if I surrender, and even at worst, it can't be worse than waiting here to die."

"Steven!" She reached up to stare into his eyes. "I won't have you going back!"

"Who the devil," he yelled in a cold counterfeit of rage, "do you think you're ordering —" But she stopped his lips.

"Don't say it," she whispered. "I won't let you. And anyway, I'm afraid it's too late."

It took him a second to react. "Chiquita!"

He raced far ahead of her down to the dying spaceling. Chiquita had sunk into a sort of coma, motionless, barely breathing. Her belly was more and more misshapen, as with terminal malnutrition — or whatever might correspond to it in the structure of a creature from space — and the rest of her body as wasted as the gaunt, starved babies of Oriental famines of old times.

Ryeland reached out a hand to her —

And drew it back.

It was too late; it was all over. The spaceling had stopped breathing entirely.

Absently Ryeland brushed the dull fur on her cooling neck. Dead, yes. No matter what secrets her alien metabolism held, there was no doubt that life had gone.

And now . . . how long would the field that contained their air persist?

Ryeland had no idea. In a firefly, he remembered, the bioluminescence lingered for hours after death. Was this a related effect? Probably not. The strange force that drove the spaceling was something far removed from a mere greenish glow. It might last for a few minutes. It might — at any split second it might — disappear, and kill them instantly in a soundless explosion of released air.

Donna said softly, "Steven. Let's go outside where we can see the stars."

The Reef was a small hollowed planet, wheeling slowly now, perhaps because of some dying convulsion from Chiquita. From the mouth of the cave the whole star-dusted splendor of the heavens was revealed. The sun itself, yellow and distant, came up through tangled vines to look at them, like the headlight of a far-off locomotive.

"The sun," whispered Ryeland "Still the brightest star. We haven't come so far."

They looked out at the mighty constellations, strange in their powdery mask of lesser stars but still identifiable — mighty Orion, the misty cluster of the Pleiades, the vast silvery sweep of the galaxy. There it was, thought Ryeland soberly, the terrible, wonderful new empire that they had hoped to help claim for Man. And they had failed.

It was very strange and wonderful, but he felt almost at peace. They were still alive. It was a fact that brought with it a sense of unbounded wealth. As everything had been lost with the death of the spaceling, now each tiny moment that they were somehow spared was a treasure. Each second was a joy.

Ryeland anchored himself to a ledge of space coral, all silver and ruby, with Donna very light in his arms. They talked, not consecutively. There were things each had to say.

The one central fact — the fact that they were clinging to life by only the feeblest of grips — they did not mention.

Donna said:

"Father's probably still on Earth. He can't have got my message. He'd have followed if he did. He's a busy, a driving man, Steven, and I used to hate him, but — Oh, Steven! Now I am only sorry for him.

Ryeland said:

"You wouldn't remember. You were bathing, and I blundered in. I was embarrassed. I guess you were, too. No, you probably weren't. And you had the Peace Dove. It nearly killed — what was his name? Oporto." Cloudily it struck him as odd: he had almost forgotten the man who had been the nearest thing he had to a friend.

Donna said:

"That was Father's idea, the Peace Dove. If you hate black . . . call it white, and love it. So he took that murdering thing and called it 'Peace'. He always boasted: 'The Planner is the first ruler in all Earth's history who has never needed a bodyguard.' But what would you call those things? My Peace Doves. His Hawks."

Ryeland said, with a sudden rush of amazement:

"Donna! We're still alive!"

XVIII

They looked at each other in wonderment, for sure enough, it was true. They had not died of air-strangulation. Around them their little world was still intact.

"But surely the spaceling was dead!" Donna cried.

"No doubt of that. I don't understand this."

They looked around anxiously. The stars blazed down on them, and that was all there was to be seen beyond the confines of the tiny air bubble that made their world.

"Look!" cried Ryeland. "Something's happening." At the edge of the reeflet, suddenly, like a vanishing ghost . . . . *puff!* There was a soundless explosion of faint, misty fog. And a colony of flying fish, a lacy pattern of vines, a clump of blossoms with liquid gold in their cups — they fluttered, shook, flung madly away; and then that corner, too, was still; but it was dead.

The shape of the bubble had changed. One corner of their little world had lost its air — *poof!* — like the winking of an eye. For one eternal moment Ryeland thought that this was what they had been waiting for. The spaceling, Chiquita, had died at last; the strange forces that allowed her to hold air about her, and them, had loosened their grasp, and they were face to face with death. Donna, who felt the abrupt clutch of fear, clung to him tightly.

But Ryeland whispered thoughtfully, "It isn't right, Donna. Something's happening, but not what we expected at all. If the field went, it should go all at once."

"But what could it be, then, Steven?"

"Let's go see!" Like biped spacelings themselves, they turned and dove into the cavern. Quickly, quickly. Crazed, confused thoughts floated through Ryeland's mind: Their dying little world . . . all worlds, dying . . . all the planets of the sun, doomed to death, doomed because Ryeland had failed to give them inertialess travel in time . . . doomed to die without giving seed to space.

They stopped, clutching at palely glowing vines.

In the very green darkness Chiquita lay. She was surely dead. There was no possibility of a mistake.

But beside her —

Beside her something moved! Beside that shrunken, lifeless skin, something quivered, curled and lifted. It came frolicking toward them, flying — something small, smaller even than Donna, a mere doll beside the dead Chiquita, racked and shrunken though she was.

It was a spaceling!

A baby spaceling! Its red nose winked swiftly; it looked at them with bright, friendly eyes. "Oh, you darling!" cried Donna, holding out her arms to it, and it licked at her face with a slim, quick, black tongue.

"Look there!" croaked Ryeland, astonished beyond words, pointing. There was another tiny, seal-like creature . . . and a third, and a fourth, and — there seemed to be a dozen of them, frolicking and darting with their tiny noses blinking comically, pink light and orange, red and almost purple.

Ryeland said softly: "Chiquita may be dead, but her children are not."

There were eight of them in all, as well as they could count their quicksilver, gamboling shapes. Eight

baby spacelings, frolicking like pups. Had they been born after the death of the mother, in some reproductive mystery of the spacelings? Had they been born before, and wandered off? Ryeland could not know. He only knew that they were here.

"Thank heaven," whispered Donna, as Ryeland carried one out into the light to see it.

"Thank Something," murmured Ryeland. "Look, Donna. They're just like adult spacelings, but tiny. Born fully formed — obviously, they are able to maintain a field, able to use the jetless drive! Fortunately for us. Though," he said remembering the lost corner of their paradise, "I think they could stand a little more practice."

He stopped, looking up, jaw hanging.

Out there somewhere past the air curtain, something moved and winked.

"The Plan rocket!" cried Donna in terror.

"No! No," shouted Ryeland, leaping up. "Don't you see? It's too small too close. It's a spaceling! Quiveras has come back, and — look! There's someone else. He has brought Donderevo back with him!"

Donderevo! Six feet eight inches tall, a dark-faced man with blue eyes that blazed. His spaceling brought him daintily into the air bubble of their little haven, and Ron Donderevo sprang free. "Donna!" he cried, and caught her hand.

Joyously Donna threw her arms about him, pressing her face against his bronzed cheek. When she drew free, she said: "Ron, this is Steve Ryeland."

"I remember," Ryeland whispered breathlessly. "When I was a Technicub, about eight years old. And you were a medical student from space, wearing a collar because your people hadn't accepted the Plan —"

Chuckling, the huge man gripped his hand. Ron Donderevo's fringed leather jacket was open at the throat. His neck was a brown muscular column. A thin scar circled it, but he wore no collar.

"And I remember you," Donderevo rumbled. "I admired your father. A philosopher and a historian, as well as a mathematician. He's the scholar who helped me understand the real meaning of the space frontier."

"Your collar?" Ryeland interrupted him. "You really got out of it?"

"Out of the collar, and out of the place they call Heaven." Donderevo nodded solemnly. "I was luckier than your father."

"I was never told what became of him."

Ryeland caught his breath to ask another question, but the sudden iron constriction of his own collar stopped him. He wanted to know how Donderevo had got away, but he was afraid to know the answer. He was afraid that Donderevo would confirm the strange story of Angela Zwick — that Ryeland was the imitation man that the anti-Plan surgeons had assembled in Donderevo's collar, to cover his escape.

"Ron?" Donna's voice was quick

and quivering with concern. "Can you get Steve out of his collar?"

"Not quite the way I was taken out of mine." Ron Donderevo shook his shagged, craggy head. "Mine was removed in the surgical center at the stockpile where I had been sent for salvage. Half a dozen surgeons helped, using the best equipment —"

"What was done with your collar?" Ryeland interrupted.

"I promised not to tell," Donderevo said.

"Was a patch—?" Ryeland had to gulp and start again. "Was a patchwork man assembled in it? A kind of living dummy to take your place until the spaceling could carry you away?"

"Right." The big man nodded casually. "I don't suppose it matters to anybody now."

It mattered very much to Ryeland. His flesh turned numb and cold . . . as it must have been before it was sutured and cemented back into the likeness of a man. His knees felt weak.

