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WE MUST STUDY PSI

HE essential concept of truth-seeking is that a truth must be accepted, whether it is favorable or unfavorable, desired or dreaded, whether it means riches and happiness, or stark madness. There is, in the concept of the Scientific Method, the fundamental proposition that there are Laws in an ordered Universe; that we must learn those laws—whether we like them or not.

During the last four years, I've been investigating psi; I started the investigation largely because it has been a background element in science fiction, almost from the start. Telepathy has been stock business. E. E. Smith's Lensman series was based primarily on psi—for the Lens itself is, essentially, a psi machine.

With the development of science into engineering proceeding at the pace it has, by 1950 the major developments that science fiction had been forecasting were definitely under engineering—not theoretical—study. It was time for us to move on, if we were to fulfill our function as a frontier literature.

To some extent, science fiction moved on into the social sciences—sociology, anthropology and psychology.

Item: Dr. Rhine originally started his investigation of psi because, as a professional psychologist, he had come to the conclusion that psychology-as-such lacked an essential element. You would have an exceedingly hard time working out biochemistry, if your chemistry hadn't discovered nitrogen, for example. Rhine's studies led him to suspect something about as important as nitrogen to bio-

chemistry was missing from psychology.

Item: every anthropologist is aware of the important part magic—the psi phenomena under their older name—plays in human cultures.

Item: Every sociologist is aware that you can't make a population behave in a logical manner—cultural superstitions defy logical analysis, logical argument, and logical forces.

I was forced back toward psi, even when science fiction started toward the social sciences.

Since I published the editorial in the February 1956 issue, suggesting running material on psi machines, I have been receiving quantities of information, from hundreds of sources.

I have an advantage that few people have; there are people all over this planet reading Astounding, and for many it evidently has a very personal meaning. I hear from them. I can't answer all; many times no individual letter, or clipping, or reprint sent me has much specific value. But they, taken together, form a sort of Ishihara Color Vision Test phenomenon; no one mass of any one color on the Ishihara Color test disks has any meaning—it's the pattern made of hundreds of individually meaningless dots of pastel color that build the pattern.

I've written a bit about the Hieronymus machine; recently we ran an item about the pipe-locators used by W. F. Marklund of the City of Flint, Michigan. A considerable number of people tried the Hieronymus machine; it proved to be a repeatable experiment in the best scientific sense. Individuals instructed only by the printed word were able to duplicate the phenomena.

But I have not reported even one per cent of the data that has come to my attention. I visited the George de la Warr laboratories when I was in England for the 1957 Science Fiction Convention. I've visited other psi-machine laboratories in Canada, and the United States. I've watched illegal —but beneficial!—medical diagnosis and treatment by psi machine. I've seen records of psi machines used to destroy insect pests in crops.

That, by the way, was a particularly interesting item. The State Department of Agriculture checkers were asked to check the experiment. They did so; standard Department of Agriculture evaluation techniques were used—alternate strips on farms scattered over five counties—some ninety farms in all—were treated, while intervening strips were left untreated as control patches. The checks were made at intervals by Department of Agriculture employees.

At the end of the season, their figures showed that ninety-five per cent of the Japanese Beetles on the test plots had been killed.

And at that point, for the first time, the Department of Agriculture learned that their checks had *not* been made on a new chemical insecticide.

The Department immediately refused to acknowledge the results of their tests. There's no use writing me to ask which state it was, because

that state department will deny the check's validity.

The treatment was made by treatment of photographs, at distances ranging from one hundred twenty feet to five hundred miles.

This treatment has, incidentally, shown equally sound evidence of its ability to successfully combat Dutch Elm Disease, and Oak Wilt, which cannot be stopped by any orthodox technique.

Any anthropologist can tell you that the "superstitions" or magical concepts of North American Indians, Australian aborigines, African Negroes, Chilean Indians, the ancient Chinese, the early Norse, the Polynesians, and the Mediterranean peoples contain many identical concepts. These peoples have not had communication for many thousands of years —particularly the Australian aborigines.

Now while I do hold that democracy can go too far, I also hold that democracy has a great, deep value—and the essential of that value might be phrased "You can't fool all the people very long." A completely functionless belief won't fool all the people for tens of thousands of years.

There must be a factor in the Universe itself which those immensely widely scattered peoples have, independently, experienced, and experienced with sufficient regularity to make those concepts remain part of human cultures.

Ours is the only culture that officially denies Magic. And . . . ours does not, by several millennia, qualify as a "very long" culture. The denial of magic is only about three centuries old. You can fool a large percentage of a people for that short a period of time.

The psi machines I've encountered work—and they work on precisely the same ancient laws of Magic that those wide-scattered peoples have, independently, accepted.

I've had that point countered by "Yes, but the common factor is the nature of Man—he wants it to work that way! Therefore peoples everywhere have accepted it. It's human nature, not reality, at work!"

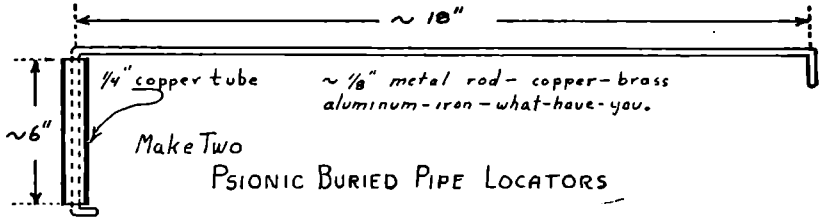
Oh? Then how come human nature evolved that tendency? How come no mutations came along to produce a human variant without that time-effort-energy wasting tendency, huh? Why is it, then, that no human culture, anywhere, has survived even three generations after giving up the interrelated concepts of magic and religion?

If that is, as stated, a fundamental of human nature . . . *why?* We can understand why resistance to disease is a fundamental of human nature—and why a breed that loses that resistance dies out suddenly.

All right—I'll accept that the explanation for the similarity of beliefs among Australian aborigines, Tierra del Fuegians, Africans, Eskimos and Polynesians is due solely to the fundamental similarity of human nature the whole world over.

Why is human nature that way?

And so long as psychologists, an-



The Pipe Locator drawing above shows the type used by many practicing utilities engineers, the not-inhibited-by-theory types, for locating buried pipes and/or cables. In use, they are held like a two-gun Westerner's two guns, pointing straight ahead, and at about chest height. Walk back and forth across the area under investigation, trying to intersect the line of the hunted pipe. The rods will swing to parallel the line of the pipe as you cross it—either swinging away from each other, or crossing each other. Which reaction turns up seems to depend on the individual, not on the rods.

About eighty per cent of the adults seem to get results; if you don't, let your friends and associates try.

Using them seems to be somewhat like "learning to hear"; anyone with functional ears can hear—but it takes some training to interpret what you hear; e. g., distinguishing the sounds produced by a thrush from those of a robin or blue jay. At first use of the rods, you'll tend to react to *all* buried conduits; with practice, you'll become more sophisticated in interpretation, and distinguish between, say, water, gas, and sewer pipes.

The operation of these rods is scientifically impossible and is, logically, nonsense. This is extremely interesting, because they work—which, under the rules of the Scientific Method, means that the theory that Science embraces *all* real phenomena has encountered the fact that it doesn't, and must, therefore, be abandoned. Suggested modification; Science and only Science explains *many* real phenomena.

thropologists and sociologists insist "We know it shouldn't be that way," without bothering to study *why all human peoples are that way* . . . why, so long they are apt to miss the fundamentals of the fields they are interested in.

You cannot escape studying Magic, denying that there is any common phenomenon in the Universe, by saying "It's just human nature." Because if you say that, then you are duty-bound to explain why human nature continues to be that way, millennium after millennium. If it is in truth wasted effort, then any people who abandoned magic would have conserved that effort for other things, and would have been able to displace the competing tribes.

Why is Magic fundamental in all human peoples?

I suggest that the answer is "Because there is a set of phenomena in the Universe that requires intelligent entities to have that characteristic."

Like it or not, Marklund in Flint, power company engineers in England, steel plant maintenance engineers in Bethlehem, Pennsylvania, and in a hundred other places, use dowsing rods to locate underground lines that they are interested in. An engineer with a job to do doesn't give a damn whether the tool he uses is scientifically sound; he does care that it works for him.

And they're very strange tools indeed; for Marklund, the rods locate water pipes, and don't react to buried power cables. For power company engineers, they react faithfully to buried cables, and are not thrown off

(*Continued on page* 159)

TO

RUN THE RIM

BY A. BERTRAM CHANDLER

There are some men for whom Security is no reward—but it takes time to learn that!

Illustrated by Summers

SLOWLY and carefully —as befitted her years, which were many—the star tramp *Ariel* dropped down to Port Forlorn. Calver, her second mate, looked out and down from the control room viewports to the uninviting scene below, to the vista of almost barren hills and mountains scarred by mine workings, to the great slag heaps that were hills themselves, to the ugly little towns, each one of which was dominated by the tall, smoke belching chimneys of factories and refineries, to the rivers that, even from this altitude, looked like sluggish streams of sewage.

So this, he thought, is Lorn, industrial hub of the Rim Worlds. This is as far as I go. This is where I get off. There's no farther to go.

Captain Bowers, satisfied that the ship was riding down easily under automatic control, turned to his second officer.

"Are you sure that you want to pay off here, Mr. Calver?" he asked. "Are you quite sure? You're a good officer, and we could use you. The Shakespearian Line mightn't be up to Commission standards, but it's not a bad outfit."

"Thank you, sir," replied Calver, raising his voice slightly to make himself heard over the subdued thunder of the rockets, "but I'm sure. I signed on in Elsinore with the understanding that I was to be paid off on the Rim. The Third's quite capable of taking over."

"You want your head read," grunted Harris, the Mate.

"Perhaps," said Calver.

And perhaps I do, he thought. How much of this is sheer masochism, this flight from the warm, happy worlds of the Center to these desolate Rim planets? Could it have been the names that appealed to me? Thule, Ultimo, Faraway and Lorn . . .

"The usual cross wind, damn it!" swore Bowers, hastily turning his attention to the controls. The old ship shuddered as the corrective blasts were fired and, momentarily, the noise in the control room rose to an intolerable level.

When things had quietened down again Harris said, "It's always windy on Lorn, and the wind is always cold and dusty and stinking with the fumes of burning sulfur . . ."

"I'll not be staying on Lorn," said Calver. "I've been too long in Space to go looking for a shore job, especially when there's no inducement."

"Going to try the Rim Runners?" asked Captain Bowers.

"Yes. I believe they're short of officers."

"They always are," said Harris.

"Why not stay with us?" queried the captain.

"Thanks again, sir, but . . ."

"The Rim Runners!" snorted the mate. "You'll find an odd bunch there, Calver. Refugees from the Interstellar Transport Commission, from the Survey Service, the Waverley Royal Mail and the Trans-Galactic Clippers . . ."

"I'm a refugee from the Commis-

sion myself," said Calver wryly.

Port Forlorn was close now, too close for further conversation, the dirty, scarred concrete apron rushing up to meet them. *Ariel* dropped through a cloud of scintillating particles, the dust raised by her backblast and fired to brief incandescence. She touched, sagged tiredly, her structure creaking like old bones. The sudden silence, as the rockets died, seemed unnatural.

Harris broke it. "And their ships," he said. "Their ships . . . All ancient crocks, mostly worn out Epsilon Class tubs thrown out by the Commission. I'm told that they even have one or two of the old Ehrenhaft Drive jobs."

"Wasn't *Ariel* once *Epsilon Sextans?*" asked Calver mildly.

"Yes, but she's different," said Harris affectionately.

Yes, thought Calver, standing at the foot of the ramp to the air lock, *Ariel* was different. A worn-out Epsilon Class wagon she may have been, but she still had pride, just as her master and officers still had pride in her. This *Lorn Lady* was a ship of the same class, probably no older than *Ariel,* but she looked a wreck.

Calver looked down at his shoes, which had been highly polished when he left his hotel, saw that they were already covered with a thick film of dust. A sidewise glance down at his epaulettes—the new ones, with their Rim Runners second officer's braid, on the old tunic—told him that they also were dusty. He disliked to board a ship, any ship, untidily dressed. He brushed his shoulders with his hand, used a handkerchief, which he afterwards threw away, to restore the shine to his shoes. He climbed the shaky ramp.

There was no air lock watch—but Calver had learned that the outward standards of efficiency diminished, almost according to the Law of Inverse Squares, with increasing distance from the Galactic center. There was a telephone. After studying the selector board Calver pressed the button labeled *Chief Officer.* There was no reply. He tried *Control Room, Purser* and then *Captain.* He replaced the useless instrument on its rest, opened the inner air lock door. He was agreeably surprised to find that the manual controls worked easily and smoothly. He picked up his bags, went into the ship. He was familiar enough with the layout of this type of vessel and went straight to the axial shaft. The newer Epsilon Class ships boasted a light elevator for use in port. Calver was not amazed to discover that *Lorn Lady* did not run to such a luxury.

There was somebody clattering down the spiral stairway that led up to the officers' accommodation. Calver stood there and waited. The owner of the noisy feet dropped into view. He was a man of Calver's age, no longer young. His uniform was tight on his stocky frame. He wore Rim Runners epaulettes—the three gold bars of a chief officer with, above them, the winged wheel—but his cap badge was an elaborate affair of stars

and rockets surmounted by an ornate crown.

He looked up at Calver when he reached the deck, making the tall man suddenly conscious of his gangling height. He said, "You'll be the new second. I'm the mate. MacLean's the name. Welcome aboard."

They shook hands.

"I'll go up to my cabin and drop my bags," said Calver. "I've seen enough of Port Forlorn to last me a while so, if you like, I'll keep the night aboard."

"Night aboard? There's no ship-keeping here," laughed MacLean. "There's no cargo working tonight either. The night watchman will be on duty in an hour or so, and he's fairly reliable."

Calver looked as shocked as he felt.

"I know how you feel," said the mate, "but you'll get over it. I used to feel the same way myself when I first came out to the Rim—after the Royal Mail it seemed very slovenly."

"I'm afraid it does."

"You're out of the Commission's ships, aren't you?"

"Yes."

"I thought as much. You're a typical Commission officer—middle-aged before your time, stiff and starchy and a stickler for regulations. Anyhow, up you go and park your bags. I'll wait for you here. Then we'll go and have a couple or three drinks to wash this dust out of our throats."

Calver found his cabin without any trouble. It was, to his relief, reasonably clean. He left his bags under his bunk, went down to the air lock where MacLean was waiting for him. The two men walked down the ramp together.

"You'll not find Commission standards here," said the mate. "Or, come to that, Royal Mail standards. We keep the ships safe and reasonably efficient, but there's neither money nor labor to spare for spit and polish."

"So I've noticed."

"So I noticed, too, when I first came out to the Rim. And if I hadn't told Commodore Sir Archibald Sinclair to his face what an idiot he was I'd still be with the Royal Mail, still keeping my night on board in port and making sure that a proper air lock watch was being maintained, and all the rest of it. There's not a bad little pub just outside the spaceport gates. Do you feel like trying it?"

"As you please," said Calver.

The pub was better inside than out, almost achieving coziness. It was, at this early hour of the evening, practically deserted. Calver and MacLean sat down at one of the tables. The slatternly girl who served them did not ask for their order but brought a bottle of whisky, with graduations up its side, two glasses and a jug of water.

"They know me here," said MacLean unnecessarily. He raised his glass. "Here's to crime."

After a few more drinks Calver said, "Would you mind putting me in the picture, MacLean? They seem-

ed very vague in the office when I joined the Company."

"They always are," said the mate. "Besides, you hadn't yet signed the Articles. I suppose you noticed the Secrecy Clause?"

"I did."

"I suppose you thought that it was a rather odd clause to find in a ship's Articles. But it's there for a reason. Your predecessor talked out of place and out of turn, and that's why he's doing his spell in the mines, under guard."

"What! Surely they wouldn't—"

"They would, Calver—and his case they did. Bear in mind that Rim Runners is, practically, a government shipping line, and that all of us are automatically officers of the Naval Reserve . . .

"Anyhow"—he glanced around, made sure that there was nobody within earshot—"this is the way of it. Until very recently Rim Runners owned only a handful of ships and served only four planetary systems—those of Thule, Ultimo, Faraway and Lorn. Just puddle-jumping by *our* standards. Even then they had to keep on recruiting officers from the rest of the galaxy. They don't like Deep Space, these Rim Worlders. They're scared of it. I suppose that it's because for all their lives they've been hanging over the edge of the ultimate pit by their eyebrows.

"But the Rim Government wants to expand, wants to become sufficiently powerful to be able to thumb its nose at Earth and the Federation. As you know, the Survey Service has always neglected the Rim. Rim Runners put their own survey ships into operation. They did a sweep to the Galactic West—and found the anti-matter stars and planets. There was no room for expansion there. They ran to the East and found nothing but normal matter and quite a few suns with inhabited worlds. There's Mellise, which is practically all water and inhabited by a race of intelligent amphibians. There's Tharn, whose people have yet to achieve an industrial civilization but who are as near human as makes no difference. There's Grollor, where the natives could be classed as humanoid and have the beginnings of space travel. There's Stree, with its philosophical lizards . . ."

"I can see," said Calver, "that I'll have to do some heavy swotting up on the Pilot Books."

MacLean laughed. "There aren't any Pilot Books, Calver. Not yet. When there are, it'll be we who've written them. Anyhow, we're loading zinc and tin and cadmium tomorrow for Port Faraway on Faraway. We load on Faraway for the Eastern Circuit. How does that suit you?"

"The Eastern Circuit? The new worlds?"

"Ay."

"Sounds interesting. But tell me—*why* all the secrecy?"

"Because our Government wants to form its own Federation, out here on the Rim, wants to have the whole thing sewn up tight by pacts and treaties and trade agreements before any Survey Service ship comes nosing

out this way. All known Federation agents have been rounded up and are being kept in protective custody. Pickering, your predecessor, was an ex-Lieutenant Commander out of the Survey Service and he had the odd idea that he still owed them some loyalty, in spite of the court-martial that was the cause of his leaving."

"And are you loyal to the Rim?" asked Calver. "I know that there's no likelihood that the Kingdom of Waverley will ever cast covetous eyes on this sector of the galaxy, but suppose they did?"

"I'm a Rim Worlder," said MacLean at last. "I wasn't born out here, but the Rim has always had its appeal for me. It's a last frontier, I suppose, and it will be until some clever bugger comes up with an intergalactic drive. And out here one can be a spaceman, a real spaceman, without being all the time tangled up in red tape. And now there are the new worlds, and there'll be more of them." He looked around. "The place is filling up," he said. "No more shop talk."

The place was filling up. There were roughly dressed men from the mines, a few overly neat men from offices. There were women—some of them drably and dowdily respectable, others whose too red lips and overly made up faces were like a uniform. There was a slim girl who began to wring a plaintive melody from a piano accordion. She flashed a smile at the two spacemen as she played.

MacLean sang softly in time with the music.

"Exiled from home
By woman's whim,
We'll ever roam
And run the Rim . . ."

"This," said a female voice, huskily attractive, "is where he usually starts to cry into his whisky."

"That's a lie, Arlen," said MacLean, "and you know it."

Calver turned in his chair. He saw the purser, whom he had already met, and, beside him, a tall woman with the silver bars of a Catering Officer on her epaulettes. She was a little too slim, and her features were too strong for conventional prettiness and bore the ineradicable marks of past strain. There was a startling silver streak in her burnished, dark hair.

"You'll be Calver," she said. "The new second."

"I am," said Calver.

"I'm Arlen. Chief cook and bottle washer."

She extended a slim hand. Calver took it. Her eyes, he noticed, were a blue so deep as to be almost black. Her smile was a little crooked, which made it all the more attractive.

Pender, the little Purser, bustled up with two extra chairs, set them in place noisily. The sullen waitress brought more glasses.

Arlen sat down gracefully.

"Try to imagine you're back in the Royal Mail, MacLean," she said. "Be a gentleman and pour me a drink."

MacLean poured drinks.

"We're all lushes on the Rim, Cal-

ver," said Arlen. She had, decided Calver, already taken more than a few on board. "We're all lushes, even though we've learned the hard way that drinking solves nothing. But we don't like happy drunks. The last second mate but one, Wallis, *he* was a happy drunk. He was so happy that he could never be trusted with the loading. It was all one to him if the center of gravity was up in the control room or somewhere under the main venturi. MacLean's not like that. MacLean will cry into his whisky, and pour a little of it over that absurd Royal Mail cap badge that he insists on wearing, and will stagger back on board tonight full of the woes of all the universe as well as his own—and God help the stevedore if he stows one slab of zinc one millimeter out of place tomorrow!"

"Stow it, Arlen," said MacLean.

"Are you a happy drunk, Calver?" she asked.

"No," he said.

"Then you're one of us. You'll make a real Rim Runner, skimming the edge of eternity in a superannuated rustbucket held together with old string and chewing gum and taking a masochistic pleasure in it. You have run from yourself until you can't run any further, and there's a sort of desperate joy in that, too. You don't drink to forget. You don't drink to get into a state of maudlin, mindless happiness. You drink to intensify your feelings, you—"

"Stop it, Arlen!" snapped MacLean.

She got to her feet.

"If that's the way you feel," she said, "I'd better leave."

"Can't a man have a drink in peace without all this amateur psychiatry?" asked the mate. "I drink because I like drinking. Period."

"Good night," she said coldly.

"I'll see you back, Arlen," said Calver.

"No thanks," she said. "I'm a big girl now. I'm not afraid of the dark. Would I be with Rim Runners if I were?"

Calver saw that the girl with the accordion was drifting towards their table, that Pender was already exchanging glances with one of the bold eyed prostitutes. He knew how the evening was going to develop, and he wanted no part of it. He stood up, put his hand under Arlen's elbow and began to steer her towards the door.

"Good night, MacLean," he said. "Good night, Pender."

"What's the hurry, Calver?" asked the mate. "The night's a pup."

"I'm rather tired," said Calver.

"See you in the morning, then."

The musician and the other woman took the vacated seats as Calver and Arlen reached the door. The waitress was bringing another bottle of whisky.

It was cold outside, and the gusty wind filled their eyes with dust. It was not the sort of night that one finds pleasure in stargazing, yet Calver looked to the sky. The gleaming lens of the galaxy was almost set, only one last glimmering parabola of

cold fire visible low in the west. Overhead the sky was dark, the blackness intensified by the sparse and dim nebulosities that were the, as yet, unreachable island universes.

Calver shivered.

"It's frightening, isn't it?" said Arlen. "It's frightening. Yet it has something."

"Something?" he asked. "Or—nothing?"

"There are easier and faster ways of finding nothing," she said.

"Why didn't you take one?" he asked brutally.

"Why didn't *you*? I'll tell you. Because you're like the rest of us. I don't know your history, any more than you know mine, but something happened to smash the career that you were carving out for yourself in the Commission's service—something that was your fault and nobody else's. You hit rock bottom, but you refused to admit it. You found that there were depths below rock bottom, even. You decided that the only salvation lay in a real voyage, as well as a symbolic one, to the very edge of the night—"

"And does this theory of yours apply to all the Rim Runners?"

"To most of us. Not to the Old Man—he was born out here, on Thule. The only thing that he's running away from is the Grim Reaper; he's two hundred years old if he's a day. Pender's a Rim Worlder, too. So's Levine, our psionic radio operator.

"But there's Bendix, the Interstellar Drive Engineer—he's out of the Trans-Galactic Clippers. There's Renault, in charge of the Reaction Drive—he was Chief of a Beta Class liner."

"I've heard of him," said Calver. "I've never sailed with him."

"Brentano, Radio Communications, used to be in a quite respectable little outfit called Cluster Lines. Old Doc Malone had a flourishing practice in Port Austral, in the Centurian System. MacLean, as you know, was in the Waverley Royal Mail."

"And you?"

"Another refugee from the Commission," she said. "But I was ashore, on Earth, for a few years before I came out here."

The spaceport gate was ahead of them. The guard on duty looked at them, at their uniforms.

He said, "Good evening, Mrs. Arlen. Back early tonight."

"Somebody has to be up in the morning to cook breakfast for these spacehounds," she said.

"And this gentleman?"

"Our new second mate."

The guard pressed the button that opened the gate. Arlen and Calver passed through. Ahead of them was the ship, black against the dark sky, only a dim yellow glow of light shining from the air lock.

"The *Lorn Lady,*" said Arlen. "The poor old *Lorn Lady.* When I hear people talking about her I always wonder if they're referring to the ship, or to me. Do you know what they used to call me? Calamity Jane Lawler. That was before I was married. It's Calamity Jane Arlen now."

They walked up the ramp to the air lock, Calver steadying the girl with his arm. They got past the watchman —an ex-spaceman by the looks of him, and a heavy drinker—without waking him. They climbed the spiral staircase to the officers' flat.

They went first into the little pantry adjoining the messroom. Arlen switched on the percolator. In a matter of seconds it began to chuckle softly to itself. The woman drew two mugs of the bitter, black brew.

"Sugar, Calver? Cream?"

"Just sugar, thanks."

"I don't know why I drink this muck," she said. "It'll sober me up, and I don't want to be sober. When I've had a few drinks I can accept the coldness, the loneliness, and make them part of me. When I'm sober they . . . they frighten me."

"Lawler . . ." said Calver slowly. "Calamity Jane Lawler. The name rings a bell. Weren't you in *Alpha Scorpii* at one time?"

"Yes," she said flatly. "I was. It was when we had the outbreak of food poisoning, and it was when some fool pointed out that something always happened aboard any ship that I was in. Hence the name. It stuck. The worst of it is that I do seem to be an accident prone sort of person, even ashore. When I left the Commision's service, when I married, the calamities still kept on coming. So—"

"What happened?" asked Calver.

"What happened to *you?*" she countered. "We don't know each other well enough yet to start swapping life stories. I doubt if we ever shall."

Calver finished his coffee.

"Good night, Arlen," he said.

"Good night," she replied dully.

Feeling both helpless and useless Calver left her there in the little pantry, went to his cabin and turned in.

He was surprised at the speed with which he was able to adjust himself to the rather slovenly routine of *Lorn Lady*. She was pitifully shorthanded by the standards to which he was accustomed; there was no third officer, there were no junior engineers for either the Interstellar or the Interplanetary Drives, the surgeon was also the biochemist and, as such, in charge of hydroponics, tissue culture and the algae vats. There were no cadets to do all the odd jobs that were beneath the dignity of the officers—such jobs were done if they were essential, otherwise they remained undone.

Safety first, MacLean had said. Efficiency second. Spit and polish this year, next year, some time, never. Yet the gleaming, ever-precessing gyroscopes of the Mannschenn Drive Unit sang softly and smoothly, with never a stammer, and the pumps that drove the fluid propellant into the furnace of the Pile functioned with an efficiency that could have been the envy of many a better found vessel. Old Doc Malone was an efficient "farmer," and there was never any shortage of green salads or fresh meat in the mess; the algae served only as air and water purifiers, never as an article of diet.

Yet she was old, the *Lorn Lady*. Machinery can be renewed piece by piece, but there comes a time when the shell plating of the hull holding that same machinery is almost porous, when every structural member suffers from the fatigue that comes to all metal with the passage of the years.

She was old, and she was tired, and the age of her and the fatigue of her were mirrored in the frail body of Captain Engels, her master. He was the oldest man that Calver had ever met, even in Space where extreme longevity, barring accidents, is the rule rather than the exception. A few sparse strands of yellowish white hair straggled over the thin parchment covering his skull. His uniform was too big for the fragile, withered body it covered. Only his eyes, pale blue and bleak, were alive.

He worried the officers very little, keeping to his own accommodation most of the time. Yet any minor malfunctioning, any deviation from normal routine, no matter how trivial, would bring him at once to the control room. He would say nothing, yet his very presence would induce in the officer of the watch a sense of gross inadequacy and, with it, the resolve not to let the thing, whatever it was, occur again.

There was very little camaraderie aboard the ship whilst she was in Space; watch and watch routine gives small opportunity for social intercourse. But, decided Calver, there would not have been much social life even if the ship had been adequately manned. She carried too heavy a cargo of regrets. With MacLean he might have succeeded in striking up a real friendship, but the only times

they met were at the changes of watches. He would have liked to have gotten to know Jane Arlen better—but she kept him, as she kept all others aboard the ship, at arm's length.

The voyage to Faraway passed, as all voyages pass. There were no emergencies. The landing at Port Faraway was slow and painful, old Captain Engels refusing to trust the auto-pilot and treating the ship as an extension of his own aged and brittle body. Discharge and loading progressed according to plan.

Calver was able to spend two evenings ashore, in Faraway City, during the time that *Lorn Lady* was in port. On the first of these he was by himself. He had a meal—which was vastly inferior to anything served by Arlen aboard the ship—and then a few drinks. He went to a solido show and realized, one quarter of the way through, that he had already seen it, years before and in much happier circumstances. He left the theater and returned to the ship. Old Doc Malone was still awake and let Calver have a bottle of the so-called Irish whisky that he distilled in his spare time.

The second evening Arlen was with him. She had met him in the alleyway outside the officers' cabins as he was on his way to the axial shaft.

"Wait for me, Calver," she said. "I'll come with you."

"I didn't think you bothered the beach much, Arlen," he said.

"I don't as a rule. But every now and again I have to get off this ship before I go mad."

"I feel the same," he said.

"You've been here only a dog-watch," she said scornfully.

They took the monorail from the port to Faraway City. They tried to lose themselves in the feverish, artificial gaiety that is common to all the Rim World settlements, but it was hopeless. They finished up at last in a quiet drinking place, one of the very few with subdued lighting and no noisy music.

"How do you like the *Lorn Lady*?" asked Arlen abruptly.

"She feeds well."

"I know that, too. Perhaps I should ask, 'How do you like the Rim?' "

"I don't," he said. "Even though I'm no telepath I can feel the mass fear, the dread of the cold and the dark."

"Why don't you go back to where you came from?"

"You should know the answer to that one, Arlen. I was Chief Officer in the Commission's ships, and by leaving them I insulted them. That's the way they always look at it. I can never get back into big ships."

"There are plenty of smaller lines far superior to Rim Runners."

"I know. And they run to ports also served by the Commission. I should always have the reminder of what could have been, if . . . I'd always be seeing some big Alpha or Beta Class liner and thinking, I could have been master of her by now, if—"

"If what?" she asked bluntly.

He said, "I like you, Arlen, but I'm not going to do a psychological strip-tease just to keep you amused."

She said, "I like you. As you know very well, it's customary for the average spacewoman to have her steady from among the ship's officers. I've never been like that. MacLean tried hard when I first joined *Lorn Lady*, but never got any place. Pender tried —he took the attitude that the catering officer was one of the purser's perquisites. The engineers and the radio men have made an odd pass or two."

"So?"

"I think that we should know a little more about each other, about each other's backgrounds right from the start."

"There's not much to tell," he said. "I was, as you know, in the Commission's service. I was mate of one of the big Beta Class jobs. I was married, fairly happily, with a couple of children. One voyage from Caribbea to Port Austral I met *the* woman, the only woman. Funnily enough, her name was Jane, the same as yours. There was the usual mess—resignation from the Commission's service, divorce and all the rest of it. Dorothy, my wife, remarried—happily, I hope. Jane and I married. Her father found me a shore job—a too well paid sinecure, actually—in the firm of which he was president. What does a spaceman know about the manufacture of personalized wrist radios? Anyhow, it all worked out not too badly for a while until Jane began to realize that a spaceman aboard his ship and the same spaceman holding down an office chair are two different animals. The glamour began to fade. It went out like a snuffed candle the night that she went alone to a party to which I had not been invited, returning unexpectedly to find me entertaining a girl I had picked up in a bar. Cutting a long story short, I didn't bother to pack. I just got out. Since then I've been drifting out towards the Rim. I've got here now.

"And you?"

She said, "Not a very pretty story."

"Fair exchange," he insisted.

"If you wish it. In my case it's just that I've always been Calamity Jane. I left the Commission to get married. My marriage was very happy. A drunken surface car driver smashed it. Don was killed. I wasn't. That's all."

He said, knowing that the words were inadequate, "I'm sorry."

She said, "I like you, Calver. I think that I like you rather too much to see anything happen to you. I'm afraid that if we do start something the old Calamity Jane business will begin again."

"What have I got to lose?" he asked. Then— "That was rather selfish, wasn't it?"

"It was," she said.

It was on Tharn that they lost MacLean.

The people of Tharn are human, except for very minor differences. There is a yellowish tinge to their

complexions and the coloration of their hair is usually either blue or green. Their women are, however, obviously mammalian.

It was on Tharn that *Lorn Lady* discharged her parcel of such tools and instruments as would be of value to a people with only the beginnings of an industrial technology. There was a large consignment of magnetic compasses, which would fetch good prices among the fishermen and merchant mariners. There were needles and scissors, and there were hammers, planes, chisels and saws. There were scientific textbooks for the Temple University.

It was on Tharn that *Lorn Lady* discharged these goods, and on Tharn that she lay idle until the commencement of loading the following morning. After the evening meal Calver and Jane Arlen went ashore together. The mate and the purser were already ashore—they did not ever, as Bendix, the interstellar drive engineer rather bitterly remarked—waste any time. Bendix, aided by Renault and Brentano, had to stay on board to overhaul the Mannschenn Drive unit. Old Doc Malone was playing chess with Captain Engels and Levine, the psionic radio officer, was in his cabin with his dog's brain amplifier, trying to find out if there were any practicing telepaths on the planet.

Calver and Arlen walked slowly from the primitive spaceport to the town. The way lay over rough heathland, but it was pleasant walking after the weeks of free fall. The westering sun, bloated and bloody, was behind them, and in the huddle of buildings ahead of them the soft yellow lights, primitive affairs of burning natural gas, were already springing into being. Blue smoke from the chimneys of the town hung in layers in the still air. There was the smell of frost.

"Things," said Arlen, "are a lot better now. I used to dread going ashore just as much as I dreaded staying aboard. Now, I'm beginning to enjoy it."

"I'm glad," said Calver. "But where do we spend our money, Jane? And on what?"

"Just a quiet evening in one of the inns," she said. "The liquor here is not bad; as you know, we're loading a fair consignment of it tomorrow. There's usually a musician or a conjurer or juggler to amuse the customers. There'll be a blazing fire, as like as not."

They were in the town now. They walked slowly along the rutted street, between the stone houses with their high, thatched roofs. Shops were still doing business, their open windows illumined by flaring gas jets. It could almost, thought Calver, have passed for a street scene in the Middle Ages back on Earth. Almost— But gas lighting was unknown in those days, and the women did not wear dresses that exposed most of their legs, and any animals abroad would have been dogs and cats, not things like elongated, segmented tortoises. Even so, there must have been very similar displays of rather ambiguous looking

meat, of fish, of fruit, of rich cloth and of cloth far from rich, of jewelry both clumsy and exquisite.

They stopped at a shop and Calver, with Arlen translating, bought for the girl a bracelet of beaten silver, exchanging for it what seemed to him to be an absurdly small number of the square copper coins. The robed shopkeeper bowed low as they left his premises.

"He," said Arlen, "is one of those who like us." She lifted her slim arm so that the bracelet caught the light. "He gave you quite a good discount on this."

"You said that he was one of the ones who like us. I'd have thought that everybody would have liked us."

"The shopkeepers are pleased to see us here—of course. So are the fishermen and sailors, to whom our compasses are a godsend. The artisans, who buy our fine new tools, welcome us. The priests at the University look on us as a source of new knowledge that will not run dry for centuries."

"Who else is there?"

"The peasants, who have the typical peasant mentality. The land-owning noblemen who sense, and not altogether dimly, that we are ushering in the forces of evolution and revolution that will destroy them."

"Aren't we taking rather a risk, coming ashore like this?"

She laughed. "This is a University town. The priesthood maintains a very efficient police force. If anybody harmed any one of us, the High Priest would see to it that he died very slowly. Old Commodore Grimes, to give him his due, made a really good job of getting things set up in our favor."

They paused outside the door of an inn, looked up at the sign that hung there, illuminated by a gas jet. Arlen chuckled. "This is new; it wasn't here the last time we were on Tharn. It used to be some sort of dragon, done in red. Now it's a spaceship."

"The innkeeper," said Calver, is obviously one of those who like us. He might even shout us a free drink or two. Shall we go in?"

They went in.

The place was warm and the air was blue with smoke. Calver thought at first that it came from pipes and cigarettes, then saw that it was eddying from the big open fireplace. Even so, there was the aroma of tobacco. Puzzled, Calver looked around, saw MacLean and Pender sitting at a table in the corner. A giggling girl, who was trying to smoke a cigarette, was on Pender's lap. MacLean was, as usual, singing softly.

"Exiled from home
By woman's whim,
We'll ever roam
And run the Rim . . ."

Another girl stood before him, doing her best to pick out the notes on a stringed instrument like a small harp.

Arlen frowned. She said, "I suppose it's all right, but those two are liable to get themselves into serious trouble one day."

"Nobody here seems to be worrying," said Calver.

Most of the men in the place were, obviously, seamen and fishermen—knee boots or thigh boots combined with clothing of dark blue seem to be almost standard wear throughout the galaxy for men who follow the sea. Most of them had girls of their own, and those who did not were not the kind to allow women to interfere with serious drinking. Almost all of them raised their mugs to the spaceman and spacewoman in salutation. Room was made for them at one of the larger tables and tankards of the dark, sweet brew were pressed upon them.

Calver felt a little out of things as Arlen entered into a spirited conversation with the tough, grizzled seaman seated on her left. She condescended now and again to translate some of his sallies.

"He's master of a merchantman," she said, "and he says that he'll sign me on as his cook any time I want a change."

"I'd starve without you, Jane," said Calver.

He let his attention wander from the incomprehensible conversation. He looked to the corner where MacLean and Pender were sitting, saw that they were getting along very well indeed with the two native girls.

The door opened with a crash.

A young man strode arrogantly into the hall, followed by half a dozen others who were, obviously, his servants or retainers. He wore emerald trunks, scarlet boots and a scarlet jacket. A great scarlet plume nodded above his wide-brimmed black hat. All of his clothing was lavishly ornamented with gold embroidery. A long sword swung at his left side. He was, obviously, neither seaman, fisherman nor artisan. He could not, thought Calver, possibly be one of the priestly scholars from the University. He must be one of the land-owning nobility of whom Arlen had spoken.

He glared around him, obviously looking for somebody. He saw the two spacemen with their girls in the far corner. His mouth tightened and his black eyes gleamed dangerously.

"Sayonee!" he called. Then, again, "Sayonee!"

The woman on MacLean's lap looked up and around. Her lip curled. She spat like an angry cat.

"Oh, oh!" whispered Arlen. "I don't like this. She told him to go and get lost."

The young man, his followers close behind him, pushed to the corner of the room, careless of the overset bottles and tankards in his wake. He stood there, glaring down at MacLean and Pender. The mate returned his glare, his face flushed under the carroty hair. The girl, Sayonee, looked frightened, whispered something to MacLean, tried to wriggle off his lap. MacLean said, in English, "I'm not giving you up to any planet lubber."

Pender said, "Mac . . . Hadn't you better . . . ?"

"Shut up!" snapped MacLean.

"MacLean!" called Calver, "don't be a fool!"

"Stay out of this, Calver," shouted the mate. "And if you're scared, get out, and take that frosty-faced Arlen with you!"