"What's wrong, Steve?" Donna asked. "You look so pale!"

He couldn't tell her that he was that decoy, that patchwork of junk meat.

"I was hoping you could take my collar off," he told Donderevo. That was a matter desperate enough to account for his agitation. "If you learned medicine on Earth, can't you — can't you possibly do the operation?"

Donderevo started to shake his head, and suddenly looked hard at Ryeland's face. He glanced at Donna, and peered again at Ryeland. His own face twitched and stiffened, gray beneath the bronze.

"I suppose I could try," he admitted reluctantly. "Of course you understand that I lack the experience and the fine equipment those surgeons had. Operating here, with only a portable surgery, without trained assistants, I can promise you one chance in four that you'll survive the operation — one chance in five that you'll walk again, even if you do survive."

Ryeland fell dizzily back against a great crystal branch. Twittering iridescent bird-fish, jarred loose, swam tinkling away.

"And yet," rumbled Donderevo compassionately, "you are right, Steve, for you have no chance otherwise. The Plan can kill you in ten seconds, as easy as that. The rocket is less than three million miles away. Push a button — *poof!* — your code impulse is transmitted — you're dead. And so am I," he said earnestly, "and poor Quiveras here, and Donna. So you are right, for you see, Steven, we must save you somehow or you may kill us all."

"Describe it to me," said Ryeland emptily. "Tell me what it entails. Exactly."

Donderevo hesitated, and then began.

Ron Donderevo, that huge man, his hands soft as a maiden's, his voice deep as a tiger's growl; Ron Donderevo had performed many an operation for the Plan.

But on Earth, in the Body Bank, he said with meticulous care, there were things that could not be dup-

licated here. There were nurses and surgeons beyond counting. (Here was only young Donna and old Quiveras, neither of them trained.) There was equipment by the warehouseful. Here was only what had been packed in on the back of spacelings. Enough, yes — if nothing went wrong. But there were no extras. If a blood pump should fail, there was no other. There in the Body Bank was the unmatched reservoir of human parts that constituted a reserve against spoilage. And here were only the four of them, and no more parts than they needed to go around.

The first step, he said, would be to create an atmosphere of asepsis around the anesthetized Ryeland. Easy enough, particularly in the negligible gravity of the spaceling's bubble, and particularly where the only ambient germs were those the four of them had brought in. A soft hissing from a yellowish metal tube Donderevo had brought — he demonstrated it — accounted for a poly-antibiotic spray.

Then — scalpels, retractors, sutures, clamps. Sterile and inherently inhospitable to microscopic life, they came out of the gleaming containers at Donderevo's orders. Donna was whitefaced but steady as she listened and looked at the instruments. She shrank away as he described how the first scalpel would trace a thin red line around Ryeland's neck, just under the collar; but then she was all right.

The epidermis and dermis would have to be slit and pulled back, like a stocking from a leg. Red flesh and white muscle would swiftly be cut and retracted. The great trapezius muscles would have to be cut, caught and held — it was important that muscles be kept under tension. The small blood vessels of the neck needed to be tied off; the large ones — the carotids, the jugular, the vertebral blood supply — were to be cut and quickly clamped to the plastic tubes of a double-chambered mechanical heart — not because Ryeland's own heart was out of circuit, yet, but because there was blood loss, constantly, from every vessel and uncountable capillary, from the disturbed cells themselves. Extra reserves of blood were needed and held in the mechanical heart's chambers, for a man's own heart was not equal to the task.

Then the nerves, carefully dissected out and clamped to the wondrous organic silver leads that alone had made major replacement of parts possible. Nervous tissue does not readily regenerate in the higher vertebrates — not without help. Organic silver is the solder that holds the parts together; organic silver in the form of braided wire strands is the "connection" that permits the extension of a nerve, so that performance is not lost during surgery. As the cervical ganglia were cut, great sections of Ryeland's body would convulse quiveringly.

Then the bones. Sonic saws to slice into the third cervical vertebra. The spinal cord — opened, sealed, tied. The fluid dammed inside its chamber —

"That's enough," interrupted Ryeland, his face frozen into a mask. "I get the picture. I don't need any

more." His eyes sought Donna's, and he tried to speak to her . . . but could not. "Go ahead," he said. "Operate!"

He stepped forward, swung himself onto the operating cradle and lay patiently while Donderevo and Quiveras strapped him in. Then Donderevo nodded and Donna moved forward, her face trembling on the verge of repressed tears, in her hand the soft flexible mask that sealed his lips and plugged his nostrils. He moved his head aside quickly. "Good-by, my dearest," he whispered. "For a while." Then he allowed her to fit the mask.

Crashing, crashing, the crystal trees swam down on him. The little reeflet folded into a bud, with himself in the heart of it like the pure liquid gold in the cup of one of its strange flowers . . .

And he was unconscious.

XIX

He was unconscious. But his mind was racing on.

He was dreaming. He was remembering. The haunting fog came swirling up out of the past. It had followed him all the way from Earth. It was all around him now, cold and silent and clinging. It covered Donna and Ron Donderevo, and distorted them. Everything changed, twisted into hopeless contradiction.

He was no longer in the portable surgery. Now the straps that held him were those of the therapy couch in the recreation center. The people over him were Dr. Thrale and General Fleemer.

"Tell us, Ryeland," Thrale's soft insistent voice was wheezing. "We know about the knocking on the door, after the teletype girl left your office to bring sandwiches and coffee. We know you left the papers on your desk and went to open the door. Tell us who came in."

Suddenly, he knew.

Somehow, the anesthetic had cleared away that clinging fog. It wasn't Angela Zwick! It wasn't even the Plan Police — they really hadn't come until the following Monday. It was a thin man in a blood-spotted fatigue uniform, bent under the bulging weight of a soiled space bag.

"Horrocks —"

"Shhh!"

Ryeland let him into the room and locked the door again. Horrocks dropped the space bag and stood leaning on the desk. He was panting heavily. Droplets of red foam sprayed out of his mouth and spattered over the sheafs of yellow teletape on the desk.

"You're hurt," Ryeland said. "Let me get a doctor."

"That can wait," Dan Horrocks gasped. "I've got a message for you — that's got more priority. From an old — friend of yours."

Ryeland helped him into a chair and listened to the message. It came in gasped words that were sometimes incoherent. The old friend was Ron Donderevo. Horrocks had met him at a tiny colony on an uncharted asteroid twenty billion miles outside the Plan, when Colonel Lescure's ship had stopped there to pick up reaction mass.

The message itself took a long

time for the stricken man to deliver, and longer still for Ryeland to grasp. It began with the existence of the Reefs of Space and the fusorian life that had built them. The point of it was the way the spacelings flew.

"Donderevo wants you to know space isn't dead," Horrocks panted hoarsely. "A living frontier — alive and infinite. Rockets can't — can't reach it usefully. We've got to have — propulsion — with no reaction mass."

In the dream he tried to tell the wounded man that any sort of jetless drive was forbidden by the Third Law of Motion.

"Wrong—" the wounded man interrupted him. "Spacelings — fly! Donderevo said — tell you that. All you need to know. Except the fact — your father taught him. The historic effect — effect of the free front — "

Horrocks coughed, spraying Ryeland with flecks of red.

"Sorry!" he gasped. "Mean frontier. Closed frontier — closed society. That's the Plan." He paused to cough again, turning painfully away from Ryeland. "Open frontier — that's the reefs. Freedom. Forever!"

Ryeland needed time to understand that agonized summary of a fundamental fact, but later, when he began to grasp it, he thought he knew what had happened to his father. The Plan existed to regiment the closed society that had spread to the last frontier that rockets could reach. His father had seen the infinite promise of the new frontier of interstellar space — but even a dream of that open frontier was treason to the closed world of the Plan.

"Donderevo knows Planner — Creery," Horrocks finished faintly. "Thinks we can trust — trust him to understand — that man is more — important than the Plan. If we can show him a working drive. But he says — he says trust — nobody — nobody else."

Even after his message was delivered, Horrocks didn't want a doctor. He let Ryeland give him a eubiotic emergency shot from the survival kit that he had stolen from the *Cristobal Colon,* and hid in the rest room across the corridor before Angela Zwick came back with the sandwiches and coffee. By the time Ryeland had got rid of her, Horrocks was gone.

The message was unbelievable — but Horrocks had left the red-spattered space bag. Ryeland dumped it on his desk, and shivered with wonder. There was a great, glowing octahedral crystal of carbon coral. There were dazzling stereos of reefs and pyropods and spacelings. There was a notebook of Ron Donderevo's observations, proving that the spacelings really flew without reaction.

Forced to believe, Ryeland's mind reacted. As Donderevo had told Horrocks to tell him, all he needed to know was the fact that the spacelings flew. With that simple datum actually accepted, the rest was obvious.

As a mathematician, he knew that equations had to balance. As a physicist, however, he had learned

that the balancing quantity might be physically elusive. The neutrino, required to balance the equations of a nuclear reaction, was one such example. In his own equations of mass-creation and space-expansion, which described the Hoyle effect, the new mass equalled x — an unknown quantity, more elusive than even the neutrino, which he had failed to identify in nature.

But now he saw it. Printed in the simple fact of the spaceling's flight, it was plain as the fact that two plus two is four. The unknown quantity which equalled the new mass in his equations was at last identified.

It was momentum! The momentum of the expanding universe, which ultimately pushed the receeding galaxies beyond the velocity of light!

With a professional satisfaction, he noted that the Third Law of Motion had not been violated. It had simply been transformed. The kinetic energy of the flying spaceling was balanced by a precisely equivalent energy of new mass. The reaction was governed by the classical equation of energy and mass, $E = mc^2$. The enormous last factor, the squared velocity of light, meant that a tiny mass was the equivalent of enormous kinetic energy. That was what had made his x so hard to identity. On its longest jetless flight, a spaceling would add only an imperceptible breath of new hydrogen to the cloud of atoms that its own motion had created.

Locked alone in his office, Ryeland went to work. A surging elation had swept away all his fatigue, and even the fear that Horrocks had brought. That single substitution of momentum for the unknown quantity in his own cosmological equations had given him the theory. A simple transformation described the field conditions required for the creation of new mass and the equivalent momentum. The problems of material and design were more troublesome, but by Sunday noon he had set up the complete specifications for a reactionless propulsion system with an effective thrust of half a million tons.

Suddenly hungry and groggy, he stumbled across the hushed dimness of the tunnel to wash his face in the laboratory that had not been scrubbed since Horrocks had sprayed the basin with blood. He ate the last dry beef algae sandwich, and the last bitter drops of cold yeast coffee and went to sleep in his chair, wondering dully how to go about reaching Planner Creery without trusting anybody else.

He woke early Monday morning with a stiff neck and the fading recollection of a nightmare in which he had been running with Horrocks from the Plan Police. He hid the space bag behind a filing cabinet, stuffed the blood-sprayed teletapes into the incinerator, and packed his specifications and the stereos in his briefcase.

Two hours before the time for Angela and Oporto to come, he hurried away, into the maze of gray-walled tunnels that housed all the linked computers of the Planning Machine and the working quarters of the Planner's staff.

Trust nobody . . .

The tunnels were dim and empty. Cool air roared here and there from the d u c t s. The Monday morning white-collar rush hadn't begun, but now and then he met a maintenance man in gray coveralls. It was strange to think of the solid miles of Earth above, when he had the key to the stars in his hands.

Though he had never been to the Planner's office, he knew the way. Outside the automatic elevator, a guard looked at him sharply and waved him on past the warning sign: RESTRICTED! RISKS REQUIRE ESCORT BEYOND THIS POINT.

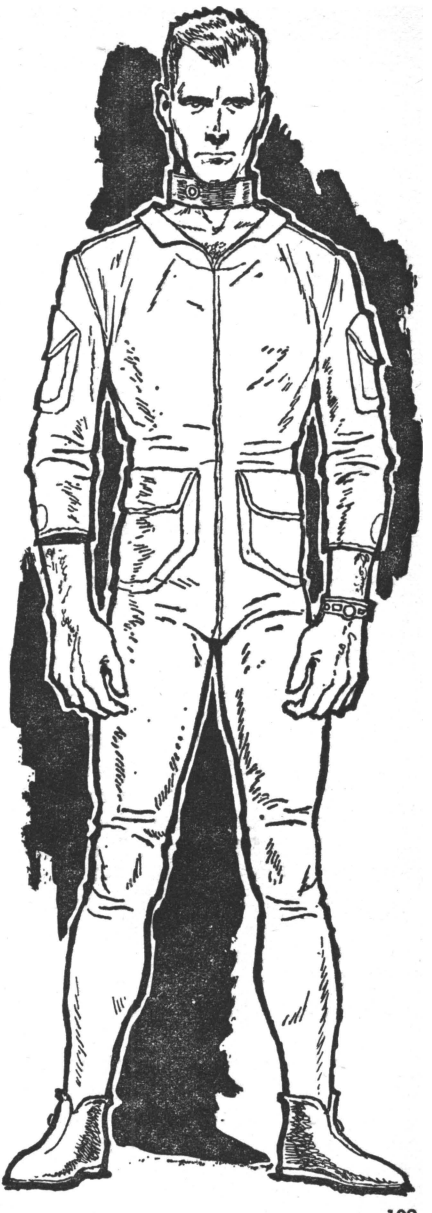
He was not a Risk. He wore no security collar.

Outside the Planner's suite, another guard studied his badge and tapped the number into a teletype. Waiting for the Machine to answer, Ryeland held his breath. But the guard looked up from the clattering machine, with a reluctant respect easing his official frown.

"Go in, sir."

A teletype girl in the waiting room wanted to know his business. He informed her that he had a confidential report for Planner Creery. She wanted to know the nature of it. When he insisted that it was too confidential for any ears except the Planner's, she made an appointment for him to see an executive associate.

The executive associate was a huge, blue-faced frog of a man. A polished wood slab on his desk was impressively lettered: *General Rudolph Fleemer.* His bulging eyes



were sharp, with a quick curiosity about Ryeland's confidential report.

Unfortunately, Planner Creery had not returned from a weekend cruise with his family. He would doubtless be in his office later in the week, but even then pressure of accumulated work would be extreme. Although Planner Creery was well aware that Ryeland's distinguished achievements in helical field engineering had been useful to the Plan, the extent of his duties forced him to delegate most responsibilities to subordinates. General Fleemer implied that people who refused to trust the Planner's associates were seldom able to see the Planner himself.

Reluctantly, when he saw that he could do no better, Ryelands left a message stating that his business involved Ron Donderevo and a new space propulsion system. General Fleemer promised sullenly to signal him later in the week, if Planner Creery chose to see him.

Noon had passed before Ryeland got back to office. If Oporto and the teletype girl had come to work, he saw no sign of them. The blood-spattered space bag was still in place behind the filing cabinet, and a long yellow strip of teletape from the untended machine was piling up on the floor. He locked the office door and looked around for a place to hide his specifications for the jetless drive.

There was no space behind his reference books. The gap between the filing cabinet and the wall was already dangerously conspicuous. His desk had no drawers. In fact, he reflected, there was no room in the Plan for personal secrets or private documents. He found no hiding place — none better than his memory.

He was dropping the specifications into the incinerator slot, when he heard the loud impatient knocking on his door . . .

Again in the dream he was an unwilling guest in the deeply buried recreation center. The suites on both sides of him were occupied by disloyal surgeons who had been trapped in some plot against the Plan. The therapy room down the tunnel held the unplanned thing that they had assembled from scraps of waste tissue, which raved insanely in its straps and bandages while it was alive.

Then the surgeons were gone. There was only Horrocks, in the next suite, and Oporto in the one across the corridor. He was seldom aware even of them, because the stewards kept him most of the time in the therapy room where the junk man had died.

He was strapped to the couch, with the iron collar on his neck and electrodes clamped to his shivering flesh. Merciless light blazed down on his face. The white-smocked fat therapist stood over him, wheezing questions in a soft apologetic voice.

What was the message that Horrocks had brought him from Ron Donderevo? Where were fusorians and pyropods and spacelings? What was the way to build a jetless drive?

At first he could have answered, but a burning shock from the collar

paralyzed his voice whenever he tried to speak. Even when he was utterly broken, abjectly willing to trust anybody with what he knew, they wouldn't let him say a word. They gave him no chance to understand, left him no will even to dream of escape.

Donderevo? Reefs of space? Jetless drive?

The soft insistent voice and the agony went on, until all his past was lost in a fog of pain and insane contradiction. Even when the collar didn't shock him, he didn't try to speak. He didn't even try to think of the answer. His mind had been erased.

XX

Ryeland awoke, blinking against a glare of light and found a man in white bending over him.

It took him a long time to understand that it was not Dr. Thrale, but Donderevo; longer still to realize that the crystal glint and glowing color of the cave was right and natural, so sure he had been that he would find himself in the aseptic white of the therapy room. He was in the operating cradle. The straps on his body had been loosened. Things began to click into place. There was Donderevo, yes, and the girl with her back to him undoubtedly was Donna Creery, and the other figure —

He sat up involuntarily, eyes wide. For the third figure in the room was not Quiveras. It was a Technicorps officer, watching him with the calculation of a poised cobra.

With a sudden spasm of desperate hope and fear Ryeland's hands came up to his neck.

They touched the familiar hard curve of the collar. He still wore it. He was still a Risk, his life hanging on the whim of every guard with a radar pistol or on the flipover of a relay in the distant synapses of the Machine.

"What —" For a moment his voice was paralyzed, still half in the dream, remembering the violence of the shocks that had conditioned him not to speak the truths he knew. But he fought to get words out: "What went wrong?"

Donderevo said compassionately, "We were too late. Before we had more than started the spacelings let us know the Plan cruiser was nearby. It breached the bubble around this reeflet. We sewed you up, and now we are all back in the Plan of Man." Unconsciously his hand touched the scar on his own throat. "I'm sorry about your collar, Ryeland," he said, "but if I'm not mistaken it will be no long time before I'm once more wearing one of my own."