The aristocrat said something. It must have been insulting. MacLean, obviously, knew what it meant—the spacefarer usually learns the curses of any strange language long before he is capable of carrying out a polite conversation. The blood drained from his face, leaving it a deathly white. He got to his feet, unceremoniously dumping Sayonee. Her little harp jangled discordantly as she fell. He picked up his mug from the table, let the Tharnian have the contents full in the face. He took a step forward, his fists clenched and ready.

Drunk as he was, he would have used them well—if he had been allowed to.

The Tharnian's sword whipped out from its scabbard and ran him through before he could make another gesture either of offense or defense.

There were shouts and screams, there was the crash of overturned furniture and shattered glassware. From somewhere above there was the furious, incessant jangling of a bell. Calver was on his feet, about to go to MacLean's help—although he knew that he was beyond help—when he remembered Jane Arlen. He realized that she was standing beside him.

"Get out of this!" he snapped.

"No."

"Then keep behind me!"

The aristocrat was pushing towards the door, his men on either side of him and behind him. He held his sword still, and the blood on it gleamed scarlet in the flaring gas light. His bullies had drawn long knives. One of them staggered as a flung bottle struck him on the temple. Another bottle shattered in midair as the long sword leapt up to deflect it.

He saw Calver and Arlen. A thin, vicious grin split his face. At Arlen's side the old merchant captain growled something incomprehensible. Calver saw that he, too, had drawn a knife. For a moment he feared attack from this quarter, then realized that this was an ally, that most of the seamen and fishermen in the inn were allies.

But they were not trained fighters—not trained fighters of men, that is. With wind and weather, with straining, refractory gear and with the monsters of the deep they could cope, but all their fights with their own kind had been limited to the occasional tavern brawl. This was more than a mere tavern brawl. This was a one-sided battle against soldiers, experienced killers, intelligently led.

The swordsman was close now. The sea captain shouted and jumped forward to meet him. He fell into a crouch, holding his knife for the deadly, upward thrust. The blade of the sword flickered harmlessly over his left shoulder. Had he been fighting one man only he might well have

succeeded—but one of the retainers fell on him, driving his blade deep into the old man's back.

Calver picked up a chair, held it before him as a shield. He jabbed the three legs of it at the aristocrat's face, felt a savage satisfaction as flesh and cartilage gave beneath the blow. He swung his makeshift weapon down and around, felled the man who had stabbed the old captain in the back. He brought it up again just in time to intercept and deflect the vicious sword.

He heard Arlen scream.

He dare not look around, but from the corner of his eye he saw that two of the retainers had seized her, were dragging her towards the door. Hostage or victim—he had no time to reason it out. He was fighting for his life, and he knew it. He was fighting with a clumsy weapon held in unskilled hands against a finely balanced instrument of murder wielded by the hands of a master. His body he could protect, but his legs were already bleeding from a score of wounds, some of them deep.

He fell back, saw the smile that appeared on the blood-smeared face of his enemy, the twisted smile under the broken nose. He fell back as though in terror. He hoped that the Tharnian would be in no hurry to follow, that he would decide to play a cat and mouse game, to finish him almost at leisure.

He thought, I'm no swordsman, but I know something of ballistics.

With all his strength he threw the chair, followed it before it could reach its target. He saw the Tharnian, foolishly, bring up his sword to parry the heavy missile, saw the point of it penetrate the thick wooden seat.

Then the other man was down and Calver was on top of him, his hands seeking the other's throat. Somebody was pulling at his shoulders, trying to drag him off his enemy. He tensed himself for the blade between his shoulders, but it never came. Muscular hands closed over his own, pulling them away from the Tharnian's bruised neck. He was jerked to his feet. He glared at the men who surrounded him—the hard, competent looking men who wore a uniform of short, black tunics over yellow trunks, who carried polished wooden clubs. He saw the nobleman's bullies being efficiently bound by other uniformed men.

He saw—and he found it hard to forgive himself for having forgotten her—Arlen. She was pale, and her uniform was torn, but she seemed unharmed.

"The party's over," she said, with an attempt at flippancy. "These are the University police. They will escort us back to the ship."

"And MacLean?" he asked.

"Dead," she replied flatly. "Pender's all right. He kept under the table."

"And what will happen to . . . him?" asked Calver, nodding towards the swordsman who, like his followers, was being expertly trussed.

"I don't know. I don't want to know. His father, who's the local baron or whatever, might be able to buy him back from the High Priest before justice has run its full course. I doubt it."

"I feel rather sorry for him," said Calver slowly. "After all, MacLean did steal his girl."

"And he," she flared, "did his best to steal yours!"

"I forgot," he muttered.

"You'd better not make a habit of it," she said coldly.

Lorn Lady lifted from Tharn the following evening, having taken aboard her cargo of casks of the local liquor, gold, and the baled pelts of the great, richly furred mountain bears. Before her departure the High Priest himself came down to the spaceport to make a formal apology to Captain Engels for the events of the previous evening. He spoke in English.

He said, "There are those on Tharn who hate and fear you, captain, who hate and fear the knowledge that will set all men free."

"I am afraid, Your Wisdom," said the captain, "that my own officer was in part to blame for what happened."

"The girl was not Lanoga's property," said the priest. "Lanoga's actions were aimed as much against the University as against your people."

"And Lanoga?" asked Calver who, as chief officer, was present.

"If you delay your departure," said the High Priest, "you will be able to witness his execution tomorrow."

"We have to maintain our schedule," said Captain Engels.

When the priest and his attendants had gone, Calver asked, "Isn't he rather sticking his neck out, sir? He has his police, but surely the barons can muster enough men to wipe out

the town and crush the University. He's no fool. Surely he must realize that."

"He's no fool, Mr. Calver," said the Old Man. "Furthermore, he wants the barons to march on the town." He hesitated. "You're the mate, now. There are one or two things you have to learn. One of them is that many of the crates and cases on the manifest as containing carpenters' tools contain ironmongery of a somewhat different kind. Our friend the High Priest is sitting pretty on top of a well stocked arsenal of machine guns and automatic pistols."

"But Federation law . . ."

"If the Federation concerned itself with the well-being of the Rim we would respect its laws. Secure for Space, Mr. Calver."

"Secure for Space, sir," repeated Calver.

So *Lorn Lady* lifted from Tharn with Calver as her chief officer and with Brentano, the Electronic Radio Officer, as a not too inefficient acting second mate. Once clear of the planet she set her course for the star around which revolved Grollor, but the Mannschenn Drive was not activated, as usually was the case, once acceleration had ceased. Any change in the mass of the ship when the Drive is in operation can have catastrophic consequences.

Carefully, reverently almost, MacLean's shrouded body was carried to the air lock, was placed inside the little compartment. Smoothly, silently the inner door shut. There was a brief sobbing of pumps as the air lock pressure built up to four ship atmospheres. Outside the air lock stood the captain and his officers, the magnetic soles of their shoes holding them to the deck. Engels, in his dry, cracked old voice, read from the little book in his hand.

Calver listened to the solemn words, to the ages-old ritual. He wanted hard to believe that this was not for MacLean the end, the ultimate nothingness, but he found himself incapable of doing so. This was not the first funeral in deep space in his experience—but the others had been in towards the Center, with the bright stars above and below and to all sides, where it was not hard to regard those same stars as the veritable Hosts of Heaven. Here, on the Rim, the final negation was too close to the living; it must be closer still to the dead.

"We therefore commit his body to the deep . . ." read the captain.

Calver pulled the lever. The light over the air lock door changed from green to red. The structure of the ship shook ever so slightly. MacLean —or what was left of MacLean—was now outside. Would he, wondered Calver, plunge into some blazing sun years or centuries or millennia from now? Or would his frozen body circle the Rim forever? The maudlin words of the song of which the dead Mate had been so fond sprang into his mind.

We'll ever roam
And run the Rim . . .

Calver pulled the second lever. Again the pumps sobbed. The light

changed from red to green. The needle of the gauge steadied on One Atmosphere. He opened the air lock door, looked inside, making sure. He shut the door.

"Mr. Calver," said Captain Engels, "secure for Interstellar Drive." He made his slow way to the axial shaft. Calver began to follow.

Jane Arlen caught his sleeve.

"Derek," she said, "I'm frightened. I thought when I came out to the Rim I'd shaken off the jinx that's always followed me . . ."

"It had nothing to do with you," said Calver. "It had nothing to do with poor MacLean, even. It was politics—politics on a world that none of us had ever heard of a few years ago."

She said, "But I'm still frightened."

There were no incidents on Grollor. Everybody on that planet, a world that had made almost a religion of technology, was glad to see *Lorn Lady*. There were no temptations on Grollor. The Grollans regarded alcohol as a good cleaning fluid and antiseptic, nothing more. Although they were humanoid they were so grotesque that their women could make no appeal even to Pender, even if he had by this time—which was doubtful—recovered from the fright he had suffered on Tharn.

There were no incidents on Stree. The great, lazy lizards stirred from their somnolence to make their slow, lazy way to the ship where they deigned to accept the cargo that *Lorn Lady* had brought them. There was reel upon reel of microfilm—books on philosophy in the main, but a surprisingly large number of contemporary novels. In exchange they offered great jewels, intricately cut, and rolls of parchment covered with their spidery calligraphy.

"These," said Engels to Calver, "might well hold the ultimate secrets of the Universe."

It was on Mellise, on the homeward leg of the voyage, that disaster struck again.

Mellise is a watery world, fully four fifths of its surface being covered by the shallow seas. Mellise, with its absence of land masses and, consequently, of the conditions producing steep barometric gradients, should not be a stormy world. Normally it is not. Normally the only winds known are the steady, predictable Trades and Anti-Trades. But there is a long, straggling archipelago of low islands almost coincident with the Equator, and at the changes of Equinox conditions obtain, although briefly, favorable to the generation of hurricanes.

Mellise is a watery world and, in the main, a pleasant one.

Calver walked slowly along the white beach, the sun pleasantly hot on his skin, the sand crunching satisfyingly between his toes. Arlen walked beside him, her hand in his. Neither of them said anything. There was no need to.

Calver glanced inland, looked to the blunt, gleaming spire that was the stem of *Lorn Lady* just visible above

the feathery, purple foliage of the trees. He was glad that a breakdown of the pumps had caused the delay in departure. There had been little leisure during the discharge—nets and cordage and harpoon guns—and little during the loading, although the great pearls that were their homeward cargo had offered few problems in stowage.

"Somebody coming our way," murmured Arlen, raising one long, slim arm and pointing.

Calver looked, and saw the small dark blob that broke the calm surface of the sea.

They walked to the water's edge.

The Mellisan waddled through the shallows, his sleek hide gleaming in the sunlight. The necklace of gaudy shells around his long, sinuous neck proclaimed him a person of some consequence. Calver thought that he was the Chief who had supervised the discharge and loading from the shore end, but could not be sure.

"Meelongee," he said, his voice almost like that of a Siamese cat.

"Meelongee," replied Arlen.

The word meant, Calver knew, "greetings." It was about the only word of which he did know the meaning.

The native shifted from one webbed foot to the other. He gesticulated with his stubby arms. It was impossible for Calver to tell what the expression on the long-muzzled face signified, but he guessed that it was grave concern. There seemed to be anxiety in the yelping voice.

Concern showed on Arlen's face.

"Calver," she asked, "when shall we be ready for Space?"

"Another twenty-four hours," he said.

"That will be too late. Our friend here tells me that there will be a big blow before tomorrow morning. A gale—or a hurricane."

"Not a cloud in the sky," said Calver, looking upwards.

"There's an old saying," she remarked quietly, "about the calm before the storm. Hadn't we better get back and warn the Old Man?"

"Yes," he agreed.

Arlen thanked the native who, bowing clumsily, backed into the still water, turned suddenly and then was gone with hardly a splash. She walked with Calver along the rough path from the beach to the clearing that was dignified by the name of spaceport. Once she stopped, saying nothing, and pointed. Calver looked silently at the little furry mammals, not unlike squirrels, that normally lived in the trees. Whole colonies of them had come down from their arboreal homes, were industriously digging burrows in the soil.

Arlen and Calver came into the clearing, hurried to the ramp. They ran up the spiral staircase from the air lock to the control room. The mate went directly to the aneroid. It had, he remembered, read 1020 millibars that morning. The 1010 millibar noon reading he had ascribed to diurnal range. Since noon it had dropped to 930 millibars. He tapped the face

of the instrument with his forefinger. It dropped still further.

He went to the telephone, pressed the selector button for the Reaction Drive Engine Room. It was Bendix who answered, "Yes? What do you want?"

"How long will Renault be on those pumps of his?"

"It'd be a ten-minute job if this lousy outfit carried spares," snapped Bendix. "When we have to make impellers by hand . . ."

"How long will you be?"

"This time tomorrow."

"Not good enough." To the girl he said, "Arlen, wake the Old Man, will you? Tell him it's important." And into the telephone, "Can't Renault fake up some sort of jury rig to get us into Space? We've been warned that there's the father and mother of all storms brewing, and our own observations confirm the warning."

Renault came to the other end of the line. He said, "We're doing our best, Calver. You know that. The best I can promise is tomorrow noon. Now leave us alone, will you?"

Arlen came back into the control room, followed by Captain Engels.

The Old Man, thought Calver, looked an old man in fact as well as in name. He had always looked old, but until recently there had been a sort of wiry indestructibility about him. That was now gone.

He walked slowly, a little unsteadily, to the aneroid. He studied it for a few moments.

He said, "I have heard about these storms, Mr. Calver. I always hoped that it would be my good luck never to experience one. A surfaced spaceship is, perhaps, the most helpless of all Man's creations." He paused. "I am older than you, Mr. Calver, much older, but all my spacefaring experience has been on the Rim—and, until recently, only with the Ultimo, Lorn, Thule and Faraway run. Perhaps . . ."

"I'm afraid that this situation is outside my experience, sir," said Calver.

"There's something I read . . ." said Arlen hesitantly.

"Yes, Mrs. Arlen?" said Engels. "What was it?"

"It was in a historical novel. It was about the early days of space flight, the days of the first explorations of Mars and Venus . . ."

"Mars and Venus?"

"Two planets in Earth's solar system," said Arlen. "Venus is a world very much like this, but closer to its primary. Fierce storms are of very frequent occurrence. Anyhow, in this novel the characters had to set up stays—I think that's the right word—to prevent their ship from being blown over."

"There are the towing lugs forward," said Calver thoughtfully. "There are the towing wires. We have shackles and bottle screws."

"And to what do you propose to anchor your . . . stays?" asked the captain.

"To the roots of the stoutest trees," replied Calver.

"It could work," said the Old Man.

"It will have to work," said Arlen.

"Shall I go ahead with it, sir?" asked Calver.

Captain Engels tapped the aneroid barometer. Its needle fell another few millibars. He walked to the nearest port and looked out at the sky. All the brilliance had gone from the westering sun, which now had a smudgy appearance. Overhead the long mares' tails had appeared in what had been a cloudless sky. Faintly audible in the control room was a distant, sighing rumble, rhythmic and ominous. Engels asked, "What is that noise?"

"The surf," said Calver. "There was a flat calm, but the swell's getting up."

"Rig your stays, Mr. Calver," ordered the captain.

By nightfall the job was done. Calver, aided by Arlen, Levine, Pender and old Doc Malone had broken out the towing wires, the shackles and the bottle screws from the spare gear store. He had shackled the four wires to the towing lugs just abaft *Lorn Lady's* stem. These wires had been brought down to the boles of convenient, stout trees and had been again shackled to the powerful bottle screws. They had been set up tight—but not too tight. Calver was haunted by visions of the frail old ship crumpling down upon herself if too much weight were put on the stays.

Sunset had been a dismal, gray end to the day, and with it had come the wind, fitful at first, uncertain, bringing with it occasional vicious squalls of rain and hail. The swell was heavy now, breaking high on the beach. The water had lost its usual phosphorescence and every roaring comber was black and ominous. The sky was black, and the sea was black, and the frequent, dazzling lightning brought a deeper darkness after every frightening flash.

Calver, his last inspection made, entered the ship and climbed wearily up to Control. His light uniform was sweat-soaked and every muscle was aching and trembling. He reported to Captain Engels, "All secure, sir." He sank gratefully into one of the acceleration chairs.

"Thank you, Mr. Calver." The Old Man tapped the aneroid. "Still falling, still falling," he murmured.

"How are the engineers getting on?" asked Calver.

"They are still working. I fear that there's no hope of our getting off before the blow hits us."

Arlen appeared with a tray upon which there was a plate of sandwiches, a can of cold beer. She put it on one arm of the chair, disposed herself gracefully upon the other. She had been working, Calver well knew, as hard as any of the men, but had still found the time to attend to their needs.

"Thanks, Arlen," said Calver gratefully. He took a satisfying draught of the beer, bit deeply into one of the sandwiches.

The rain was heavy now, torrential, obscuring the weather ports, drumming upon the hull like a swarm of micro-meteorites. The ship trem-

bled as the gusts hit her, trembled and groaned. Something crashed into her—the branch of a tree? the tree itself?—and she seemed to sag, to sag and recover. Calver looked around at the others. Arlen's face was pale, but calm. Levine's thin features had, somehow, assumed an almost ludicrous expression of polite interest. Fat little Pender was terrified, and didn't care who knew it. Old Doc Malone looked like a Buddha with Neanderthal Man somewhere in his ancestry. Captain Engels' eyes were the only part of him that seemed alive, and they were fixed anxiously on the aneroid with its plunging needle.

"I wish you'd use more mustard when you make sandwiches, Arlen," said Calver, his voice deliberately casual.

"Mustard with *lamb?*" she demanded scornfully.

"*I* like it," he said.

"*You* would," she replied.

"Will this wind get any worse?" asked Pender anxiously.

"Probably," said Calver.

"Mightn't we be safer outside?"

"We might be—if we were amphibians, like the natives. This island will be under water when the storm's at its height."

"Oh," said Pender. "Oh."

The wind was steady now, but stronger than any of the gusts had been. *Lorn Lady* seemed to shift and settle. Calver wished that he could see out of the ports to inspect his stay wires. He got to his feet and, ignoring Pender's protests, switched out the control room lights, switched on the external floods. The ports to leeward were clear enough, and through them Calver could see the two lee stays, silvery threads in the darkness, hanging in graceful catenaries. It must be, he realized, the weather stays that had had all the weight, that must have stretched. They were still tight enough, bar taut, although they could not be seen through the streaming ports to windward. Their thrumming could be felt rather than heard. Walking to inspect the inclinometer, Calver was not surprised to find that the ship was all of three degrees from the vertical.

He tried to dismiss from his mind what the consequences would be should a stay carry away, should one of the tail fins to leeward crumple under the strain. By the unsteady glare of the lightning he made his way back to his chair, sat down again.

"There's nothing further that we can do," said Arlen.

"Not yet," he said. "But there will be."

"When?" she asked. "How soon?"

"I don't know. We just have to wait."

"Can we have the lights on again?" asked Pender plaintively.

"Switch them on, then," said Calver.

It was a little more cheerful with normal lighting in the control room. The wind and the rain, the thunder and the lightning, were still there but, somehow, more distant. There was a sense of security—of false security Calver knew full well. There

was the sense of security that comes from familiar surroundings, no matter what hell is raging unchecked outside.

Now and again Calver would get up to walk to the aneroid, to stand with Captain Engels to stare at the instrument. He knew what had to be done when the needle stopped falling, and hoped that there would be enough time for it to be done. He thought how ironical it was that the spacemen should be confronted with a problem that must have been all too familiar to the seamen of the long dead days of sail on Earth's seas, how fantastic it was that *Lorn Lady* could well be wrecked by the same forces that had destroyed many a proud windjammer.

As they waited, the air of the control room became heavy with smoke. The burning tobacco eased the strain on taut nerves, helped to dull the apprehensions even of Pender. Arlen got up from the arm of Calver's chair and went to make tea, taking some to the engineers and Brentano, who were still working on the pumps. Doc Malone went to his cabin and returned with a bottle of the raw liquor of his own manufacture, insisted on tipping a stiff tot into each teacup.

Then — "It's stopped falling!" cried Captain Engels in a cracked voice.

"The trough," said Calver. "Sir, we must go outside again. There will be a shift of wind at any moment and when it comes, unless we have taken up the slack on the lee stays, we shall be caught aback."

The Old Man grinned, and it was like the grin of a death's head. "By all means, Mr. Calver. Do as you see fit. I am afraid that I can be of no help to you."

"Your place is here, sir," said Calver gently.

He led the way to the axial shaft, clattered down the stairway to the air lock. The tools that he had used before were still there—the spanners and the heavy spikes. With the others standing well back, waiting, he opened the outer air lock door a crack. Save for a distant moaning and the splashing of water, all was quiet. He opened the door to its full extent, saw in the light of the floods that the sea had covered the island. The ramp was gone, as he had expected that it would be, but the ladder rungs, part of the actual structure of the ship, were still there.

He clambered down the ladder, dropped into the water. It was not, to his relief, cold and was a little less than waist deep. Arlen followed, then Levine, then Doc Malone. Pender stayed in the air lock to pass the tools down to them, came down himself with obvious reluctance.

They splashed clumsily through the flood to the trees to which what had been the lee stays were anchored. It was heavy going; they could not see what was underfoot and the floating debris impeded their progress. Once Arlen screamed faintly as she blundered into the battered body of one of the natives.

Calver left Malone, Pender and Levine at the nearer of the two slack stays, carried on with Arlen to the further one. He and the girl worked well together, she holding the bar that prevented the bottle screw from rotating bodily, he turning with his spike the threaded sleeve. He realized that the other party was having trouble. He could hear Doc Malone's picturesque curses and Pender's petulant whine.

He gave the sleeve a last half turn, grasped the tight wire with his hand to test it. It was taut, but not too taut.

"Come on," he said to Arlen, "we'll give the others a hand. They—"

The wind tore the words from his mouth, threw them into the suddenly howling darkness. He caught Arlen by the ballooning slack of her shirt, felt the fabric rip in his hand. He flung himself after her as she staggered helplessly down wind, caught her and held her to him tightly. They fell, both of them, and floundered helplessly for long seconds under the water. Calver regained his footing at last, struggled to his feet, dragging Arlen with him. He stood there, his back to the wind and the torrential rain, and looked at the tall, shining tower that was the ship. He thought that he saw her shudder, begin to shift.

He turned slowly, fighting to retain his balance, to look at the stays. The one that he had tightened was still taut, the other still hung in a bight. Two figures at the bole of the tree—he knew that they would be Malone and Levine—were fighting yet with the refractory bottle screw.

Let the stay hold, he thought intensely. *Let the stay hold.*

Before his horrified eyes the tree to which it was made fast lifted, was pulled up and clear of the water by the whiplash of the wire. It looked, with its sprawling roots, like some huge, octopoid monster at the end of a giant's fishing line. At the other end of the wire was *Lorn Lady,* and she was toppling, as she must topple with that dreadful pressure suddenly all along her side. Over she went, and over . . .

. . . and checked.

The second stay, the slack stay, miraculously had held. By the bole of the tree old Doc Malone raised his pudgy arms slowly against the weight of the wind, made the thumbs-up sign.

And thumbs-up it is, thought Calver, as they struggled back to the ship. He was even prepared to be charitable to Pender, who had run at the first sign of danger. But Pender's body they never found.

Captain Engels' body they found, sprawled pitifully in his control room. They all knew what must have happened, did not need Doc Malone to tell them that the old man's heart had stopped when it seemed to him that his ship was doomed.

"Derek, I'm frightened," said Jane Arlen when the worst of it was over and the wind was no more than a moderate gale. "I'm frightened. This jinx of mine . . ."

"We saved the ship," said Calver.

"But this was the second thing," she said. "And they always come in threes."

"Shut up, Calamity Jane!" he whispered, closing her mouth in the most effective way of all.

Lorn Lady was pitifully shorthanded and would be until her return to Port Forlorn. Calver was Master and Brentano, the electronic radio officer —that unassuming Jack of all trades —was his mate. Arlen was second mate. Levine would have liked to have helped out, but he was one of those unfortunate people to whom machines of any kind are an insoluble mystery, to whom the language of mathematics is absolute gibberish.

It was Levine who came into the control room where Calver, to give Arlen a chance to prepare a meal, was standing part of her watch; old Doc Malone was, in the opinion of all hands, the Universe's worst cook.

"Captain," he said, "we have company."

"Company?" asked Calver. "*Faraway Queen's* not due to make the Eastern Circuit for another month."

"It's one of the T. G. Clippers," said Levine. "*Thermopylae.* I've been yarning to her P.R.O. He wanted the names of the officers here."

"Trans-Galactic? That's Bendix's old company, isn't it? Anyhow, what in the galaxy is she doing out here?"

"A Galactic cruise, captain," said Levine, grinning. "See the romantic Rim Worlds, Man's last frontier. Breathe the balmy air of Lorn, redolent of sulfur dioxide and old socks."

"And we're getting paid for being out here," marveled Calver. "What world is she visiting first?"

"None of the inhabited ones. She's

showing her passengers that weird planet, Eblis. She's going to hang off it in closed orbit until they've had a bellyful of spouting volcanoes and lava lakes on the viewscreens; then she's making for Lorn." He stiffened. "Hello! Something's wrong somewhere."

Although no telepath himself, Calver felt a thrill of apprehension. Psionic radio had always made him feel uneasy. He could imagine the psionic amplifier, the tissue culture from the brain of a living dog, hanging in its nutrient solution and probing the gulfs between the stars with its tendrils of thought, sounding an alarm in the brain of its master at the first hint of some danger imperceptible to the normal run of humanity.

Levine's face was expressionless, his eyes glazed. He picked up the stylus from its clip in the desk before Calver, began to write in his neat script on the scribbling pad.

S.O.S. S.O.S. Thermopylae, *off Eblis. Tube linings burned out, falling in spiral orbit to planet. Cannot use Mannschenn Drive to break free from orbit, ship still losing mass due to leakage from after compartments. Require immediate assistance. S.O.S. S.O.S.*

"Tell him," said Calver, "that we're on our way." He knew that Bendix was in his drive room, called him there. "Mr. Bendix," he said, "I want you to be ready to push the Drive as hard as you can without throwing us back to last Thursday. One of your old ships is in distress off Eblis. I'll give you the word as soon as I've made the necessary trajectory adjustments." He switched to the Reaction Drive Engineer's cabin. "Mr. Renault, stand by your rockets and gyroscopes. We're going to the assistance of *Thermopylae.*" He switched to Public Adress. "Will all off-duty personnel report to Control, please?"

Levine was writing on the pad again.

Thermopylae *to* Lorn Lady. *I hear you. Hurry, please. Estimated first contact with atmosphere in thirty-six hours.*

Arlen and Brentano, followed closely by old Doc Malone, came into Control. Calver pointed to the pad, then busied himself setting up the Tri-Di chart on large scale. It showed the ball of light that was the sun of Eblis, the far smaller ball that was Eblis itself and, just inside the sphere, the tiny spark that was *Lorn Lady.* He read off co-ordinates, threw the problem to the computer and tried not to show his impatience while the machine quietly murmured to itself. He looked at the figures on the screen.

"Thirty-five hours," he said. "But Bendix should be able to cut that."

"And Renault can give her an extra boost," said Brentano.

"Cut Interstellar Drive," ordered Calver.

The familiar whine faltered and died. Outside the ports the huge lens of the Galaxy resolved itself from what had been, as poor MacLean had once put it, a Klein flask blown by a drunken glass blower. There was the

hum of the big directional gyroscope starting up.

"Doc," said Calver, "you'd better secure for acceleration. And you, Arlen. Mr. Levine, is your amplifier secure."

"All secure," said Levine, snapping out of his daze.

"Then you'd better stay here. Tell *Thermopylae* that we're hurrying."

The directional gyroscope was braked to a sudden stop. At Calver's command the rockets burst into roaring life, building up the acceleration. Calver watched his meters and gauges carefully. Too high an initial speed would be as wasteful of time as too low a one. Deceleration still had to be carried out.

"That will do," he said at last. "Cut Reaction Drive, Mr. Brentano."

"Cut Reaction Drive, sir."

"Resume Interstellar Drive."

"Resume Interstellar Drive."

Into the mouthpiece of the telephone Calver said, "It's up to you, Mr. Bendix."

Below the two ships hung the burning world of Eblis, a glowing scarlet affront to the dark. *Lorn Lady* had made the run in less than thirty-three hours, Galactic Standard, but there was little enough time to spare. *Thermopylae's* tow lines had been broken out and were already shackled to the lugs just abaft her needle prow, all that remained to be done was for her spacesuited personnel to leap the gulf between the ships and to shackle them to the lugs forward of *Lorn Lady's* after vanes.

But this took time, just as it took time for Calver, with infinite care and patience, to jockey his vessel into the best position, to check that none of the lines would be cut by his back-blast and then—carefully, carefully—to take the weight.

Mass, thrust, inertia—all had to be juggled.

Calver juggled them, striving to break the big ship out of her suicide orbit while Brentano, operating the radar, checked and rechecked the readings that told, with dreadful finality, that even though *Lorn Lady* was doing her best it was not good enough. Arlen sat beside Calver. There was nothing that she could do, but he knew that she was there and the knowledge gave him strength.

It was Arlen who looked at the pressure gauge, who saw that the needle was falling fast. She signaled to Brentano, who left his radar to look at the dial.

"She's rotten," he whispered fiercely. "She's opening at the seams, leaking like a colander."

"Spacesuits?" she asked.

"Of course. I'll warn Doc and the engineers."

Arlen nudged Levine, who was sitting on the other side of her. She said, "Get into your spacesuit." She turned to watch Calver, waited until she saw the tense lines of his jaw momentarily relax. "Derek! We're losing air, fast. You'll have to get into a suit."

He glanced at the pressure gauge, saw the seriousness of the situation. He pondered briefly the advisability

of turning the controls over to Brentano for a minute or so, then dismissed the idea. Brentano was a good man, an excellent man, but had no experience with ship handling.

"Derek!" Arlen's voice was sharp. "Your suit!"

"It will have to wait."

That pound or so of extra thrust, he thought. Renault's giving her all he's got. But . . .

"Your suit!"

He glanced away from the controls, saw that all the others, except Arlen, were already wearing the bulky, pressurized garments, the transparent helmets.

"Put yours on," he snapped. "That's an order!"

Thrust . . . Thrust . . . And for lack of thrust the needle peaks of the hell world beneath them were reaching up through the ruddy, glowing clouds, reaching up to rip the belly of the huge Trans-Galactic Clipper with her fifteen hundred passengers and three hundred of a crew, to rip her belly and to spill her screaming people into the lava lakes below. He should have used his boats, thought Calver, *Thermopylae's* captain should have used his boats and put his people into the relative safety of a closed orbit around the planet while there was time. He would have used his boats, either to attempt a tow or for lifesaving, if I hadn't come bumbling along in this decrepit old tub with my futile promises of assistance.

He chanced another sidewise glance, saw that Brentano and Levine were forcing Arlen into her suit.

Thrust, he thought. Thrust . . . The auxiliary jets . . . But the tow lines . . . How long will they last in the blast of the auxiliaries?

Levine, his hand clumsy in the thick glove, was writing on the pad.

Thermopylae *to* Lorn Lady. *It was a good try, but intend to abandon ship before it is too late.*

"Wait," said Calver. "Tell him—*Wait!*" he shouted, hoping that Levine would hear him through his helmet.

His hand dropped to the firing keys of the auxiliary jets. He felt the sudden surge of additional power that pressed him down into the padding of the chair. Dimly, he saw Brentano turn away from the radar, his dark face behind the helmet transparency one big grin.

There was a sudden shock, a sharp shift of orientation.

The first of the wires gone, thought Calver, but it doesn't matter now. Then he felt, rather than heard, the dreadful splintering and grinding. The air was gone from the control room in one explosive gasp and he was choking, suffocating. Jane was bending over him—Jane, Calamity Jane. It's not your fault, he was trying to say. Darling, it's not your fault. But his lungs were empty and no sound came.

She got the helmet over his head and opened the valve. Calver took a deep breath and held it until, aided by Arlen and Brentano, he had the rest of the suit on.

When he was sealed in, he asked, "What happened?"

"She broke in two, captain," said Brentano. "After that first wire carried away. Everybody's safe, luckily, but the ship's a total loss."

"And *Thermopylae?*" asked Calver.

"Safe and sound in a closed orbit," Brentano told him.

Through the control room ports they could see the fiery globe that was Eblis, the incredibly long, slim shape of the Trans-Galactic Clipper. They could see, too, the after section of *Lorn Lady* and the busy, spacesuited figures working around the stern. Although the old ship was dead, some of her would live on for a while. Her cannibalized tube linings would provide *Thermopylae* with the jury rig to make Port Forlorn.

"Derek," said Jane Arlen, her voice strange sounding in the helmet phones, "I always bring bad luck with me, wherever I go. Perhaps you'll believe me now."

"Rubbish," he replied. "*Lorn Lady* was due for the breakers years ago. And by the time that the lawyers have finished arguing, Rim Runners will be getting a fine new ship out of the deal and—who knows?—I may be master of her."

She said, ignoring his optimism, "I hate to leave her. The poor old *Lorn Lady* . . ."

"We must go," he said gently. "They are waiting for us aboard *Thermopylae.*"

Together they left the old, broken ship. Together, using their suit reaction units, they jetted across the emptiness to the big liner, to the circle of light that was the air lock door. In the little compartment they divested themselves of their spacesuits, felt pride in rather than embarrassment for the shabby uniforms so revealed. They stepped through the inner door, the magnetic soles of their shoes silent on the carpeted deck. Steel lay beneath it but, as they had known when they, themselves, had served in vessels of this class, passengers must be shielded from the harsh realities of Space.

The young officer waiting to receive them saluted smartly.

"Glad to have you aboard, Captain Calver," he said. "May I take you to Captain Hendriks?"

"Thank you," said Calver.

They followed their guide along alleyways, through public rooms. Passengers stared curiously at the man who had lost his ship to save their lives. Calver was thankful when they entered the comparative privacy of the big ship's axial shaft. Hand over hand, he and Arlen pulled themselves swiftly along the guide rail behind the *Thermopylae's* officer.

The captain of the liner—an old man, a man who had aged years in the last few hours—was seated behind his big desk. He snapped open his seat belt as they entered his day cabin, advanced to meet them.

He said, "Captain Calver, my thanks are inadequate."

"I did what I could, captain," said Calver.

"At least," said Hendriks, "I shall do what I can, too. Sometimes, in wrangles over salvage money, the owners of the ships involved are remembered and their crews, who have done all the work, are forgotten. But I am not without influence—"

"That aspect of the matter had never occurred to me," said Calver.

"You must hate it out here," said the other captain. "But you'll be able to return now, to the warmth and the light of the Center."

"So we shall," said Calver, with a mild amazement. "So we shall." His hand found Jane Arlen's, closed upon it, felt the answering warmth and pressure. "But I belong on the Rim," he said. "*We* belong on the Rim."

THE END

IN TIMES TO COME

The February issue coming up has at least three things scheduled that are worth looking for: 1. One of Kelly Freas' best covers. Which, of course, means it's *good;* he's been winning the annual Science Fiction Art Awards with great regularity. It illustrates—or typifies—the new Murray Leinster novel, "The Pirates of Ersatz," which is Item #2, and contains the most lovely, logical argument that the Galactic Economy can be healthy only when there are efficient pirates at work that anyone ever dreamed up. It's so good it sounds honest.

The third item of note is a new Leonard Lockhart article entitled, "That Professional Touch," which further explores—or deplores, depending on how you look at it—the status of Patent Law.

You'll have fun with all three.

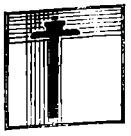
THE EDITOR.

BY NEW HEARTH FIRES

BY GORDON R. DICKSON

***There** is a race that worships at the feet of demigods. What of them when the half-gods go...?*

Illustrated by Martinez



HE last dog on Earth was dying. It was a small, but important, crisis. None other of his kind was known to still exist on any of the other worlds. It was quite probable that there were no others and that with him the race would end. Nothing seemed to be wrong with this dog named Alpha. He was still young and in no way hurt or diseased. But still he was dying.

The curator of the museum world that was Earth at this time was quite

concerned about the situation. He had done everything he could with the large, brown and white canine, utilized every device and therapy available at the hospital center in the Adirondack mountains. But the dog, unlike all the other sick animals brought in from the various parks and exhibit areas of the Earth, responded to none of his efforts. It was not the curator's fault, of course. But still he felt the matter as a sort of failure —that the race of dogs, important as it had been to the past history of man, should terminate during his term of office.

He coded a request to the Galactic Center for the person most likely to be of help to him in this situation; and a few weeks later a well-known historical psychologist, named Dr. Anius arrived on Earth, accompanied by his son, a bright twelve-year old named Geni. The curator was on hand to meet them as they stepped off the transportation platform at the edge of the hospital area.

"Dr. Laee?" said Anius, descending from the platform and offering his hand. He was a tall, brown-haired man in his first hundred years, and his handgrip was firm. "I brought my boy along to give him this chance to look over the home world. He won't be in the way. Geni, this is the Curator, here, Dr. Laee."

Laee shook hands also with the boy, a slim lad well over two meters in height and showing signs of being another lean, tall individual like his father. Laee, originally from the far side of the galaxy, was from a rather shorter ancestral strain than these Center people, but age had put him past the point of noticing that difference.

"Come along into the hospital," he said.

They strolled up the narrow, resilient walk through the hospital area. The grassy grounds were occupied by a number of different animals, arranged by species, that were currently at the hospital and undergoing treatment. The boy stared in fascination at a whooping crane which was turning around and around in an attempt to get a better look at one of its wings, which had been set for a break, and bound in stasis.

"I had no idea there were so many I wouldn't know," he said to the curator.

"The original Earth was very rich in varieties," replied the curator. "One way or another, we have specimens of nearly all, though in many cases we had to breed back for extinct forms."

"How do you keep them separate?" asked Geni, his gray eyes ranging over the apparently open grounds.

"Tingle barriers separate the groups into small areas," answered Laee. "Remind me to give you a key, when you want to examine the animals more closely."

They reached the entrance to the curator's quarters after seeing a buffalo who had just had his horn amputated, a Kodiak bear with an infected ear, and a large gorilla with a skin rash allergy who sat back in the shadows of his little groves of bushes

and watched their passing with sad, intelligent eyes.

"I assume," said the tall Dr. Anius, as they passed into the main lounge of the curator's area, "you could also rebreed the domestic dog from one of your other canine forms if we're completely unsuccessful in saving this specimen?"

"Oh, of course," said Laee. "But naturally, I like to know what his affliction is, so we can stop it if it ever props up again. And then," he paused, turning his eyes on Anius, "it would be nice to maintain the original line."

They went on into a farther room that was half library, half patio. The bright afternoon spring sun came in through the invisible ceiling and struck warmly upon the patches of grass and flowers. On the white flagstone a furry body lay outstretched, eyes closed and clean limbs stretched out and still, with only the slow rise and fall of the narrow chest to indicate life.

"Is that him?" asked the boy.

"That's him," said the curator. They all three came up and stood over the dog who lifted his eyelids to look at them, then closed the lids again, without stirring.

"Is he helpless?" asked Anius.

"No . . . not helpless," said the curator. "He's weak, mainly from not eating anything to speak of these last few weeks. But he's got energy enough to move around when he wants to. Alpha!" he said, sharply. "Alpha!"