The nurse turned, and Ryeland had his third shock. For it was not Donna. "Where is she?" he demanded.

"Safe," rumbled Donderevo. "Or as safe as any one under the Plan. Her father was in the cruiser. She's with him now."

"May I —" Ryeland had to stop and gulp, because a memory of agony had paralyzed his throat. "May I see them?"

"I'll tell them you're awake,"

Donderevo said. He moved toward the doorway, and turned back with a hesitant expression. "I had better warn you that you can't expect much help from Creery. You see, he's not the Planner any longer. In fact, he's wearing a collar of his own."

Ryeland was sitting on the edge of the portable cradle with a sheet wrapped around him, when Donna brought her father into that crystal-lighted cave of space. Though the former Planner was smiling tenderly at his daughter, his face looked pinched and gray. He wore the thin denim of a Risk. The chrome-steel collar shimmered with reflected crystal glints.

Two officious men followed Creery. One was a stocky Technicorps colonel, who looked bleakly Satanic with his radar horns. The other was a communications sergeant, with a gray-cased portable teleset slung to his body.

Donna nervously repeated what Donderevo had already told Ryeland about her father's arrival.

"I was hoping," she finished wistfully, "that Father could unlock your collar."

"Not even my own." Creery's stiff smile faded. "You can see that things have changed Our old friend General Fleemer is acting Planner now. I have been reclassified, and assigned to this hazardous special mission." He glanced uncomfortably back at the colonel.

Donna's face twitched. She whispered, "What's your special mission, Father?"

"It is concerned with the Plan of Man," he said. "You see, since the Machine had been reliably informed of the limitless extent of the Reefs of Space, it has been projecting a new phase of the Plan. In this second phase, the abundant resources of the space frontier will end any need for the strict regimentation of the original Plan. Unfortunately, this second phase cannot begin until the new frontier is actually open to the masses of mankind. Obviously, that requires a reactionless space drive."

The former Planner paused. His haggard eyes looked sharply at Donderevo, regretfully at Ryeland, blankly at the Technicorps colonel.

"General Fleemer managed to convince the Machine that I was no longer competent," he said. "I suppose you know about the numerous failures of the helical field equipment that you had designed." His dull stare came back to Ryeland. "Fleemer laid all those disasters at my feet. As a result of such apparent executive errors, I was replaced.

"I insisted on one last chance to find a reactionless drive. I had enough power left so that Fleemer was unable to block the assignment. That's my mission now. I saw the spacelings that came out to meet the cruiser. I must learn how they fly!"

His voice was hopeless.

"If Ryeland couldn't find the answer," Donderevo said, "I doubt that it exists."

"But — I found it!"

The collar was very tight. For a moment Ryeland's throat was paralyzed again. The old fog of

agony and contradiction thickened in his mind. He looked at the man and at Donna. Her smile was sunshine, clearing the fog.

He remembered. He could speak.

He explained his theory of the equivalence of momentum and new mass, which related the flight of the spacelings to the expansion of the universe. He recited the specifications that he had memorized before the Plan Police burst into his office on that lost Monday.

The colonel watched, a skeptical Satan, while they discussed the design and dictated the specifications to the sergeant at the portable teleset. They waited, while the message was digested by the special section of the Planning Machine aboard the cruiser.

Time passed — while slow radio pulsed the message to Earth.

Ryeland looked at Donna Creery's anxious face — and remembered the bandaged patchwork man who had raved and died in the therapy room down the tunnel from his suite in the recreation center.

Then he himself was not the junk man!

That part of Angela's story had been a malicious lie!

The teleset clattered.

Ryeland crowded with the former Planner and Donderevo and the girl to read the tape. Officiously, the colonel waved them back. He peered at the tape, and reached to finger the buttons of his radar gear.

But his expression changed.

"I knew it, Mr. Planner." His voice was suddenly smoothly affable. "I knew that Fleemer was nothing better than a conniving traitor, who will certainly get his comeuppance now! Any man with a spark of wit knew that jetless flight had to come."

Grinning, he offered his hand to Creery.

"I want to be the first to congratulate you, Mr. Planner. And you, too, Mr. Ryeland. The special section of the Planning Machine in the cruiser has completed its preliminary evaluation of your invention.

"It has relayed a message to the master complex of the Machine on Earth, alerting it to prepare the Plan of Man for transition to the second phase, in which the freedom of the space frontier will render our present strict security controls both impossible and unnecessary.

"As a first step toward the effectuation of that second phase, it is propagating a radar pulse —"

Ryeland heard a click at his throat.

His collar snapped open.

As if moved by the same pulse, the girl stepped forward and into his arms. Together they moved out of the cave into the faerie shimmer of the reeflet. To one side hung the great gray mass of the Plan cruiser, no longer an enemy. Beyond lay the stars.

The stars. The limitless frontier for mankind — the space between suns, where hydrogen is constantly born to make new worlds, as freedom is constantly born in the hearts of men.

"A billion billion new worlds," whispered Ryeland.

And the girl said firmly: "Our children will see them all!" END

A BETTER MOUSETRAP

BY JOHN BRUNNER

ILLUSTRATED BY FINLAY

Loot beyond avarice, raw materials past counting — there had to be a catch!

I

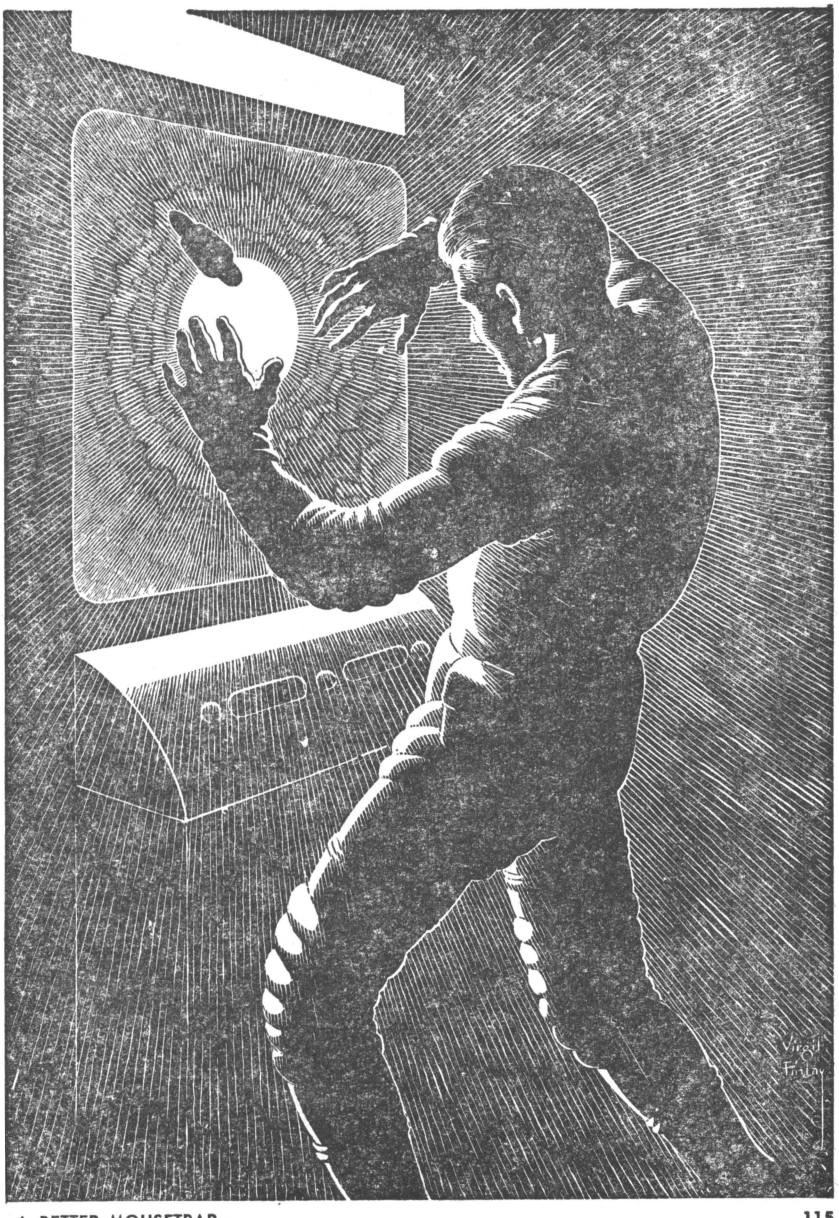
"I'd like you to meet Professor Aylward of Copernicus Observatory," said Angus.

Up to that point, Captain Martinu had seriously been considering leaving the party. The band was much too loud. The dancing was far too energetic for someone like himself, who was used to long periods of free fall that wasted the muscles. And the promise of interesting people to talk to, with which Angus had persuaded him to come along, had not been fulfilled.

Now, though, he felt a sudden stir of interest as he shook the hand of the short, bespectacled, balding scientist. He said, "You mean you're the Aylward they named the Aylward Field after?"

"Er —" Aylward looked uncomfortable. "Well, as a matter of fact, yes, I am."