The dog opened his eyes again, and half-lifted his head. He moved his tail, briefly, and then—as if it were too much of an effort, lay back again. His eyes, however, remained open, watching them. The boy, Geni, stared at those eyes in an odd sort of fascination. They were as brown and liquid as a human's, but they had something different—he thought of it as a clearness or transparency—that he had never noticed before in eyes of any kind.

"If you two don't mind stepping out," said his father, "I'd like to examine him with no one else around to distract him."

The boy and the curator went out together.

"As long as we have to wait," said the curator, "how'd you like to look around the planet a bit?"

"I'd enjoy that," said Geni. "If it's not too much trouble—"

"No trouble at all," said the curator. He led the way to a small platform, sitting by the fireplace in the main lounge; and they both got on. "This job's something of a sinecure, generally."

He set the controls that took them directly to a spot a little ways out from the world where they could see the North American Continent as a whole; and, pointing out various features of historic interest, moved on around the globe.

" . . . There are capsules of detail on this information back in my library," Laee said, between paragraphs of his talk. "You can pick them out later, if you want. This

world, of course, is too crammed with history for me to be able to do justice to it on a quick sweep like this, but it's my belief that immediacy is a great virtue. You may get more of the feel of it from this sort of presentation."

"I'm overwhelmed," said the boy. "I am."

"Ah, then, you're a responsive," said Laee. "So few are. Many of the visitors here make a valiant effort—I see them at it—but for all their trouble they achieve no emotional response. And I think they go away thinking that it's all a rather unnecessary expense."

They descended at random and landed on Salisbury plain, in England, within the toothed circle of a reconstructed Stonehenge. The mid-afternoon July sun struck warmly between the upright blocks as it had for thousands of years, but the heavy shadows were cold.

They boy shivered suddenly, looking about him.

"They were different, weren't they?" he said.

"Anthropologists deny it," said Laee, "that we have changed. But I know what you feel. I feel it myself, sometimes—and particularly on this world."

"Should we go?" asked Geni.

They went on, to see the Louvre and the Forum, and the Taj Mahal and the Angkor Thom and Angkor Vat—and so by way of the Christ of the Andes back to the hospital.

Anius was sitting in the main lounge when they came in, the dog Alpha not far from him, lying stretched out on the rosy tile of the floor with the brown fur of his back turned to the fireplace, as if in disdain at its illusion of a blaze.

"Been seeing the Earth, have you?" he said, smiling up at them as they approached.

"We hit some of the high spots," replied the curator, as he and the boy sat down. "Have you discovered anything about the dog?"

Anius shook his head slowly and looked over at Alpha.

"He's dying because he has no will to live," he answered. "But you know that already. These creatures are strange." He stared at the dog, who returned the gaze without stirring. "Their psychology is baffling."

"But I thought" said the curator, who had turned to the table beside him and was coding for a meal to be served the three of them, "animal psychology was at least as well understood as the human."

"Oh yes, most of them," said Anius. "The monkey, and ape family now—" he smiled suddenly across his lean face, "how we know that bunch! And the wild strains, and the herd animals. But the dog—and to a lesser extent, the cat, and the horse. All of those that had some peculiar partnership in man's history. These, we do not understand." A cart came gliding into the room with the meal upon it and stopped between them. Anius reached out for a tumbler of clear liquid. "Perhaps that's why—they were too close."

"You mean it would be like under-

standing ourselves?" said Laee. "But we do, don't we?"

"In everything that's pin-downable, we do," said Anius. "But there's more than that, or each one of us wouldn't be an individual, in his own right."

"Father," said the boy, "what were they like—the ones who built Stonehenge?"

Anius laughed and set his glass down.

"You see there?" he said to the curator. "I can't answer that." He turned to his son. "The original Stonehenge, you mean? I can tell you what they looked and talked like—and even something of what they thought. But what they felt—"

"That's what I mean," said the boy, eagerly.

His father spread his hands helplessly.

"The science of emotions is no science," he said. "It's an art. Which was why Art developed automatically to express it. Look at what ancient man has done—and you're as close to him as I can come with all I know."

"Yes," said the curator, musingly, over a biscuit, held in one hand. "I understand that, I think."

"But—" began the boy.

"It's not natural for men to be martyrs and heroes and tyrants," his father continued, as if he had not heard. "But they had them. We can attempt to explain the bad in men of those times by saying these were warped personalities. But how do you explain the good—I mean the better than normal—" he interrupted himself, looking at the curator.

"A code of ethics—" said the curator.

"Does not completely explain it," said Anius. "There was a very good paper written several hundred years back by somebody whose name slips my mind at this moment," he frowned for a second over the effort of remembering, then gave it up, "which attempted to prove that an ethical existence is the most practical one for any intelligent species as a species, from the time that they first begin to show intelligence. But there were flaws in his argument—there were flaws—"

He fell silent; and the boy and the curator were both just opening their mouths to speak, thinking he was through, when he looked up and addressed Laee, directly.

"I believe you told me Alpha, here, started his decline from the time he was left alone in the world, so to speak."

"Well, yes," said the curator. "But his symptoms are unique in that. I mean . . . we used to have quite a number of these dogs."

"In a separate area?"

"Yes. We had something like a farm, or a country place, covering several square miles. There was a building, circa 1880s, old reckoning, a barn, some farm animals."

"And some robots in human form, I suppose," said Anius.

"That's right. But they weren't put there for the dogs' benefit," said the

curator. "They were just part of the exhibit—as the dogs themselves were, originally."

"And then they started to die off? I mean, the dogs, of course," said Anius.

"The group began to dwindle. Smaller litters were born; and the puppies did all right during their growing period, but began to give up, like Alpha, here, and die shortly after maturity. Alpha was one of a litter of two. His sister was born dead, and he and his mother were the last two of the species. When she died—"

"He began to go this way?"

The curator nodded.

"I see," said Anius, thoughtfully, nodding at the glass in his hand. "I see—"

"Father," said Geni, the fresh, tight skin of his brow stretching in a frown, "about these men who *did* build Stonehenge—"

In the following days Dr. Anius gave himself over wholly to the observation and care of the dog. To the curator watching, it all seemed a little marvelous; and he himself felt a touch of humbleness at the thought of having harnessed so much intelligence and erudition, as it were, to such a small and common problem. For a few days Alpha actually seemed to revive under this attention. He occasionally followed Anius around, and even consented to eat several times. But shortly after that it could be seen that he was sinking back into his apathy again.

"Perhaps," Laee suggested, offering the ready-made excuse like a polite host, "it was impossible to begin with. You've been very generous with your time."

"When there's life, there's hope, as that hoary saying goes," objected Anius. They were sitting in the same library-patio with Alpha stretched out at their feet and apparently dozing. "And the challenge is . . . well, a challenge." He smiled at the curator. "It wouldn't take much imagination to pretend that there's some old magic still at work on this world of yours. You've noticed Geni?"

"He's very interested in the local past," said Laee.

"He's head over heels interested in the local past," said Anius. "But I suppose it's natural at his age."

"That reminds me," said Laee, almost a trifle shyly, "he's dropping by in a few minutes. He wants to ask you something."

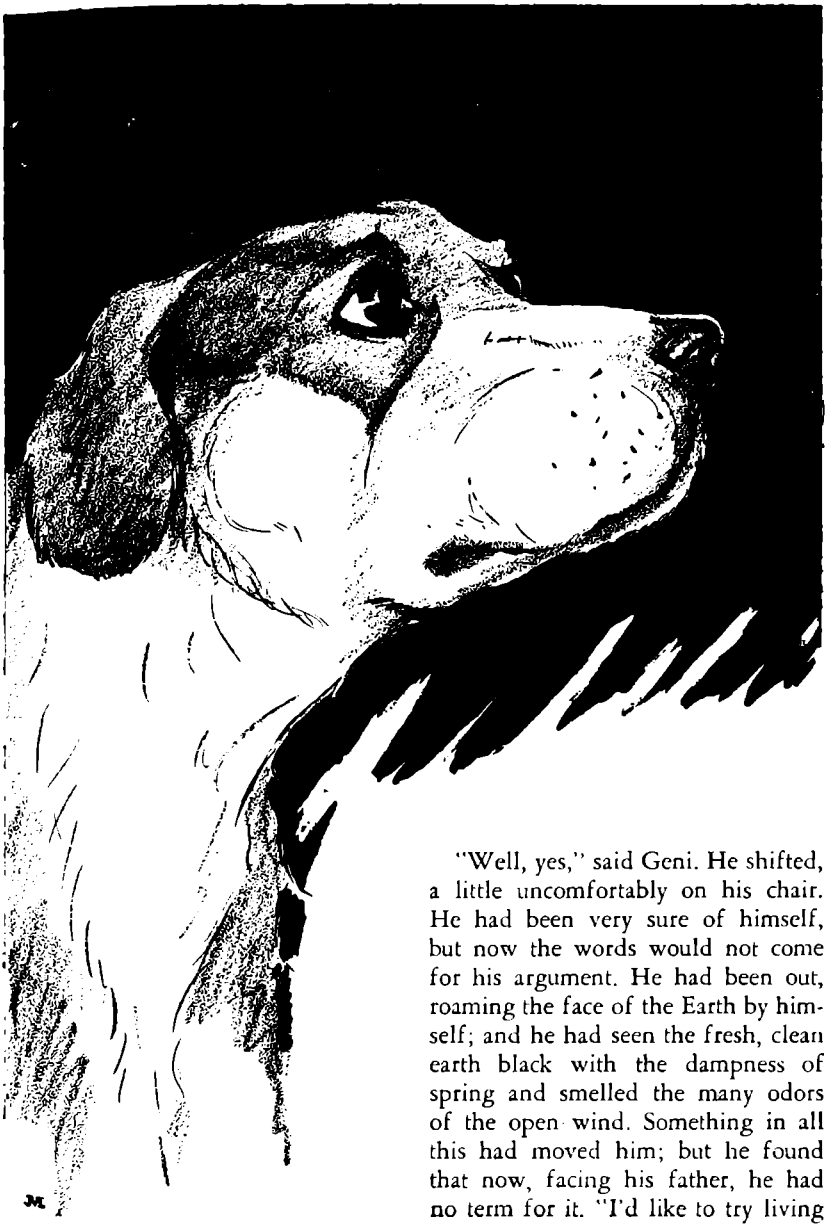
Anius raised his head and looked closely at the curator.

"It must be something he suspects I won't approve of," he said dryly, "if he has to send advance warning through you, this way."

"I don't know what he has in mind," said Laee, quickly. And changed the subject.

Some ten minutes later, Geni came into the patio and sat down. His father stared at him. The boy was dressed in an odd, archaic costume consisting of boots, slacks and jacket.

"I see," said Anius. "You want to play-act some historical role or other? That's your plan."



"Well, yes," said Geni. He shifted, a little uncomfortably on his chair. He had been very sure of himself, but now the words would not come for his argument. He had been out, roaming the face of the Earth by himself; and he had seen the fresh, clean earth black with the dampness of spring and smelled the many odors of the open wind. Something in all this had moved him; but he found that now, facing his father, he had no term for it. "I'd like to try living

. . . a little like they used to. And I'd like to take the dog along. It might work for him."

"Fantasy!" said his father, "You realize, you can't go back?"

"Oh. I know that," said Geni quickly. "It'd be play-acting, as you say. But there's something there I'd like to touch."

"The past is the past," said his father. "There's a certain emotional danger in entertaining the notion that it might be otherwise. Everyone who works in the field of history has to realize that. It's like studying something attractive through a glass which can't be broken. You risk frustration."

"It would be good for the dog," said the boy. "He's not improving, is he? If I took him out and exposed him to nothing but the kind of environment his kind flourished in, then maybe—" he let the sentence hang, watching his father.

"I'm not sure I approve of that, either," said Anius, slowly. "It's rather on the order of tinkering at random with a mechanical device whose principle of operation you do not understand. By accident you may cure its malfunction, but there's an equal or greater chance you may damage it further."

"Alpha's dying," said the boy. "And you aren't saving him. Nobody's saving him. I could try my experiment without him, but I'd rather have him, and it wouldn't hurt to try."

"What do you think?" asked Anius, turning to the curator.

"I've been bitten by Geni's bug, many years now." Laee rubbed his short-fingered hands together and smiled wryly. "And I've never got over it. Call me devil's advocate, if you wish. But it might help the dog, at that."

"Has anything like it ever been tried before?" asked Anius.

Laee shook his head.

"Not as far as the records show," he said. "Give the two of them a week or so, why don't you? At the end of that time we should be able to tell about Alpha, one way or another. Of course, I realize it would leave you at loose ends—but now that you're here on Earth, perhaps there's material here in our files or otherwise you may have wanted to examine . . . a week's worth of it, anyway."

"Much more than that. I'd planned to stay over anyway—" Anius waved his hand, dismissing that element of the problem. "It's just that I feel a certain professional responsibility toward the dog, now . . . well, go ahead, if you want to," he wound up, turning to Geni.

The boy's face lit up.

Early the next morning, they left the clinic, Geni and Alpha. The dog, like all the other animals there, had been restrained by the invisible tingle barriers from straying into areas where he was not wanted to go; and, in spite of the fact that now he, like Geni, wore a key that cut out a barrier as soon as he touched it, he had to be urged to strike out across the

grounds, and cringed slightly as he followed the boy at the end of a leash.

"You won't stray off the grounds?" Anius said to Geni, as they left.

"Not if you don't want us to, Father," said the boy, looking up at the man with an expression of slight puzzlement. "It really doesn't matter where we go, as long as we stay out of the clinic itself."

"Fine," said Anius. "Because I'd like to check on the dog from time to time by local scan."

"All right, Father."

They turned and went, walking away through the areas of the sick and injured animals, Alpha's head glancing to right and left at the wild creatures with a wariness, but Geni moving with the unconscious unconcern of a being who knew his science.

Anius and Laee watched them go. The dog, Alpha, trotting at the end of his leash, shied from the Kodiak with the infected ear, and sniffed curiously, a second later, at the gorilla with the allergy rash. They moved on, dwindling, and passing at length from sight among a small grove of pines.

"And now," said Anius, turning to the curator, "I'll start my poking through your files."

The files, indeed, turned out to be even far more interesting to an historical psychologist than Anius had expected. They consisted of nothing more — and nothing less — than a great mass of statistics and information about all periods of human history on Earth. Taken item by item, they were as dry as old newsprint; but investigating them was like looking up an item in an encyclopedia, where each page turned over sowed fishhooks for the attention, in the shape of odd and hitherto unknown avenues of knowledge. Anius felt caught, as he had not been caught in decades, by a lust that drew him down these obscure paths and into the wilderness of civilizations long dead and put to rest. The mirage of something not fully understood fled always just a little ways ahead of him, and the more he overtook it in his absorption of facts from the past, the more it drew away from him, and drew him on; until in the end he pursued it headlong, without attempting analysis or self-understanding, like a man in love.

In this occupation he suddenly lost himself; and several days went by as if the time they represented had unexpectedly evaporated. He was startled to find Laee at his elbow, one afternoon.

"Eh?" he said, looking up from the screen before him. "What's that?"

"You said you wanted to check on Alpha's condition from time to time," Laee was standing close, with his round face bent a little curiously over him. "You haven't made any attempt — and I just now happened to pick up Geni and the dog on a routine check of the grounds."

"Oh . . . oh yes," said Anius, get-

ting to his feet. "Where's your scan board?"

"Through here."

Laee led him into a little side room. They looked over a small ornamental railing into a little area of imaged outdoors, solid enough appearing in its three dimensions to be an actuality. Anius saw his son, still in the archaic jacket and boots, seated cross-legged before an actual wood fire, burning on the grass of an open space surrounded by pine and birch. On the other side of the fire, Alpha lay on his belly, nose between his paws. His eyes were open, but they were not on Geni. They were gazing instead into the almost invisible flames of the fire.

Seeing them there, Anius felt a sudden entirely irrational and new twinge of panic, as if he were watching his son out of reach and drowning in some strange waters.

"Geni!" he called.

"Just a minute—" said Laee. The boy had not looked up. The curator adjusted a control and nodded at Anius.

"Geni!" he said again, loudly.

The boy looked up. The dog's ears flicked and stirred, but he did not move. Geni looked over to one side as if he could actually see them, but the gaze of his image went past the two men in the room, the way the gaze of a blind man does.

"Father?" he said.

"It's all right," said Anius more calmly. "I just didn't realize the sound element wasn't on." He took a breath and went on more calmly. "Alpha looks good. How've you been doing?"

"I don't know. I think he's better," said the boy. "We've been moving around the grounds a lot. He's pretty interested in the other animals. He perked up the first day—and he's been eating pretty well until just today."

"Something happened today?" asked the curator.

"No," said Geni, shifting his gaze at the other voice, but still looking past them. "But when I stopped and built the fire here for our midday meal, he didn't seem hungry. And he doesn't seem to want to follow me away from the fire."

"If he shows any obvious signs of physical illness, let me know," said Laee.

"I will," answered Geni. "Father?"

"Yes, Geni?" said Anius.

"Are you keeping occupied all right?"

Anius smiled.

"Yes," he said. "I'm quite busy on some files here. Geni—how far from the clinic are you?"

"About ten kilometers, I imagine," said Geni. "Why?"

"I just wondered. Keep in touch with us, son."

"I will."

"Good-by."

"Good-by, Father."

"Good-by," said Laee.

"Good-by."

Laee touched a control and the scene vanished, leaving a small area of bare, bright yellow floor enclosed by the little railing.

"I've a little more scanning to do," said Laee, looking up at his tall guest. "I won't keep you from your own work."

"Oh, yes . . . yes," said Anius, starting a little. He lifted his hand in a friendly gesture and went out the door of the scan room. But he did not go back to the files. Deep in thought, he wandered through the living quarters of the clinic and out onto the grounds. The afternoon was reddening into its later hours just before sunset and the long shadows lay across his path. Again he felt the whisper of something like a panic, but it sank and mellowed into a sadness, a feeling of regret no deeper than the transience of the passing day. He found himself standing by the area where the gorilla sat and he looked across the distance of a few short meters into its wrinkle-hooded eyes. And the gorilla looked back with a wondering unhappiness that had no language to explain itself, its great and hairy arms crossed on its knees.

"What do you know?" Anius asked it. "What do *you* know?"

And the gorilla blinked and turned its head shyly and painfully away.

Anius sighed and turned back toward the clinic, and the files.

"I hesitate to mention this," said Laee, over lunch two days later, "but have you run across something in the files that disturbs you? It's not my intention to pry; but as curator here—"

"Of course," said Anius. He put down the glass he was holding and shook his head. "There's nothing, except—" he hesitated. "There is nothing, that's just it."

"I'm afraid—" began Laee.

"I know, I'm not being clear," Anius waved a hand in apology. "It's not the files. It's this whole world of yours . . . I'm half prepared to believe it's haunted. It puts questions into my mind."

"For example," said Laee, encouragingly.

"Do you suppose," said Anius, very slowly, "that something could be lost, without its loss being known?"

"Lost from the files?"

"No," said Anius. "Lost to us, by us, as a people, without our knowing it. Do you suppose it would be possible for us to have taken a turning, somewhere along the way—a turning that was maybe right, and maybe wrong—but a turning that put us past the hope of going back to find our original path?"

Laee spread his hands and smiled, with a little shrug.

"No!" said Anius, forcefully. "I mean it, as a serious question." Laee frowned at him.

"In that case—" he said, and paused. "No, I still don't understand you."

"There was an old legend on this world, once," said Anius, "about the elephants' graveyards."

"I know it," Laee nodded.

"Because the remains of dead elephants were not found, because of the value of ivory if great boneyards

existed, a theory of a dramatic end for elephants was invented. Only the truth was that the scavengers, small and large, in the jungle disposed of all remains. The true end was not remarkable, not impressive, but natural and a little dull. Gradually, the dead elephant disappeared. As if —" Anius hesitated, "he had never been."

"Come now," said Laee smiling, "the human race is a long ways from the end of its existence—if, indeed, it's going to end at all."

"I think," said Anius, with a slight shiver, "all things end."

A sudden mellow note, like the sound of a gong, echoed through the clinic. Both men looked up, startled; and Laee, frowning in surprise, reached over and pressed a stud on the table by his chair. A bright little shimmer sprang into existence in front of the imitation fire on the hearth of the lounge and resolved itself into the face of Geni, looking up at them.

"What is it, Son?" asked Anius, for the boy's face was strained.

"I'm sorry, Father," said Geni. "But I've lost Alpha. I thought I could find him by myself and not bother you. But I can't."

"Tell us what happened," said Laee, leaning forward.

"He ran off yesterday, during the night, I guess," said Geni. "He was gone in the morning. I hunted for him yesterday, and found some tracks this morning crossing a couple of tingle barriers. No other animal could do that—Alpha's the only one carrying a key—" the boy broke off. "I think . . . I think the gorilla got him. You know . . . the one just a little ways from the clinic. I'm at the gorilla's area, now. But I don't have anything protective with me. I don't dare go in."

"We'll be right there," said the curator, getting to his feet.

"Wait where you are, Geni," said Anius, also rising.

"All right, Father. I'm sorry," said the boy. He broke the connection.

Laee got a paralyzer from his stores and the two men set out on foot toward the area where the gorilla was enclosed. It was just a couple of minutes walk from the clinic; and as they rounded a little clump of lilac bushes, they saw Geni standing unhappily at the edge of the area, and the gorilla itself squatting in front of the little grove of bushes that had been designed to give it the privacy the powerful but shy anthropoid desired.

Geni turned to look at them as the two men approached together, Laee carrying the paralyzer with a practiced and competent grip.

"I'm sure he's back in there," Geni said, as they came up. "I can't quite see him now, but I saw him before."

"Let me call him," said Laee. He stepped up to the edge of the tingle barrier and raised his voice. "Alpha!" He waited a second, and then called again. *"Alpha!"*

There was no immediate response from the shadows of the bushes, but the gorilla, his attention suddenly di-

rected to Laee, all at once recognized the paralyzer in the curator's hand and threw up one thick clumsy arm before his face, shrinking back and away.

Immediately, there was movement in the bushes and the dog came out. Pushing in front of the huddled gorilla, he stood squarely, facing the men.

"There he is," said Laee, raising the paralyzer. The gorilla whimpered. Alpha snarled suddenly, and Anius caught at the curator's arm.

"No!" he said. "Don't."

Laee turned and stared at him. The boy cried out.

"But he's got Alpha!"

"Come along," said Anius, putting a hand on both of them. "Leave them."

Slowly, the curator lowered the paralyzer. He was frowning at Anius. Then his frown cleared and he slowly nodded.

"But," cried the boy again, "he's got Alpha. He's got our dog."

Anius put his long arm around his son's shoulders and turned him about. And the three of them walked away, toward the silver dome of the clinic, which from where they were seemed to shimmer in the noon sun like a bright bubble, earth-tethered there for only a little time and against its will.

"No, Son," he said, gently. "Not our dog. He's not our dog any more."

THE END

THE ANALYTICAL LABORATORY

From this month's reader votes, it appears that you like Big stories. At any rate "The Big Front Yard" and "Big Sword" won first and second places in the poll.

It's been some time since I explained the An Lab setup, and some newer readers may want the data: Reader letters are tabulated, and their votes for first, second, third, et cetera, places noted on a score sheet. A vote for first place counts 1; for second place 2, et cetera. And as in golf, the author with the lowest score wins. The votes for each story are totaled, and divided by the number voting on that story—not all readers vote on all stories—to yield the "point score." The point score determines the place of the story.

And here is why our authors follow the results of that voting of yours with such keen and sincere interest: the story you vote into first place gets a 1¢ a word bonus, while the second-place story gets paid an additional ½¢ per word. In other words, if you like the job an author did in entertaining you—praise him for it! It's money in his pocket; he'll really appreciate your words!

(*Continued on page* 82)

ROBIN HOOD'S

Illustrated by van Dongen

..BARN

BY POUL ANDERSON

The shortest way may not be the quickest—or even a possible—way to the goal. And, on occasion, the way to get where you're going is to push hard the other way.

SVOBODA was about sixty years old. He did not know his exact age. The Lowlevel seldom counted such things, and his earliest memory was of weeping in an alley while rain fell past an overhead beltway that roared. Afterward his mother died and someone, who claimed to be his father, but probably wasn't, sold him to Inky the thiefmaster.

Sixty was ancient for a man of the masses, whether he slunk cat-fashion through soot and noise and sudden death in a city Lowlevel or—more healthfully if with less freedom—squirmed along a mine shaft or tended engine on a plankton reaper. For an upperlevel Citizen, or a Guardian, sixty was only middle-aged. Svoboda, who had spent half his life in either category, looked as old as Satan but could hope for another two decades.

If you wanted to call it hope, he thought wryly.

His left foot was paining him again. It was a lump within the special shoe. When he was twelve or so, scrambling over a garden wall with a silver chalice contributed by one Engineer Harkavy, an explosive slug from a guard's pistol had smashed all the bones. He got away somehow, but it was a cruel thing to happen to one of the most agile and promising lads in the Brotherhood. Inky reapprenticed him to a fence, which forced him to learn reading and writing and thus started him on a long road up. Twenty-five years afterward, when Svoboda was Commissioner of Astronautics, a medic recommended prosthetizing the broken foot.

"I can make you one that you could hardly tell from the real thing, sir," he offered.

"Undoubtedly," said Svoboda. "I have seen our older Guardians tottering around with prosthetic hearts and prosthetic stomachs and a sort of prosthetic eye. I am sure the onward march of science will soon come to a prosthetic brain, which can hardly be told from the real thing. Some of my colleagues led me to think this has already been achieved." He shrugged skinny shoulders. "No. I'm too busy. Later, perhaps."

The busyness consisted in breaking out of the Astronautical Department, a notorious dead-end street into which nervous superiors had maneuvered him. And having done so, he was at once preoccupied with something else. There had never been time. You had to run pretty fast just to stay where you were.

How many people nowadays had read "Alice"? he wondered.

But the foot often did pain him. He stopped to let the throbbing ease.

"Are you all right, sir?" asked Iyeyasu.

Svoboda looked at the gray-clad giant and smiled. His other six guards were nonentities, the usual efficient impersonal killing machines. Iyeyasu did not pack a gun; he was a karate man, and he could reach into your rib cage and pull your lungs out if you displeased Svoboda.

"I'll do," said the Commissioner of Psychologics. "Don't inquire exactly what I'll do, but there must be something."

Iyeyasu offered an arm and his master leaned on it. The contrast was ridiculous. Svoboda stood barely one hundred fifty centimeters tall, with a hairless dome of skull and a face all dark wrinkles and scimitar nose. His childish frame was gaudy in a cloak like fire, iridescent high-collared tunic, and deep-blue trousers cut in the latest bell-bottomed style. Whereas the Okinawan wore gray, and had a shoulder-length black mane and hands deformed by a lifetime's cracking bricks and punching through boards.

Svoboda fumbled with yellow-stained fingers after a cigarette. He stood on a landing terrace, immensely high up. Below was none of the parkscape which most Commissioners chose for their buildings; Svoboda had put his departmental tower in the same city which spawned him. It stretched under his feet, as far as he could gaze through air-borne filth. But past the floating docks, on the world's very eastern edge, he could see a mercury gleam that was the open Atlantic.

Dusk was creeping over the planet, spires etched themselves black across a surly red sundown. Highlevel walls and streets began to glow. Low-level was a darkness beneath, and a muted unending growl of belt.ways, generators, autofactories, sparks to show a window waking to life or a pedicar headlamp or the flashes of men going in cudgel-armed parties for fear of the Brotherhood.

Svoboda drew smoke through his nostrils. His eyes wandered past the

aircar, which had borne him here from his oceanic house, to the sky. Venus stood forth, white against royal blue. He sighed and gestured at it. "Do you know," he said, "I'm almost glad the colony there has been discontinued. Not because it wasn't paying for itself, but for a better reason."

"What is that, sir?" Iyeyasu sensed that the commissioner wanted to talk. They had been together for many years.

"Now there's one place you can go to get away from humankind."

"Venus air is no good, sir. You can go to the stars and get away, and not wear armor."

"But nine years in deepsleep to the nearest star. A bit extreme for a vacation."

"Yes, sir."

"And then the planets you find are as bad as Venus . . . or they're like Earth, but not *enough* like Earth, and men break their hearts. Come on, let's go play at being important."

Svoboda leaned back onto his crutch and went quickly over the terrace, through an arched portal and down a long luminous-walled corridor. His guards fanned out, ahead and behind, their eyes never still; Iyeyasu stayed close. Not that Svoboda expected assassins. There was a night shift here, because Psychologics was a major fief within the Federation government, but no one on this floor.

At the hall's end was a teleconference room. Svoboda hobbled to an easy-chair, Iyeyasu helped him into it and set a desk in front of him. Most of the men who looked from the screens had advisors beside them. Svoboda was alone, except for his guards. He had always worked alone.

Premier Selim nodded. Behind his image was a window opening on palm trees. "Ah, there you are, Commissioner," he said. "We were just beginning to wonder."

"I apologize for lateness," said Svoboda. "As you know, I never transact business from my home, so I had to come here for the conference. Well, a caisson under my house sprang a leak, the gyrostabilizers failed, and before I knew what had happened I was reading the time off a seasick octopus. It was ten minutes slow."

Security Chief Chandra blinked, opened a bearded mouth to protest, then nodded. "Ah, you make a joke. I see. Ha." He sat in India at sunrise; but the rulers of Earth were used to irregular hours.

"Let us begin," said Selim. "We will dispense with formalities. However, before we start the business at hand, is there anything else of urgency?"

"Er—" Rathjen, the present Commissioner of Astronautics, spoke timidly. He was the weak son of the late Premier; his father had given him the post and nobody since had cared to take it away. "Er, yes, gentlemen, I should again like to raise the question of repair funds for . . . I mean to say, we have several perfectly good spaceships which only need a few million in repair funds

to, er, reach the stars again. And then all the astronautical academies, really, the quality of new recruits is as low as the quantity. I should think, that is, if we—Mr. Svoboda especially, it seems to be in his department—an intensive propaganda campaign, directed at younger sons of the Guardian families . . . or Citizens of professional status . . . persuading them of the importance, giving the profession the, er, the glamor it once had—"

"Please," interrupted Selim. "Another time."

"I might make a remark, though," said Svoboda.

"What?" Novikov of Mines turned a surprised eye on him. "You are the one who brought this special conference about. Do you want to waste it on irrelevancies?"

" 'Nothing is irrelevant,' " murmured Svoboda.

"What?" said Chandra.

"I was only quoting Anker, the philosophical father of Constitutionalism," Svoboda told him. "Some day you might try understanding the things you want to suppress. I have been assured that it works wonders."

Chandra flushed with annoyance. "But I don't want—" he began, and decided otherwise.

Selim looked baffled. Rathjen said plaintively, "You were going to comment on my business, Mr. Svoboda."

"So I was." The small man struck a fresh cigarette and inhaled deeply. His eyes, a startling electric blue in the mummy face, leaped from screen to screen. "Commissioner Novikov could give you a good reason for the decay of astronautics: more people and fewer resources every day. We can no more afford interstellar exploration than we can afford representative government. The vestiges of both are being eliminated as fast as the anguish of yourself, and the Constitutionalists, permits. Which I know is not as fast as some of you gentlemen would like. But by pushing social change too hard, the government provoked the North American Rebellion twenty years ago." He grinned. "Therefore we must take the lesson to heart and not goad the Astronautical Department into revolt. It is easier to operate a few spaceships for a few more generations than to storm barricades of filing cabinets manned by desperate bureaucrats waving the bloody flag in triplicate. But you on your side must not expect us to expand, or even maintain, your fleet."

"Mr. Svoboda!" gasped Rathjen.

Selim cleared his throat. "We all know the Psychologics Commissioner's sense of humor," he said ponderously. "But since he has mentioned the Constitutionalists, I trust he means to proceed to our real business."

The dozen faces turned upon Svoboda and did not let go. He veiled his own stare in smoke and answered, "Very well. I daresay Commissioner-baiting is a cruel sport, and we'd all do better to pick good-looking Citizen girls off the streets for several weeks of Special Instruction." Now Larkin of Pelagiculture was the one who glared. "Perhaps you aren't all

familiar with the issue on hand. I've submitted a special report on the Constitutionalists to Premier Selim, Mr. Chandra, and the Commandant of North America. It proved so controversial that the whole Guardian Commission has been asked to debate it."

He nodded at Selim. The Premier's harsh gray face looked a bit startled; it was almost as if Svoboda had given him permission to go ahead. He harrumphed, glanced at the paper on his desk, and said:

"The trouble is, the Constitutionalists are not a political group. If they were, we could round them up tomorrow. They are not even formally organized, and there are all shades of agreement among them. It's a philosophy."

"Bad!" murmured Svoboda. "Philosophies only rationalize emotional attitudes. The very name of this one is a Freudian slip."

"What's that?" asked Novikov.

"You ought to know," said Svoboda sweetly. "You're rather an expert. To continue, though. Officially, the name 'Constitutionalism' only refers to an attitude toward the physical universe, an advocacy of basing thought patterns on the constitution of reality. But I grew up here, where half the population still speaks English. And in English, that word Constitution is loaded! The North American insurrection was brought on when the Federation government persistently and flagrantly violated—not the spirit of their poor old much-amended Constitution; they were always good at that themselves—but the letter of it."

"I know that much," said Chandra. "Don't think I haven't investigated these philosophers, as you call them. I know that many were in the revolt, or had fathers who were. But they aren't dangerous. They may grumble to themselves, but as a class they're not doing so badly. They've no reason to start another futile uprising." He shrugged. "Actually, most of them must be intelligent enough to see that that bill of rights or whatever it was simply doesn't work when there are half a billion people on their continent, eighty per cent illiterate."

"What are they, anyway?" asked Dilolo of Agriculture.

"Mostly North American," said Svoboda. "I mean of the old stock, not the more recent immigrants. But their doctrines are spreading through the educated Citizens all over the world. I imagine if you quizzed, you'd find a fourth of the literate population, rather more than that among scientists and technicians, in substantial agreement with Constitutionalist doctrine. Though, of course, they wouldn't think of themselves under that name, usually."

"In other words," said Chandra, "it's not just another new religion. Not for the yuts. Nor for Guardians, as a rule"—he gave Svoboda a lingering glance—"or top-level Citizens. So I agree it merited investigation. But I found Constitutionalism appealed to the hard-working, prosperous-but-not-rich man: the sober,

solid type, who has won a little more status than his father and hopes his son may have just a little more than himself. Such people aren't revolutionaries."

"And yet," said Svoboda, "Constitutionalism is becoming a great deal stronger than you would expect from the small number of formal adherents."

"How?" asked Larkin.

"You leave your engineers' daughters alone, don't you?" said Svoboda.

"What has that . . . I mean, explain yourself before I lodge a criticism!"

Svoboda grinned. He could break Larkin any time he chose. "The Guardians have the power," he said, "but what's left of Earth's middle class has the influence. There's a distinction. The masses don't try to imitate the Guardians, or really listen to us; the gap is too great. Their natural leaders are the lower-middle-class Citizenry. As for us, we may decree the irrigation of Morocco, and round up a million convicts to dig canals and die; but only if the upper-middle-class specialist has assured us it's feasible. He probably advised it in the first place!

"The trouble with Constitutionalism is, it's all too likely to give this middle class an awareness of their potential power, and thereby start them agitating for a corresponding voice in the government. Which could be more than a little bit lethal to us."

There was a pause. Svoboda finished his cigarette and struck another. He felt the air wheeze in his throat. All the world's biomedics couldn't make up the abuse he visited on lungs and bronchial tubes. But what else was there to do? he thought somewhere in a private darkness.

Selim said, "This is not a question of personal menace, gentlemen. But the Psychologics Commissioner has persuaded me that if we care about our children and grandchildren, we must think seriously on this matter."

"You don't mean to arrest all the Constitutionalists?" asked Larkin, alarmed. "But you can't do that! I know how many of my key technical personnel are . . . I mean, it could be a disaster to every pelagic city on Earth!"

"You see?" smiled Svoboda. He shook his head. "No, no. Besides such practical, immediate difficulties, mass arrests involve a danger of provoking new conspiracies to overthrow the Federation. I'm not that stupid, my friends. I propose to undermine the Constitutionalist movement, not batter at it."

"But see here," objected Chandra, "if it's a simple question of a propaganda campaign, you don't need all of us to—"

"More than propaganda. I want to close the Constitutionalist schools. Never mind the adults; it's the next generation that we're worried about anyway."

"You wouldn't let their brats into *our* schools, would you?" gasped Dilolo.

"I assure you, they don't have

vermin," said Svoboda. "Of course, they might be infected with a little originality. But no, I'm not that drastic. However, my idea is radical enough to need full Commission approval. It involves reviving the old concept of free compulsory education."

After the hubbub had faded, which it did because he sat and ignored it, he went on: "Oh, modified, to be sure. I don't plan to rope in the hopeless seventy-five per cent of the population. Let them go their merry way. We can rig admission standards to keep them out, easily enough. What I do want is a decree that all basic education will be financed by the government and must meet official requirements. Which means my requirements. I'll leave the apprentice centers, academies, monasteries, and other useful or harmless institutions alone. But the schools maintained according to Constitutionalist principles will be found to have a deplorably low academic level. I'll fire their teachers and put in some good loyal hacks and some good loyal propaganda."

"There'll be trouble," warned Dilolo.

"Yes. But not too much. Of course the parents will object. But what can they say? Here the state, in a sudden gush of benevolence, is lifting the burden of school costs off their shoulders—never mind where the taxes come from—and making sure that their children will be properly taught and properly adjusted to society. If they want to instill their funny little beliefs in addition, why, they can do it in the evenings and on holidays."

"Ha!" Chandra laughed. "A lot of good that will do."

"Just so," agreed Svoboda. "A philosophy has to be lived; you can't acquire it in an hour a day from a weary father who lectures you while you'd rather be out playing ball. Your non-Constitutionalist classmates are going to ridicule your oddities. And at the same time, the parents will scarcely be able to stir up popular support. This simply isn't the kind of issue which brings on revolutions. We will, almost literally, kill Constitutionalism in its cradle."

"You haven't yet proven that it's worth the trouble of killing," said Novikov.

Larkin put in vindictively: "I know why it is. Because Mr. Svoboda's only son is a Constitutionalist, that's the reason. Because they broke up over the issue ten years ago and haven't spoken since!"

Svoboda's eyes turned quite pale. He held them on Larkin for a very long time. Finally Larkin squirmed, twisted a pencil in his fingers, looked away, looked back, and wiped sweat off his face.

Svoboda continued to stare. It grew very still in the room—in all the rooms.

At the end, Svoboda sighed. "I shall lay the detailed facts and analysis before you, gentlemen," he said. "I shall prove that Constitutionalism has the seeds of social change in it: radical change. Do you want the World Wars back again? Or even a *bourgeoisie* strong enough to try for a voice in government? That sounds less dramatic, but I assure you, the Guardians will be killed just as dead. Now, in order to prove my contention, I shall begin with—"

The address which Theron Wolfe had given turned out to be on the fiftieth floor in a district once proud. Joshua Coffin could remember almost a century back, how the skytown had reared alone among trees and gardens, and only a dun cloud in the east bespoke the city. But now the city had engulfed this tower with mean plastic shells of tenement. In another generation, this would be Lowlevel.