"As a result of which," Angus said,


Virgil
Finlay

"I owe you my life, among other things." He ran his hand through his shock of coarse black hair, which stuck up from his head, in the currently fashionable Fijian style, like a chimney-sweep's brush.

Martinu said, "And I owe you a couple of billion dollars. We picked up a buster with your field in the old *Castor,* when I was a junior engine tech."

Rather diffidently, Aylward eyed the other's immaculate uniform. "And stayed on in the space service? he said. "Isn't that unusual?"

"Oh, unique!" Martinu agreed with a trace of pride. "I'm the only man in the service who's picked up a buster and not immediately bought himself out of a career job. I say, is there anything I can do for you?"

Aylward seemed to be in some distress, his breathing deep and stertorous, his shoulders hunching forward. He said, "You can help me to a chair, if you will. I've been on Luna for the past seventeen years. Full gravity makes me terribly tired."

Martinu hastily took the professor's arm. He was in top physical condition — had to be — but even so he was quickly exhausted by a couple of hours on his feet, so he could appreciate Aylward's discomfort. Angus, as always, had vanished the moment he saw a conversation starting and gone to spark another one elsewhere.

There was a vacant double seat in the nearest of the alcoves off the dance floor. Martinu headed for it. There was a couple engaged in violent love-making on the other seat but he ignored their looks of irritation as he sat Aylward down. He said, "Let me get you a drink."

"That's very kind of you," said Aylward. He wiped sweat from his forehead with a bandanna handkerchief matching his Mexican-styled cummerbund. "A long cool one, for choice."

"Will do," said Martinu, and went in search of a waiter.

He was on his way back with the drinks when Angus, a look of anxiety on his long face, pushed through a cluster of other guests and caught his arm.

"Martinu, I guess I should warn you about old Aylward. I mean, he's a nice guy and a genius and all that. But like a lot of geniuses he's a bit nutty on one point. Unfortunately you've hit it right away."

"What? Busters?"

"Yes. He has a perfectly absurd theory about what they are and where they come from. If you get him started on it, he'll bend your ear all night."

Martinu shrugged. "If he hasn't got a right to theorize about busters, who has? Besides, the Aylward Field got me a share in one. I reckon listening to him for an hour or two is a cheap price to pay for that."

"Damn it, I had to tell him what a buster was, once!" Angus made sweeping gesture which spilled his drink over the back of his hand. Fishing for a handkerchief to dry it, he went on, "In fact, if it hadn't been for me —"

Something in Martinu's expression warned him. He broke off. "I guess I told you about that. Sorry.

But don't say I didn't warn you, will you?"

Martinu grinned and walked on.

The lovers had gone, presumably in search of more privacy. He set a tall frosted glass beside the professor and sat down himself. "I got you julep," he said. "Is that all right?"

"Perfect." Aylward produced a length of tubing and dropped one end into the glass to save himself the effort of holding it up while he drank. "What are you having?"

"Slivovitz," said Martinu. "Sort of homage to my Balkan ancestry. Anyway, what brings you back to Earth after such a long time, professor?"

"Oh, someone seems to be infringing the patents on the Field," Aylward answered. "Angus told me I was needed, so I came down. He's my agent, you know — and very good he is. I don't know how I'd manage without him. I've always found the world of commerce far more complicated than any problem in astrophysics, because it's easier to improve your equipment than yourself."

"You have quite a setup at Copernicus, don't you? They tell me it's the best - equipped observatory in the System, and you financed practically all of it yourself. May I inquire — does the Field bring you in a good income?"

Aylward gave a tired smile. "Excellent! I never expected so much return for so little effort."

He drew out the tube from his now half-empty glass and began to run it absently between his fingers. "People sometimes ask me," he went on, "why I stick at my job when I'm wealthy enough to live in luxury on Earth. I think you'll probably understand me when I say I think I made a sensible decision." He cocked any eyebrow at Martinu.

The captain suddenly found himself liking Aylward a lot. He smiled, and as he nodded agreement his hair bobbed around his face. It was too soft for the Fijian style, so he had had to settle for curls like a Queen Anne wig. Being used to a free-fall crewcut he found it a permanent irritation. Damn these silly Earthside fads!

"I wouldn't even have come to this party but for Angus's insistence, Aylward went on. "I depend completely on him, as I said, and he does have this tendency to fly off into space over the littlest things... We were on the *Algol* together when we located the buster which started the whole thing. Did he ever tell you the story?"

Almost, Martinu said, "He's told everybody!" But he checked himself. For one thing, Angus's version of the story had probably been colored by the passage of time, while Aylward's might give a different slant. And for another, though the professor's tone had been conventionally light, Martinu sensed that he was actually aching to find someone to listen to him. Angus had more than likely gone around warning all his other guests about Aylward's obsession with the buster problem.

He set his glass down on his knee. "That was when Rusch was in com-

mand, wasn't it?" he said. "Yes, I'd very much like to hear about it."

II

The radar tech first class at number three screen held his breath for a long moment. When he let it out, it was to speak in a voice shaky with excitement.

"Buster, sir!" he said.

The lieutenant on the other side of the room whipped around and bounded over with a hard kick at the far wall. He caught the back of the tech's chair with one hand and hung there floating, his eyes wide. "Where — where do you see it?" he demanded.

"There, sir." The tech put his finger on a large green blip near the center of the screen. "It broke through about ten seconds ago. I saw it arrive. And the range and mass are exactly right."

He hardly waited for an answer before shouting to the orderly at the phone desk.

"Green, get me a line to the bridge!"

"Aye-aye, sir," said the orderly unemotionally.

The lieutenant turned to the screen again. He said, "What's the range?"

"About four and a half kil, sir. Right under our feet."

The lieutenant whistled. "Well, for sure it didn't sneak up on us. Read it for relative velocity, will you?"

The tech slid cross-hairs over the screen, centered on the blip, pressed the switch of the doppler integrator. They waited the necessary five seconds and a figure went up on the dial.

"Six hundred," the lieutenant said "Hasn't settled into its natural orbit yet. I think —"

He was going to say he thought the tech was right, but the communications orderly interrupted. "Bridge, sir!"

"Chuck it over," said the lieutenant, and picked the phone out of the air as it soared across the room. He continued into it, "Ahmed, screen-room watch, sir. One of my techs thinks we're on a buster."

"Hah!" said Captain Rusch skeptically. "How are we doing for white whales this week?"

"It showed up without warning on number three screen at four and a half kilomiles, sir. We haven't had a chance to check its orbit yet, but its relative velocity is only six hundred.

There was a pause. At length Rusch grunted. "Right, I'll get a 'scope on it," he said. "Bearing?"

"Oh seven-six and a half, sir."

"Thank you, Lieutenant. I'll let you know the verdict. Don't get to worked up till we're sure, will you?"

That, of course, was a pious hope, Rusch reflected as he gave the bridge phone back to his own communications orderly. He could tell from the expressions on the faces around him. Even the normally placid Commander Gabrilov, who had been close enough to hear what Ahmed said, was showing excitement.

"Okay," Rusch said. "O-kay. I don't have to say it again."

Gabrilov gave a shamefaced grin

and pushed himself over to the 'scope controls. "Oh-seven . . . six and a half," he said under his breath as he set them. "Four and a half kil . . . Yes, there's something there all right."

"Get it on the screens," Rusch said. "Come on now!" He felt his heart pounding faster as he glanced at the big screen mounted over the pilot board at the forward end of the bridge. A click. An ill-defined, misshapen object appeared in the center of the square frame. It could have been anything out of the asteroid belt.

There was a long silence. At last Gabrilov said, "Do you think it could *really* be a buster?"

"Well, why the hell don't you take steps to find out?" Rusch snapped.

Gabrilov colored. "Sorry, sir!" he mumbled. He barked at the communications orderly. "Tell Warrant Officer Fisher to draw power for a laser beam! Ask Lieutenant Ahmed to stand by for spectroanalysis!"

"Aye-aye!" said the orderly fervently, his eyes bright.

While they were waiting, Rusch glanced at Gabrilov. He said as though there had been no interruption, "It could be a buster, of course. It's some while since the last one was found, but there have been forty-five of the things, and they turned up all over the System. One was found in a lunar equilateral, wasn't it? But even if this *is* a buster, you've got to remember one thing."

"What?"

"They may not all be worth picking up. Some of them may only be lumps of iron, for instance. It hasn't happened yet, but it's possible."

Gabrilov bit his lip and looked lugubrious.

The communications orderly said, "Sir! Screen room!"

Rusch seized the phone. Gabrilov came diving over to hover beside him.

"Get this, sir!" Ahmed's voice said. "Spectroanalysis shows iron — cobalt — nickel —"

Gabrilov pulled a face, looking down at the floor.

"But also!" Ahmed said triumphantly. "Also silver, gold, uranium thorium, platinum, osmium, iridium . . ."

He went on, but Rusch had lowered the phone.

"Number forty-six," he said quietly.

Whatever the reason for all that shouting and banging and laughing, Aylward wished they would stop it and let him concentrate. He was trying to cope with more figures than his portable calculator could handle, and running side factors in his head always gave him a headache.