"However," said Wolfe, "I have lived here all my life, and gotten a sentimental attachment to the place."

"I beg your pardon?" Coffin was startled.

"It might be hard for a spaceman to realize." Wolfe smiled. "Or for most better-to-do Citizens, as far as that goes. They are even more nomadic than you, First Officer. Generally you have to be of Guardian family, with an estate, or one of the nameless mass too poor to move anywhere, to strike roots nowadays. But I am a middle-class exception." He stroked his beard and added after a moment, sardonically: "Besides which, it would be hard to find a comparable apartment. You must realize that Earth's population has doubled since you left."

"I know," said Coffin. It emerged harsher than he had intended.

"But come in." Wolfe took his arm and led him off the terrace. They

entered a living room archaic with broad windows, solid furniture, paneling which might be actual wood, shelves of books both folio and micro, a few age-cracked oil paintings. The merchant's wife, plain and fiftyish, bowed to her guest and went back to the kitchen. She actually cooked her own food? Coffin was irrationally touched.

"Please sit down." Wolfe waved a hand at a worn, ugly chair—an antique, but highly functional. Unless of course you prefer the modern fashion of sitting cross-legged on a rug. Even Guardians are beginning to think it's stylish." Horsehair rustled under Coffin's weight. "Smoke?"

"No, thank you." The spaceman realized his tone had been too prim, and tried to rationalize. "It's not a common habit in my profession. Mass-ratio, you know, approximately nine to one for an interstellar journey—" He stopped. "Pardon me. I did not mean to talk shop."

"Oh, but I would much prefer you did. That's why I invited you here, after catching your lecture." Wolfe took a cigarillo from the box. "How about a drink?"

Coffin accepted a small glass of dry sherry. The genuine article, doubtless fabulously expensive. In a way it was a shame to waste it on his unappreciative palate.

He looked at Wolfe. The merchant was big, plump, still hearty in middle age, with a neat gray Vandyke on an unusual broad face. The space between his eyes gave him a curious withdrawn look, as if a part of him always stood aside from the world and watched. He wore a formal robe over dress pajamas, but his feet were bare in slippers. The colors were as sober as the rest of this room.

Wolfe sat down, sipped, rolled smoke around his mouth, and said, "A shame so few people heard your lecture, First Officer. It was most interesting."

"I am not a very good speaker," said Coffin, correctly enough.

"The subject matter, though. To think, a planet of Epsilon Eridani where men can live!"

Coffin felt a thickness of anger. Before he could stop himself, his tongue threw out: "You must be the thousandth person who has said I was at Epsilon Eridani. For your information, Epsilon is a miserable dwarf of no use to any Christian. It is *e* Eridani which the *Ranger* visited. I thought you heard my lecture."

"Slip of my mind. Sorry." Wolfe was more urbane than contrite.

Coffin bowed his head, hot-faced. "No. I beg your pardon, sir. I was heedless and ill-mannered."

"Forget it," said Wolfe. "I believe I understand why you're so tense. How long were you away, now? Eighty-seven years, of which eighty-two, less watches, were spent in deep-sleep. It was the climax of your career, an experience such as it is granted few men to have. Then you came back. Your home was gone, your kinfolk scattered, the people and mores changed almost beyond recognition. Worst of all, there's hardly a soul who cares. You offer them a new

world, and they yawn at you when they do not jeer."

Coffin sat quiet a while, twirling the sherry glass in his fingers. He was a long man with a jagged Yankee face under hair just starting to be grizzled. He still affected snug-fitting tunic and trousers of black, buttons with an American eagle, everything knife-creased, though even in the space service the uniform was now ludicrously archaic.

"Well," he said at last, struggling for words, "I expected a . . . a different world . . . when I came back. Of course. But somehow I did not expect it would be different in this fashion. We, my companions and I, like all interstellar spacemen, we knew we had chosen a special way of life. But it was in the service of man, which is the service of God. We expected to return to the Society, at least, our own spacemen's nation within all nations—do you understand that?" It ripped from him: "But the Society was so *dwindled!*"

Wolfe nodded. "Not many people realize it yet, First Officer," he said, "but space travel is dying."

"Why?" mumbled Coffin. "What have we done, that this is visited upon us?"

"We have eaten up our resources with the same abandon with which we have increased our numbers. Therefore the Four Horsemen have ridden out. Exploration is becoming too costly."

"But . . . substitutes . . . new alloys, aluminum must still be abundant . . . thermonuclear energy, thermionic conversion, dielectric storage—"

"Oh, yes," said Wolfe. He blew a smoke ring. "But it's not enough. Theoretically, we can supply unlimited amounts of fusion power. But there is so little for that power to work on. Light metal and plastics can only do so much, then you need steel. Machines need oil. Well, lean ores can be processed, organics can be synthesized, and so forth. But all at a steadily rising cost. And what you do produce has to be spread thinner every year: more people. Of course, there's no longer any pretense at equal sharing. If we tried that, we'd all be down on Lowlevel. Instead, the rich get richer and the poor get poorer. The usual historic pattern, Egypt, Babylon, Rome, India, China, now all Earth. So the conscientious Guardian—there are more than you might think—doesn't feel right about spending millions, which could be used to alleviate quite a bit of Citizen misery, on mere discovery. And the non-conscientious Guardian doesn't give a damn."

Coffin was startled. He looked hard at the other.

"I have heard mention of something called, er, Constitutionalism," he said slowly. "Do you subscribe to the doctrine?"

"More or less," admitted Wolfe. "Though that's a rather gaudy name for a very simple thing, an ideal of seeing the world as it actually is and behaving accordingly. Anker never called his system anything in particular. Laird was a rather gaudy man,

and—" He paused, smoked with the care of a thrifty person remembering what tobacco cost, and went on: "You're probably as much of a Constitutionalist, First Officer, as the average among us."

"I beg your pardon, no. It seems, from what I've heard, to be a hea . . . a Gentile belief."

"But it isn't a belief. That's the whole point. We're among the last holdouts against a rising tide of Faith. The masses, and lately even a few upper-levels, turn via mysticism and marijuana toward a more tolerable pseudo-existence. I prefer to inhabit the objective universe."

Coffin grimaced. He had seen abominations. There was a smiling idol where his father's white church had overlooked the sea.

He changed the subject: "But don't the leaders, at least, understand that space travel is the only way to escape the economic trap? If Earth is growing exhausted, we have an entire galaxy of planets."

"That doesn't help Earth much," said Wolfe. "Consider the problem of hauling minerals nine years from the nearest star, with a nine-to-one mass ratio. Or how much bottom do you think it would take to drain off population faster than it could be replaced here at home? No, no, even interplanetary exploitation has about stopped paying for itself. As for colonizing—Rustum is the first planet yet found where men could live without special apparatus."

Coffin said, driven by a reluctant honesty: "As I explained, sir, a good deal of equipment would still be needed. With one or two exceptions, we didn't find any native life forms in five years of study which can be eaten by man. And then, of course, the gravity is wearing, and only the highlands are really habitable."

"There you are," said Wolfe.

"But it could be done!" exploded Coffin. "My lectures have outlined the methods. And it would keep the tradition alive—knowing that there was a colony, a place where a man could still find elbow room—and we could keep looking for still better planets."

"We won't," said Wolfe bluntly. "There's another trouble with your emigration idea. The wage slave Citizen—sometimes, on Lowlevel, an actual slave, in spite of fancy double-talk about contract—he can't afford such an expensive passage. And why should the state pay his fare? It won't lessen the number of mouths at home; it will only make the state that much poorer, in its efforts to fill those mouths. Nor is the Citizen himself interested, as a rule. Do you think an ignorant, superstitious child of crowds and walls and machines can survive, plowing soil on an empty world under an alien sun? Do you think he even wants to try?" He spread his hands. "As for the literate, technically minded class of people, they have it pretty good so far. Why should they uproot?"

"I am becoming aware of all this," nodded Coffin.

Wolfe's wide face tightened into

a grin. "Another thing, First Officer. Suppose, somehow, this colony were established. Would you want to go live there yourself?"

"Good heavens, no!" Coffin jerked upright.

"Why not?"

"Because . . . because I'm a spaceman. And there wouldn't be any spaceships operating out of Rustum for generations. The colonists will, uh, would have too much else to do."

"Exactly. And I am a dealer in fabrics. And my neighbor Israel Stein thinks space travel is a glorious thing, but he teaches music. My friend John O'Malley is a protein chemist, who would certainly be useful as such on a new planet, and he goes skindiving and blew several years' savings once on a hunting trip—but his wife has ambitions for their children. And there are others who love their comfort, such as it is; or are afraid; or feel too deeply rooted; or name your own reason. All interested, all sympathetic, but let someone else do it. The people you could get who are ready, willing, and able to go, can't finance the trip. Q. E. D."

"So it seems." Coffin stared into his empty glass.

"But I've seen all this for myself," he said after a while, his words wrenched and slow. "I realize my profession is on the way out. And it's the only profession open to me. More important, to my children, if I ever have any; for of course I would have to marry within the Society, I just can't find a decent home life anywhere else—" He stopped.

"I know," gibed Wolfe, not very sharply. "You beg my pardon. Never mind. Times change, and you are from out of time. I shall not dwell upon the fact that my older daughter is a Guardian's mistress, nor will I raise your hair by remarking that this does not trouble me in the least. Because there are some rather more important changes in recent months, of which I do disapprove with all my soul, and they are the main reason I invited you here tonight."

Coffin looked up. "What?"

Wolfe cocked his head. "I believe dinner is about ready. Come, First Officer." He took his guest's arm again. "Your lectures have been admirably dry and factual, but what I would like from you now is a still more detailed description. Just what Rustum is like, and what equipment would be needed to establish a colony of what minimum size, and the cost . . . everything. I assume you would rather talk that kind of shop than make polite noises at me. Well, here's your chance!"

Even among his admirers, there were many people who would have been astonished to learn that Torvald Anker was still alive. They knew he was born a century ago, that he had never been rich enough to afford elaborate medical care—for he would give a pauper boy with intelligence the same right to sit at his feet and question him that he refused a wealthy young dullard who offered good fees. So it seemed natural that he would have died.

His writings bore out that impression. The magnum opus, which men were still debating, was now sixty years old. The last book, a small volume of essays, was published twenty years back, and even it had been a gentle anachronism, the style as easy and the thought as careful as if Earth still held a few countries where speech was free. Since then he had lived in a tiny house on the Sognefjord, avoiding the publicity which he had never courted. The district was a fragment of an older world, where a sparse population still lived largely by individual effort, men spoke with deliberateness in a beautiful language and cared that their children be educated. Anker taught elementary school for a few hours a day, received food and housekeeping in return, and divided the rest of his time between a garden and a final book.

On a morning in early summer, when dew still lay on his roses, he entered the cottage. It was centuries old, with a red tile roof above ivied walls. From here a man could look down hundreds of meters, wind, sun, and stone, a patch of wildflowers, a single tree, until he saw cliff and cloud reflected in the fjord. Sometimes a gull sailed just in front of the study window.

Anker sat down at his desk. For a moment he rested, chin in hand. It had been a long climb up from the water's edge, and he had often been forced to stop for breath. His tall thin body had grown so frail he sometimes thought he could feel the sunshine streaming through. But it needed little sleep, and when the light nights came—*the sky was like white roses,* someone had written—he must go down to the fjord.

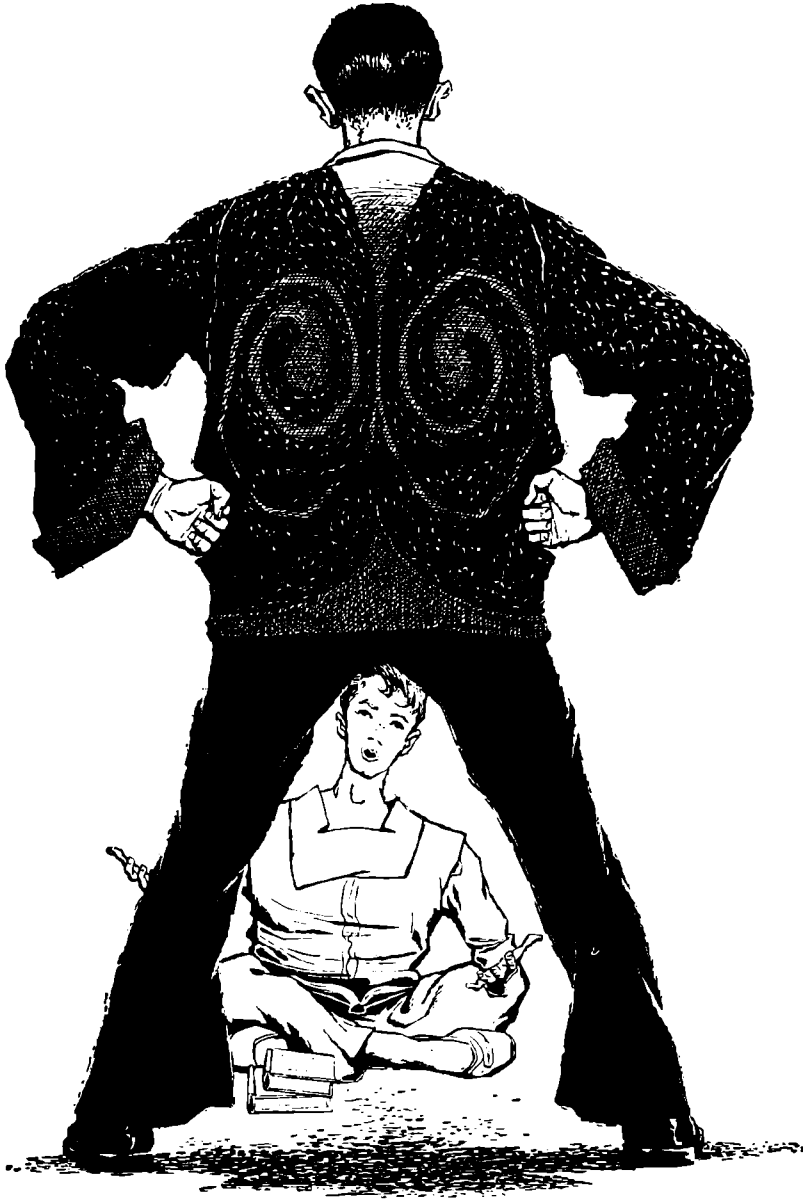
Well. He sighed, brushed an unruly lock off his forehead, and swiveled the 'writer into position. The letter from young Hirayama was first on the correspondence pile. It was not very well written, but it had been written, with an immense will to say, and that was what counted. Anker was not opposed to the visiphone per se, but quite apart from avoiding interruptions of thought, he had a duty not to own one. The young men must be forced to write if they wanted contact with him, because writing was as essential to the orderly training of the mind as conversation, perhaps more so, and elsewhere it was a vanishing skill.

His fingers tapped the keys.

My dear Saburo,

Thank you for your confidence in me. I fear it is misplaced. My reputation, such as it is, has been gained largely by imitating Socrates. The longer I think upon matters, the more I believe that the touchstone is the epistemological question. How do we know what we know, and what is it we know? From this query a degree of enlightenment sometimes comes. But I am not at all certain that enlightenment is very similar to wisdom.

However, I shall try to give positive answers to the problems you bring me, keeping always in mind that the only real answers are those a person finds for himself. But remember that these are the opinions of one who has long shut himself away from modern reality. I think it has afforded a gain



in perspective, but I look out of an old reality, now becoming quite alien, out of salt water and rowan trees and huge winter nights, on the active human world. Surely you are far more competent to handle its practical details than I.

First, then, I do not recommend that you devote your life to philosophy, or to basic scientific research. "The time is out of joint," and there would be nothing for you but a sterile repetition of what other men have said and done. In this judgment I am guided by no Spenglerian mystique of an aged civilization, but by the very hardheaded observation of Donne that no man is an island. Be you never so gifted, you cannot work alone; the cross-fertilization of equally interested colleagues, the whole atmosphere, must be there, or originality becomes impossible. Doubtless the biological potential of a Periclean era or a Renaissance always exists: genetic statistics guarantee that. But social conditions must then determine the extent to which this potential is realized, and even the major forms of expression it takes. I hope I am not being a sour old man in thinking that the present age is as universally barren as the Rome of Commodus. These things happen.

But—second—you ask implicitly if something can be done to change this. In all frankness, I have never believed so. There may be theoretical ways, just as it is theoretically possible to turn winter into summer by hastening the planet along its orbit. But practical limitations intervene; and it is just as well that mortal men with mortal scope do not have the power of destiny.

You seem to think that I was, on the contrary, once active in politics, a founder of the Constitutionalist movement. This is a popular fallacy; I had nothing to do with it, and never even met Laird. (He is rather a mysterious figure anyway, I gather, suddenly appearing without any background — presumably of Lowlevel birth, self-educated—and vanishing as completely after a decade. Murdered, perhaps?) He was an enthusiastic and understanding reader of mine, but made no attempt at personal contact. He said he was only applying my principles to a concrete situation. His phenomenal rise came after the suppression of the North American revolt, when a crushed, despairing socio-economic-ethnic group turned toward a leader who put their inchoate beliefs into sharp focus and who offered them a practical set of rules to live by. Actually these rules amounted to little more than the traditional virtues of patience, courage, thrift, industry, with an interwoven scientific rationalism, but if it has heartened them in their comeback I am honored that Laird quoted me.

However, I see no long-range hope for them. The tide is ebbing too strongly. And now, I hear, the masters have decided to eliminate Constitutionalism as a danger to the *status quo*. It is being very cleverly done, in the guise of free education; but it amounts to absorbing the next generation into the common ruck. Let me be grateful that this poor district does not qualify for a public school.

If we cannot reform society, then, can we save ourselves? There is a traditional way. As the Old Americans would have put it: *Get the hell out!* The monastic orders of the post-Roman past, or of feudal China, India, and Japan, did this, in effect; and I note that their latter-day equivalent is becoming more prominent every decade. It has been my own solution too, though I prefer being an anchorite to a cenobite. The advice grieves me, Saburo, but this may be the only answer for you.

There was once another way out, Christian leaving the City of Destruc-

tion in the most literal sense. American history is full of examples, Puritan, Quaker, Catholic, Mormon. And today the stars are a new and more splendid America.

But I fear this is not the right century. The pioneering misfits I speak of departed from a vigorous society which took expansion for granted. It is not characteristic of moribund cultures to export their radicals. The radicals themselves have little interest in departure. I would personally love to end my days on this new planet Rustum, deep though my roots are here, but who would come with me?

Therefore, Saburo, we can only endure, until

Anker's hands fell off the keys. The pain through his breast seemed to rip it open.

He stood up, somehow, clawing for air. Or his body did. His mind was suddenly remote, knowing that it had perhaps a minute to look down upon the fjord and out to the sky. And he said to himself, with a strange thankful joy, the promise three thousand years old, Odysseus, death will come to you out of the sea, death in his gentlest guise.

Everybody knew Jan Svoboda was estranged from his father the Commissioner. But no orders for his arrest, or even his harassment, had ever come, so presumably the parent retained a certain affection for the child and a reconciliation was possible. This would in fact, if not officially, re-elevate the young Citizen to Guardian status. Therefore it was advisable to stay on the right side of him.

And thus Jan Svoboda could never be sure how much of his rise was due to himself and how much to some would-be sycophant in the Oceanic Minerals office. With few exceptions, he could not even be sure how many of his friends really meant it. Nor did his attempts to find out, or his occasional blunt questions, lead anywhere. Certainly not! He became a bitter man.

His father's educational decree provoked a tirade from him which brought envy to the eyes of his fellow Constitutionalists. They would have liked to make those remarks, but they weren't Commissioner's sons. Their own formal appeals were denied, and they settled down to make the best of a foul situation. After all, they were a literate, well-to-do, pragmatically oriented class; they could give supplemental instruction at home, or even hire tutors.

The new system was established. A year passed.

On a gusty fall evening, Jan Svoboda set his aircar down at home. Great gray waves marched from the west and roared among the house caissons.

Their spume and spindrift went over the roof. The sky streamed past, low and ragged. Visibility was so narrow that he could see no other houses at all.

Which suited him, he thought. A sea dwelling was expensive, and though well paid, he could only afford this one because a Constitutionalist normally led a quiet life. Even so, he felt the pinch. But where else

could a man live these days without a horizon cluttered by oafs?

His car touched wheels to the main deck, the garage door opened for him and closed behind, he got out into an insulated quietness. Faintly came a whisper that was gymbal mountings, gyrostabilizers, air conditioner, power plant; louder were the hoot of wind and the ocean where it brawled. He had a wish to step out and take the cold wet air in his face. Those idiots in the office today, couldn't they *see* that the ion exchange system now in use was inefficient at tropical concentrations, and a little basic research could produce a design which —Svoboda hit the car with a knotted fist. It was no use. There was nothing to fight, you might as well try to catch water in a net.

He sighed and entered the kitchen. He was a medium-sized, rather slender man, dark, with high cheekbones and hooked nose and a deep, premature wrinkle between his eyes.

"Hullo, darling." His wife gave him a kiss. "Ouch," she added. "That was like bussing a brick wall. What happened?"

"The usual," grunted Svoboda. He heard startling silence. "Where're the kids?"

"Jocelyn wanted to stay ashore overnight with a girl friend. I said it was all right."

Svoboda stopped. He stared at her for a long time. Judith took a backward step. "Why, what's the matter?" she asked.

"What's the matter?" His voice rose as he spoke. "Do you realize we broke off yesterday in the middle of the conformal-mapping theorem? She just can't get it through her head. No wonder, with her whole day given to Homemaking or some such ridiculous thing, as if her only choice in life fell between being a rich man's toy and a poor man's slave. And how do you expect she'll ever be able to think without knowing how language functions? Great horny toads! By tomorrow night she'll have forgotten everything I said!"

Svoboda grew aware he was shouting. He stopped, swallowed, and considered the situation objectively. "All right," he said. "I'm sorry. You did not know, I guess."

"Perhaps I did," said Judith slowly.

"What?" Svoboda, who had been leaving the kitchen, spun on his heel.

She braced herself and told him: "There's more to life than just discipline. You can't expect healthy youngsters to go to the mainland four days a week, six hours a day, meeting other children who *live* there, hearing games planned, excursions, parties—after school—and then return here, where there isn't anyone their age, nothing but your lessons and your books."

"We go sailing," he argued, taken aback. "Diving, fishing . . . visiting, even. The Lochabers have a boy David's age, and the de Smets—"

"Somebody they meet once a month!" interrupted Judith. "Their friends are on the mainland!"

"Fine lot of friends," snapped

Svoboda. "Who's Jocelyn staying with?" She hesitated. "Well?"

"She didn't say."

He nodded, stiff in the neck muscles. "I thought so. You see, we're old fogies. We wouldn't approve of a fourteen-year-old girl at a harmless little marijuana party. If that's all they have planned." He shouted again: "Well, this is the last time it happens. Any more such requests are to be turned down flat, and hell take their precious social lives!"

Judith caught a shaky lower lip between her teeth. She looked away from him and said, "It was so different last year."

"Of course it was. We had our own schools then. No need for extra instruction, because the right things were taught during the regular hours. No need to worry about their schoolmates—all our kind, with decent behavior and sensible prestige symbols. But now, what can we do?"

Svoboda passed a hand across his eyes. His head ached. Judith came over and rubbed her cheek across his breast. "Don't take it so hard, sweetheart," she murmured. "Remember what Laird always used to say. 'Cooperate with the inevitable.'"

"You're omitting what he meant by 'co-operation,'" replied Svoboda gloomily. "He meant to use it the way a judo master uses his opponent's attack. We're forgetting his advice, all of us are forgetting, now that he's gone."

She held him close for a wordless minute. The glory came back, he looked beyond the wall and whispered, "You don't know what it was like, coming into the movement as late as you did. I was just a child myself, and my father jeered at him all the time, but I saw the man speak, both video and live, and even then I knew. Not that I really understood. But I knew here was a tall man and a beauitful voice, talking about hope to people whose kin lay dead in bombed-out houses. I think afterward, when I began to study the theory of it, I was trying to get back the feeling I had had then . . . And my father could do nothing but make fun of it!" He stopped. "I'm sorry, dear. You've heard this from me often enough."

"And Laird is dead," she sighed.

He blurted in reborn anger what he had never told her before: "Murdered. I'm sure of it. Not just some chance Brother on a dark street . . . no, I got a word here, a hint there, my father had spoken to Laird privately, Laird had grown too big . . . I accused him to his face of having had Laird done away with. He grinned and did not deny it. That was when I left him. And now he's trying to murder Laird's work!"

He tore free of her and stormed from the kitchen, through the dining room on his way out. A taste of the gale might cool the boiling in him.

On the living room floor, his son David sat cross-legged, swaying with half shut eyes.

Svoboda stopped. He was not noticed.

"What are you doing?" he said at last.

The nine-year-old face turned up to him, briefly dazed as if wakened from sleep. "Oh . . . hello, sir."

"I asked what you were doing," rapped Svoboda.

David's lids drooped. Looking from beneath them, he had a curious sly appearance. "Homework," he muttered.

"What kind of homework is that? And since when has that flatheaded wretch of a teacher made any demand on your intellect?"

"We're to practice, sir."

"Quit evading me!" Svoboda planted himself above the boy, fists on hips, and glared down. "Practice what?"

David's expression was half mutinous, but he seemed to decide on cooperation. "El, el, elementary attunement," he said. "Just to get the technique. It takes years to have the actual experience."

"Attunement? Experience?" Svoboda stood back. He had again the sense of trying to net a river. "Explain yourself. Attunement to what?"

David flushed. "The Ineffable All." It was a defiance.

"Now wait," said Svoboda, fighting for calm. "You're in a secular school. By law. You're not being taught a religion, are you?" For a moment, he hoped so. If the government ever started favoring one of the million cults and creeds over another, it would guarantee trouble—which might make a wedge for—

"Oh, no, sir. This is fact. Mr. Tse explained it all."

Svoboda sat down beside his son. "What kind of fact?" he asked. "Scientific?"

"No. No, not exactly. You told me yourself, science don't have all the answers."

"Doesn't," corrected Svoboda mechanically. "Agreed. To maintain that proposition is equivalent to maintaining that the discovery of structured data is the sum total of human experience: which is a self-evident absurdity." He felt pleased at the control in his own voice. There was some childish misunderstanding here, which could be cleared up with sensible talk. Looking down on the curly brown head, Svoboda was almost overwhelmed by tenderness. He wanted to rumple the boy's hair and invite him to the sun porch for a game of catch. However—

"In normal usage," he explained, "the word 'fact' is reserved for empirical data and well-confirmed theories. This Ineffable All is an obvious metaphor, and thus has no place in factual discourse. You must mean you're studying some form of aesthetics."

"Oh, no, sir." David shook his head vigorously. "It's *true*. A higher truth than science."

"But then you are speaking of religion!"

"No, sir. Mr. Tse told us about it, and all the older kids in his school are already in, uh, in some degree of attunement. I mean, by these exercises you not only ap, ap, apprehend

the All but become the All, which you aren't every day, I mean—"

Svoboda leaped back to his feet. David stared. The father said in a tone that shook: "What sort of nonsense is this? What do those words All and Attunement mean? What structure has this identification, which is somehow only an identification on alternate Thursdays, got? Go on! You know enough basic semantics to explain it to me clearly. You can at least show me where definitions fail and ostensive experience takes over. Go on, tell me!"

David sprang up, too. His fists were clenched at his sides and tears stood in his eyes. "That don't mean anything!" he yelled. "You don't! Mr. Tse says you don't! He says all this playing with words and d-d-definitions, logic, it's all a lot of hooey! He says it's all down on the material plane, and the real fact is Attunement and I'm only hindering myself by studying logic and, and, and the older kids all laughed at me! I don't want to study your old semantics! I don't want to! I won't!"

Svoboda regarded him for an entire minute. Then he strode back through the kitchen. "I'm going out," he said. "Don't wait for me." The garage door shut behind him. Moments afterward, Judith heard his car take off into the storm.

Theron Wolfe shook his head. "*Tsk-tsk-tsk,*" he scolded. "Temper, temper."

"Don't tell me it's immature to get angry," said Jan Svoboda in a dull voice. "Anker never wrote any such thing. Laird said once it was nonsane, not to get angry, in atrocious situations."

"Agreed," said Wolfe. "And no doubt you relieved your glands considerably by flying to the mainland, storming into poor little Tse's one-room apartment, and beating him up before the eyes of his wife and children. I don't see that you accomplished much else, though. Come on, let's get out of here."

They left the jail. A respectful policeman bowed them toward Wolfe's car. "Sorry about the misunderstanding, sir," he said.

"That's all right," said Wolfe. "You had to arrest him, since he wasn't doing his brawling in Low-level and you didn't know he was the Psychologics Commissioner's son."

Svoboda lifted a tired lip. "But you did well to call me as he insisted."

"Do you wish to file any charges against the Tse person?" asked the officer. "We'll take care of him, sir."

"No," said Svoboda.

"You might even send him some flowers," suggested Wolfe. "He's only a hack, executing his orders."

"He doesn't have to be a hack," clipped Svoboda. "I'm sick of this whine, 'Don't blame me, blame the System.' There isn't any system: there are men, who act in certain ways."

Wolfe's Jovian form preceded him into the car. The merchant took the controls and they murmured up the ramp. Presently they were air-

borne. It was still night, still windy; the jeweled web of Highlevel illumination stretched thin above the city darkness; low in the east, a hunchbacked moon sent flickers of light off a black restless Atlantic.

"I had your car picked up and shot a message to Judith," said Wolfe. "How about staying overnight with me and taking a holiday tomorrow?"

"All right." Svoboda slumped.

Wolfe put the autopilot on Cruise, offered a cigar, and struck one for himself. Its red glow as he sucked sketched his features upon shadow, a goateed Buddha with a faint Mephistophelean smile. "Lôok here," he said, "you were always a hairtrigger type, but basically levelheaded. Otherwise you wouldn't be a Constitutionalist. Let's examine the situation. Why do you care what your children become? I mean, naturally you want them to be happy and so on, but does it have to be your kind of happiness?"

"Let's not get into the hedonistic fallacy," said Svoboda with a weary sort of annoyance. "I want my kids to become the right sort of human adults."

"In other words, not only individ-

uals, but cultures have an instinct to survive," said Wolfe. "Very good. I agree with you. Our particular culture emphasizes the conscious mind, perhaps too much for perfect health but there you are. It's being swallowed up in a new culture which exalts a set of as-yet-undefined subconscious functions. We're like the Jewish Zealots, English Puritans, Russian Old Believers, all trying to restore certain basics they felt had been corrupted. (And actually, like them, creating something altogether new, but let's not dim that fine fresh purposefulness of yours with too much analysis.) Also like them, we're more and more at odds with the surrounding society. At the same time, our beliefs are becoming popular with a certain class of people, all over Earth. This in turn alarms the custodians of things-as-they-are."

"Well?" said Svoboda.

"Well," said Wolfe, "I don't see how conflict is to be avoided, and physical force is still the *ultima ratio*. But I don't advise putting well-meaning little teachers in the hospital."

Svoboda sat up straight. "You don't mean another rebellion?" he exclaimed.

"Not like the last fiasco," said Wolfe. "Let's not end up like the Old Believers. The Puritan Commonwealth is the analogy we desire. It'll take patience . . . yes, and prudence, my friend. What we must do is organize. Not too formally, but we must be able to act as a group. It won't be hard to achieve that much; you aren't the only man who resents what's being done to his children. Once organized, we can start making our weight felt. Boycotts, for instance; bribes to the right officials; and please don't look shocked when I point out that Lowlevel is full of skilled assassins with very reasonable fees."

"I see." Svoboda was calmer now. "Pressure. Yes. We may be able to get our schools restored, if nothing else."

"Don't forget," said Wolfe, "pressure provokes counterpressure. If we act, the government will react, and then we must react to that. The possible, even probable end result is war."

"What? No!"

"Or a *coup d'état*. Most likely civil war, though. Since a few military and police personnel already subscribe to Constitutionalism, and we can hope to recruit more, we've a chance to win. If we proceed with care. This can't be hurried. But . . . we might start quietly caching weapons."

Again Svoboda was jarred. He had seen dead men in the streets, when he was a child. Next time there might even be the ultimate violence of the nuclear bomb or the artificial plague. And how much rebuilding would be possible afterward, on this impoverished globe?

"We've got to find another way," he whispered. "We can't let it go that far."

"We may have to," said Wolfe. "We will most certainly have to threaten to. Or else go under." He glanced at the profile beside him. It

stood sharp against a few stars, already stiffening with resolution which, nourished, could become fanaticism. Wolfe nearly declared what was really in his mind, but stopped himself.

Commissioner Svoboda looked at the clock. "Get out," he said. "All of you."

The guards obeyed in surprise. Only Iyeyasu remained; that went without saying. For a moment the big office was quiet.

"Your son comes now, yes?" asked the Okinawan.

"In five minutes," said Svoboda. "He'll be prompt, if I know him. To be sure, men change, and we haven't spoken for a good many years."

He felt a nervous tic in the corner of his mouth. It wouldn't stop. The dwarfish man scrambled from his chair and limped across to the full-wall transparency. The towers and ways shimmered below him, heated, but winter lay in pale sky and far-looking frosty sun. A late winter this year. Svoboda wondered if it would ever end.

Not that the season mattered, when your life ran out in offices. But he would like to see the cherry orchard crowning this building bloom once more. He had never allowed the roof to be greenhoused. Let's keep a little unscientific nature in the world!

"I wonder if that's why technological civilization is dying," he mused. "It may not be the loss of resources, or the uncontrolled obsession to reproduce, or the decline of literacy, or the rise of mysticism, or any such thing at all. Those may only be effects, and the real cause be a collective unconscious revolt against all this steel and machinery. If we evolved among forests, do we dare cut down every tree on Earth?"

Iyeyasu didn't answer. He was used to his master's moods. He looked at him with compassionate small eyes.

"If this be so," said Svoboda, "then perhaps my maneuverings have served no real purpose. But come, we Practical Men have no time to stop and think."

The sardonicism uplifted him. He went back and sat down behind his desk and waited, a cigarette between his fingers.

The door opened for Jan on the stroke of 0900. Svoboda's first shocked thought was *Bernice.* Oh, God, he had forgotten how the boy had Bernice's eyes, and she fifteen years in the earth. He sat for a moment in an aloneness that stung.

"Well?" said Jan coldly.

Svoboda braced his thin shoulders. "Sit down," he invited.

Jan perched on a chair's edge and stared across the desk. He had grown a lot thinner, his father noticed, and tense, but the youthful awkwardness was gone. An uncompromising harsh face jutted above that plain gray tunic.

"Smoke?" asked the Commissioner.

"No," said Jan.

"I hope everything is all right at home? Your wife? Your children?"

Most men are privileged to see their own grandchildren. Ah, stop sniveling, you tinpot Machiavelli.

"We are in physical health," said Jan. His voice was like iron. "You are a busy man, Commissioner. I don't wish to take up your time unduly."

"No, I suppose not." Svoboda put another cigarette between his lips, remembered he was still holding the first, and ground it out with needless violence. Self-control returned, to parch his tones. "I imagine, when the question of a conference between myself and a representative of your new Constitutionalist Association first arose, it seemed most natural for me to have your president, Mr. Wolfe, come see me. You may wonder why I specified you instead, who are only the engineering delegate on your policy committee."

Jan's mouth tightened. "I hope you did not plan a sentimental appeal."

"Oh, no. The fact is, Wolfe and I have had several discussions." Svoboda chuckled. "Ah-ha. That startled you, eh? Now if I were determined to wreck your organization, I would let you stew over the fact. But the truth is merely that Wolfe talked to me on the 'phone, unofficially, and sounded me out on various points. Of course, that entailed me sounding him out too, but we came to a tacit agreement."

Svoboda leaned on his elbows, puffed smoke, and went on: "It's been several months since your organization was formed. Constitutionalists have been joining it by the thousands, all over the world. What they want from it varies—some, a spokesman for their grievances; some, doubtless, a revolutionary underground; the majority probably have no more than vague unformulated expectations of help. Since you have not yet adopted any clear-cut program, you have disappointed no one. But now your committee must soon come up with a definite plan of action, or see the outfit revert to jelly."

"We will," said Jan. "Since you know so much, I can tell you what our first step will be. We're going to make a formal petition for repeal of your so-called school decree. We're not without influence on several of our fellow Commissioners. If the petition is denied, we will call for stronger measures."

"The economic squeeze." Svoboda's big bald head nodded. "Thereafter strikes, disguised as mass resignation. Boycotts. Civil disobedience, if that fails. And then— Oh, well. It's a classic pattern."

"Classic because it works," said Jan. The blood crept up his dark cheeks, making him heartbreakingly boylike again.

"Sometimes."

"You could save a lot of trouble all around by canceling the decree at once. In that case, we might be willing to compromise on a few points."

"Oh, but I'm not going to," Svoboda folded his hands as if in prayer, rolled his eyes upward, and chanted piously around his cigarette, "The public interest demands the public school."

Jan jumped erect. "You know that's only a hypocritical way of destroying us!" he exclaimed.

"As a matter of fact," said Svoboda, "I plan to have the curriculum modified next fall. The time now devoted to critical analysis of certain classics could better be spent in rote memorization. And then, with hallucinogens becoming so important socially, a practical course in their proper use—"

"You shriveled-up son of a sewer!" screamed Jan. He lunged across the desk.

Iyeyasu was there, without seeming to cross the floor between. The edge of a hand cracked down on Jan's wrist. The other hand, stiff-fingered, poked him in the solar plexus. Jan gasped out his wind and collapsed backward.

"Careful, there," warned Svoboda.

"No harm done, sir," Iyeyasu assured him. He eased Jan into the chair and began kneading his shoulders and the base of his skull. "He gets air back in a minute." With an ill concealed rage: "Is not a way to speak to your father."

"For all I know," said Svoboda, "he may have been literally correct."

The glaze left Jan's eyes, but no one talked for a while. Svoboda lit another cigarette and stared into space. He wanted to look at the boy, there might never be another chance, but it would be poor tactics. Jan slumped under Iyeyasu's mountainous form. At last he spoke, sullenly:

"I don't apologize. What else could you expect?"

"Nothing, perhaps." Svoboda made a bridge of his fingers and regarded his son across them. "There will certainly be resistance to such measures. And yet I am only underlining a conflict which would otherwise proceed to the same inevitable end. You did not let me explain why you, rather than Wolfe, are your people's representative today. The fact is that you are young and hot-headed, a much better spokesman for the upcoming Constitutionalist generation than an older, more cautious, less indoctrinated man. The extremists in your party might repudiate any agreement Wolfe made, simply because he is Wolfe, notoriously all things to all men. But if you endorse a plan of action, they will listen."

"What agreement can we make?" it snarled back at him. "Unless you return our children to us—"

"No maudlin figures of speech, please. Let me explain the difficulty. You and the government represent opposing ways of life. They simply cannot be reconciled. Once, perhaps, there was a possibility of co-existence. There may be again in the future, when the issues no longer seem vital. But not now. Just suppose that we did give in, repealed the education decree and reinstated your school system. It would be a victory for you and a defeat for us. You would gain not only your objective, but confidence, support, strength; we would lose correspondingly. How long before you made your next demand?