The door of his cabin slammed back and Angus burst in, frantic with excitement. The chain of figures vanished into limbo and Aylward clapped his hand to his face.

"For heaven's sake, what are you playing at?" he snarled.

"Didn't you hear?" said Angus, braking himself on the far wall with his foot and bouncing back towards Aylward. "What are you doing?"

"Trying to resolve some survey data — if you'll kindly give me the chance to finish the job." Aylward spoke with heavy sarcasm; he was an old-young man of thirty-five with glasses and an expression which was usually mild but now was thunderous. "I never heard such a racket!"

"But we've picked up a buster!" Angus exclaimed.

Aylward sighed and pushed his papers under a clip to hold them to the table before sliding his chair back in its guides. "Is that serious?" he said. "Does it take long?"

Angus hooked a leg under the tabletop and shook his head pityingly. "Are you trying to say you don't know what a buster is?" he demanded incredulously. "You can carry an ivory-tower pose too far, you know!"

"All right, tell me what it is," Aylward snapped.

Angus rolled his eyes, but shrugged and complied. "Nobody knows what they are — exactly. They're lumps of matter that apparently drop from nowhere. Radar doesn't show them till they're well within detector range, and they think this may have something to do with the fact that they're fuller of high-number radioactives than a pudding is of plums."

"Oh, yes!" Aylward said. "Of course I've heard of them! But there haven't been any for some time, have there? What are they like?"

"Turn your screen on, and you'll see one. Captain Rusch had the 'scope image piped in for everyone to look at."

Aylward did so. The screen lit with a knife-sharp picture of a roughly spherical object, scarred across by the sweep of the high-powered laser beam. It was approximately a hundred feet in diameter. Lights from the ship were playing on it now, and made it gleam against the black depths of space.

"I wonder how much we'll get," Angus said in an awed tone.

"Come again?"

"These things contain fabulous riches!" Angus gave him a supercilious glance. "So your ignorance doesn't show too much, listen and I'll give you the background.

"The first one was found by the *Aurora* about six years ago. They couldn't believe their eyes when they saw it drop out of nowhere — a hundred-foot ball of concentrated wealth. They got thousands of tons of platinum out of it, gold, silver, uranium, and so many diamonds they practically bankrupted the commercial manufacturers. All the rest — there've been forty-five to date — have been cast in the same mould. The precious metals have more or less flooded the market, but the demand for radioactives is still high, and everyone who's found a buster has become rich for life.

"After the Aurora case there was a gold rush to the asteroid belt—no, don't interrupt, let me finish! But you don't seem to find busters with the ordinary planetoids. They showed up all over the System. And another odd thing — this is the first to be discovered in some years, al-

though at one time they were being found at the rate of about two a month. Of course, this is probably a statistical accident; they're virtually undetectable until you're right on top of them."

Aylward said, "All right, all right! I remember no. They predicted chaos. But in the event we absorbed the impact pretty well."

"So well you don't seem to have noticed it at all," Angus commented dryly.

Aylward ignored the jab. "Just a second," he said. He was frowning, for no reason Angus could think of. "If forty-five were found, and they were coming at an average two per month, the rush lasted two years. You don't know the dates of the first and last reported findings, do you?"

"Huh?" Angus blinked. "Well, the Aurora got the first on twenty-seventh April, eight-six — uh — and the *Capella* got the forty-fifth some time in March of eighty-eight. Middle of March — I think the seventeenth. Why?"

Aylward said, "And it's ninety-two now!" He began frantically unstrapping himself from his chair.

"Hey! Where are you off to in such a hurry?"

Aylward looked grim. "Not being a seasoned space-traveler," he said, "I was a bit worried before making this trip about the number of ships that have been lost lately. I looked into it fairly closely to make sure I had a statistical chance of getting home."

"What's that got to do with — ?"

"Since you have such a good memory for dates, you can tell me when the current run of losses started. They said thirty had gone missing in the past four years — more than in the preceeding two decades!"

Bewildered, Angus said, "Sure I can tell you. The *Dubhe* was lost on the Venus run some time between tenth March and first April of eighty-eight."

"And the next ship to go?"

"The *Lucifer*. She vanished — " He broke off and bit his lip.

"About two weeks later," Alyward said, kicking himself through the door. Angus hung where he was for a moment; then he gave a gasp and dived in the other's wake.

III

The door of the bridge slid back with a squeal of complaint.

Rusch turned. When he saw who the intruder was, he frowned. It was all very well to say that young Aylward was potentially the greatest living authority on theoretical astrophysics; it was all very well for him to want to make surveys distant from the sun — but on simple principle Rusch disapproved of non-service personnel shipping on anything other than a proper passenger liner.

However, the rosy glow attendant on the discovery of a buster had mellowed him to the point at which he did not even ask brusquely who had authorized Aylward to trespass on the bridge. He merely said, "Yes, Mr. Aylward? What do you want?"

"Angus tells me you've located what they call a buster," Aylward said. His face was pale, and his eyes

were very wide behind his glasses.

"Yes, we have," Rusch agreed. A thought struck him, and he called to Gabrilov on the other side of the room. "I forgot to order 'splice the mainbrace', Mr. Gabrilov! I imagine the men are expecting it."

"Aye-aye, sir!"

"Captain!" Alyward said desperately. Rusch turned a frosty eye on him; he had jumped to the obvious conclusion.

"Don't worry, Mr. Aylward. There's enough valuable material in that thing out there to keep all of us in comfort for the rest of our natural lives. And spatial law provide that non-service personnel are entitled to two-thirds of a crewman's share. All we can do right now is stake our claim, of course, and with luck tow it into orbit at our destination. But we'll start the mining as soon as —"

"Captain, if I were you I'd be very chary even of staking a claim, let alone mining that thing!" Aylward regretted that force of habit had made him draw his feet down to the floor, because the captain was floating a foot off it, and so looked a long way down at him.

There was a frigid silence. At last Rusch said. "Would you like to explain yourself, Mr. Aylward? If you can, that is."

"Well, it seems to me —" Aylward hesitated how to make this clear? Then he plunged on. "Isn't it a fact that no buster has been reported for four years, though there was a positive spate of them before that? And didn't the start of the current run of ships lost in space — thirty known vessels and who knows how many others belonging to prospectors and freebooters — didn't this coincide with the end of the stream of reported busters?"

"By God, that's right!" The exclamation came from Gabrilov. "I'm sorry, sir," he added to Rusch. "But the *Dubhe* was the first to go since they perfected atomics. And I have every reason to remember that she vanished about a fortnight after the forty-fifth buster — the *Capella's*. I was due to be aboard, but I was held back by an ear infection."

"The odds against this are tremendous," Aylward said. He saw that Gabrilov's interruption had impressed Rusch, and was in haste to seize his momentary advantage. "Which is why I think it would be terribly dangerous to come too close to the buster. Uh — what exactly is involved in what you call 'staking a claim' ?"

"Just a moment!" Rusch said. "Are you envisaging that the buster might be unstable and blow up?"

"Well . . ." Aylward looked at the floor. "There's an awful lot of reactive material in it, they tell me."

"Hmph! It can't be very sensitive, then. We spectroanalyzed it with a laser beam intense enough to boil some of its surface off. What do you think, Gabrilov?"

Gabrilov was silent for a few seconds. At length he said, "Well, sir — we don't lose anything by being careful. To stake our claim, we'd normally match velocities and coast in close, wouldn't we? We're still calculating whether we have

enough reaction mass to take the thing in tow. But I don't think we have, so we'll have to send someone over and plant an identification beacon — but much of the surface will be hot. I see several reasons why we should stand well off and take time out to program a remote-controlled missile to act as a marker."

Rusch pondered. "Yes, it'd be cutting things fine to try and get something that massive into orbit at the end of this trip. I was working on the assumption that all we could do would be to mark her with a long-life beacon and come back under no load to fetch her... Very well, Mr. Aylward. I'll arrange to send out an unmanned lifeboat with the beacon in it. There's enough iron in the buster for electromagnets to get a grip. And to satisfy your qualms, we'll keep our distance."

"Thank you, Captain," Aylward said. He was surprised to find, now that he'd made his point, that he was shaking all over and his forehead was slippery with sweat.

They tied the lifeboat controls directly in to the pilot board on the bridge, and Gabrilov took charge. On the screen was a split-image projection: one screen showed the view from the lifeboat itself, the other the picture from the side of the ship as the lifeboat curved outwards towards the buster.

Almost a quarter of an hour crept by on leaden feet as Gabrilov delicately maneuvered the tiny lifeboat closer and closer to the buster. Abruptly a tiny buzzer on the control board beeped and kept on beeping.

"A hundred miles," Gabrilov said, not looking away from the screen in which the buster had grown progressively from a mere spot of light to a sizeable globe. "The homer has picked it up. Shall I just let it go its own way now?"

"How far above the surface will the magnets take charge?"

"From about ten miles they ought to give a soft enough landing for the beacon to survive undamaged."

"Then try and match velocities with the lifeboat about ten miles off."