You have other grudges besides this. Having gotten back your schools, you may next want back the right to criticize political basics. If you gain that, you will want the right to agitate publicly. Having gotten that, you will want representation on the Commission. Then you will want laws against dope. Then— But I need not elaborate. It seems best to settle the issue now, once and for all, before you get too strong. And that's why you won't get as much support from my colleagues as you expect."

Jan bristled. "If you think this is the final word—"

"Oh, no. I have already indicated how you will fight. I'm also well aware of your potential for accumulating weapons, subverting military units, and at last resorting to force. A number of Guardians want to arrest the lot of you right now. But alas, you are too important. Imagine the chaos, if suddenly a fourth of the technical personnel in Minerals or Pelagiculture vanished, without even training their successors! Or if Wolfe was suddenly removed from his devious routes of supply, where would half the mistresses on Highlevel get new gowns to outshine the other half? Then, also, it's notorious that martyrs are a stimulant to any cause. There would be plenty of young men, who had never cared one way or another about your philosophy, suddenly fired by the vision of a thing bigger than themselves— Yes, we might provoke the very war we were setting out to forestall."

Svoboda leaned back. He had the boy on the ropes now, he saw: bewildered eyes, half parted lips, a hand raised as if uncertain whether to defend or appeal or offer thanks.

"There is a possible compromise," he said.

"What?" The question was barely audible, in that big room which faced a winter sky.

"Rustum. E Eridani II."

"The new planet?" Jan's head snapped up. "But—"

"If the most dissatisfied Constitutionalists left voluntarily, after making proper arrangements for replacement personnel and so on, the pressure would be off us. Then, in time, we could back down on the school issue and please your stay-at-home fellows, without actually being defeated on it. Or, even if we didn't, *you* would be quit of us. The successful planting of a colony would be kudos for the Commission, a shot in the arm for space travel, and therefore well worth our support and encouragement. As for the considerable expense involved—you all own valuable property which couldn't be taken with you, so you can sell out and thereby finance the passage and the necessary equipment.

"It's an old pattern in history. Massachusetts, Maryland, Pennsylvania, were all promoted by a government which was hostile to the ideals involved. Why not a repeat performance?"

"But twenty light-years," whispered Jan. "Never to see Earth again."

"You'll have to give up a lot," agreed Svoboda. "But in return, you

will escape the risk of destruction by force or absorption by my evil schemes." He shrugged. "Of course, if your nice radiant-heated sea house is more important than your philosophy, by all means stay home."

Jan shook his head, as if it had taken a blow. "I'll have to think about it," he mumbled.

"Consult Wolfe," said Svoboda. "He's already looked into the matter."

"What?" The eyes that were Bernice's grew candid with surprise.

"I told you Wolfe is not a fire-eater," said Svoboda, grinning. "I gather he's discussed the possibility of war, and done some organizing for it, but I suspect he's really been trying for no more than a strong bargaining position—so he can make us send you to Rustum."

This was the right note, he saw. If Wolfe the mentor had really been operating behind the scenes, Jan would have less fear of a bomb in whatever scheme was proposed.

"I'll have to talk to him." The boy stood up. He was suddenly trembling. "To all of them. We'll have to think— Good-by."

He turned and stumbled toward the door.

"Good-by, kid," said Svoboda.

He didn't think Jan heard him. The door closed.

Svoboda sat without moving for a long time. The cigarette between his fingers burned so low that it scorched him. He swore, dropped it in the disposer, and struggled to his feet. The broken foot was hurting him again.

Iyeyasu glided around the desk. Svoboda leaned on the tree trunk arm, shuffling to the clear wall until he could stare out and catch a glitter of open ocean.

"Your son comes back, yes?" asked Iyeyasu finally.

"I doubt it," said Svoboda.

"You wanting them to go to the planet?"

"Yes. And they will. I haven't been working all these years without getting to know my machinery."

The sun out there was pale, but its light hurt Svoboda's eyes, so he had to rub them with a knuckle. He said aloud, in a precise but somehow not steady tone: "Old Inky was an educated man in his way. He used to claim that the only axiom in human geometry is, the straight line is not the shortest distance between two points. In fact, there are no straight lines. I find that's pretty true."

"This was your plan, sir?" Iyeyasu's voice held more sympathy than intellectual interest.

"Uh-huh. Anker's work showed me there was no hope for Earth in the foreseeable future. Maybe something will evolve here a thousand years hence, but that won't help my son much. I wanted to get him out while there was still time. But he couldn't go alone. It would have to be as part of a colony. And the colonists would have to be healthy, independent, able people—nothing else was likely to survive. I was gambling that a habitable planet would

be discovered, but I could not gamble that it would be very hospitable . . . But why should such people leave? On the whole, given half a chance, they would do rather well at home.

"So there had to be an obstacle on Earth which sheer drive and intelligence could not overcome. What sort would that be? Well, it's in the nature of intercultural conflicts to be insoluble. When axioms clash, logic is helpless. So I set up a rival society within the Federation. That wasn't hard. Here in North America, a dying culture had just tried to assert itself by rebellion, and failed; but it wasn't dead yet. It only needed to be given a new spirit and a sense of direction. I had Anker's philosophy for a background. I had Laird, a marvelous actor with much brains and no conscience. He proved expensive, but faithful, largely because I made it plain what would happen if he wasn't. When his work was finished, I retired him—a new face, a new name, and a lavish pension. He caroused himself to death four years ago. Of course, the possibility that I had had Laird murdered was always left open: the first irritating wound. Among others."

Svoboda remembered a boy who raged from the house and never came back. He sighed. One can't foresee every detail. At least Bernice's grandchildren would grow up as thinking individuals, if Rustum didn't eat them first.

"I think we're over the hump now," he said. "From now on, we can sit back and watch the wagon roll downhill. With stars at the bottom of the hill."

"We go south," suggested Iyeyasu clumsily. "We will get a telescope and you can watch his new sun."

"I imagine I'll be dead before he gets there," said Svoboda. He gnawed his lip a moment, then straightened and hobbled from the window. "Come on. Let's go visit some fellow Commissioner and be nasty."

THE END

THE ANALYTICAL LABORATORY

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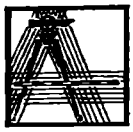
THE EDITOR.

SEEDLING

BY CHARLES V. de VET

No man ever acts on the Truth; he can only act on what he understands the Truth to be. Which can, at times, make possible something that Truth would make impossible altogether!

Illustrated by Schoenherr



A SMALL armored lizard pokes its dim-witted way through the jungle growth that hides the face of its world like a beard of blunt tangled whiskers. It pauses and settles cautiously to the ground as an evil-eyed, spike-backed snake crosses its path. After a minute the lizard raises its fluid-plated body and plods onward, its head swiveling sluggishly from side to side.

It reaches a narrow clearing in the twisted undergrowth. Here the lizard crouches again. From behind comes an orchestration of wicked and weird sounds and calls as the jungle life awakens to the signaling shadows of evening: Muted chords of bill on wood, the *blip blip* of a noisy swimmer, and a humming cadence of avaricious insect life. The echo of a foghorn bellow in the distance is drowned by a strangled shriek near at hand—as some creature dies. Night on the lizard's world will be normal.

The small animal's attention is not on the sounds behind. Its beady eyes study a tableau in the clearing ahead. A huge, hairy beast, with a bald, big-eared head, slumps unconscious in an oversized chair. Its massive limbs are strapped to the chair's armrests and front legs.

Beside the beast stand two men. It is on them that the lizard's dull interest is centered. They are the anomaly on this world.

With a concerted effort Caliban forced his slack eyelids open. His head had become too heavy for the flaccid support of his neck and his chin rested on his chest. His sight focused on the matted rust-brown hair on his body.

His body?

He lifted his head. A thin, pale-cheeked young man met his gaze, and stepped back, putting his hand nervously to the butt of the pistol on his hip. Caliban fitted a name to the anemic youth. Emery Mays. He turned his glance toward the tall man with the gray dust of age at his temples, who stood at Mays' left. This one was named Raymond Gorman.

"How do you feel, Cal?" Gorman asked.

The man was speaking to him. Caliban tried to tell him that he felt weak and sick, that his mind was a mass of blurred images that came and went, but his tongue was too weighty and his lips unable to form the unfamiliar words. All that came out was a low growl.

"It was kind of rough, wasn't it?" Gorman asked. His voice was gentle, the voice of a man doing a necessary, disagreeable job. "Just take your time, Cal," he said. After a minute he asked, "Can you understand what we're saying?"

Caliban nodded hesitantly.

"Good. Whenever you're ready, let us know what we can do to make things easier."

"E.z.r?" Caliban startled himself by speaking. The word was uttered harshly, gutturally slurred, but audible.

Gorman smiled with satisfaction.

"Fine, Cal, fine," he said. "Do you remember things now?"

Caliban blinked his blood-shot eyes wearily, but said nothing.

"No, I suppose not," Gorman mused. "But you will. We'll have to explain a lot, but everything we tell you will trigger more in your mind. Do you remember us landing here?" He brought one arm around in a half-circle and indicated the spaceship balanced on its fins behind him.

Caliban followed where he pointed, hesitated, and grunted an assent.

"I knew you would." Gorman went eagerly ahead. "We found this world just too savage to be surveyed by ordinary means. But the highest life form here was humanoid, so we devised another way to get the job done. You volunteered for the physical alteration necessary, and now you look as exactly like one of the natives as we were able to make you."

Caliban said nothing, but the interest with which he followed Gorman's explanation showed that he understood.

"You should recall your time under the operating machine, and the weeks we spent helping you get used to this physique," Gorman went on. "And the trouble you had learning to use your new body."

Caliban's mind was slowly becoming more rational, and as Gorman had said, his every word brought fresh remembrances. However, an acrid stench that had been hovering about him all the while wrenched at his stomach and his sickness rose suddenly into his throat. He strained forward. Only then did he notice the straps that bound him to his chair. He looked up at Gorman with mute appeal.

"We had to tie you," Gorman explained softly. "We didn't know how you'd react when you came out of the anesthetic. We just finished transferring the thought patterns of one of the natives—we've been calling them Apes—about an hour ago." He smiled with a weak attempt at humor. "With those muscles you could have torn us apart—if your first thought had been that you were the Ape whose memories we gave you."

Caliban's nostrils widened and his hairless face took on an expression of acute distaste. "S.s.tink!" he articulated laboriously, but with better success than his first attempt at speaking.

"I'm afraid that was necessary," Gorman answered. "To the best of our understanding their odor is the principal means of identity between tribe members—perhaps greater than sight recognition. If you wandered into an Ape settlement with the wrong scent—or worse, without any —you wouldn't live five minutes."

The odor of his own body threatened to overwhelm Caliban and his stomach writhed convulsively.

"I'll untie you, Cal," Gorman said, as he stepped forward.

"Don't be a fool!" Mays' words brought Caliban's attention to the youth he had observed first on awakening. His sallow features had become visibly whiter. "Do you want to kill us both?" he asked.

Gorman shook his head and proceeded to loosen Caliban's bonds. Mays stood indecisively, then drew his pistol, and backed quickly toward the spaceship. The man was a coward as well as a weakling, Caliban observed with passive interest. When the last strap had been loosened he lurched from his chair and let the distress empty itself on the ground.

"You'll feel better for that," Gorman said.

Caliban saw now that this man, too, was frightened. His untying Caliban, rather than retreating to the ship as Mays had done, had been a brave act. "I . . . won't . . . hurt you," he told Gorman.

"I know." Gorman's voice lacked conviction. "I think I'd better go in now though." He looked about him. "It's getting dark fast. It's better that you sleep out here—as you have been for the past few weeks. You aren't able to rest too well inside. But there's no danger. We have the area surrounded with an electric fence, you know. Be careful not to go too near it if you decide to wander about."

Caliban did not answer. He eased himself to the ground and curled into a tight ball. He was asleep before Gorman reached the spaceship.

The next morning Gorman decided that it was safe for Caliban to leave the protected area. "There isn't much more we can fill you in on, other than the background stuff we've already gone over," he said to Caliban. "Once outside you'll be on your own. However, you should be able to get by all right—if you use a reasonable amount of caution. I know you can't recall much of what you got from the Ape now, but whatever you observe outside, and any contacts you make, should trigger more of those memories." He waited, and when Caliban said nothing, asked, "You aren't afraid, are you?"

Caliban shook his head.

"I knew you wouldn't be," Gorman assured him. He signaled to Mays in the ship to shut off the current in the fence. "You can go through now," he said, opening a small gate. "Good luck." There was a forced heartiness in his voice.

Caliban walked the two hundred yards through the trees to the wide river that flowed sluggishly through the jungle. He had been moving quietly and as he came to the water's edge he surprised an Ape crouched on hands and knees lapping up the tepid water.

The Ape heard him at the same instant and whirled about, springing to his feet with the same motion. He crouched and bared stained teeth. The cuspids were abnormally long—measured by human standards. Instinctively Caliban matched the other's pose. For a moment they stood face to face, frozen in position, a snarl in the throat of each.

The Ape stood approximately seven feet tall and his wide body must have weighed near to six hundred pounds. Yet he was somewhat smaller than Caliban.

Caliban became aware that he understood the other's mouthings—and that he was answering!

"I am I, a fierce one," the Ape growled. "I have killed many."

Caliban noted, with the Earthian part of his mind, that there was no way of telling where one of the Ape's words left off and another began, for he was conveying his threats with no use of definite words. Rather the sounds, and their manner of expression, each conveyed a separate meaning.

His "I have killed many," expressed with a different inflection, would have had a different connotation entirely.

"I am I," Caliban answered, the observing portion of his mind noting that in the Ape language, individuals had no name, other than their way of saying, "I am I." He was aware, also, by the slight twitching of the other's large ears, that the Ape was not challenging. He was boasting to convince Caliban of his great prowess, hoping to scare him off.

"I journey up the river," Caliban growled. Here, as in all cultures, in whatever phases of advancement, "face-saving" was a must—if strife were to be avoided. "If one delays me, I will kill. Even such a fierce one as you." (The "you" was the Ape's own way of expressing "I am I.")

Having made their boasts, they cautiously circled each other and retreated. The Ape man kept his head turned to watch, while Caliban was certain enough of his own subtly acknowledged superiority to turn his back as he continued upriver.

Caliban reached the stopping place of a colony of Ape people late in the forenoon, and recognized it as his own tribe—or rather that of the Ape man whose personality he had acquired. Several of the tribe lounged on the river bank and growled warnings as he walked past, but the expressions were not threatening, and more in the nature of greetings than a show of hostility.

A large Ape, eating berries from a small tree that he had pulled down gave a surly grunt and went on eating — but watched Caliban warily. Caliban recognized him as a rival for the "strong one" of the tribe—the nearest they came to having a leader.

He found that he experienced little unease about his reception. Evidently the Ape personality was dominant in these surroundings. Only the Earthian segment of his mind experienced relief at the success of this first contact.

A female sitting by the river edge, with her feet dangling in the water, rose eagerly when she saw him approach and came over to him. Her manner was fawning. His young mate—the association clicked into place in Caliban's mind.

He growled curtly and made a display of paying no further attention to her. She followed at his heels without resentment as he made his slow progress through the territory of the tribe.

Caliban found a spot out of the hot sun beneath a jug-leafed tree and sat down with his back against its bole. Here the temperature was satisfyingly warm and he was quite comfortable, except for an occasional insect able to pierce his tough hide. He slapped at them perfunctorily when they bit, and they bothered him very little.

In the river a large black head suddenly broke the surface and gazed myopically at the tribesmen. After the first glances they paid little attention to the animal. It was one of the harmless Herbivora that fed on the river bottom vegetation.

Caliban blinked drowsily at the passing stream and soon drifted into a light sleep. He awoke to find the female sitting beside him—with her body resting against his chest. From a civilized view she was not an alluring specimen.

She had few of the humanly accepted female attractions. She was big-bellied and ugly, and her pendulous udders, crusted with filth, hung heavily on her breast. Idly Caliban wondered if she were with child. Her mouth was open and she breathed noisily, with her moist pink tongue hung out over one corner of her lower lip. A trickle of saliva ran thickly down her chin. But most disagreeable of all was her stench.

She smelled rancid, worse than Caliban's own odor—to which he had become enough accustomed to bear without retching. He pushed the female from him and cuffed her on the side of the head. He had a moment of mild surprise at his own harshness, even while realizing that his actions were quite in keeping with the character he had adopted.

The female whimpered meekly and hunched a short distance away, regarding him reproachfully.

During the late afternoon it began to rain and the Ape people left off their drowsing, and feeding along the river bank, and huddled in the shelter of bordering trees and bushes. Soon the rain began to come down harder, and a strong wind sprang up. It built up rapidly to storm proportions. The temperature dropped abruptly and the Apes gathered in small groups and huddled together, wet and miserable.

Caliban fared no better. He turned his back to the savage wind, but cold rain penetrated his fur and ran down his shivering body. He thought of returning to the ship, but it was several hours journey, and he did not want to go out into the storm. He was experiencing enough discomfort beneath his tree. What he needed was a better shelter. If only there were even a shack about . . .

With the thought Caliban rose, reluctantly, but purposefully. Any kind of action was better than sitting on the wet ground, growing more uncomfortable every minute.

He needed only a short search to find the kind of sinewy vine he wanted, and used it to bind together a framework of small trees and branches that he broke off with his hands. He covered the roof and sides with more branches, twined into the

framework, and the tougher large leaves, and eventually had a rainproof hut.

When he finished he crawled in out of the storm. The ground inside was still wet and he hunched down on his heels, pondering what else could be done. After a minute he went out again and dug into a pile of leaves under a neighboring tree. Beneath the top layer he found several thicknesses that were still dry. He made a dozen trips before he was satisfied with his new dwelling. He lay down gratefully.

With the storm outside, and the dryness inside the hut, Caliban soon felt a kind of torpid contentment. Once again he dropped off to sleep.

When he awoke the hut was dark. He felt a warm body at his side and explored cautiously. He recognized the whimper, and the odor, of the female. He did not force her from him. And not because of pity. Her warmth was welcome, and with his back turned to her the stench was not too bad to be borne.

Toward morning when Caliban awoke he found that the storm had ceased as abruptly as it had begun. He rolled over and went back to sleep. The next time he awoke he crawled outside and saw that the sun had already risen. An hour later the woods had dried, and the Ape people again sought shady spots out of the sun's heat.

Caliban wandered down the river bank with several of the Apes until they came to a grove of trees bearing a large hard-shelled fruit. He and the others broke the shells and ate the starchy meat inside. It was nutritious, and quite pleasant to the taste.

He returned to the settlement and found many of the natives busy copying the shelter he had made the night before. It had not taken them long to perceive the utility of the huts.

Caliban took his place against the bole of a shade tree and waited for he knew not what. His Ape nature was content, but the other part of him was restless—and irritable. The children of the tribe made a continuous noise—their play consisted of snapping and snarling, and frequent scufflings. The Ape droppings and passings in the area began to ripen in the hot sun and the stench soon became unbearable. His female added to his irritation. She was obviously in heat, and persisted in kittenish caperings about him. The thought of aping the activities of some of the males and females around him was nauseating. He would be glad when this job was over.

When at last he could tolerate the surroundings, and the company of the Apes no longer, he decided to return to the spaceship. He should have enough information to satisfy Gorman and Mays, for a time at least.

On the way back he circled two hammer-headed saurians fighting along the river bank, and after several hours sighted the clearing occupied by the spaceship. Gorman welcomed him back, though Mays either

did not trust him or was still frightened of him.

"So they were building shacks when you left?" Gorman seemed quite pleased. "I figured they'd turn out to be more intelligent than they appeared at first. My theory is that their easy life is their biggest handicap. They have all the food they need, with little effort required on their part. And they're big and powerful enough, especially when they live in groups, to be safe from any except the most savage animals. But a people has to have struggle to make cultural progress. It's not a pleasant thought, but pain is the great stimulus to advancement."

Caliban did not follow his reasoning too well, and he was not enough interested to make an effort to understand it better. He lay in the shade of the spaceship, moving only enough to keep it between him and the sun.

Gorman, too, stayed in the shade —but he kept busy. He had brought a portable saw from the ship and cut down a large tree. He sawed off two circular slabs which he carved into serviceable wheels. "You'll be able to use the cart I'm making to haul a few supplies, and some equipment, when you return to the Ape colony," he said. "I wish I had some ball bearings," he went on as he continued with his work, "but this wood is as hard as teak. The axle should last for a long time." Gorman seemed thoroughly preoccupied with his work, but his glance went often to Caliban.

Mays, who had spent most of the afternoon in the spaceship, came out just as Gorman finished with his cart. "What do you say we cook our dinner out here?" he said. "A barbecue should be fun." There was something oddly strained about his speech. He was like a bad actor, reciting his lines instead of speaking them.

"A good idea," Gorman approved. "By the way, I found an outcropping of flint rock this morning. I've always wondered if I could build a fire with it—like the American Indians did in the old days." He cut some shavings from a piece of soft wood laying near the ship and began working over them with two pieces of flint that he took from his pocket.

"Well, what do you know," Gorman exclaimed several minutes later. "It works!" He began fanning a tiny flame that he had started in the shavings. Caliban watched with awakened interest.

Gorman and Caliban ate heartily of the meal they prepared. Mays seemed to have little appetite.

Caliban's heavy meal brought its usual midday torpor and soon the sound of his rasp-throated snoring filled the clearing.

Mays edged nearer Gorman and spoke in an undertone. "Nice work, Ray. With the principle of the wheel, and fire, they'll advance ten thousand years in a few generations."

Gorman did not reflect his pleasure. "Sometimes I wonder if this sort of thing is right," he said grumpily. "Earth might be doing more harm than good by tampering this way

with primitive cultures. What right do we have to play God?"

Mays displayed little patience with the older man: "What are they losing? They'll live longer, and live better. We're saving them a generations-long period of struggle and hardship."

"I suppose you're right," Gorman agreed, without enthusiasm. "But how about him?" he asked after a minute, indicating the sleeping Caliban with an inclination of his head.

"What about him?"

"It's going to be pretty rough on him when he finds out the truth."

"Someone has to suffer," Mays argued. "And it's a small price to pay for the good that's being done."

"Is it?" Gorman asked. "Put yourself in his place. How would you feel when the time came? Would you consider it a small price?"

Mays shrugged noncommittally.

"Keep the strap around your shoulders. It'll be easier to pull that way," Gorman instructed Caliban the next morning. The cart was packed with supplies and Caliban was ready to start back to the Ape people.

"You can use the cart to bring back anything you find that we might be able to use. Especially any weapons or tools. They'll be a big help in pinpointing the exact culture stage. We'll probably take them with us when we leave."

"Where are you going to put them?" Mays asked irritably. "That's only a two-man spaceship, you know."

Gorman scowled fiercely in his direction and the young man grew silent. A slow flush stained his pale cheeks. Hurriedly Gorman let Caliban out through the small gate.

Caliban spent three days in the Ape camp this second trip. That was as long as he could stand the filth and promiscuous conditions in the settlement. And one other thing irked him: Some small unease that tantalized his thoughts. He couldn't place quite what it was. It seemed that it might be something one of the men back at the spaceship had said, something of vast portent.

The afternoon of the third day Caliban returned to the landing site.

The spaceship was no longer there!

With the discovery the unease that had irked Caliban's consciousness crystallized; Mays had said it was a two-man ship. A leaden weight seemed to form in Caliban's stomach.

Only two men had come to the planet—and only two had left.

That meant that he was . . .

Caliban's emotions grew numb, as from a sudden frost. He looked slowly about him, with empty eyes that seemed to be seeing this land then for the first time.

After a long minute he walked with lackluster steps out into his lonely world.

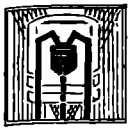
THE END

DEADLOCK

Illustrated by van Dongen

BY
ROBERT and BARBARA SILVERBERG

When brilliant, wise, and sincere men are in absolute disagreement—you can safely assume that they must both be wrong!



R. SALDANHA: *Would you say, sir, that transformation of Mars into a planet habitable for human beings could be achieved within a generation?*

Mr. Reed: *Definitely. Our estimate is that it would take fifteen to twenty years to handle the job properly, at the most.*

Mr. Saldanha: *Does this apply to Venus as well?*

Mr. Reed: *Oh, no. We haven't been thinking about terraforming Venus. It would be a lot more complicated than Mars. But we have the procedure all worked out for Mars already, you see.*

Mr. Saldanha: *What would be the cost of transforming Mars into a livable world, then?*

Mr. Reed: *The figures are all down in the specifications I submitted to this committee, Mr. Chairman.*

Mr. Saldanha: *Yes, of course. But would you be good enough to repeat them for the benefit of the listening audience?*

Mr. Reed: *It would be in the neighborhood of a hundred-eighty billion dollars, Mr. Chairman.*

Mr. Saldanha: *This cost figure is substantially higher than that proposed by the backers of the genetic alteration proposal, is it not? I believe Dr. Hwang estimated the cost of successful adaptation of human beings for life on Mars as something like one hundred ten billion dollars.*

Mr. Reed: *Yes, pantropy's cheaper. But when you've done that, what do you have? So far as Earth's immediate benefit is concerned, you have nothing. Absolutely nothing. I don't believe in false economy. I don't see how the Western countries could ever bring themselves to support the proposal of the Chinese bloc, Mr. Chairman. It's too fantastic to consider seriously.*

—Extract from transcript of hearing before the United Nations Commission on Planetary Colonization, 14 March 2052.

With an impatient flick of his hand, Dane Merrill snapped the video set off. The serene countenance of the Brazilian diplomat and the pouchy, seamed face of the American industrialist were dragged into an electronic whorl and out of sight. Scowling, Merrill wheeled round to face his wife. He was a heavy-set man, stocky and strong; at thirty-eight, he was an important figure in the operations of the United Nations.

"There you have it," he exclaimed angrily. "Right there, in a nutshell. Reed and his bunch think terraforming is the only answer, and they won't even *consider* the Chinese proposition, even though it's seventy billion bucks cheaper!"

"Won't the difference in cost affect the decision?" Ellen Merrill asked.

"Not very much. The money's just part of a bigger picture. Reed's argument is that it's better to spend a hundred eighty billion on something that's likely to bring you per-

petual returns, than to throw a hundred ten billion away with no return whatever. But the Chinese say that their process will give a greater return, for less than two-thirds the cost. And there it hangs, with neither side giving an inch. Ellen, it can hang there for a hundred years!"

"Surely some compromise—"

He shook his head. "There isn't any real compromise possible. You can't terraform half a world and seed the rest with pantropically altered people."

"What about the other plan they were mentioning, Dane?"

"The Scandinavian - Indonesian idea?" Merrill shrugged. "That's not a plan, it's an evasion. They want to build pressurized domes on Mars—on Venus too, for that matter—and let it go at that. But the scheme's ridiculous. No civilization can develop under a dome. The Moon colony proves that. Either you change the planet to fit the species, or you change the species to fit the planet—but you don't try to make the best of both factors when colonizing alien worlds. Uh-uh. It can't be done."

Merrill subsided. He had been through this with Ellen night after night for six weeks, ever since the matter had erupted into open debate at the United Nations. She had agreeably played straight man for him, allowing him to rid himself of some of his pent-up accumulation of nervous energy. But the daily routine of frustration was taking its toll on Merrill. That, and the growing sense of international strain.

Until six weeks before, he had been a member of the liaison staff of U.N. Secretary-General St. Leger. He had been a troubleshooter whose main task was to smooth over administrative difficulties in the United Nations. St. Leger could not do the whole job himself, and so he delegated some of his powers to trusted staff men. Merrill was a professional conciliator. His function in the hierarchy of the Secretariat was to keep the machinery oiled. But now, it seemed, the machinery was about to break down completely.

St. Leger had called him into his office six weeks ago, on the 30th of January. The plump, many-chinned, gimlet-eyed Canadian had gone through the usual ritual of offering Merrill a smoke and a drink, out of his private stock of eighty-four proof brandy, before he got down to the main business at hand.

"Dane, I'm going to relieve you from active duty for a while."

"Sir?"

St. Leger chuckled ponderously. "No, you haven't done anything wrong. I merely want to free you from routine work temporarily. I have a special project in mind for you. A most important project."

Merrill leaned forward, listening carefully. He stubbed out his cigarette.

St. Leger said, "In three days the Commission on Planetary Colonization is going to start holding hearings. The hearings—they'll be chaired by Senhor Saldanha of Brazil, by

the way—will continue until all aspects of the situation have been thoroughly trampled around, after which a series of resolutions will be presented to the General Assembly for consideration." The Secretary-General locked his hands over his burgeoning paunch. "I've done a little advance scouting, and I think I can extrapolate the outcome of the hearing. Deadlock. Flat, unbreakable deadlock. A deadlock that can endure all our lifetimes, and beyond, and keep Man chained down to Earth forever."

Merrill waited quietly. He knew St. Leger was not expecting questions. St. Leger was *telling*, not discussing.

"What I want you to do, Dane, is stay home and watch the debates on video. The rest of the time I want you to familiarize yourself completely with the situation—the historical background, the scientific implications, the personalities of the leading figures in the hearings—in short, everything that could possibly be relevant. Eat, breathe, sleep, and dream Planetary Colonization." St. Leger chuckled. "If Ellen gives you any trouble, let me know and I'll talk to her. But I don't think Ellen will give you any trouble."

"I hardly think so, sir."

"Good. She's a remarkably understanding woman. I envy you, at times—although bachelorhood has its advantages, too." St. Leger gripped the arms of his chair and said, "Some time this spring the hearing will end. Everyone involved will have run out of hot air to release. At that time, the situation will be in total deadlock, unless I miss my guess—and I haven't guessed wrong on anything important in fifteen years. That's when you step in. Using my name, of course. We'll have to negotiate some kind of compromise."

"But—"

"I know, no compromise seems to exist. Well, Dane, we'll have to *find* one. Or else the human race is going to remain strapped to its home planet by a gigantic swathe of red tape."

Mr. Saldanha: *Would you describe the process your laboratories have developed, Dr. Hwang?*

Dr. Hwang: *Its main technique, Mr. Chairman, is tectogenetic microsurgery. There are other auxiliary facets, of course. Irradiation of the genetic matter, polynuclear molding, DNA manipulation—*

Mr. Saldanha: *Pardon a layman's ignorance. What did you say?*

(Laughter)

Dr. Hwang: *DNA. Deoxyribonucleic acid. The basic hereditary material—the complex protein molecule in which the blueprint for the bodily design is carried. The nucleic acids are our prime targets in pantropic work, you see. We have even developed techniques for synthesizing desired molecule configurations to produce the intended somato-type.*

Mr. Saldanha: *I see. Using these techniques, you can alter the appearance of unborn individuals?*

Dr. Hwang: *We can alter far*

more than their appearance, Mr. Chairman. We can alter their entire metabolic systems.

Mr. Saldanha: *In other words, you can create beings capable of surviving the living conditions on Mars?*

Dr. Hwang: *We are confident of this. In the case of providing Martian colonists it would be necessary to create a metabolic cycle capable of extracting energy from carbon dioxide, and, of course, of subsisting in substantially lower temperatures than ours. This we can do.*

Mr. Saldanha: *Have you given any thought to the possibility of developing pantropic forms for other planets of the solar system—as well as the Moon?*

Dr. Hwang: *The Moon has no atmosphere. We are unable at present to conceive of a being that can perform respiration in a virtual vacuum. Most of the other planets have extremes of temperature or gravitational attraction that place them beyond reach of our present modest abilities.*

Mr. Saldanha: *What about Venus?*

Dr. Hwang: *The task of creating life forms to live in the Venusian atmosphere would be highly difficult, though within the range of possibility. It would take many years of further work.*

Mr. Saldanha: *I see. Tell me, Dr. Hwang: can such beings, capable of breathing the air of other worlds, be said to be "human"?*

Dr. Hwang: *It is pointless to bog down in semantic hairsplitting, is it not? The beings would come of human germ plasm. They would merely be fitted to their environment, as many undoubtedly human beings today are so fitted by skin coloration and other racial characteristics. The degree of environmental adjustment would be quantitatively much greater, of course. I do not believe it can be considered a qualitative difference.*

Mr. Saldanha: *You feel that your process will provide Earth with colonies that will remain within our economic sphere?*

Dr. Hwang: *I am a biologist, Mr. Chairman, not an economist. But I have the assurance of my government that the pantropic process is far more likely to yield results than the planetary transformation proposal. The nations of the Asian bloc will stand firmly against the squandering of United Nations funds in fruitless industrial operations.*

—Extract from transcript of hearing before the United Nations Commission on Planetary Colonization, 16 March 2052.

Dane Merrill had had six weeks to bone up on history, biology, and old-fashioned power politics. He listened to the bland voice of Dr. Hwang P'ei-fu with perfect knowledge that behind the biologist's Oxford vowels lay an implicit threat to planetary peace. The same threat had lurked below the rumbling tones of Michael Reed the day before. Reed, speaking for the industrial combine that spearheaded promotion of the Terraforming project, actually voiced the irrational fears and subliminal values of the entire Western world.

Westerners feared pantropy. The Asiatics mistrusted Western economic theorizing, and resented the brashness of the Western industrial approach. The conflict, Merrill thought, was as simple as all that.

But the solution was not so simple. The conflict's causes, he knew, were intertwined with the deepest roots of two cultures.

Merrill brooded. He scoured libraries, making himself an expert on all phases of the situation. He scanned science-tapes until his weary head swam with details on oxygen-fixing plants and nucleic acid manipulation. And, day after day, he watched the hearings stride closer and closer to perpetual deadlock.

The trouble was that the United Nations, as it had been reconstituted early in the twenty-first century, was both powerless and all-powerful simultaneously. It was a world government presiding over a confederation of national states, each with some degree of independent sovereignty within the larger framework of the U.N. Nations were subject to U.N. decisions—but they still had individual motivations for their actions, not global ones.

By the Treaty of 2009 that had followed the cataclysmic demise of the Soviet Empire, it was illegal for any nation to take any unilateral action in space beyond the twenty-mile atmospheric zone. The Western countries could not go off and terraform Mars without United Nations approval. The Asiatic countries could not plant a pantropically adapted colony on the red planet without an affirmative vote backing them. To do so would be to assert a right of national sovereignty that no longer legally existed. The United Nations, which was no greater than the sum of all its parts, held sovereignty in space. No trespassing by individual members could be tolerated, and no individual member—it was hoped—would dare to risk war by so trespassing.

But a two-thirds General Assembly majority was necessary for the approval of any kind of space activity. And with the nations of the world divided into opposing camps, someone would have to back down from his position—and do it gracefully, without losing face—before colonization of Mars could begin.

Merrill had conducted a quiet survey of United Nations sentiment, in the past few weeks. Of the one hundred five members, a Western Bloc of thirty-nine nations stood solidly behind the American plan for terraforming, with nine or ten European countries fence-sitting but leaning toward the West. Thirty-two nations comprised the Asiatic Bloc, supporting China's pantropy plan, with eight fellow-travelers among the Arab nations.

The remaining dozen-odd countries were either determinedly neutral or else had alternate plans of their own, such as the generally disliked Scandinavian-Indonesian plan for building atmospheric domes instead of self-sufficient colonies. One

thing was certain: neither bloc had anything close to the seventy votes necessary for approval. A deadlock was apparent. Barring the unthinkable—unilateral action in defiance of the U.N.—it was quite likely that St. Leger's melancholy prediction would be borne out, and that the colonization of the planets would indeed never begin.

It had been possible to reach the planets for nearly a hundred years. Spaceflight had had its first uneasy beginnings more than ninety years back, during the Nightmare Years, with the launching of the first unmanned orbital satellites in 1957. During the next ten years, the two rival global powers—then the United States and the Soviet Union—had engaged in a technological race that had enabled both countries, by 1965, to send manned observer rockets to the Moon. But the rockets had not landed. The problem of lunar sovereignty was a touchy one, too touchy for either of the major powers to take risks with. So no landings were made, though landings were possible.

Events had hovered in uneasy stasis that way for more than twenty years, with space travel technically feasible but politically impossible. Finally, in 1990, under the auspices of the revived International Geophysical Year, joint Soviet-American lunar landings were made, and shortly afterward the first explorations of Mars and Venus.

Both Mars and Venus proved to be without life, and uninhabitable for humans—Mars by virtue of its frigid climate and thin, unbreathable atmosphere, Venus because of its hothouse heat and its shroud of miasmous gases. Any colonization of the two planets would of necessity involve great technological alterations, either in the planets or in the colonists.

Matters remained at a standstill for the next decade, during which time the Depression of 2007 and the fierce revolutionary struggle in Eastern Europe and Asia that followed effectively removed the Soviet Union from her status as a major power, destroyed the Communist regime, and brought into being a dozen new states carved out of the extinct super-state. The Republic of China, purged of its medievalism by seven decades of intensive modernization, emerged as the dominant nation of the Eastern Hemisphere.

The International Treaty of 2009 was designed to facilitate the long-delayed beginning of space colonization by placing all authority in the hands of the United Nations. Within twenty years, a domed city under international control had been constructed on the surface of the Moon, and a ring of orbital satellites hung round the Earth to serve as radio-video relay stations, observation towers, and halfway houses for space travelers.

The pressure of an expanded economy now made the colonization of the planets desirable. By 2040 expeditions had scouted the nine

planets without finding life anywhere. Mercury, Jupiter, Saturn, Neptune, and Uranus would probably never be habitable for human beings. Pluto and the moons of the giant worlds were possibilities, but only in the distant future when thermonuclear energy could supplant the absent warmth of sunlight.

Mars and Venus were the only possibilities for the immediate future. But it was necessary either to build pressurized domes, as had been done on Luna, or to set about altering the planets themselves. Western scientific energy concentrated on devising a means for converting Mars to a livable world.

At this point the geneticists of Peiping quietly let the world know of their experimental techniques for altering fertilized human ova to produce beings adapted to the hostile Martian environment. The world was faced with alternate possibilities for extending man's dominion.

The world faltered on the brink of indecision. The world could not choose between the concepts of altering the planets to fit the colonists and altering the colonists to fit the planets. For six years the propagandists for both sides did their best, while the time of decision-making was postponed. Now matters were reaching a culmination. A decision had to be made. Some sort of a decision. Any sort of decision.

Mr. Saldanha: *Would you care to add your words to the statement just made, Mr. Kennedy?*

Mr. Kennedy: *As a private citizen, I must say I find the concept of pantropy a highly repugnant one. As Acting Head of the United States*

Delegation to this Commission, I'd like to say that we have every confidence in the accuracy and validity of the ideas Mr. Reed of the terraforming people has expressed, and we intend to back him one hundred per cent of the way.

—Extract from transcript of hearing before the United Nations Commission on Planetary Colonization, 16 March 2052.

The offices of Michael Reed, lobbyist extraordinary, were clustered on six floors of a shimmering chrome-plated skyscraper in Nyack, New York, at the extreme northern edge of the New York City Metropolitan District. Dane Merrill had tried unsuccessfully to gain an appointment with Reed for more than a week; finally, in desperation, he used the name of Secretary-General St. Leger, and was grudgingly given a half hour on the morning of March 17th.

He left his Bayonne apartment at half-past eight that morning, took a bus to Jersey City, and there boarded a nonstop underground tube-car that took him to Nyack in twenty minutes. At ten in the morning, he emerged from an elevator on the ninety-third floor of a building that loomed above Nyack like a cathedral above the Normandy plain, and found himself confronted by the icy glare of an android receptionist.

Reed had a finger in the brand-new android industry too, Merrill reflected. Androids were going to add to Earth's economic problems soon enough, once they got into production and started displacing humans from jobs. They were part of the reason why it was necessary to extend Earth's dominion to the other planets before too many more years went by.

Merrill met the android's cold stare. The things were still novelties; Merrill had not seen more than a dozen in his life. This one looked like a waxen image, and its eyes did not quite focus properly. Androids were still far from perfect.

But the voice had an adequately frigid receptionist's tone to it: "Whom do you wish to see, sir?"

"Mr. Reed. I've got an appointment. The name is Merrill. Dane Merrill, from the U.N. Secretariat." He phrased his words with exaggerated care.

"Have a seat kindly, Mr. Dane Merrill. I will check."

Merrill sat. The receptionist's window slid closed. A few minutes slipped by. Then the inner door opened and a neatly groomed, affable-looking man appeared.

He offered his hand. "How do you do, Mr. Merrill. I'm Frank Harkness, Mr. Reed's personal secretary. Suppose you step inside and we can do some talking, yes?"

Merrill followed Harkness through the frosted door and into a small office to the left. As he entered, Merrill noticed that the inscription on the office door read *F. J. Harkness.*

He said, "I had the understanding that my appointment was with Mr. Reed himself."

Harkness smiled ingratiatingly, and said: "Of course, of course. But

we assumed you were familiar with our procedure. Mr. Reed is an extremely busy man, you see. He delegates certain interviews to members of his personal staff, and then at the end of each day we report to him and he acts on our conclusions. The principle of delegation of authority is—"

Merrill knew all about the principle of delegation of authority. His voice took on an annealed edge as he said crisply, "I understand. But my appointment is with Mr. Reed. If Mr. Reed can't see me, I suppose I might as well leave."

The affability faded from Harkness' face. He looked pale. He started to sputter something, and Merrill picked up his attaché case and headed for the door. He closed it behind him without looking back, but he was gratified to hear the sound of a telephone being hurriedly snatched from its cradle.

Merrill was standing in the receptionist's cubicle waiting for the elevator when Harkness appeared, still pale and muttered an apology. Beckoning to Merrill, he conducted the U.N. man through an inner maze of corridors, and deposited him in the office of Michael D. Reed himself.

Reed was an enormous bald pink-faced man in his sixties, with massive jowls and deep-set, intense brown eyes. He held no elective post, yet in many ways he was the most influential man in the Western Hemisphere. He headed a dozen corporations which stood to gain heavily by adoption of a terraforming program for Mars.

Merrill wasted little time on formalities. "I'm the personal attaché to Secretary-General St. Leger, Mr. Reed. My job, as you know, is to expedite the United Nations program of planetary colonization. I'm here today to sound you out on the possibilities of compromise."

"What kind of compromise?" Reed rumbled. "I don't see any compromises possible."

"You're staking everything on putting terraforming across. But you need the votes of seventy out of one hundred five countries to approve your program. At least thirty-two nations are dead set against you. You don't have the actual support of more than thirty-nine nations. Do you really expect to win the votes of all but three of the thirty-four neutrals?"

"Did you come here only to ask me that?"

"I came here to tell you that as things stand, neither the Western bloc nor the Asiatics can hope to command a simple majority in the General Assembly, let alone a two-thirds vote. So there has to be a deadlock."

"I know that. What do you want me to do? Call off the hounds and let the Chinese have it all?"

"Not all, Mr. Reed. Just Mars."

"Give in, you mean?"

"You can break the deadlock, Mr. Reed. *Let* the pantropists have Mars. Perhaps we can arrange an unwrit-

ten agreement whereby terraformers can have the next planet."

"There isn't any next planet. At the moment Mars is the only one in the solar system we could transform."

Merrill frowned. He hadn't seriously expected Reed to back down voluntarily, but at least he had tried. "Perhaps a budget reduction—"

"Impossible," Reed said, glowering. "I told the Commission on Monday that my budget figures are boned to the minimum now. With an appropriation of ninety billion it would take us a hundred years to terraform Mars."

"Better a hundred years than never."

"No! We won't give in. We won't allow those orientals to create hideous travesties on the human form, Merrill. And—"

"Hold it," Merrill snapped. "Are you more concerned with terraforming the planets or with preventing further research into pantropy?"

"I consider that an impertinent question."

"I consider it a relevant one."

"My private views are immaterial," Reed growled. He leaned forward and ticked his sentences off on his thick, stubby fingers. "One: it's economically necessary to establish colonies on Mars in the near future —within the next fifty or sixty years. Two: Terraforming offers the only sane way of making Mars valuable to us. Three: we need a full budget or else we're hamstrung from the start. Four: the Asiatic proposals are immoral, obscene, and of no economic value. It's our duty as human beings to prevent any such distortion of science as the creation of a pantropic civilization. Five: I have every confidence that in the course of time the other nations of the world will see the validity of my first four points, and will change their present opinions." Reed drew a breath. "Therefore, you can tell St. Leger that we intend to stand pat. We're not interested in backing down. I have an appointment in Washington in seventy minutes, Mr. Merrill. Will you excuse me?"

From a phonebooth in the lobby of the building, Merrill called the private number of Secretary-General St. Leger, at U.N. Headquarters. The conversation was brief.

"Reed's as solid as Gibraltar. He says he's going to play a waiting game and hope that the world sees the innate righteousness of his cause eventually."

"All right," St. Leger said. "Scratch that approach. You'd better make an appointment with Hwang."

Mr. Saldanha: *The Chair recognizes the delegate from the Republic of China.*

Mr. Wu: *I think it is only fair to point out, in regard to the foregoing discussion, that my country, because of its current economic position, contributes twenty-one per cent of the annual United Nations budget. If the Western proposal were to be approved, we would be compelled to supply some thirty-six billion dollars*

toward the cost of terraforming Mars. I'm sure it must be plain to all that this would be an intolerable imposition.

—Extract from transcript of hearing before the United Nations Commission on Planetary Colonization, 19 March 2052.

Dr. Hwang P'ei-fu, at thirty-seven, was the leading biologist of his resurgent country: a slim, slight man with the glossy black hair and smooth yellow skin of his race, who spoke English flawlessly and in genteel tones. He was witty, urbane, and self-effacing. He was also extremely obstinate.

He poured a second Martini for Merrill in his rented suite overlooking the East River, and said quietly, "Terraforming is a remarkable scientific advance. I have studied the proposals developed by Dr. Halliburton and put forth by Mr. Reed. Artificial generation of oxygen out of tritium ice, development of hardy plants capable of carrying on photosynthesis in Martian climates, creation of fertile topsoil—yes, all extremely ingenious. But how unnecessary!"

The biologist smiled across the table at Merrill, who said: "But the result will be a planet that you and I could visit at will, without the nuisance of special equipment or the risk of living under a dome."

"Ah . . . but *would* we visit there? Have you been to the Moon, Mr. Merrill?"

"I . . . uh . . . no."

"Neither have I. It's possible to exist on the Moon without the nuisance of special equipment, is it not, provided one remains under the dome. Yet very few people go there for short stays, except on business. Just so with Mars. The people who go there will be going there to *stay*. We need not worry about the convenience of the tourist trade for many centuries." The Chinese sipped his drink. "On the other hand, how much simpler it is, what a smaller output of money and energy it would be, to create a race of human beings capable of withstanding the rigors of Martian life! A brother race, able to live on our sister world."

"But would these . . . ah . . . pantropes retain any loyalty for the mother world, though? They'd be alien."

Hwang's smile widened. "You westerners seem to have an irrational fear of altering the human shape. My good friend, we will not be creating *monsters*. We will be adapting human physiques, not human brains."

"The form might govern the personality."

Hwang sighed. "Such pantropic forms as have been created experimentally in our laboratories show no marked psychological deviation from expected norms of behavior. These are laboratory animals, of course; we have done no actual experimentation with human ova."

Merrill wondered how seriously to take that assertion. He let it go by. "Is it necessary to have Mars imme-

diately, Dr. Hwang? Couldn't your people step down, in the interests of global harmony? Allow the West to terraform Mars, and continue your pantropy work until you were capable of creating a race to live on some other world?"

Hwang brushed the suggestion off as rapidly as Reed had. He shrugged gently and said, "That would mean we should be contributing many billions of dollars to a project we cannot believe in, Mr. Merrill. My country is but newly emerged from abject poverty. I hardly see how we could countenance such squandering. Would you care for some tea, Mr. Merrill?"

Merrill left the Chinese scientist's headquarters half an hour later, realizing he had made no headway whatever. Reed had blustered and Hwang had spoken in velvety tones, but each was equally immovable. The Chinese refused to waste money on Terraforming; Reed and his group regarded pantropy as somehow blasphemous.

At least, those were the reasons offered. Behind that lay the economic reasons. American industry needed the mighty financial boost that adoption of terraforming would provide. Chinese science craved the prestige that would accrue from approval of its techniques—and Chinese scientific prestige was a matter of incalculable importance to them.

No one would yield. No one would step aside. It was infuriating, Merrill thought, to be so close to the interplanetary era and to hang back, a planet caught up in petty politicking and vengeful selfishness. Merrill reported back to St. Leger and returned to his home in a mood of bleak misanthropy.

The Commission's hearings would shortly be at their end. Resolutions would be thrown on the floor of the General Assembly. There was only one foreseeable result.

Deadlock.

UNITED NATIONS, New York, March 26—*A two-pronged attempt to embark on the colonization of Mars ended in another East-West stalemate at the General Assembly today. A proposition advanced by the United States that would have authorized the appropriation of $180 billion in United Nations funds for the purpose of making the planet Mars livable for human beings went down to defeat by a vote of 49-43, with thirteen abstentions. Seventy votes were needed for approval.*

Two hours later, a parallel Chinese program that would have granted $110,500,000,000 for creation of a race of people capable of withstanding present conditions on Mars met even greater disapproval. It was turned back by a vote of 52-41, twelve members abstaining.

Immediately after the session, representatives of several uncommitted nations declared they would sponsor various compromise bills in the Assembly tomorrow in hopes of ending the deadlock.

—The New York *Times & Tribune*, March 27, 2052

UNITED NATIONS, New York, March 27—*East and West joined forces today to defeat a Danish-sponsored compromise measure which would have authorized the construction of Moon-type habitation domes on Mars.*

The proposal, termed a "shocking evasion" by United States Delegate Charles Kennedy and a "deplorable mistake" by Chinese representative Wu Hsien-fu, sidestepped the controversial issues of terraforming and pantropy completely. It gathered only eleven supporters, with eighty-eight nations in opposition and seven abstaining from the ballot.

Shortly after the voting, United Nations Secretary General Hilaire St. Leger declared he was "hopeful" that the deadlock would be resolved, but added that both factions seemed unwilling to consider any changes in their positions, and that he had no immediate suggestions that might alleviate the crisis.

—The New York *Times & Tribune*, March 28, 2052

Dane Merrill was trying to relax. He was not succeeding. His mind kept going back again and again to the General Assembly action of the past few days, and to St. Leger's mournful little press statement.

Nothing to alleviate the crisis. Deadlock. Merrill brooded bitterly. Two proud, stubborn, equally justified factions refused to relax their stands, and, barring sudden and unlikely collusion on the part of the neutral nations in favor of one plan or the other, the deadlock could, ridiculously enough, endure for all eternity. Or at least until that remote age when Mankind was no longer motivated by such transient things as national pride or economic expediency.

The night the Danish patchwork compromise received its resounding thumping in the Assembly, Ellen Merrill had invited a neighborhood couple up for drinks and an evening's company. Ellen had chosen with her customary shrewdness; the guests were conversational vacuums, amiable and amusing people who could not pursue a line of thought consecutively for more than two sentences, and whose idea of a good evening's entertainment was a drink or two and an exciting session of rotowheel or lunar rummy.

Ellen had picked her guests with adroit care; the topic of the space deadlock did not arise once during the evening. But Dane Merrill's forehead remained furrowed. He barely touched his drink; he lost consistently at rotowheel, to the great delight of the guests. He said little.

When they finally were alone, shortly before midnight, he turned sharply on his wife. "Why did you invite those people here tonight?"

"Why . . . why—" Ellen had no quick answer. "They've always had a good time here, and I thought you liked them! They *are* pleasant people, after all, and—"

"*Pleasant!* Sure, they're pleasant! Do you think that pleasant man and his pleasant wife ever had a thought

in their pleasant lives? Do you think they as much as know about the idiocy going on in the Assembly these days? Do—"

Ellen took his hand soothingly. "Do you think everyone worries about outer space as much as you do? They feel the same way I do, Dane. Everything's going to turn out all right, eventually. This stalemate can't last forever. Someone will give in."

"Sure," he said bitterly. He yanked his hand back, walked to the terrace, stared out at the night sky. A glowing coppery-red dot, too big to be a star, hung balefully out there. Mars. The red planet seemed to be mocking him. "Sure," he said. "Someone will give in. It may take only five hundred years, but someone will give in!"

He shook his head. It was irrational, he knew, and almost paranoid, in a way, to take the international situation so much to heart. It was not his fault, after all, that nations were stubborn. He had tried. He had done his best. The sane, intelligent reaction now would be a futile shrug—not this bitter self-churning anger.

But yet, Merrill thought, anger was the only *honest* reaction. Perhaps it was not his fault; still, he felt a deep sense of responsibility. The deadlock had to be broken. He hardly cared which side won; the contenders seemed of equal merit to him, and he had no patriotic leanings toward the Western side. Justice was his only concern. Along with St. Leger, he was an Earthman first and foremost, not an American or a man of the Western Hemisphere. That kind of parochial thinking had caused all the harm thus far.

He turned away from the terrace and said to his wife, "There has to be an answer, Ellen. Somewhere. And I can't relax until that answer's been found. I'm sorry, darling."

"You don't have to apologize, Dane. Just . . . just try to take things more casually. You're killing yourself with worry over a situation you can't help."

"I know. Dammit, I wish there were some way I *could* help it," he said.

The next morning, Merrill stopped off at St. Leger's office. He found the plump Secretary-General in a dark mood.

"I spent last night with representatives from five of the neutral countries," St. Leger said. "Denmark, Afghanistan, Burma, France, and Hungary. We tried to work out some kind of compromise measure, Dane. Something to toss out on the floor when the session opened today."

"Get anywhere?"

"Not even to . . . ah . . . first base," St. Leger said with a melancholy attempt at a grin. "There just *isn't* any workable compromise. Nadas, the Hungarian, wanted to know if it was possible to terraform half of Mars and let the Chinese seed the other half with pantropes. Imagine that! I suppose he was figuring on building a wall between the Martian hemispheres to keep the atmospheres from mixing, or something."

Merrill did not chuckle. "There aren't any compromises. It's a damnably black-and-white situation."

"Yes. Either one side or the other has to give in, or everybody loses."

"You'd think they'd see that!"

"They do," St. Leger replied. "We aren't dealing with blind nationalistic fanatics, Dane. But the people of the Western world have some kind of emotional horror of the whole business of pantropy, while the Easterners can't see the sense of throwing away what they consider a perfectly good process, in favor of one that's not only more expensive but—in their eyes—less sensible. So nobody's giving an inch. And you know what I'm afraid of, of course."

"Unilateral action? But that's impossible."

"Not impossible, Dane. Just undesirable. Suppose the Asiatics get fed up with legislative shilly-shallying, and send a team off to Mars to start raising pantropes? Or suppose the West shrugs its shoulders and decides to terraform Mars out of its

own pocket, for the benefit of Western private enterprise?"

"We'd have war."

"Of course we would. The Nightmare Years are over, thank God, but they're not necessarily over forever. We've had relative peace and harmony on this planet for less than fifty years. That isn't long enough for the condition to become habitual. If this logjam in the Assembly isn't broken soon, we might just see someone taking unilateral action. And then it'll be the old business of the H-bombs again, all the childish fist-waving lunacy we thought we buried in 2009."

Merrill stared at the wine-colored carpeted floor of St. Leger's office. "No compromise in sight. And neither side willing to back down. What happens?"

"I wish I knew. Go have a talk with Kennedy and Wu, Dane. I don't dare; they're too suspicious of me. But sound them out. Find out how they're reacting to the stalemate. Then report back to me as soon as you can."

"Right."

The last thing Merrill saw as he left his superior's office was St. Leger's plump hand reaching for the brandy bottle that was always kept available in a desk compartment. Lord help us all, Merrill thought. Before this is over we'll all be living on tranquilizers and hooch!

WASHINGTON, D. C., March 29 (AAP)—*Charles Kennedy, head American delegate to the United Nations, spent the morning at the White House today, holding his third conference with President Brewster in the past ten days. Also present were Dr. Manly Halliburton of Chicago and Michael D. Reed of New York, leading proponents of the terraforming project for Mars.*

Neither the President nor Mr. Kennedy had any statements to make after the conference. Mr. Reed commented, "I have received continued assurance of the government's faith in the terraforming concept."

—The New York *Times Tribune*, March 30, 2052.

At fifty-seven, Charles Kennedy had already had a distinguished career, with at least twenty more years of public service ahead of him. He was a tall man, four inches above Dane Merrill's stocky six-one, and he made the most of his unusual height: he dominated. Kennedy had lean, aristocratic features, a long tapering nose, firm lips. His eyebrows were incongruously dark and bushy beneath his prematurely whitened hair.

He smiled graciously at Dane Merrill from behind the imposing brown bulk of his uncluttered mahogany desk and said, "I appreciate your position, Merrill. But do you really appreciate *ours?*"

"I'm aware that you're backed way out on a limb, Mr. Kennedy, if that's what you mean."

"I do. And you now propose that we saw that limb off behind us, in the name of statesmanship."

"In the name of peace," Merrill said.

Kennedy stirred restlessly and tugged at his mane of white hair. "There are many intangible factors involved in this, you see. In the past six months we've spent a few hundred million of our own money to determine the feel of popular opinion in this hemisphere. And most people are shocked to the point of disgust by the entire idea of pantropy."

"Most people are shocked by *any* radically new idea," Merrill remarked.

"Granted. But, my dear Merrill, we happen to live in an elective democracy. Do you know what would happen if I were to reverse our current stand and vote in favor of pantropy?"

"I could guess. You and the President and the rest of the American government might be out of jobs after this fall's election."

Kennedy nodded. "There would be an overwhelming reaction against us. I'm not a petty man, Merrill, and the President certainly is not. The fact that this is an election year and we might see a change in administration is emphatically not a governing factor in our behavior. But we feel that our administration is a *good* one. We feel it would be a public disservice to act in such a way that the people would lose faith in us."

"The election is in November," Merrill said. "You don't want to jeopardize yourselves before then. But assuming the President is re-elected, what do you think of the possibilities of a strategic withdrawal from the current Western position next year? I mean, letting the deadlock prevail until after the election, and then—"

". . . Backing down? Now you raise another difficulty, Merrill. We have faith in our own project. We don't see why we should be called on for total surrender. We feel the Asiatics should be the ones to withdraw."

Merrill moistened his lips. "The Asiatics feel the same way, of course, about your ideas. It's too bad there isn't some middle way. For example, letting the Chinese create pantropes for Mars, and turning Venus over to the West for terraforming work."

"I've heard that proposal before," Kennedy said smoothly. "But it has two glaring flaws. One is that this country could never condone the spending of United Nations money for pantropy, under any circumstances. The other is that it might take us from fifteen years to a century to develop a technique for terraforming Venus. The task is tremendously more complex than handling Mars, you understand. Formaldehyde—"

"Very well," Merrill sighed. He had fought another bout of diplomatic fencing, and it had ended in a standstill. "The status remains quo, is that it?"

"I'm afraid so. I'd love to see a solution reached, Merrill—believe me. But no compromise seems to ex-

ist, and we simply refuse to capitulate totally. It would be suicidally foolish of us to do so."

"I suppose we'll have to leave it at that," Merrill said quietly. "Good day, Mr. Kennedy. And thank you for your time."

Merrill rose and left. He had the ominous feeling that he was simply exhausting one avenue after another, and that ultimately he would have to shrug his shoulders and let the deadlock prevail.

In the corridor outside the offices of the American delegation, Merrill took out a notepad and scrawled a memo to St. Leger:

Kennedy adamant. Afraid to back down. Implies the possibility of eventual unilateral action to break deadlock. I'm going to see Wu now. Prognosis not encouraging.

Merrill.

He folded the note, applying pressure to seal it, and collared an interoffice courier busily making the rounds.

"Here, boy. Take this over to Mr. St. Leger's office, will you? Thanks."

"Certainly, Mr. Merrill. Of course."

Wu Hsien-fu, ranking member of the Chinese United Nations delegation, spoke English with the same perfection as Dr. Hwang, but rather than Oxford accents Wu employed a clipped, surprisingly American inflection. He was in his late sixties, but he gave the outward appearance of a man twenty years younger.

He said crisply, "Compromise is flatly out of the question, Mr. Merrill. But why, may I ask, should *we* be the ones to give ground?"

"Because," Merrill said in a weary voice, "the Western bloc refuses. It's as simple as all that. On behalf of Mr. St. Leger, I'm suggesting that the Asian nations nobly sacrifice their position in the interest of world peace."

Wu chuckled. "You make it sound noble indeed. But such a concession is unthinkable. The entire Eastern world looks to China for leadership, Mr. Merrill. How can we disappoint nearly five billion people by abandoning what we believe is right?"

"It's an opportunity to make a moral gesture. You'll be demonstrating the greater flexibility of the Orient, the ability to retreat from an untenable position."

"I don't see it that way," Wu replied. "I see it as an immense loss of face. I see it as an act of cowardice. I'm sorry, Mr. Merrill. We cannot alter our position."

Merrill fidgeted. "The Western nations are taking the same stand. What nobody seems to realize is that this deadlock may last forever—and then no one will win."

Wu shrugged and allowed a faint smile to cross his face. "Institutions come and go. Who would have imagined, sixty years ago, that the Soviet Union would crumple and disappear? Who could have conceived, three hundred years ago, that the scattered American colonies of Great Britain would unite into a dominant nation? We of China are accustomed

to taking the long view of events. We can wait, in other words, for the climate of opinion to change. We prefer that attitude to one of cowardly concession."

Which meant, Merrill thought, either that China was counting on the eventual dissolution of the United Nations, or on taking some direct action herself if matters remained in stasis. Neither was a cheering thought.

He said aloud, "What I had in mind was not a complete backdown, Mr. Wu. Perhaps, instead, Mars could be turned over to the terraformers for immediate change, while you could set your sights on pantropy for Venus."

Wu closed his eyes. "I have discussed this matter with Dr. Hwang and other biologists of our country. The opinion—as I believe you know already—is that pantropy for Venus is unfeasible at the present. It would take a great deal of effort—unnecessary effort, may I add. No, Mr. Merrill. We will not abandon Mars to the West. We will simply wait and see."

Merrill left Wu's office in a bleak mood of resigned despair. He had exhausted his last recourse. He forwarded a note to St. Leger that read simply, *Wu won't budge an inch. Not impressed by any arguments. Where do we go from here?*

Merrill knew where he personally was going. He took an underground tube-car to Jersey City, transferred for the Bayonne bus, and rode moodily home. It was a bright day, prematurely springlike, but the soft blue of the sky and the sight of ripening yellow buds on the trees did not affect Merrill's mood.

He downed two aspirins and a double Martini without feeling much better about things. He had spent a hard day, dealing with immovable objects—and, he admitted to himself darkly, he was a good deal less than an irresistible force himself.

A resolution tabling further consideration of planetary colonization was approved today by the United Nations General Assembly. A vote of 99-0, with four Scandinavian countries and two Middle East nations abstaining, removed the troublesome question of Martian colonization from this session's agenda. A two-thirds majority will now be necessary to reopen discussion this year. The tabling resolution was sponsored jointly by Chile and Japan.

Dr. Getulio Saldanha, Brazilian delegate who conducted the recent U.N. hearings on the space question, termed the tabling "unavoidable but tragic." (Full text of Dr. Saldanha's statement on P.4.)

United Nations Secretary-General Hilaire St. Leger commented, "This action does not mean the end of hopes for eventual colonization of Mars. It simply provides time for mature reconsideration of present opinions. I have every confidence that we will reach a satisfactory conclusion to the situation when the

General Assembly re-examines it in next year's session."

—The New York *Times & Tribune,* April 11, 2052.

A month slipped by. April turned into green May, and summer, as it so often does, descended prematurely on New York; days of clammy, humid weather were the result. The General Assembly focused its attention on the problems created by the recently-disclosed results of the 2050 global census. Dane Merrill returned to his liaison post in the office of Secretary-General St. Leger, and concentrated chiefly on the task of mollifying U.N. delegates who were irritated by the complexities of life in New York.

But at the back of his mind was the nagging business of the Martian colonization. He saw the press releases in the papers, from time to time—research into terraforming and pantropy was still continuing, supported by national funds exclusively. The United States was contributing a billion a year for terraforming research; the Chinese, nearly as much for their geneticists.

But the budgets of individual countries were no longer designed to handle such large expenses. The global unification of the early years of the twenty-first Century had seen to that; major expenses came from the United Nations treasury, to which all nations contributed proportionately. To Merrill, this resurgence of national budgetary sovereignty was an ominous sign. It was a regression to the fierce nationalism of the Nineteenth and Twentieth Centuries. He feared that one regression might lead to another, and ultimately to the most dreaded regression of all—war.

The public in general began to forget the entire dispute. Mars, after all, was remote and unimportant to the public, and, in any event, the actual colonization was something that concerned the next generation more immediately than this one. Apathy prevailed. Merrill himself, though never did he lose sight of the urgent need for some resolution to the dilemma, no longer could afford to dwell on the problem with the same single-minded intensity he had displayed in February and March. It became a continuing but subliminal source of worry for him, like a mild toothache.

He was, therefore, hardly thinking about the problem at all when he stumbled over the solution.

It was early in June. The General Assembly, virtually through with its agenda, was planning to adjourn in a few days. The Security Council had one minor item left on its schedule, and then it, too, would adjourn.

Dane Merrill was busily making plans for his vacation. He and Ellen would fly to Yucatan for a month, they had decided. There, among the unspoiled remnants of a dead civilization, it would be possible for them to relax and forget some of the cares of a living one. Merrill had one new problem to consider: Secretary-Gen-

eral St. Leger was making noises about retiring, again.

St. Leger's term had another year to run, and he was certain of re-election if he wanted it; but St. Leger, it seemed, had had enough of diplomacy. At the age of sixty-seven, he longed for his native Quebec.

Which left Merrill on the spot. He was the logical choice as St. Leger's successor; for the last eight years he had worked hand in glove with the older man, and he was trusted by all. But, Merrill knew, some time in the near future the colonization question would have to be resolved, and the responsibility would be his if he happened to be in office at the time. Merrill had never shirked responsibility, but this was one situation that threatened to become explosive. He was a modest man: he seriously doubted that he would have the inner resources necessary to prevent the war that might so easily develop over the terraforming-versus-pantropy issue. But he wondered whether anyone else, St. Leger included, could deal with such a situation if it arose.

In any event, that still lay in the future. Now, in a few days, he would be on vacation.

He would be able to relax.

That night, three days before the Assembly was due to adjourn, the Merrills were engaged in what was for them a most unusual pastime. They were watching the video set. He and Ellen had grown tired of reading, tired of listening to music tapes, tired of all the diversions of intelligent people. The strain of the past few months had sapped the vitality from them. Almost in desperation, they flicked on the video, hoping for relaxation.

The screen brightened. An unctuous, oily voice said, "Very well, Mr. Pulaski. You've hit the fifty thousand dollar bracket now. The choice is yours—will you retire with what you've got, or will you take a shot at a hundred thousand? Double or nothing, Mr. Pulaski. What do you say?"

"Oh, dear," Ellen exclaimed. "It's a quiz show! We can find something more interesting than—"

"No," Merrill interrupted in an odd voice. "Leave it."

Ellen shrugged. "If you say so, Dane."

The camera centered on an insignificant man in a brown checked suit—a small, puffy-faced man with watery gray eyes and a few strands of hair plastered to his scalp. The man in the screen seemed frozen in decision. Then he said, "I've done O.K. so far. I think I'll risk it."

Pandemonium burst loose in the studio audience. The announcer bellowed raucously: "He's going to do it! Ladies and gentlemen, he's going for double or nothing! *There's* a man with faith in his intellectual abilities, all right! Will you re-enter the isolation booth, Mr. Pulaski?"

"Dane, please. Do we really need to watch—"

"One minute, Ellen."

"For one hundred thousand dollars, now," said the announcer in

vibrant tones. "You have thirty seconds to consider your reply. For one hundred thousand dollars, Mr. Pulaski: can you name the first eight rulers of the Carolingian Dynasty of France?"

"Uh . . . Pepin the Short . . . then Charlemagne . . . ah, let's see . . . Louis I . . . wait a second, now, after him comes Charles I—"

With an abrupt motion Merrill jabbed down on the remote-control switch of the video, and the intent face of Mr. Pulaski vanished as the screen went dead. Ellen glanced up in surprise.

"First you want to watch it, then you shut it off at the most interesting moment! Dane, there are times when I just don't understand—"

"I've got the answer," he broke in. He felt a great inward calm. If only they would listen to him, now!

"You know the names of those kings?"

"I don't mean that. I've got the *answer!* Where's the phone? I've got to call St. Leger right away."

". . . Turning to the subject of United Nations news, the topic of planetary colonization, considered a dead issue for this session since the tabling motion on the eleventh of April, is apparently very much alive again. A closed committee meeting to discuss new proposals has been called by Secretary-General St. Leger for tomorrow afternoon. Representatives of East and West will be present at the meeting, but no details were forthcoming on the nature of the new proposals."

—video newscast, 6:11 p.m. June 12, 2052.

There were seven men in the small, simply-furnished private office that Secretary-General St. Leger reserved for private top-level conferences of this sort. St. Leger and Dane Merrill sat behind a low table, facing the others. In front of them and to their left sat Wu, the chief Chinese delegate to the U.N., and Hwang, the head of the pantropy project. At the other side of the room sat U.N. Delegate Kennedy of the United States, Michael Reed, and a short, vigorous-looking man who was Dr. Manly Halliburton, chief of operations of the terraforming project.

It was a warm, almost murky mid-June day. The room's two air conditioners purred steadily, but without any perceptible effect. A kind of tense humidity prevailed in the room.

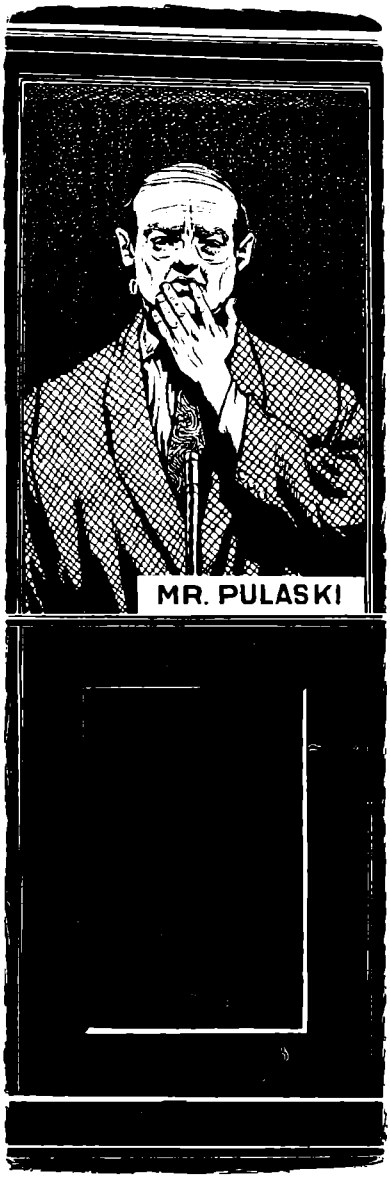
St. Leger, looking tired, rumpled, and disheveled, said, "Gentlemen, I've called you all together for one final attempt at cracking the deadlock that now exists. Several days ago, my colleague here, Mr. Merrill, whom I believe you all know, came to me with a set of new and intriguing propositions for settling the crisis. I gave Mr. Merrill's ideas careful study, and have found that there is validity in them." St. Leger sighed heavily. "In order to save time, gentlemen, and to insure absolute clarity of communication, I intend to relin-

quish the chair of this meeting to Mr. Merrill. Are there any objections to my doing this? Good. Mr. Merrill, you are now presiding."

St. Leger was obviously relieved at the opportunity to give his three hundred pounds of bone and blubber some rest. He sank back into his chair and pointedly rolled it a foot backward from the table. Merrill nodded. He was in charge of the meeting. He was no longer the loyal, efficient, and anonymous Secretariat staffman. He was in charge.

He scanned the faces—the two enigmatic yellow ones, the three tense, anticipatory white ones. He moistened his lips. He said, "Gentlemen, before we get down to specifics, I'd like to establish one general point of fact. We of the United Nations, are we not, are directly responsible to the peoples of the world. If we act in a manner obviously not in the best interests of humanity, we will be replaced by others who have the popular interests more at heart. Is there anyone here who would care to deny this? Mr. Kennedy, you were the one who made this point quite clear to me at our little conference earlier this spring."

No one spoke. All five were fidgeting uncomfortably, wondering what Merrill had in store for them. Merrill went on: "We will consider that point established. Very well: the next point I wish to make is that it is in the best interests of humanity to extend our civilization to other worlds. I don't think there's any need to demonstrate that particular



argument with a set of syllogisms.

"To continue—we *must* establish colonies on other worlds. But if the present crisis continues we will never succeed. Is this acting in the public interest? Of course not! The contending factions in this dispute are acting magnificently in the service of their own national interests—but are doing a disservice to the more important cause of *Earth*. Therefore, we must in all conscience find some way to break the deadlock that now prevails. I have several suggestions, which Mr. St. Leger has approved."

"Let's hear them," Michael Reed grumbled. "Get to the point, will you?"

Merrill restrained the impulse to glare at the paunchy industrialist. "All right. Point One; we must colonize Mars immediately. And the only method of colonization that we can consider, I'm afraid, is terraforming."

The flat, dogmatic statement produced the expected result. Hwang's jaw drooped in astonishment, while Wu went virtually livid with shock. On the other side of the room, Kennedy looked utterly startled, Halliburton was blinking in disbelief, and Reed, recovering from his amazement, was beaming contentedly.

Then the stasis broke. Wu was on his feet, exclaiming vehemently but with massive self-control, "I must ask for an explanation of this statement, Mr. Merrill! What you have said is a slap in the face of the entire Eastern world. Is this your idea of compromise? To declare categorically that your particular nation's method must be used?"

Merrill said tiredly, "Please sit down, Mr. Wu. No insult to the East is intended, and I'll explain as soon as you'll let me. My statement wasn't an expression of my alleged pro-Western sympathies. I'm simply pro-*Earth,* Mr. Wu. We of the Secretariat have forced ourselves to place our feelings above individual national viewpoints, difficult though that sometimes is."

"May we have your explanation, then?" Wu said, smoldering. "But I warn you now that we have no intention of surrendering in this manner."

"If you wouldn't think of it as a battle," said Merrill, "you wouldn't have to fear surrender. But the explanation is quite simple. Pantropy is a great biological achievement—but it would be political suicide for us to sponsor it on Mars. Terraforming is the *only* workable answer for that planet."

"I fail to see—"

"The reason," Merrill steamrollered on, "is this. We are beholden to the peoples of the world for our mandate to govern them and to spend their money. This is an overcrowded planet, Mr. Wu. According to the 2050 census, Earth's population is almost nine and a quarter billion. And though we're making progress on population control, finally, we're still going to be faced with problems of congestion and overcrowding for centuries to come.

Particularly, Mr. Wu, in the Eastern half of the world.

"Very well. We are about to take a giant step into space. We are about to put human life on Mars. But suppose we put pantropic life there, Mr. Wu? A great biological achievement —but does that make Mars accessible to human pioneers? Certainly not. It closes Mars forever to humanity! What we need now, Mr. Wu, is a world up there that will capture the imagination of the nine billion people of Earth. A world that the common man can see justification for building. A world that offers opportunity for the pioneer, and a world that offers hope for relief from overcrowding. *Not* a world populated by what would essentially be an alien species of our own creation.

"We've overlooked this all along, on both sides—that the average man pays the bill, and calls the tune. What I'm saying now, gentlemen, is a reflection of the grim realities of political life. Up till now we've been debating this on a pretty abstract plane. It's time to come down to the ground and face the fact that if we use pantropy to settle Mars, we're going to lose the sympathy and support of the people of Earth. And *your* people, Mr. Wu, are going to be the first to yell—because they don't give a damn about scientific prestige, not down there on the dirt level; they just want a place for overflow people.

"Not for themselves, by the way —by and large, 99.9% of the people of Earth would rather do almost anything than have to go off and colonize a terraformed Mars. But the psychological fact remains that they would think pioneering was a good thing—for someone else. They would back us. Spending money to terraform Mars would appeal to everyone. Pantropy is subtler; it won't go over."

"So," Wu said slowly, "you ask us to drop our proposal in the name of sheer *realpolitik?*"

"Bluntly, yes," Merrill said. "The time has come to talk bluntly. We have to win popular support if we want to stay in office long enough to get a space program going. We'll never win support if we vote pantropy for Mars. It *has* to be terraforming."

"The dilemma has two prongs," Wu said. "I grant that terraforming is more likely to capture the popular imagination than pantropy. But we have backed our position strongly. How can we abandon it now? It seems that we are lost no matter which way we turn."

Merrill shook his head. "You don't have to abandon your position. The last thing I'd like to happen is the scrapping of pantropy. You see, Mr. Wu, it's my private feeling that pantropy is potentially a much more important scientific development than terraforming."

The sudden change of expression on the faces of the three Westerners was amusing. For the past five minutes they had sat complacently, smug and contented because of Merrill's

unexpected firm stand for terraforming. But now he had yanked the rug out from under them. They looked stunned.

"Would you mind explaining *that* statement, Mr. Merrill?" Reed demanded loudly.

"Certainly. Terraforming is a process of limited value, useful only when a world is basically similar to Earth to begin with. You can alter Mars' climate and atmosphere—but could you ever change Jupiter's gravity or cope with Mercury's extremes of temperature? I'm afraid not."

"Neither can Hwang and his pantropists create beings who can stand up to such conditions," Halliburton snapped.

"Not *yet*," Merrill said. "But the *concept* of pantropy is an open-ended one. It's still new, but it has great potential. Once you can make simple genetic changes, you can go on to learn how to make more complicated ones. It's going to be easier to redesign human beings than to redesign really non-Earthlike planets. So we must continue pantropy research, and back it with cash. Some day, we'll be traveling to the stars. We'll find planets out there, and they may not be Earthlike planets. Pantropy will be our only help then."

"All very heartwarming," Wu said sourly. "But this does not solve the problem of immediate saving of face. I cannot explain to my people that we have yielded rights to Mars in return for the promise of the stars. It is . . . ah . . . too abstract a proposition for them to accept gracefully."

"I realize that," Merrill replied. "And I've devised a second proposal. In order to keep pantropy alive, we'll need double-or-nothing legislation—authorizing colonization of both Mars and Venus."

Hwang protested, "But we are not able to create pantropic forms for Venus yet!"