Gabrilov raised an eyebrow and looked worried, but he moved the main jet control slightly. The image of the lifeboat in the other half of the screen showed a spurt of reaction mass.

More time limped by.

At last Gabrilov gave a precisely timed touch to the braking jet control, and sat back. "Very nice," Rusch said under his breath. "Yes, she's going down."

Aylward wondered if his heartbeats were audible to those around him; he was almost deaf with the rush of blood in his ears, and he was breathing fast and urgently. On the screen, the buster grew to moon-size, Earth size, and still larger; by now the lifeboat and the buster could no longer be seen separately from the ship without high magnification. The beeping grew to an intolerable unbroken buzz and stopped short.

"Well, she's down," Gabrilov said unnecessarily. "And it looks as though —"

He got no further. On both halves

of the screen there was suddenly an eruption of incredible, sun-like light, as though a miniature star had been born.

"Crew's getting restive, sir," Gabrilov said, putting back the phone. "That was the MO with the casualty statement. One man was watching through binoculars. He's going to need new eyes when we land, and a man in the nav section was looking down a 'scope, and he'll need one new retina. The radar tech who first spotted it has gone hysterical and needed sedation, and we have at least half a dozen cases of radiation sickness incipient."

Rusch grunted. He had been more affected by their narrow escape than he wanted to reveal. He said, "It seems to me some of us joined the service for no better reason than the chance of sharing in a buster! The thing would have blown us to glory if we'd gone much closer. Tell 'em they're lucky to be alive. Did the thing leave any debris, by the way?"

"Not a scrap," said Gabrilov gloomily. "Oh, there's probably some dust hell-bent for the stars, but nothing big enough to pick up."

"It can't have been a total-conversion reaction!" The idea seemed to hit Rusch like a physical blow.

"No — or even at this distance, we wouldn't have survived to talk about it." Gabrilov drew himself down to a chair and formed his body into a posture as though resting on the seat. After a moment, he said, "Lieutenant Ahmed was talking about space-mines. Weapons of war. At first I thought he was just suffering from the after-effects of seeing his dreams of riches go bang. But the more I reflect, the more I'm inclined to wonder."

Rather unwillingly, Rusch looked across the room at Aylward. "What do you think?" he demanded.

Aylward shook his head seriously. "I don't think it's war. I mean — well, we haven't suffered much material damage. It's cost us thirty or so ships, but we have three and a half thousand in regular service. The loss of experienced space personnel is probably more serious, but still it's a fleabite. And besides, why should . . . *someone* who can afford to disguise a mine with thousands of tons of metal, and induce a reaction as efficient as the one we saw, waste effort on sowing a few mines randomly in space? They could so easily make a job of it by launching a few into orbits intersecting Earth's. No, I don't think we have to invoke an enemy. My guess is that the busters are inherently unstable, being composed of such heavy elements. Conceivably they don't even belong in our order of space-time. Alteration of the nature of the space around them — on the arrival in the vicinity of a large and massive object, such as a spaceship — might upset their not very good equilibrium and blow them back into the continuum from which they came." He frowned deeply. "And yet this leaves so many questions unanswered. Why, for instance, were many of them safely brought into orbits around human-occupied worlds? I had it in the back of my mind that they might be

contraterrene, but since some of them were — uh — hooked, this is out of the question. I think I'm going to give this matter some further investigation."

"Well, we can't do much here," Rusch said heavily. "We have sick men on board who need planetside medical care, but even if we hadn't I'd order immediate planetfall. This news about busters is too urgent to keep to ourselves. Gabrilov!"

"Sir?"

"Get the nav section to program us an orbit that will take us in radio range of a government station as soon as possible, and then home. Have the men strap down for a turning maneuver. And you'd better have the MO issue decelerine, too. We're in a hurry!"

IV

Martinu looked regretfully at his empty glass, and realized as he did so that the gentle voice of Professor Aylward had stopped. With an effort he brought himself back to the present, eyeing the other with curiosity. One would never have taken him for such a damned good story-teller.

"So that was how it all began," he said after a pause.

Aylward was tying knots now in his length of tubing. He nodded. "Mark you," he said, "it wasn't easy to convince the authorities. I say, I'm sorry to have to ask you, but would you do me a favor."

"Of course."

"Well, I'd like another drink, and I don't feel up to fetching one."

"Oh, certainly!" Martinu pulled himself to his feet. His muscles complained a little, but he adjusted after a moment or two and walked off with their glasses to find a waiter again. He was feeling a little superior by the time he got back. After all, Aylward enjoyed at least some gravity most of his life, whereas a spaceman like himself had to cope with the change from no gravity at all to one full gee every time he landed on Earth.

Handing Aylward his new drink, Martinu wondered whether it was genuine devotion to duty or some defect of personality which made the tubby man hide himself away on the far side of the moon. He suspected the latter, now he came to think about it. What a shame — to be so outstanding in one narrow field, and yet basically incompetent in the most important field of all, that of being an ordinary person.

With disconcerting insight Aylward said, "There's no need to be sorry for me, you know."

Martinu choked on a mouthful of his drink and began to make frantic denials. Aylward ignored him. Staring at the dancers inexhaustibly whirling around the floor, he went on, "I pity you as much as you pity me, and both of us ought to pity the people here. Like mice, when the cat's away.

Was he going to become maudlin, for heaven's sake? Martinu decided to change the subject as quickly as possible. He said, "You were saying something about convincing the authorities, professor."

"Was I?" Aylward blinked; the al-

cohol was taking effect on him. "Ah, so I was! Yes, I remember a block-headed idiot named Machin — a bureaucrat if ever there was one — who tried to make out that we'd concocted a plot to filch all future busters away from their rightful owners. Like most people, he needed to have his nose rubbed in the truth before he'd accept it. But for him, we could have saved the *Sirius*."

"I remember the *Sirius*!" Martinu said. "I had friends on her. She found a buster within radio range of Luna Port — "

"And because of Machin and his like," Aylward interrupted, "it went right in to grab it, and was blown up with eight hundred people aboard. Too many people saw it happen with their own eyes, and went blind like the crewmen of the *Algol*, for that affair to be hushed up.

"So they fell over backwards to make amends. I was given facilities for taking proper equipment to the spot when the next buster appeared. By the time the fifth or sixth one showed up, I'd worked out the theoretical pattern of the Field. They try and tell me it was difficult to do, but don't you believe it. The math is simple enough. What did give trouble was getting the generating equipment down to portable size. But we managed it in the end, made it a commercial proposition— nd busters held no more terrors; we could stabilize them in our space-time long enough to cut them up and separate out the radioactives." His s's were getting the least bit slurred, and he was staring at his fingers as though unsure quite how many he could see.

"Angus tells me," he went on after a pause, "that it might have been a very bad thing. It was the direct cause of the vast inflation we underwent — when? — oh, thirteen or fourteen years ago, because the market for precious metals was saturated. It's the cause of prices like five bucks for a cup of coffee and two hundred for a taxi ride. I remember I used to dream of having a million dollars. Now where would it get you? I bet Angus is spending a million on this party!" He waved to include the whole of the gaiety around them. Distantly in the background a theremin was playing a solo in imitation of a trumpet. Martinu nodded pontifically.

"But of course it also cured us of the tendency to place arbitrary values on things," Aylward finished. "Now we prize only work invested as a backing for currency, and the uranium from the busters made cheap fission-power possible, so maybe the trade was a good one. Ah!"

A waiter in search of empty glasses entered the alcove, and Aylward signaled to him. "Get the captain another!" he instructed. "And one of the same for me."

Martinu hesitated, then shrugged. "Slivovitz," he told the waiter, who nodded and hurried away. A man and a girl, holding hands, looked in to see if the alcove was unoccupied, and on finding it wasn't moved away. The waiter returned with the fresh glasses.

"Foof!" Aylward said, having

gulped at his. "That's rather good." He lowered the glass cautiously beside him, then leaned back, sleepily half-closing his eyes.

"Look at them," he said. "Three thousand million blind mice. Who'll bell the cat?"

Martinu, whose own wits were apparently slipping a little, said foggily, "I beg your pardon?"

"I said, 'Three thousand million blind mice. Who'll bell the cat?' " repeated Aylward with dignity. "Though there isn't a cat, that I know of. For 'Who'll bell the cat?' read 'The mouse ran up the clock'."

No, it was no good. Martinu didn't try to follow that one.

Aylward finished his drink. with an appreciative belch, and said, "I suppose mice don't do so badly, really. What were we talking about?"

"Mice, apparently," Martinu said.

"I was talking about mice," Aylward corrected. "We were talking about busters. This can't last, you know."

"What can't last?"

"All this!" said Aylward largely. He gestured. "Not just this party — everything else too. All unconscious of their doom the little victims play. Tell me, do you think the human race is master of its fate, or do you believe, like some people, that we're property?"

Martinu was relieved to hear a fairly sensible remark for a change. He considered the question. "That's one of Fort's speculations, isn't it? I — well, I don't know."

"I'll tell you," Aylward promised. "Do you think you're of value to anyone but yourself?"

"Well, no."

"You're lucky. So am I. Just think of all the poor people who think they do matter. How disappointed they'll be when they find they don't!"

"When will that be?" Martinu said, feeling it was expected.

"Oh, definitely some time. Do you know what a buster is? I mean, what it's for?"

Martinu was finding this a little tedious. He wished he had taken Angus's advice. "Tell me," he requested resignedly.

"I warn you, you won't believe me. Angus doesn't, and he's a typical hard-headed individual. None of the other people I've told has believed me either. Anyway, I'll tell you. You said you didn't know if we were property or not. Well, we aren't property. Because we aren't worth owning. We're just one hell of a nuisance. Did you ever find yourself bothered with mice?"

Sheer politeness, nothing else, drove Martinu to bring to bear what concentration he had left. "When I was a kid," he said finally, "I recall my mother had a house full of them. But they never bothered me. I rather liked them — except for the stink."

"How did your mother get rid of them?"

"Well, I guess we tried trapping them first. That didn't work for long — the cunning so-and-so's soon learned to avoid the traps. So in the end we poisoned them."

Another couple appeared at the entrance of the alcove, with their

arms round each other. They were too absorbed to notice that anyone else was present, and walked past the seat where Aylward and Martinu were towards the curtains hanging behind it. Glad of some distraction, Martinu glanced over his shoulder and saw that they had drawn one of the curtains back to reveal an open window; they were leaning on the sill and staring at the stars. He envied them.

"All right," Aylward said. "Now if you wanted to do something like that to men, what would you use for baiting your traps?"

"I'm sorry?" Martinu came back with a start. Aylward repeated the question.

"Well," Martinu said, humoring him, "I'd use something either useful or precious."

"Exactly. And you'd lay some groundbait first, to lure the unsuspecting victims to the traps when they were put down."

Suddenly Martinu got it. He wondered why it had taken him so long. he said disgustedly. But after a moment he saw the amusing side of it — and after all, Angus had warned him!

He chuckled. "So they're mousetraps, and we're the mice!" he said. "What an idea! But aren't you overlooking one thing in your analogy. How about the poison?"

"I was coming to that," said Aylward with equanimity. "And so, I judge, are the 'people' who planned the busters. When the mice started dodging the traps, did your mother latch on at once?"

"No, we kept right on setting them for a while. It was only when they became a real pest we turned to poison."

"Pre-cisely!" Aylward looked pleased. "I imagine that they — whoever they are — will decide that their traps aren't working any more. Then someone will find a super-large, stable buster and bring it to Earth, and — that will be that."

A cold chill moved down Martinu's spine. Trying to ascribe it to the open window behind him, he said slowly, "Haven't you heard?"

"Heard what?"

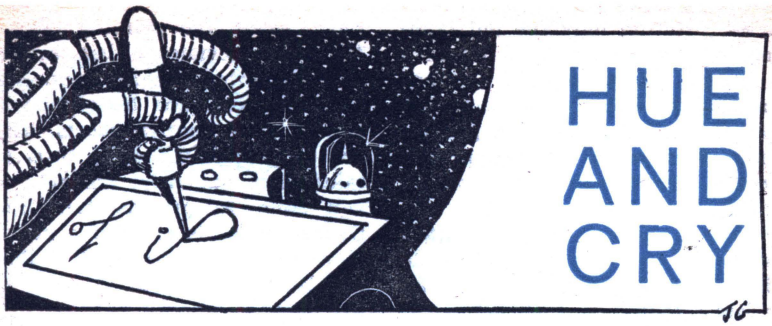
"Mohammed Abdul in the *Vega* just brought in the first stable buster since the *Capella's*! Parked it in orbit today! And — and it's an outsize one, a giant!"

Alyward's face, all of a sudden, went pasty-pale. He looked at Martinu and tried to speak, but couldn't.

Behind them, the girl looking out the window said in a tone of puzzlement, "Honey, what's the time?"

"Three o'clock. Why?" said her companion.

"I thought it wasn't dawn yet. And that isn't even the east over there. But look how red the sky is getting!" END



The Place Where Readers And Editor Meet...

Dear Editor:

I just finished reading the July *If*, and I enjoyed it very much. *Mightiest Qorn* was one of the best Retief stories I've read so far. I'm looking forward to more in this series. *The Faces Outside* was very good, and so was *Down to the Worlds of Men*, and I hope to see more by these two new writers.

I didn't intend to start the serial until I had all the parts, but I accidentally got interested in it, and now I am eagerly awaiting the next issue. I enjoy all the features in *If*, especially the letter column. I have two small suggestions. First, why not print the approximate date the next issue goes on sale? It'd make it harder for non-subscribers to miss an issue. Second, please print the number of installment there will be in a new serial so the reader know what he's getting into. Outside of these small things, I hope *If* stays exactly the same. Keep up the good work on your fine magazine; it's one of my favorites.—

Arthur Horan
1084 New York Avenue
Brooklyn 3, New York

● You've got a good point about printing the number of installments a serial will take. We'll do it. Actually we plan to hold all future serials to two parts—simply because four months is too long to ask you to wait!—*Editor.*

* * *

Dear Editor:

I wish to protest the suggestion of Mr. Norwood in the July issue of *If*, that you expand the letter column to five pages. A letter column is an untrustworthy and usually boring beast, which talks for extended periods on subjects of interest only to itself, and in a manner which often shows an ignorance of English grammar. If you must print readers' letters, you could at least show the editorial discrimination concerning them that you show toward your

stories, printing only the outstanding one, e.g., those of general interest. As a rule, an individual's opinions of a story are not of general interest when they are expressed in general terms of approval or disapproval. Specific, constructive criticism is valuable, but I fear that most letters are of value only to the editor, and should not find their way into print. I would suggest, then, that the letter column be included in the magazine only when you have received enough letters to make it worth the space, which would normally be used for a story.—

John T. Sapienza, Jr.
Box 443, 3333 Walnut Street
Philadelphia 4, Pennsylvania

* * *

Dear Editor:

I have a relevant if rather belated (belated because we always get the issues late over here) comment on *You and Nostradamus.* A bank of organs of the human body was predicted, and on a recent news bulletin it was announced that such a bank was operating here. Specifically, heart valves of young road crash victims were being used to replace worn-out organs of elderly people. One of the main difficulties appeared to be contacting of the relatives of the deceased within 48 hours—after which the organs are useless. There was a statement that the bank was fast running out of supplies (but no mention of tatooing willing donors.)

Another interesting item on the same bulletin was that doctors discussing quarantine procedures foresaw future difficulties with space vehicles and their men.

If has improved greatly in artwork, paper and printing recently. My main grievance is that there are no book reviews, which could easily be made room for by cutting out one of your shorter shorts, which are usually pretty poor. *If* is certainly becoming more readable, and you seem to provide fair Space Opera—which is in itself a novelty. More and better, please! E. E. Smith and Heinlein's serials are good selling points, as well as the Retief series.—

Terene Bull
60, Mansfield Road
Northampton, England

● Smith? Well, we have a couple coming up that will interest you. One, by this same E. E. Smith, is a little number called *Skylark DuQuesne.* We don't quite know when we'll publish it, because the manuscript isn't in yet—but Doc is putting the finishing touches on it right now!

And now we're out of room again. Our "first" story for this month is *Long Day in Court* by a fellow who hides under the pseudonym of "Jonathan Brand" and, under his real name, occupies a responsible position with a large university. This is his first fiction anywhere—but not his last, because we've already bought more!

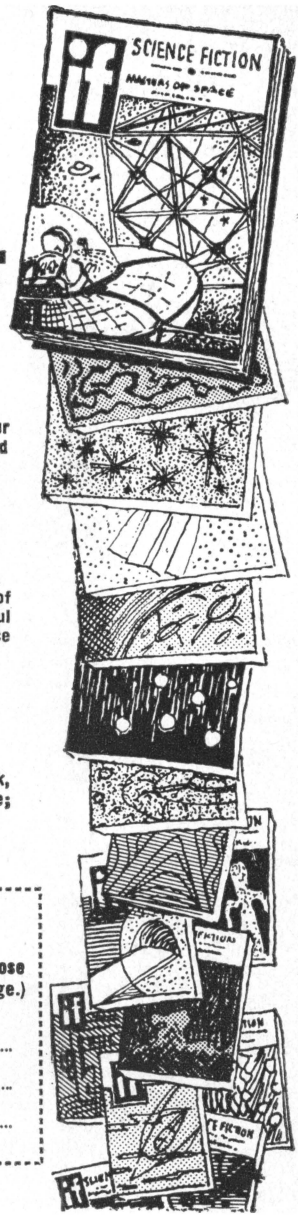
Next issue? Philip K. Dick, Robert F. Young, a particularly fine two-part serial beginning by Poul Anderson—yes, it's a good one. And we have a problem in semantics concerning it for you to chew over: The next issue of *If* contains two Poul Anderson stories, but only one of them is by Poul Anderson.

How come? Well, come around next issue and see!—*Editor.*

YOURS!

THE NEXT 17

BIG ISSUES OF IF



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