"I know. I've spoken with pantropists and terraformers, and I've done some research besides. I've learned that neither side thinks it can handle the job of planting life on Venus right now—although both insist it can be done eventually, given enough time and money. If you'll pardon me, Dr. Halliburton, I don't think it's likely that terraforming will *ever* be useful on Venus." Cutting off Halliburton's reply, Merrill added, "And also, that pantropy will be applicable there only after decades of continued progress. With terraforming and pantropy in their present state of development, neither science can handle the problem of making Venus livable right now. But *both* can."

"Both?" said Hwang and Halliburton simultaneously.

"Yes. Both. The atmosphere of Venus is too corrosive for humans to breathe. And there's no simple way of converting that poisonous stew into something humans *could* breathe. On the other hand, pantropy isn't currently capable of developing a race whose metabolic processes could get along without oxygen. But

consider this, Doctors Hwang and Halliburton: how about a co-operative project? Partial terraforming of Venus, to an extent that would make it livable for a species within the abilities of pantropy to create?"

A look at the faces of the two scientists told Merrill he had scored a direct hit. "Meet halfway," he went on. "You're each necessary, but not individually sufficient, for establishing life on Venus. We need to nurture the fledgling science of pantropy. And we need an inhabited Venus. It would be an economic outlet, and also a third point of view in the solar system—the third vertex of a triangle of inhabited worlds. Do you think it could be done?"

"We could certainly try," Halliburton admitted quietly.

"And I think we would succeed," Hwang added.

"Let me sum up, then," Merrill said. He was sweat-soaked and nearly drained of energy. "The only way to break the deadlock is with a double-barreled bill. Mars must be terraformed, to provide an immediate population outlet and a means of getting the public to approve what we're doing. Venus will be populated by pantropic life forms, once the terraformers have eased the way there. And terraforming and pantropy will work hand in hand from now on. New techniques will be perfected. Information will be shared. The spread of Earthmen throughout the universe will be made possible. Can we count on your support for such legislation?"

He stared at Kennedy. The tall American squirmed, fidgeted, shrugged. "Yes," he said finally.

"Mr. Wu?" Merrill asked.

The Chinese knotted his delicate fingers tightly in indecision. "It is the only way, I suppose."

Reed chuckled bitterly. "For a while, at the beginning of this meeting, I thought we had won. That it would be terraforming all the way. But I see that it isn't really that way at all. Actually we've lost, in the long run. We've taken the first round, that's all."

"Hardly," Wu said. "It is we of China who have lost. Mars will be terraformed. We have been forced to give ground."

"No," Merrill said sharply. "You're dead wrong, both of you. The only loser has been petty national pride. Individually, you can each consider yourselves losers, if you want to. But *Earth* is the real winner!"

"We interrupt this program to bring you a special bulletin from United Nations Headquarters in New York:

"The General Assembly today adopted a resolution introduced jointly by the United States and China which brings to an end three months of deadlocked discussion over proposals for colonization of Mars.

"By a unanimous vote the Assembly resolved to accept the Western plan for converting Mars to a planet livable for human beings, and appropriated $180 billion for carrying

this out at once. At the same time, the sum of $50 billion was appropriated as initial financing for a new joint American-Chinese project for establishing a race of adapted human beings on Venus.

"Wu Hsien-fu, chief Chinese U.N. delegate, issued a statement shortly after the vote which said, in part, 'It is wrong to talk of American goals or Chinese goals. The only goals that matter are those of Earth. And now a united Earth begins the harmonious and peaceful conquest of the universe!' End quote.

"Further details will follow. We return you now to the regularly scheduled program."

—Broadcast over most video networks, 5:49 p.m., June 13, 2052.

Restrained jubilation prevailed in the private office of Hilaire St. Leger, Secretary-General of the United Nations. Only two men were present at the celebration: St. Leger himself, and Dane Merrill. The room was littered with cigarette ashes and pipe dottle. It was an hour since the vote had been taken. Neither Merrill nor St. Leger really believed the result yet.

St. Leger poured out a double tot of brandy for each of them. The indispensable bottle was nearly empty. They toasted solemnly.

"They gave in," St. Leger said, shaking his head. "I never thought they would. But you handled it brilliantly."

"I had my doubts all the way," Merrill said. "After all, they *both* had to back down. The East had to abandon Mars to the terraformers, and the West had to quit its stand of opposing pantropy on principle."

St. Leger sighed. "East and West, West and East! *Earth's* welfare is what matters. Not West or East. Ah, well. The session adjourns tomorrow, Dane. It'll be good to have a rest, won't it?"

"It sure will. Ellen and I are spending a month in Yucatan. And I guess you'll be going back to Quebec for the summer, eh?"

"Not for the summer," St. Leger said in a quiet voice. "I'm going back for good. I've submitted my resignation. I'm an old man, and I'm tired."

"But—"

"I spoke to Kennedy and Wu just after the vote today. I told them I'm quitting. I also made a recommendation for a successor. They've tentatively agreed to sponsor you for the job, Dane. Which means the job's yours, if you want it."

"I see," Merrill said gravely. The pleasant glow of semi-inebriation dimmed in an instant. A mantle of responsibility had settled over his shoulders. "I don't see how I can refuse. But . . . but . . . well, I hope I'm worthy of the job," he said finally.

"If you weren't, you wouldn't be getting it." St. Leger smiled and glanced at his watch. "It's past seven, Dane. You'd better be getting home to Ellen."

"Yes. You're right."

Merrill rose and began to gather

up his papers, to tidy his hair and wipe some of the day's grime from his face. St. Leger said in an introspective voice, "I was born in 1985, Dane. Right in the middle of the Nightmare Years. 'United Nations' was just a collection of meaningless syllables then. But I've lived long enough to see it mean something. When were you born, Dane?"

"2014."

"Five years after the Treaty. So you don't really know what conflict between nations can be."

"I saw some of it this year," Merrill said.

St. Leger nodded, his big body quivering. "Yes, you did. But we shut it off before anything serious developed. And now . . . now, Mars and Venus." St. Leger smiled. "Dane, I was the first Secretary-General of the *real* United Nations. You're going to find yourself Secretary-General of the United Worlds, one of these days."

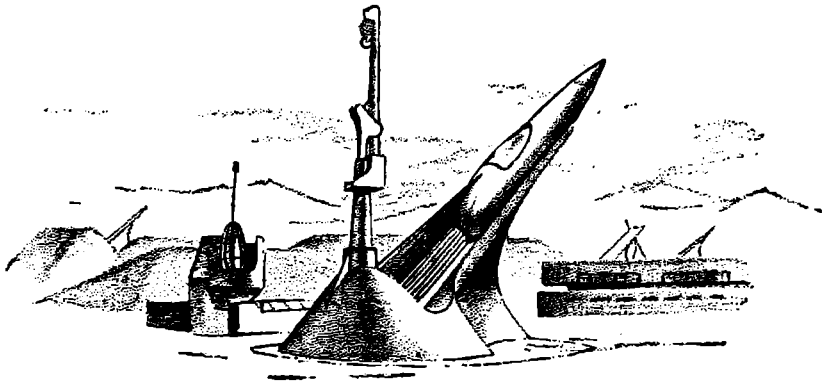
"I hope so. I hope everything works out."

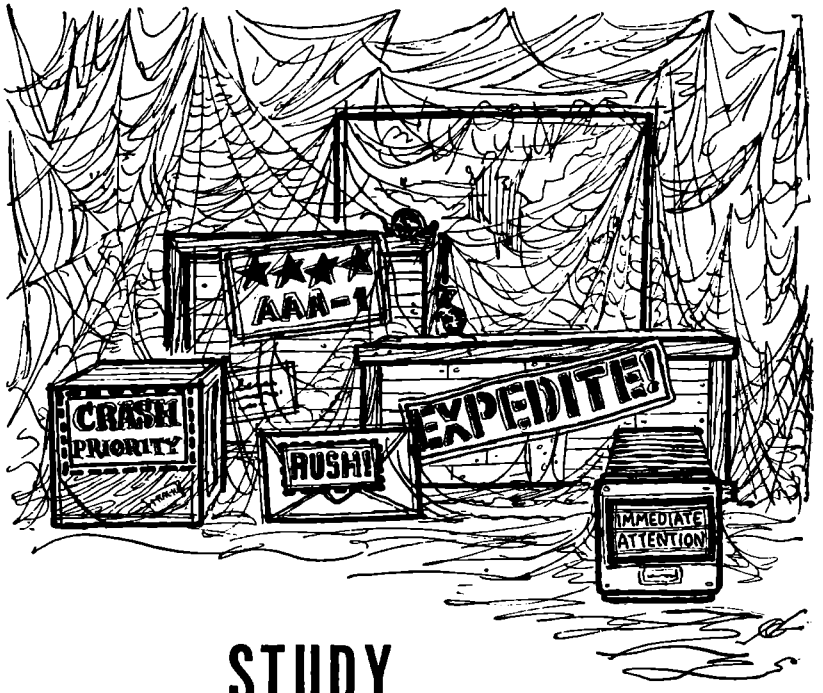
"It will," St. Leger said. "The older I get, the more firmly I believe that there's some sort of force in the universe that *makes* things work out all right, eventually. You'll have your problems, of course. But you'll be able to handle them, Dane. I know you will."

The old man leaned back and closed his eyes—no longer Secretary-General of the United Nations, but just a tired, overweight old man who had had somewhat too much to drink in the past hour. Dane Merrill smiled warmly at St. Leger. They shook hands, perhaps for the last time.

Then the retiring Secretary-General of the United Nations roused himself and began clearing out his desk, while the future Secretary-General of the United Worlds went home to begin the last vacation he was likely to have for quite some time.

THE END





STUDY IN STILL LIFE

BY ERIC FRANK RUSSELL

Illustrated by Freas

When you discover the laws by which a system operates—never buck them. Help them the way they're already going—but help them your way!

HAT burns me up," said Purcell bitterly, "is the fact that one cannot get anything merely on grounds of dire necessity."

"Yeah," said Hancock, carrying on with his writing.

"If one gets it at all," continued Purcell, warming to his subject, "it is for a reason that has nothing whatever to do with need or urgency. One gets it because and only because one has carefully filled out the correct forms in the correct way, got them signed and countersigned by the proper fatheads and submitted them through the proper channels to the proper people on Terra."

"Yeah," said Hancock, the tip of his tongue moving in sympathy with his pen.

"Yeah, yeah, yeah," echoed Purcell in somewhat higher tones. "Can't you say anything but yeah?"

Hancock sighed, ceased writing, mopped his forehead with a sweaty handkerchief. "Look, let's do what we're paid for, shall we? Griping gets us nowhere."

"Well, what are we paid for?"

"Personally, I think that pilots grounded by injuries should be found employment elsewhere. They never settle down to routine work."

"That doesn't answer my question."

"We're here upon Alipan, in the newly settled system of B417," informed Hancock ponderously, "to co-ordinate the inflow of essential supplies, making the best use of cargo space available. We are also here to deal with internal demands for supplies and assign priorities to them."

"Priorities my foot," said Purcell. He snatched up a form and flourished it in midair. "What sort of priority should be given to twenty-four cases of gin?"

"If you bothered to look, you'd see," Hancock gave back. "Class B import. I stamped it myself and you initialed it."

"I must have been momentarily blind. Who says gin gets priority over high-pressure oxygen flasks, for instance?"

"Letheren." Hancock frowned, fiddled with his pen. "Mind you, I don't agree with it myself. I think it's an iniquity. But Letheren is a senior official. As a pilot you may have cocked many a snoot at senior officials and got away with it. But you're not a pilot now. You're just another desk-squatter. As such you'd better learn that it isn't wise to thwart senior officials. They get moved around and up as more senior ones die of fatty degeneration. In five, ten or fifteen years' time Letheren may be my boss. By then I'll be treading on his heels. I won't want him to turn around and kick me in the teeth."

"You really think that after all that time he'd hold it against you because you refused to bring in his gin?" asked Purcell incredulously.

"No, I don't. I'm bringing it in. He'll have no reason to gripe."

"What a system!" said Purcell. He glowered through the window at the B417 sun. Its greenish hue made him

feel slightly sick. "I can see now what I suspected years ago; space is slowly but surely being conquered by a few crazy coots not because of Terra but in spite of Terra. It's being done by a small bunch of hotheads who like to zoom around in rocketships. They're getting results in the face of every handicap we can place upon them."

"Having been a pilot you're prejudiced in their favor," said Hancock defensively. "After all, somebody has to do the paperwork."

"I'd agree if the paperwork was necessary and made sense."

"If there wasn't any paperwork, we'd both be out of a job."

"You've got something there. So on this planet there are two thousands of us sitting on our fundaments busily making work for each other. In due time there'll be five thousand, then ten thousand."

"I'm looking forward to it," commented Hancock, brightening. "It'll mean promotion. And the more subordinates we have the higher our own status."

"That may be so. I won't take it with an easy conscience but I'll take it just the same. Frail human flesh, that's me." Purcell scowled at his desk, went on, "Guess I'm not yet old enough and cynical enough to accept the general waste of time and effort. There are moments when I could go off with a very large bang. This is one of them."

Hancock, who had picked up his pen, put it down again and asked resignedly, "Exactly what irks your reformist spirit right now?"

"There's a fellow here, a bugologist—"

"An entomologist," Hancock corrected.

"You will kindly allow me to choose my own words," Purcell suggested. "This bugologist wants a cobalt-60 irradiation outfit. It weighs three-eighty pounds."

"What for?"

"To clear the Great Forest area of a disease-carrying fly."

"How's he going to do that?"

"According to section D7 of his application form under the heading of REASONS, he says that treated male flies will effectively sterilize all female flies with whom they mate. Also that if he traps, irradiates and frees enough males he can wipe out the species. Also that several centuries ago Terra got rid of screw-worm, tsetse and other flies by precisely the same method. He claims that he can make the whole of the Great Forest area inhabitable, exploitable and save an unknown number of lives. Therefore he asks for top priority."

"That seems reasonable," Hancock conceded.

"You would give his dingus top priority, eh?"

"Certainly. A Class A import."

"That is real nice to know," said Purcell. "I am heartened to find sweet reasonableness sitting behind a desk and wearing oilskin pants." He slung the form across to the other. "Some bead-brained four-eyes has stamped it Class L. So this bugolo-

gist won't get his fly-killer for at least another seven years."

"It wasn't me," protested Hancock, staring at it. "I remember this one now. I got it about four months ago and passed it to Rohm for his approval."

"Why?"

"Because he's in charge of forestry."

"Holy cow!" said Purcell. "What have flies got to do with forestry?"

"The Great Forest area is the responsibility of Rohm's department. Anything pertaining to it must be passed to him."

"And he's stamped it Class L. He must be off his head."

"We cannot assume inefficiency in another department," Hancock pointed out. "There may be a thousand and one things Rohm needs more urgently. Medical supplies for instance."

"Yes, to cure people of the staggers after being bitten by flies," Purcell riposted. "If space-scouts operated the way we work, they'd still be preparing photostats of their birth and marriage certificates in readiness for an attempt on the Moon." He took the form back, eyed it with distaste. "Letheren's gin aggravates me. I have always hated the stuff. It tastes the same way a dead dog smells. If he can wangle a dollop of booze, why can't we wangle a cobalt-60 irradiator?"

"You can't buck the system," declared Hancock. "Not until you're one of the top brass."

"I'm bucking it as from now," Purcell announced. He reached for a fresh form, started filling it in. "I'm making a top priority demand for a fly-killer for Nemo."

"Nemo?" Hancock looked stupified. "What's that?"

Purcell waved a careless hand toward the window. "The newly discovered planet out there."

Shoving back his chair, Hancock waddled to the window and gazed through it a long time. He couldn't see anything. After a while he came back, puffed, mopped his forehead again, reached for the intercom phone.

Purcell snapped, "Put that down!"

Letting go as if it were red-hot, Hancock complained, "If they've started operations on a new planet, Collister's department should have notified us in the proper manner. I object to this sloppy method of passing news along by word of mouth during lunch-hour gossip. Essential information should be transmitted in writing and distributed to all the individuals concerned."

"Collister's crowd know nothing about Nemo."

"Don't they? Why not?"

"I just invented it," said Purcell evenly.

"You *invented* it?"

"That's what I said." Completing the form, Purcell smacked it with a huge red stamp bearing the letters TP, then with a smaller one reading *Consign via Alipan B417.* While Hancock goggled at him he signed it, shoved it into the pneumatic tube. Within four minutes the radio

facsimile would be flashed Earthward.

Hancock said, aghast, "You must be mad."

"Crazy like a fox," admitted Purcell, undisturbed.

"They won't accept a requisition for an unregistered planet without official advice of its discovery and notification of its co-ordinates."

"The demand is an advice and I included the co-ordinates."

"They'll check on this," warned Hancock.

"With whom? The department for Nemo?"

"There isn't one," said Hancock.

"Correct. They'll have to check with Yehudi."

"They'll find out sooner or later that they've been taken. There will be trouble. I want you to know, Purcell, that I hereby disclaim all responsibility for this. Officially I know nothing whatever about it. It is solely and wholly your own pigeon."

"Don't worry. I'm willing to accept the full credit for a praiseworthy display of initiative. Anyway, by that time the bugologist will have got his equipment and all the flies will be dead."

Hancock simmered down for five minutes then took on a look of horror as a new thought struck him. "If they load three-eighty pounds of scientific hardware, it's highly likely that they won't load the gin."

"That's what I like about it."

"Letheren will run amok."

"Let him," said Purcell. "He thinks he's heap big. To me he's just a big heap."

"Purcell, I will accept no responsibility for this."

"So you said before." Then he added with some menace, "Always bear one thing in mind, Hancock—I don't look as daft as I am!"

At Terra the indent landed on Bonhoeffer's desk, he being in charge of the Incoming Mail (Pre-sorting) Department. Bonhoeffer was a real woman's man, big, handsome, muscular, stupid. He owed his eminence solely to the fact that while in ten years the incoming mail had increased by twelve per cent the number of his subordinates had gone up one hundred forty per cent. This was more or less in accordance with the rules laid down by Professor C. Northcote Parkinson.*

Bonhoeffer picked up the form with much reluctance. It was the only item on his desk. The slaves dealt with everything as a matter of daily routine and nothing was brought to his personal attention unless there was something awkward about it. This suited him topnotch; it gave him plenty of time not to think.

So he knew in advance that this particular form contained the subject of an administrative quibble and that he must demonstrate his intelligence by finding it alone and unaided. Slowly and carefully he read it from top to bottom four times. As far as he could see there was nothing wrong with it. This irritated him. It meant that he must summon the individual who had passed the invisible buck

*Parkinson's Law, *circa* 1958.

and do him the honor of asking his opinion.

He examined the form's top left corner to see who would be thus honored. The initials scrawled thereon were F. Y. That meant the buck-passer was Feodor Yok. He might have expected it. Yok was a clever bum, an office show-off. He looked like Rasputin with a crew-cut. And he wore the knowing smirk of a successful ambulance chaser. Bonhoeffer would rather drop dead than ask Yok the time of day.

That made things difficult. He studied the requisition another four times and still it looked plenty good enough to pass any determined fault-finder, even Yok. Then it occurred to him that there was an escape from this predicament. He, too, could transfer the grief, preferably to an eager beaver. It was as easy as that.

Switching his desk-box, he ordered, "Send in Quayle."

Quayle arrived with his usual promptitude. He was built along the lines of a starving jackrabbit and tried to compensate for it with a sort of military obsequiousness. He wore a dedicated look and was the sort of creep who would salute an officer over the telephone.

"Ah, Quayle," began Bonhoeffer with lordly condescension. "I have been watching your progress with some interest."

"Really, sir?" said Quayle, toothy with delight.

"Yes, indeed. I keep a careful eye on everyone though I doubt whether they realize it. The true test of managerial competence is the ability to depute responsibility. To do that one must know and understand the men under one. Naturally some are more competent than others. You gather my meaning, Quayle?"

"Yes, sir," agreed Quayle, straining to expand his halo.

"Yok has seen fit to bring this requisition form to my attention." Bonhoeffer handed it over. "I was about to transfer it for necessary action when it occurred to me that it would be useful to know whether the question it raises is as obvious to you as it was to Yok and myself, also whether you can be as quick to determine what should be done about it."

Quayle's halo faded from sight while his face took on the look of a cornered rat. In complete silence he studied the form from end to end, reading it several times.

Finally he ventured in uncertain tones, "I can find nothing wrong with it, sir, except that it is a demand for Nemo. I don't recall seeing that planet upon the supply list."

"Very good, Quayle, very good," praised Bonhoeffer. "And what do you think should be done about it?"

"Well, sir," continued Quayle, vastly encouraged but still weak at the knees, "since the requisition emanates from Alipan, which is on the list, I'd say that it is valid so far as our department is concerned. Therefore I would pass it to the scientific division for confirmation of the reasons given and the correctness of the specification."

"Excellent, Quayle. I may as well

say that you have come up to my expectations."

"Thank you, sir."

"I am a great believer in giving encouragement where it is deserved." Bonhoeffer bestowed a lopsided smile upon the other. "Since you have the form in your hands you may as well deal with it. Yok brought it in but I prefer that you handle it in person."

"Thank you, sir," repeated Quayle, the halo bursting forth in dazzling glory. He went out.

Bonhoeffer lay back and gazed with satisfaction at the empty desk.

In due course—meaning about three weeks—the scientific division swore and deposed that there really was such an article as a cobalt-60 irradiator and that it could in fact cause flies to indulge in futile woo. Quayle therefore attached this slightly obscene certificate to the requisition and passed it to the purchasing department for immediate attention.

He felt fully justified in doing this despite that the mysterious Nemo was still absent from the official supply list. After all, he had been authorized by Bonhoeffer to take the necessary action and the scientific division had duly certified that there was something with which to act. He was covered both ways, coming and going. In effect, Quayle was fireproof, a much-to-be-desired state of existence.

The form and attached certificate now got dumped on Stanisland, an irascible character generally viewed as the offspring of a canine mother. Stanisland read them to the accompaniment of a series of rising grunts, found himself in the usual quandary. The purchasing department was supposed to know the prime sources of everything from peanuts to synthetic hormones. To that end it had a reference library so large that a fully equipped expedition was needed to get anywhere beyond the letter F. The library was used almost solely to demonstrate frenzied overwork whenever a high-ranking senior happened around, the safest place being atop the ladder.

It was easier to ask the right questions in the right places than to go on safari through a mile of books. Moreover Stanisland could admit ignorance of nothing in a room full of comparative halfwits. So he adopted his favorite tactic. Scowling around to make sure nobody was watching, he stuffed the papers into a pocket, got up, hoarsely muttered something about the men's room and lumbered out.

Then he trudged along three corridors, reached a bank of private phone booths, entered one, dialed the scientific division and asked for Williams. He uttered this name with poor grace because in his opinion Williams had been designed by Nature specifically to occupy a padded cell.

When the other came on, he said, "Stanisland, purchasing department, here."

"How's the bile flowing?" greeted Williams, conscious that neither was senior to the other.

Ignoring that, Stanisland went

on, "You have issued certificate D2794018 against a cobalt-60 irradiator on demand by Alipan."

"I don't take your word for it," said Williams. "Give me that number again and wait while I trace the copy."

Stanisland gave it and waited. He stood there about ten minutes knowing full well that Williams was taking one minute to find the copy and allowing him the other nine in which to grow a beard. But he was impotent to do anything about it. Finally Williams came back.

"My, are you still there?" he asked in mock surprise. "Things must be pretty quiet in your department."

"If we were as bone-idle as other departments, we'd have no need to consult them," shouted Stanisland. "We'd have all the time in the world to dig up information for ourselves."

"Aha!" said Williams, nastily triumphant. "You don't know where to get an irradiator, eh?"

"It isn't a question of not knowing," Stanisland retorted. "It's a question of saving time finding out. If I search under C for cobalt, it won't be there. It won't be under I for irradiator either. Nor under S for sixty. In about a week's time I'll discover that it's under H because the correct technical name for it is a hyperdiddlic honey or something like that. Things would be a lot easier if you eggheads would make up your minds to call a spade a plain, ordinary spade and stick to it for keeps."

"Shame," said Williams.

"Furthermore," continued Stanisland with satisfying malice, "every alleged up-to-date supplement to the library comes to us seven years old. Why? Because your crowd keep 'em on file and won't part until they begin to stink."

"We need them to stay up-to-date ourselves," Williams pointed out. "The scientific division cannot afford to be behind the times."

"There you are then," said Stanisland, winning his point. "I don't want to know who was making rudimentary irradiators way back when television was two-dimensional. I want to know who is making them *now*. And I don't want to put in to Abelson an official complaint about delayed data and willful obstruction."

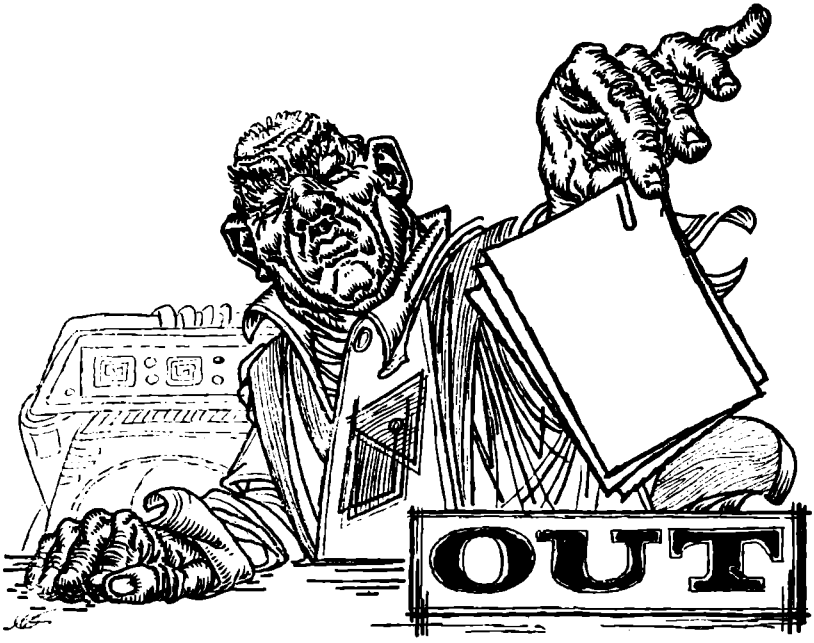
"Are you threatening me, you baggy-eyed tub?" asked Williams.

Stanisland started shouting again. "I don't want to touch Abelson with a ten-foot pole. You know what he's like."

"Yeah, I know, I know." Williams let go a resigned sigh. "Hold on a piece." This time he was gone twelve minutes before he returned and recited a short list of names and addresses.

Reaching his desk, Stanisland rewrote the list more clearly, attached it to the form and certificate, passed the bunch to a junior.

In tones hearable all over the office, he said, "It's a lucky thing that I had the handling of this demand. It so happens that I know all the people who make such a rare piece



of apparatus. Now you get their estimates as quickly as possible and submit them to me."

Then he glared happily around at all and sundry, enjoying their dead faces and knowing that they were hating him deep in their hearts. By hokey, he'd shown them who most deserved to be jacked up a grade.

Forman Atomics quoted the lowest price and quickest delivery. A month later they got a request for copy of their authorization as an approved supplier. They mailed it pronto. Three days afterward they were required to send a sworn affidavit that their employees included not less than ten per cent of disabled spacemen. They sent it. Two intelligence agents visited their head office and satisfied themselves that the flag flying from the masthead was a genuine Terran one in substance and in fact.

Meanwhile a subordinate from the Finance (Investigation) Department made search through the files of the Companies (Registered Statistics) Department aided by two juniors belonging to that haven of rest. Between them they made sure that not one dollar of Forman stock was held or controlled by the representative of any foreign power, either in person or by nominee. Admittedly, there was no such thing in existence

as a foreign power but that was beside the point.

By now the original requisition had attached to it the following:

1. The scientific division's certificate.

2. An interdepartmental slip signed by Quayle informing Stanisland that the requisition was passed to him for attention.

3. A similar slip signed by Bonhoeffer saying that he had ordered Quayle to do the passing.

4 to 11. Eight quotations for an irradiator, Forman's having been stamped: "Accepted subject to process."

12. A copy of Forman's supply authorization.

13. Forman's affidavit.

14. An intelligence report to the effect that whatever was wrong with Forman's could not be proved.

15. A finance department report saying the same thing in longer words.

Item twelve represented an old and completely hopeless attempt to buck the system. In the long, long ago somebody had made the mistake of hiring a fully paid-up member of Columbia University's Institute of Synergistic Statics. Being under the delusion that a line is the shortest distance between two points, the newcomer had invented a blanket-system of governmental authorizations which he fondly imagined would do away with items thirteen, fourteen and fifteen.

This dastardly attempt to abolish three departments at one fell blow had gained its just reward; a new department had been set up to deal with item twelve while the others had been retained. For creating this extra work the author of it had been hastily promoted to somewhere in the region of Bootes.

Stanisland added the sixteenth item in the shape of his own interdepartmental slip informing Taylor, the head of the purchasing department, that to the best of his knowledge and belief there were no remaining questions to be raised and that it was now for him to place the order. Taylor, who had not been born yesterday, showed what he thought of this indecent haste. Throwing away the overstrained paper-clip, he added his own slip to the wad, secured it with a wide-jawed bulldog fastener and fired it back at Stanisland.

The slip said, "You are or should be well aware that a consignment of this description may not be within the capacity of the Testing (Instruments) Department. If it is not, we shall require a certificate of efficiency from the Bureau of Standards. Take the necessary action forthwith."

This resulted in Stanisland taking a fast walk around the corridors while the surplus steam blew out of his ears. He had never liked Taylor who obviously enjoyed his seniority and would turn anyone base over apex for the sadistic pleasure of it. Besides, in his spare time the fellow lived the full life breeding piebald mice. With his beady eyes and twitching whiskers he bore close resemblance to his beloved vermin.

When pressure had dropped to the bearable, Stanisland returned to his desk, called a junior and gave him the wad plus a slip reading, "Can you test this thing?"

Within ten days all the papers came back accompanied by the reply. "For emission only. Not for functional purpose. To test for the latter we would require an adequate supply of the proposed subjects, namely and to wit, Nemo flies. Refer to Imports (Pest Control) Department."

So he phoned through to Chase who was sunbathing by a window and brought him back to his desk and Chase said with unnecessary surliness, "Importation forbidden."

"Can you quote authority for that?" asked Stanisland.

"Certainly," snapped Chase. "See the Bacteriological Defense Act, volume three titled Alien Insects, subsection fourteen under heading of Known Or Suspected Disease Carriers. I quote—"

"You needn't bother," said Stanisland hastily. "I've got to have it in writing anyway."

"All right. Give me those reference numbers again and I'll send you a documentary ban."

"I don't see how the testing department is going to cope in these circumstances."

"That's their worry, not yours," advised Chase. "Be your age!"

In due time—meaning another three weeks—Chase's prohibition arrived properly stamped, signed and countersigned. It got added to the growing bunch. Stanisland was now faced with the very serious question of whether a mere test for emission was adequate and in accordance with the rules. To resolve it one way or the other meant reaching A Decision. And that could be done only by an official in A Position Of Responsibility.

Yeah, Taylor.

At the prospect of consulting Taylor a great sorrow came upon him. It would imply that he, Stanisland, couldn't summon up the nerve. But the alternative was far worse, namely, to exceed his authority. He blanched at the thought of it.

For two days Stanisland let the papers lie around while he tried to think up some other way out. There was no other way. If he dumped the wad on Taylor's desk during his absence and then went sick, Taylor would hold the lot pending his return. If he transferred the file to the next department, it would be bounced back with malicious glee plus a note pointing to the lack of an order. Obviously he had to see Taylor. He had nothing to fear but fear itself.

Finally he steeled himself, marched into Taylor's office, gave him the documents and pointed to the last two items.

"You will see, sir, that an adequate test cannot be performed because of an import restriction."

"Yes, my dear Stanisland," said Taylor, courteous in a thoroughly aggravating manner. "I suspected some such difficulty myself."

Stanisland said nothing.

"I am somewhat surprised that you failed to anticipate it," added Taylor pointedly.

"With all respect, sir, I have a lot of work to do and one cannot foresee everything."

"I am more impressed by efficiency than by apologies," commented Taylor in sugar-sweet tones. "And so far as I am concerned the test of efficiency is the ability to handle potentially controversial matters in such a manner that this department, when called upon to do so, can produce documentary justification for everything it has done. In other words, so long as there are no routine blunders within our own department it is not our concern what mistakes may be made in other departments. Do you understand me, my dear Stanisland?"

"Yes, sir," said Stanisland with bogus humility.

"Good!" Taylor lay back, hooked thumbs in armholes, eyed him as if he were a piebald mouse. "Now, have you brought the order in readiness for my signature?"

Stanisland went purple, swallowed hard. "No, sir."

"Why haven't you?"

"It appeared to me, sir, that it would first be necessary to obtain your ruling on whether or not a test for emission is sufficient."

"My ruling?" Taylor raised his eyebrows in mock surprise. "Have you taken leave of your senses? I do not make decisions for other departments, surely you know that?"

"Yes, sir, but—"

"Anyone with the moral fortitude to look a fact in the face," interrupted Taylor, tapping the papers with a long, thin forefinger, "can see that here we have a written statement from the appropriate department to the effect that this piece of apparatus can be tested. That is all we require. The question of how it is tested or for what it is tested does not concern us in the least. We have enough responsibilities of our own without accepting those properly belonging to other departments."

"Yes, sir," agreed Stanisland, not inclined to argue the matter.

"Already there has been far too much delay in dealing with this requisition," Taylor went on. "The demand is now almost a year old. Disgraceful!"

"I assure you, sir, that it is not my—"

"Cut out the excuses and let me see some action."

"You wish me to write out the order at once, sir?"

"No, you need not bother. Go get your order book, give it to my secretary and tell her that I wish to deal with it personally."

"Very well, sir." Stanisland departed sweating a mixture of ire and relief.

Finding the order book, he took it to the secretary. She was a frozen-faced female who never lost an opportunity to admire his ignorance. She was named Hazel, after a nut.

On the face of it something had now been accomplished. A gadget

had been demanded, the demand had been checked, counterchecked and approved, estimates had been obtained and the order placed. It remained for Forman Atomics to supply the irradiator, the Testing Department to test it, the Shipping (Outward) Department to authorize dispatch to Alipan and the Loading (Space Allocation) Department to put it aboard the right ship.

True, a dozen more departments had yet to handle the growing mass of papers which by now had attained the dignity of a box-file. Between them they'd fiddle around for another two years before the wad was reluctantly consigned to the morgue of the Records (Filing) Department. But all these were strictly post-shipment departments; the days, weeks and months they spent playing with documents did not matter once the consignment was on its way. Any irate hustle-up note from the top brass in Alipan could now be answered, curtly and effectively, with the bald statement that Action Had Been Taken.

Stanisland therefore composed his soul in bilious peace, satisfied that he had hurdled an awkward obstacle to the accompaniment of no more than a few raspberries from Taylor. He gained some compensation for the latter by reminding everyone in the office that he was peculiarly qualified to advise on rare apparatus without first getting himself lost in the library. Having instilled that fact in their minds he carried on with routine work and began gradually to forget the subject. But he was not left in peace for long.

In more than due time—meaning at least twice three weeks—his telephone shrilled and a voice said, "This is Keith of Inspection Department."

"Yes?" responded Stanisland warily. He had never heard of Keith, much less met him.

"There's a difficulty here," continued Keith, smacking his lips. "I have been on to Loading about it and they've referred me to Shipping who've referred me to Testing who've referred me to Purchasing. I see by the papers that the order was placed by Taylor but that you did the processing."

"What's wrong?" asked Stanisland, immediately recognizing the swift passing of an unwanted buck.

"The manifest of the *Starfire* includes a thing called a cobalt-60 irradiator for delivery to Alipan. It has been supplied by Forman Atomics against your department's order number BZ12-10127."

"What of it?"

"Testing Department has issued a guarantee that emission is satisfactory," Keith continued. "You know what that means."

Stanisland hadn't the remotest notion of what it meant but was not prepared to say so. He evaded the point by inquiring, "Well, what has it to do with this department?"

"It has got plenty to do with *some* department," Keith retorted. "They can't *all* disclaim responsibility."

Still feeling around in the dark, Stanisland said carefully, "I may have

to take this to Taylor or even to Abelson. They will insist on me repeating your complaint in exact terms. Is there any reason why you can't send it round in writing?"

"Yes," said Keith. "There isn't time. The ship takes off this evening."

"All right. Exactly what do you want me to tell Taylor?"

Keith fell into the trap and informed, "This cobalt-60 contraption cannot have satisfactory emission without being radioactive. Therefore it comes under the heading of Noxious Cargo. It cannot be shipped by the *Starfire* unless we are supplied with a certificate to the effect that it is properly screened and will not contaminate adjacent cargo."

"Oh!" said Stanisland, feeling yet again that the only thing between him and the top of the ladder was the ladder.

"Such a certificate should have been supplied in the first place," added Keith, drowning his last spark of decency. "Somebody slipped up. I'm holding a wad three inches thick and everything's here but that."

Annoyed by this, Stanisland bawled, "I fail to see why the production of a non-contaminatory certificate should be considered the responsibility of this department."

"Testing Department say they offered to check for emission only and that you accepted this," Keith gave back. "The documents show that their statement is correct. I have them here before my very eyes."

"That is sheer evasion," maintained Stanisland. "It is your job to make them take back the apparatus and check it for screening."

"On the contrary," shot back Keith, "it is not, never has been and never will be my job to make good the shortcomings of other departments. The *Starfire* takes off at ten tonight. No certificate, no shipment. Sort it out for yourself." He cut off, effectively preventing further argument.

Stanisland brooded over the injustice of it before he went to see Taylor again, this time looking like hard luck on two feet. Taylor responded by meditating aloud about people who could not paint a floor without marooning themselves in one corner. Then he grabbed the phone and spent ten minutes swapping recriminations with Jurgensen of Testing Department. Jurgensen, a confirmed bachelor, flatly refused to hold the baby.

Giving the waiting Stanisland an evil stare, Taylor now tried to foist the problem onto the Scientific Division. All he got for his pains was a piece of Williams' mind, the piece with the hole in. Muttering to himself, he phoned Keith who promptly gave him the merry ha-ha and repeated in sinister tones his remark about no certificate, no shipment.

Finally Taylor thrust the phone aside and said, "Well, my dear Stanisland, you have made a nice mess of this."

"Me?" said Stanisland, paralyzed by the perfidy of it.

"Yes, you."

This was too much. Stanisland

burst out, "But you approved the order and tended to it yourself."

"I did so on the assumption that all routine aspects of the matter had been seen to with the efficiency that I expect from my subordinates. Evidently my faith was misplaced."

"That is hardly fair judgment, sir, because—"

"Shut up!" Taylor ostentatiously consulted his watch. "We have seven hours before the *Starfire* leaves. Neither the Testing Department nor the Scientific Division will issue the document Keith requires. We have no authority to provide one ourselves. But one must be got from somewhere. You realize that, don't you, Stanisland?"

"Yes, sir."

"Since you are directly responsible for this grave omission it is equally your responsibility to make it good. Now go away and exercise your imagination, if you have any. Come back to me when you have incubated a useful idea."

"I cannot forge a certificate, sir," Stanisland protested.

"It has not been suggested that you should," Taylor pointed out acidly. "The solution, if there is one, must be in accordance with regulations and not open to question by higher authority. It is for you to find it. And don't be too long about it."

Returning to his desk, Stanisland flopped into his chair and chased his brains around his skull. The only result was a boost to his desperation. He gnawed his fingers, thought furiously and always arrived at the same result; nobody, *but* nobody would produce anything in writing to cover up a blunder in another department.

After some time he went for a walk to the phone booths where he could talk in private, called the scientific division and asked for Williams.

"Williams," he said oilily, "I was there when Taylor baited you an hour ago. I didn't like his attitude."

"Neither did I," said Williams.

"You have been of great help to us on many occasions," praised Stanisland with an effort. "I'd like you to know that I genuinely appreciate it even if Taylor doesn't."

"It's most kind of you to say so," informed Williams, letting go a menacing chuckle. "But you still won't cajole from this department a document we are not authorized to give."

"I am not trying to do so," Stanisland assured. "I wouldn't dream of it."

"Taylor tried. He must think we're a bunch of suckers."

"I know," said Stanisland, gratefully seizing the opportunity thus presented. "To be frank, I wondered whether you'd be willing to help me give Taylor a smack in the eye."

"How?"

"By coming up with some suggestion about how I can get over this noxious cargo business."

"And why should that have the effect of twisting Taylor's arm?"

"He thinks he's got me where he wants me. I'd like to show him he

hasn't. Some of these seniors need teaching a thing or two." He paused, added craftily, "Abelson for instance."

The effect of that name in the other's ears clinched the deal and Williams said without a moment's hesitation, "All right, I'll tell you something."

"What is it?" asked Stanisland eagerly.

"No reputable outfit such as Forman's would ship a radioactive apparatus inadequately screened. Probably seventy per cent of that irradiator's weight is attributable to screening. Ask Forman's and they'll tell you—in writing."

"Williams," said Stanisland delightedly. "I'll never forget this."

"You will," contradicted Williams. "But I won't."

Stanisland now phoned Forman's and explained the position in complete detail. Their response was prompt: they would prepare a written guarantee of safety and deliver it by special messenger to Keith within two hours. Stanisland sighed with heartfelt relief. Seemed there were times when the efficiency of private industry almost approached that of bureaucracy.

Over the next few days Stanisland waited with secret pleasure for a call from Taylor. It never came. Unknown to him, Taylor had phoned Keith to find out what had happened, if anything. Taylor then realized that an interview with Stanisland would permit that worthy a moment of petty triumph. It was unthinkable

that a senior should permit a subordinate to gloat. He would summon Stanisland into his presence when and only when he had some pretext for throwing him to the crocodiles. So Stanisland went on waiting, first with growing disappointment, then with dull resignation, finally with forgetfulness.

The weeks rolled on while the wad of papers crawled through various offices and gained in mass at each desk. Then one day it reached the Documents (Final Checking) Department. It now weighed five pounds and was solid with words, figures, stamps, names and signatures.

From this mountain of evidence some assiduous toiler dug out the strange word Nemo. His nose started twitching. He made a few discreet inquiries and satisfied himself that (a) someone had blundered and (b) the cretin was not located within his own office. Then he steered the wad toward the Spatial Statistics Department.

Far away on Alipan a copy of the *Starfire's* manifest landed on Hancock's desk. He scanned it carefully. Most of the stuff had been demanded three to four years ago. But he had a very good memory and the moment his eyes found an irradiator the alarm-bells rang in his brain. He was swift to give the list to Purcell.

"You'd better deal with this."

"Me? Why? You got writer's cramp or something?"

"The ship is bringing an expensive present for a planet that doesn't exist. I don't handle consignments for imaginary worlds."

"Windy, eh?" said Purcell.

"Sane," said Hancock.

Examining the manifest, Purcell grumbled, "It's taken them long enough. Nobody broke his neck to get it here. If scout-pilots moved at the same pace, Lewis and Clarke would still be pounding their dogs along the Oregon Trail."

"I am," announced Hancock, "sick and tired of the subject of scout-pilots."

"And where would you have been without them?"

"On Terra."

"Doing what?"

"Earning an honest living," said Hancock.

"Yeah—filling forms," said Purcell.

Hancock let it slide and pretended to be busy.

"Now this is where our right to determine priorities reaches its peak of usefulness," Purcell went on, flourishing the manifest as if it were the flag of freedom. "We issue an overriding priority in favor of our bugologist, his need being greater than Nemo's. The fly-killer will then be transferred to him without argument because nobody questions a proper form, properly filled, properly stamped and properly signed. Thus we shall have served humanity faithfully and well."

"You can cut out every 'we' and 'our,' " ordered Hancock. "I am having nothing to do with it." He put on another brief imitation of over-

work, added as an afterthought, "I told you before, you can't buck the system."

"I have bucked it."

"Not yet," said Hancock positively.

Taking no notice, Purcell made out the priority, stamped it, signed it, studied it right way up and upside-down, signed it again.

"I've forged your signature. Do you mind?"

"Yes," yelled Hancock.

"I am receiving you loud and clear." Purcell examined the forgery with unashamed satisfaction. "Too bad. It's done now. What's done can't be undone."

"I'd like you to know, Purcell, that in the event of that document being challenged I shall not hesitate to declare my signature false."

"Quite a good idea," enthused Purcell. "I'll swear mine is false also."

"You wouldn't dare," said Hancock, appalled.

"It'll take 'em at least ten years to figure who's the liar and even then they couldn't bet on it," continued Purcell with indecent gusto. "In the meantime I'll suggest that maybe every document of Alipan's and half of Terra's have phony signatures attributable to subordinates by-passing their seniors in order to avoid criticisms and conceal mistakes. The resulting chaos ought to create work for ten thousand checkers."

"You're off your head," declared Hancock.

"Well, you can keep me company," Purcell suggested. He exhibited the manifest at distance too far for the other to read. "I've got news for you."

"What is it?"

"No gin."

Hancock sat breathing heavily for quite a time, then said, "You're to blame for that."

"Nuts! I've no say in what Terra loads on or leaves off."

"But—"

"If you've told me once," Purcell went on remorselessly, "you've told me a hundred times that in no circumstances whatever will any department on Alipan accept responsibility for decisions made on Terra. Correct?"

"Corect," agreed Hancock as though surrendering a back tooth.

"All right. You ordered the gin and can prove it. You gave it high priority and can prove it. You're armor-plated front and back. All you need do is go see Letheren and say, 'Sorry, no gin.' When he zooms and rotates you say, 'Terra!' and spit. It's so easy a talking poodle could do it."

"I can hardly wait to watch you get rid of Nemo the same way," said Hancock, making it sound sadistic.

"Nobody has said a word about Nemo. Nobody is the least bit curious about Nemo. Finally I, James Walter Armitage Purcell, could not care less about Nemo."

"You will," Hancock promised.

In due time—which on Alipan attained the magnitude of about three months — the intercom speaker squawked on the wall and a voice

harshed, "Mr. Purcell of Requisitioning (Priorities) Department will present himself at Mr. Vogel's office at eleven hours."

Hancock glanced at his desk clock, smirked and said, "You've got exactly thirty-seven minutes."

"For what?"

"To prepare for death."

"Huh?"

"Vogel is a high-ranker with ninety-two subordinates. He controls four departments comprising the Terran Co-ordination Wing."

"What of it?"

"He makes a hobby of personally handling all gripes from Terra. Anyone summoned by Vogel is a gone goose unless he happens to be holding the actual documentary proof of his innocence in his hot little hands."

"Sounds quite a nice guy," Purcell commented, unperturbed.

"Vogel," informed Hancock, "is a former advertising man who got flat-footed toting his billboard around the block. But he's a natural for routine rigmarole. He's climbed high on the shoulders of a growing army of underlings and he's still climbing." He paused, added emphatically, "I don't like him."

"So it seems," said Purcell dryly.

"A lot of people don't like him. Letheren hates the sight of him."

"That so? I don't suppose he's choked with esteem for Letheren either, eh?"

"Vogel loves nothing but power—which in this racket means seniority."

"Hm-m-m!" Purcell thought a bit, went out, came back after twenty minutes, thought some more.

"Where've you been?" asked Hancock.

"Accounts Department."

"Getting your pay while the going is good?"

"No. I have merely satisfied myself that one hundred and five equals seventeen hundred."

"It wouldn't save you even if it made sense." Hancock continued to busy himself with nothing and kept one eye on the clock. When the moment arrived he said, "On your way. I hope you suffer."

"Thanks."

Opening his desk Purcell extracted an enormous roll of paper, tucked it under one arm. He tramped out, found his way to the rendezvous, entered the office. Vogel, dark-eyed, dark-haired and swarthy, studied him without expression.

"Sit down, Purcell." He bared long, sharp teeth and somehow managed to look like Red Riding Hood's grandmother. "Terra has brought to my attention a demand originating from a planet named Nemo."

"That, sir, is—"

Vogel waved an imperious hand. "Please be silent, Purcell, until I have finished. Your own remarks can come afterward." Again the teeth. "A lot of very valuable time has been spent checking on this. I like to have all the facts before interviewing the person concerned."

"Yes, sir," said Purcell, nursing his roll of paper and looking suitably impressed.

"I have found firstly that Terra's statement is quite correct; such a demand was in fact made and you processed it. Secondly, that the subject of the demand, an irradiator, was transferred by you to an address upon this planet. Thirdly, that no planet discovered before or since the date of this demand has been officially given the name of Nemo." He put hands together in an attitude of prayer. "One can well imagine the trouble and exasperation caused on Terra. I trust, Purcell, that you have a thoroughly satisfactory explanation to offer."

"I think I have, sir," assured Purcell glibly.

"I'll be glad to hear it."

"The whole bother is due to someone on Terra jumping to the erroneous and unjustifiable conclusion that Nemo is the name of a planet when in fact it is a code word used by my department to indicate a tentative priority as distinct from a definite one."

"A tentative priority?" echoed Vogel, raising sardonic eyebrows. "What nonsense is this? Don't you realize, Purcell, that all demands must be rated strictly in order of importance or urgency and that there is no room for indecision? How can anything have a *tentative* priority?"

"I find it rather difficult to tell you, sir," said Purcell, radiating self-righteousness.

"I insist upon an explanation," Vogel gave back.

Assuming just the right touch of pain and embarrassment, Purcell informed, "Since cargo-space is severely limited the problem of granting priorities is a tough one. And when a senior official practically orders my department to assign to his demand a priority higher than it deserves it follows that, if we obey, something else of similar weight or bulk must accept lower priority than it deserves. But regulations do not permit me to reduce the status of a high-priority demand. Therefore I am compelled to give it a tentative priority, meaning that it will gain its proper loading-preference providing nobody chips in to stop it."

A gleam came into Vogel's eyes. "That is what happened in this case?"

"I'm afraid so, sir."

"In other words, you claim that you are suffering unwarranted interference with the work of your department?"

"That," said Purcell with becoming reluctance, "is putting it a little stronger than I'd care to do."

"Purcell, we must get to the bottom of this and now is not the time to mince words. Exactly what were you ordered to ship at high priority?"

"Gin, sir."

"Gin?" A mixture of horror and incredulity came into Vogel's face. But it swiftly faded to be replaced by a look of suppressed triumph. "*Who* ordered you to bring in gin?"

"I'd rather not say, sir."

"Was it Letheren?"

Purcell said nothing but assumed the expression of one who sorrows for Letheren's soul.

Gratified by this, Vogel purred. He rubbed his hands together, became positively amiable. "Well, Purcell, it appears to me that you have been guilty of no more than a small oversight. Should you find it necessary to employ code-words as a matter of administrative convenience it is obvious that Terra should be notified through the proper channels. Without regular notification Terra would eventually find itself trying to cope with incomprehensible jargon. An impossible situation as doubtless you now appreciate, eh, Purcell?"

"Yes, sir," said Purcell, humble and grateful.

"But in the present circumstances it would not be wise to advise Terra of the true meaning of Nemo. To do so would be tantamount to admitting that our priority system is being messed up at anybody's whim. I hope you see my point, Purcell."

"I do, sir."

"Therefore I propose to inform Terra that the inclusion of this word was due to a departmental error born of overwork and lack of sufficient manpower." He exposed the teeth. "That will give them something to think about."

"I'm sure it will, sir."

"Purcell, I wish you to drop the use of all code-words except with my knowledge and approval. Meanwhile I shall take the steps necessary to put a stop to any further interference with your department."

"Thank you, sir." Purcell stood up, fumbled with his roll of paper, looked hesitant.

"Is there something else?" asked Vogel.

"Yes, sir." Purcell registered doubt, reluctance, then let the words come out in a rush. "I thought this might be an opportune moment to bring to your attention a new form I have devised."

"A form?"

"Yes, sir." He unrolled it, put one end in Vogel's hands. The other end reached almost to the wall. "This, sir, is a master-form to be filled up with the origin, purpose, details, progress and destination of every other form that has to be filled in. It is, so to speak, a form of forms."

"Really?" said Vogel, frowning.

"By means of this," continued Purcell greasily, "it will be possible to trace every form step by step, to identify omissions or contradictions and to name the individual responsible. Should a form get lost it will be equally possible to find at what point it disappeared and who lost it." He let that sink in, added, "From what I know of interdepartmental confusions, many of which are hidden from senior officials, I estimate that this form will save about twenty thousand man-hours per annum."

"Is that so?" said Vogel, little interested.

"There is one snag," Purcell went on. "In order to save all that work it will be necessary to employ more people. Since their work would be wholly co-ordinatory they would come under your jurisdiction, thus adding to your responsibilities."

"Ah!" said Vogel, perking up.

"In fact we'd have to create a new department to reduce the total of work done. However, I have studied the subject most carefully and I am confident that we could cope with a minimum of thirteen men."

"Thirteen?" echoed Vogel, counting on his fingers. He sat staring at the form while into his face crept a look of ill-concealed joy. "Purcell, I believe you have something here. Yes, I really do."

"Thank you, sir. I felt sure you would appreciate the potentialities. May I leave the form for your consideration?"

"By all means, Purcell." Vogel was now well-nigh jovial. Fondly he stroked the form, his fingers caressing it. "Yes, you must certainly leave it with me." He glanced up, beaming. "If anything is done about this, Purcell, I shall need someone to take charge of this new department. Someone who knows his job and in whom I have the fullest confidence. I cannot imagine a better candidate than yourself."

"It is kind of you to say so, sir," said Purcell with grave dignity.

He took his departure but as he left he turned in the doorway and for a moment their eyes met. A glance of mutual understanding sparked between them.

Back in his own office Purcell plonked himself in a chair and recited, "Whenever two soothsayers meet in the street they invariably smile at each other."

"What are you talking about?" demanded Hancock.

"I was quoting an ancient saying." He held up two fingers, tight together. "Vogel and I are just like that."

"You don't fool me," Hancock scoffed. "Your ears are still red."

"Vogel loves me and I love Vogel. I hit him right in his weak spot."

"He hasn't any weak spots, see?"

"All I did," said Purcell, "was point out to him that if the number of his subordinates should be increased from ninety-two to one hundred and five he'd be automatically jacked up from a Class 9 to a Class 8 official. That would gain him another seventeen hundred smackers per year plus extra privileges and, of course, a higher pension."

"Nobody has to tell Vogel that—he knows it better than anyone."

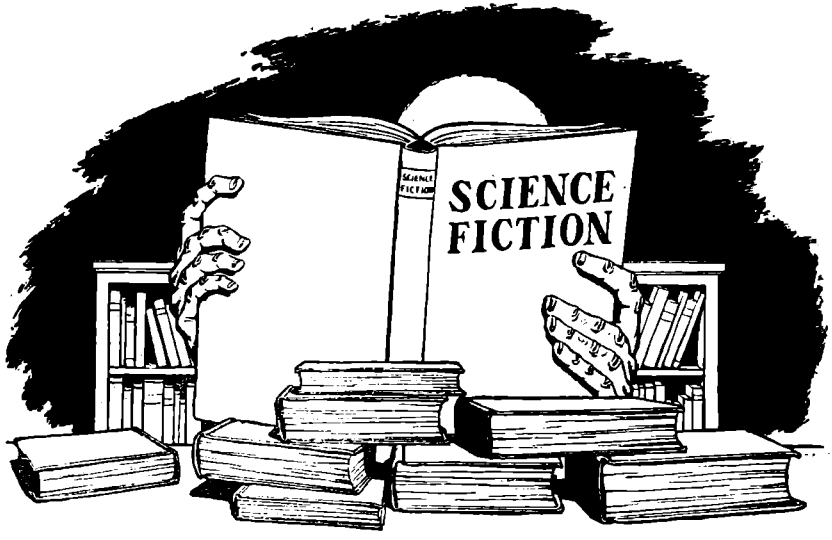
"All right. Let's say I merely reminded him. In return he was good enough to remind me that a disabled hero bossing twelve underlings is far better off than one sharing an office with a surly bum."

"I neither ask nor expect the true story of your humiliation," growled Hancock. "So you don't have to cover up with a lot of crazy double-talk."

"Some day," offered Purcell, grinning, "it may dawn upon you that it is possible to buck a system, *any* system. All you need do is turn the handle the way it goes—only more so!"

"Shut up," said Hancock, "and talk when you can talk sense."

THE END



THE REFERENCE LIBRARY

BY P. SCHUYLER MILLER

OF TIME AND THE WRITER

IN LAST August's issue, I gave you gossip about the Edgar Rice Burroughs stories, "Beyond Thirty" and "The Man-Eater," as fact. The publisher, Brad Day, has been more than a little distressed about the possible damage to his good name and shadow on his integrity—which I'm sure nobody has doubted—and wants to place the following facts on record:

"The Copyright Office of the Library of Congress furnished this information: 'Beyond Thirty' was published in the February, 1916 issue of *All Around Magazine* and registered in the name of Street & Smith, under B 353411, following publication December 31, 1915. Claim to renewal copyright was reg-

istered under R 119046, upon an application received in the name of Street & Smith Publications, Inc., as proprietors of a composite work on June 17, 1943. Street & Smith assigned rights to 'Beyond Thirty' to Edgar Rice Burroughs in a document executed on June 15, 1927, and received by the Copyright Office on July 2, 1927. Recorded: Vol. 183, p. 46. Search in the Renewal Indexes failed to disclose a renewal registration for a contribution to a periodical under the name Edgar Rice Burroughs and the title 'Beyond Thirty.'

" 'The Man-Eater'—the second Burroughs rarity in Brad Day's recent hardcover edition—was published in The New York *World* as a six part serial from November 15 to November 20, 1915, and was registered in the name of The Press Publishing Company. Search in the Renewal Indexes failed to disclose any renewal registration of a claim to copyright."

Translation? Both stories were copyrighted by the original publishers as part of the contents of the magazine and newspaper in which they appeared. Copyright on "Beyond Thirty" was later reassigned to Burroughs. Neither copyright was renewed when it expired, and anyone who wants to do so can now reprint the stories without permission from the Burroughs estate or anyone else.

Two people have done so: the anonymous publisher of the undated, multilithed, paperback edition that was peddled at SF conventions a year or so ago, and Day with his attractive book. The alert salesmen of the paper edition certainly fostered the impression that it would be suppressed any day, and hence was an investment for collectors. I bit and bought. Brad Day has never given this impression, and I shouldn't have attached the gossip to his book. The two stories are still rarities, whether you like them as stories or not.

It's fascinating to speculate on why Burroughs asked to have the copyright to "Beyond Thirty" assigned to him in 1927. Checking in Day's "Edgar Rice Burroughs Biblio," you'll see that he was at the height of his writing career. "The Moon Maid," one of his best books and the only other one, so far as I can recall, laid in the future, had just appeared. *Amazing Stories Annual* was a sellout with his first Mars story in five years, "The Mastermind of Mars." *Blue Book* was about to start serializing one of his most popular Tarzan yarns, "Tarzan, Lord of the Jungle." Two non-SF books were in the stores.

Burroughs may only have been picking up rights to all his old stuff, preparatory to taking over his own publishing several years later. On the other hand, he may have intended to expand and extend "Beyond Thirty" into a full-length novel. If he had, the book might be one of his best, for one of its faults in the present—original—form is the way in which big episodes of the sort Burroughs handled well are collapsed into a few pages.

Science fiction is particularly vulnerable to this need for revision and

up-dating, especially when a writer has stuck his neck out and made predictions or extrapolated the science of his time. Hugo Gernsback's "Ralph 124C 41+"—out now as a Crest paperback—is chiefly notable today for the way in which Gernsback has *not* had to back down on his predictions, although our technology has gone well beyond him in many ways. On the other hand, most writers before 1939 were offhandedly assuming that the way to atomic energy lay through some manipulation of radium. It was the most potent radioactive element we knew, so we used it—only to have uranium become the actual power-element. Stories from those times, reprinted now, usually have to be rewritten to keep them from seeming ridiculous to a reader who sees them for the first time.

A little more subtle is the question of the writer's attitudes, now and—say—twenty years ago. Most SF writers seem to start young, and they have young ideas, ideals and reactions. These may change as they mature; I can think of stories of my own, written when I was in college, that express attitudes and use stereotypes that I wouldn't be caught dead using now. If those stories were to be reprinted, they'd have to be revised.

This seemed to be the issue in a recent legal battle between Ernest Hemingway and *Esquire* magazine. I recommend an article in the August 23rd *Saturday Review*, by Jerome Beatty, Jr., for the full story and for a very thought-provoking discussion of this whole question of a writer's old sins.

Hemingway was not—as the newspapers assumed—trying to keep *Esquire* from putting his three old stories of the Spanish Civil War into an anthology because he no longer held his then obvious Loyalist sympathies. He had a more fundamental objection, and one that brings about far more rewriting than politics does. He simply thought that the stories weren't as good—as well written—as they should be, and he wanted to do them over or scuttle them completely.

As Beatty points out in his article, many writers, great and not-great, have done this. Kenneth Roberts, whose historical novels deliberately try to recreate the mood and substance of their times, was continually patching them up as new documents turned up to alter statements he'd made or scenes he'd created. Talbot Mundy wanted the—first written—"Queen Cleopatra" volume dropped out of the "Tros of Samothrace" trilogy, which Gnome Press is now reprinting, because as he made a deeper study of Cleopatra and her times, he completely changed his mind about her character. If he'd lived, he would probably have rewritten the book from scratch. A. Merritt was continually revising parts of his books.

Readers often write me to raise this question about the one-shot novels from the old *Startling, Thrill-*

ing Wonder, and other magazines that are now appearing as hardbound and paperback books. Because I don't have the magazines where I can use them, I usually don't make the comparison myself—but we have a goodly number of critical readers who can do the whole thing from memory, or who have awfully good files. Sometimes—as Beatty points out—the author is restoring an original version that the magazine editor changed. Sometimes he is taking out stuff that the editor wrote in himself, to fit a house policy of some kind. Sometimes the book publisher wants the manuscript cut to a specific length, so that it will go on a specific number of printed pages.

Sometimes the writer simply changes his mind about what he wants to do. Though I haven't yet read it, I'm told that T. H. White's "The Once and Future King" (Putnam, $4.95), an Arthurian fantasy that we probably won't review here since it doesn't pretend to depict reality, has involved almost complete rewrites of the second and third parts, "The Witch in the Wood" and "The Ill-Made Knight," as well as addition of a fourth, new part. They say he hasn't harmed his whole, great epic fantasy in the process. On the other hand, you know that I think "Doc" Smith did spoil his "Lensman" series by putting into the book versions a series of episodes that spell out the behind-the-scenes struggle of Arisia and Eddore. The continuing, hidden mystery that was an important factor in the original versions, here in Astounding, has been destroyed.

If you can lay hands on a February, 1949 issue of *Thrilling Wonder,* you can decide for yourselves how successful one case of revision has been. It had a novelette or short story, "The Weakness of RVOG," by James Blish and Damon Knight, in which an invulnerable robot came to Earth with the demand that we destroy him—or be destroyed by his masters. The problem: to find the creature's weak spot.

This story is now expanded into "VOR," by James Blish and published as Avon Book No. T-238, for thirty-five cents. Some say the revision has spoiled the original story; I happen to like it. Whatever your opinion, it's a good example of what a serious writer like Blish does after ten years.

The gimmick, now, is only superficially the story; that has become the personal life of Marty Petrucelli, desk-pilot for the Civil Air Patrol, who is afraid to fly again and who is watching a flashy fly-boy steal his wife. The monster from space lands right in his lap, and he is—not too probably—in from the beginning on the struggle to communicate with the thing, then when its demand is known, to break through its defenses. All along, he finds his personal problems getting in the way of his technical job, exactly as they would in reality.

Partly because Marty takes himself out of the game in this way, Chris Holm, the Atomic Energy Commis-

sion's investigator, turns into the real hero of the book. To me, his eventual sacrifice seemed unnecessary; all it accomplishes is to give the ball back to Marty, who has to run with it as we knew he would all along. Blish handles such situations a lot better than that nowadays, and I can't help feeling that either he or Damon Knight—who seems to have supplied the original gimmick—would have come up with a better book if they were now starting from scratch.

If Hollywood gets its paws on "VOR," you'll get one of two diametrically opposite pictures. If it is handled for the old *Thrilling Wonder,* shocker values, it will be just another monster-feature for the drive-ins. But an intelligent director who approaches it in the mood Blish has now put into it, can make a real show out of it. I hope someone will.

THE LINCOLN HUNTERS, by Wilson Tucker. Rinehart & Co., New York & Toronto. 1958. 221 pp. $2.95

Rinehart is one major publisher that isn't ashamed to publish science fiction and to call it just that. This new, rather short novel by the sage of Bloomington is a pleasantly suspenseful variation on the time travel theme. It isn't up to the author's memorable "Long, Loud Silence" but it's his best in some time.

The book begins in Cleveland of 2578 A.D.—the year 334 of the new era, after the blowup of human society. The world is a feudal structure of city states, totally regimented, in which men have time travel but haven't reached the planets. Most of the records of the past have been lost, destroyed or distorted in the upheaval of the Second Revolution, and an outfit known as Time Researchers are kept busy probing selected corners of history for scientists or aniquarians.

One such collector, for whom they have already salvaged Plymouth Rock, wants a recording of Lincoln's famous "lost" speech, made on the night of May 29, 1856 in Tucker's own home town of Bloomington, Illinois. A team headed by Benjamin Stewart, whose standing with the authorities is none too good, sets out to get it. And trouble begins to brew . . .

The first fix goes wrong, and Stewart lands in Bloomington on the morning after the speech, when he was supposed to be reconnoitering well in advance. He begins to find evidence that something has gone wrong with the job, but makes the second trip anyway. And one of the crew, the erratic, alcoholic ex-actor Bobby Bloch, disappears.

Once before Stewart has had to leave a fellow crewman behind, to be hacked to pieces in a Roman arena for the amusement of Antony and Cleopatra. He won't do it again. Yet, thanks to the engineers' blunder, he has only a few hours to find Bloch before he will be in danger of meeting himself and being destroyed.

The suspense mounts nicely, the people of the story are all believable, and Tucker has done an especially good job of contrasting his unpleasantly stable future society with the brash frontier of Lincoln's days. I don't suppose "The Lincoln Hunters" will win any prizes, but it's one of the best of the year.

THE BLUE BARBARIANS, by Stanton A. Coblentz, Avalon Books, New York. 1958. 223 pp. $2.75

THE BARFORD CAT AFFAIR, by P. H. H. Bryan. Abelard-Schuman, New York. 1958. 152 pp. $2.75

I am pairing these books for contrast, because they represent the extremes that satire can take in science fiction. The Coblentz book is old-fashioned, heavy-handed belaboring of our society by setting up an obviously ludicrous parallel on another planet—in this case Venus. It dates from *Amazing Stories Quarterly* for the summer of 1931, and for my money is the best and most subtle of the author's unsubtle burlesques. The Bryan book, on the other hand, is an utter delight—underplayed as only an Anglo-Irishman could do it, and as modern as tomorrow.

"The Blue Barbarians" are the natives of Venus, a businessmen's culture broadly burlesqued from the bottom of the Depression. They tear around at high speed on motor roller-skates, convert their forests into gaudily dyed sawdust for the sake of conspicuous waste, and rotate their civilization around the cult of *gulgul* —their money, which happens to be colored glass.

Erom Reve (Ever More, backward), the hero, is the latest of several pairs of explorers to try to land on Venus. We are supposed to believe that mankind has spent eight hundred thousand years on Earth without doing this; now he's forced to find a refuge, for the Sun is cooling and glaciers have covered most of Earth. With a lanky poet and the poet's little dog, Reve is space-wrecked—the "clouds" of Venus turn out to be a shell of milling meteors that act like a one-way mirror—captured, put in a zoo, released, put to work in a sawdust factory—satire on mechanization of industry—escapes, makes some green *gulgul* and becomes a local tycoon, discovers and rescues his predecessors, gets involved in a planetary war, and so on. The science didn't hold together, even then, and the satire is of the broadest, but Erom Reve and his companion, Daolgi Kar, really take on a certain amount of flesh and become quite believable. Utterly unsubtle, but quite enjoyable if you don't take it too seriously.

"The Barford Cat Affair," on the other hand, is immensely subtle and just as caustic a commentary on our kind. It is the kind of thing George Orwell did in "Animal Farm," but better.

Spurred by a few fanatics, the "housekeepers" of the English city of Barford have resolved to destroy all cats . . . and the cats, as the only

really civilized people in town, take steps to protect themselves. First there's a sit-down strike: no rats or mice will be caught. Then there is direct retaliation: one by one, key figures in the opposition are picked off and quietly eaten—the author of the bill to obliterate cats, a pair of sadistic boys, one of the city's cat-catchers. But this phase of the feline underground is simply ignored: it's the rats that save the day.

The quiet, feline objectivity with which the cats go to work on Barford is shivery. Their views of mankind, discussed in their occasional parleys, are devastating. And at the very end there is still another twist that penetrates through the character of cat-kind, right into the vitals of man-kind again.

Unless you simply can't stand this kind of book, don't overlook "The Barford Cat Affair."

OUR NUCLEAR FUTURE, by Edward Teller and Albert L. Latter. Criterion Books, New York. 1958. 184 pp. $3.50

The main-line reviews of this book have dwelt almost entirely on the authors' politics, and particularly on what they have to say about H-bomb testing. Dr. Teller needs no introduction; he is now at the University of California at Berkeley. Dr. Latter is a theoretical physicist with the Rand Corporation. Both men write here somewhat as apologists for the AEC point of view, that further bomb tests are necessary and will not do much harm, and it is on this angle that the book has been reviewed and attacked.

What has not been sufficiently emphasized is that here is one of the clearest expositions of nuclear physics that we have had from any writer. If this is Latter's contribution, more power to him: I hope he keeps on writing as lucidly about difficult matters. Nobody who reads the book should have much difficulty understanding why fallout occurs, what its dangers to us are, and what they may become. The story is unfolded step by step to the authors'—and the AEC's—conclusion that the danger of a nuclear war, brought about because we have not made the tests necessary to develop sure, "clean" nuclear weapons, is greater than the direct or genetic harm from radiation.

This is the vulnerable spot in the book, and the one that has been attacked to the exclusion of credit for the good the main text will do. It has been attacked mainly by laymen and scientists who argue backward from the conviction that the only way to avoid a nuclear holocaust is to have no nuclear weapons, and that if you can't have effective weapons without tests, then we must stop the tests. Having worked back to this point, they then seize on any evidence or indications that the tests themselves are dangerous to our present population.

I am quite sure these critics of the Teller-Latter-Libby attitude ("testing

is safe") don't know whether damage is being done or not, and certainly not how much. On the other hand, neither does the AEC *yet* know that it isn't being done. The facts simply are not all in, and for my money Teller and Latter do not make this sufficiently clear. Neither—though they discuss it—do they bear down hard enough on the question of variation in the statistics we do have.

The point is that you tell a very incomplete story when you argue from averages, of whatever kind. If the average fallout of Strontium 90—which is absorbed into the bones and provides a radioactive source inside the body—has a certain value, taken over the world as a whole, then in about half the world it will be less than this average, but in the other half it will be greater. By the same token, the average susceptibility of people to radiation means very little until you know the *range* of susceptibility: half the people exposed will be injured by less radiation than the average tolerance would indicate, and half can take more without danger.

There are tested statistical measures to show what the spread in a set of data is. They are used, for example, in reporting radiocarbon ages of buried organic matter: the wood or charcoal has a certain apparent age, plus or minus a few hundred years' statistical error. I assume—and I hope—that the reason Teller and Latter have not given such measures of spread is that we simply don't have 'em yet. Such measures mean very little unless they are based on a large "universe" of data, and the data are still scarce, but they are coming in.

On one statistical point, however, the authors have made themselves clear: the amount of fallout from bomb tests made thus far is smaller than the natural variation in radioactivity from other sources, including cosmic rays, X rays, radium in water and on wristwatch dials, and the natural radioactivity in bricks and stone and concrete. This is what a communications man would call the "noise."

This is a very hard thing to make intelligible. On the surface, it seems quite clear that if radioactivity is dangerous, more radioactivity is more dangerous. From this point of view, it doesn't help much to say that all the fallout from bomb tests is less hazardous to you than vacationing in the Rockies or drinking milk from a cow that is pastured on acid soil, or having your chest X-rayed. Still, I wish Teller and Latter had tried to make it clearer. I think they could have done it.

INVISIBLE BARRIERS, by David Osborne. Avalon Books, New York. 1958. 223 pp. $2.75

This is one Avalon book that hasn't been cut; judging from the type size, it's been expanded from the original in the December 1957 *If*, where the title was "And the Walls Came Tumbling Down" and the author called himself Robert

Silverberg, a person known from other sources to exist.

We enter a future, not too far ahead, in which isolationism and anti-intellectualism have about reached the nadir. There are solid if invisible walls of prejudice around the United States, and nothing beyond them can even be mentioned on fear of penalties for deviationism. TV producer John Amory is doing the best he can with the butchered scripts that filter through the network's screening committee ("offend nobody"), and he has friends among the deviationist eggheads. Then, at a party, he is drugged and wakes up in the hands of three-eyed blue-skinned aliens who want him to cull off the best of Earth's culture for them. Chance gives him a reason: the visitors from the Lesser Magellanic Cloud intend to sweep Earth clean and move in, but they'd like a few souvenirs of the natives.

So Amory sets out, by planned deviationism, to break down the invisible barriers and let the world in, in time to present a united front to the invaders.

The gimmick is good, the setting is consistent if sketchy—there were only sixty pages in the magazine, after all—but the ending is a disappointment. All in all, a time-marker. Silverberg is doing better than this.

INVADERS FROM EARTH, by Robert Silverberg.

ACROSS TIME, by David Grinnell. Ace Books, New York. D-286. 169 + 150 pp. 35¢

As a matter of fact, here is Silverberg doing a good deal better in half —and the better half—of a book that costs you 35 cents instead of $2.75. There are no credits, so it may be an original. (I'll be corrected by our readers if it isn't, but by that time it will be much too late to apologize to you.)

We are taken into the subtly different world of the Twenty-first Century gray flannel, Ivy League set where Ted Kennedy is a promising young man in one of New York's biggest public relations firms. Extraterrestrial Development and Exploration Company has found valuable minerals on Ganymede, but it has also found an intelligent, somewhat civilized race that doesn't want to be overrun. Steward and Dinoli, Ted's bosses, are hired to produce an atmosphere in which Extraterrestrial can wipe out the Gannies with full public support, and with United Nations funds.

This is the best part of the book. Ted has qualms, but it's his job. He comes up with the prime gimmick of the campaign: a faked colony, which will be massacred by the fiendish Gannies and trigger the reprisals. His wife, however, is a socially oriented girl who can't see that the end—a job to be done—justifies such means. Finally Ted is sent to Ganymede and undergoes a change of attitude when he learns what the

Gannies—and the Company—are really like. This is the least convincing part: the Company's real motives never quite make sense. But it's an excellent yarn on all counts, and the picture of New York's Twenty-first Century equivalent of Madison Avenue is solid — better than the Pohl-Kornbluth "Gravy Planet," in fact.

The flip half of the double book is a reprint of the 1957 Avalon hardback, a fairly ordinary time-mixup with some good parts, but nothing extra. Silverberg is why you buy this one.

LEST WE FORGET THEE, EARTH, by Calvin M. Knox.

PEOPLE MINUS X, by Raymond Z. Gallun. Ace Books, New York. No. D-291. 126 + 160 pp. 35¢

The new part of this book, the story by Calvin Knox, is supposed to have created some stir in *Science Fiction Adventures* last year, where it appeared in three novelettes as the "Chalice of Death" series. It starts very well, but doesn't hold up—probably because its hero's main problem had to be solved by the end of the first story.

The time is a round hundred thousand years in the future, when an Earth-born empire has spread through space and finally collapsed of its own weight. Earth is lost and forgotten, but Earthmen hold a jealously protected place as advisers to scores of petty and not-so-petty emperors scattered over space. Hallam Navarre, Earthman to the Court of Jorus, lets himself be suckered into a quest for a mythical "Chalice of Life," lost in the legends of Earth. If the whole yarn had been the expanded story of Navarre's search for Earth, in the manner of Jack Vance's memorable "Big Planet," it would have been a better book. As it is, Earth is found all too quickly and easily, its sleeping people are resurrected, and the remaining two thirds of the story switch to assorted plot and counterplot as Navarre and his friends try to keep the new Earth from being wiped out.

Gallun's half was a Simon & Schuster original hardback last year —another variant on the mutants, androids, and microscopic men themes. It moves fast and is well done, but isn't quite convincing. It's worth the 35 cents, though.

THE THIRD GALAXY READER, edited by H. L. Gold. Doubleday & Co., Garden City, N. Y. 1958. 262 pp. $3.95.

If you read more than one science-fiction magazine, the chances are—especially if you don't care for fantasy—that the other one is *Galaxy*. In this anthology, it's editor has selected from the magazine's last three years to give you a really excellent collection of fifteen stories, a couple of them by promising new names in the field.

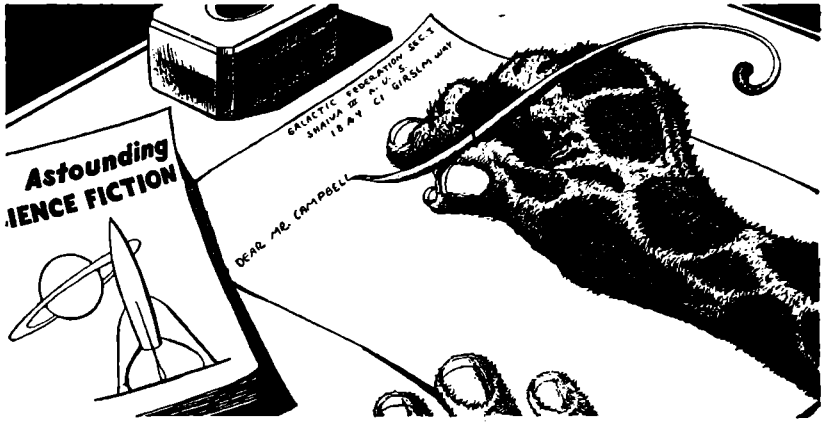
I think my favorite of the lot is

the story that closes the book, the previously anthologized "Game of Rat and Dragon," by Cordwainer Smith, which creates a partnership of men and cats to destroy the perils of an interdimensional universe. But there are other excellent stories here, too. The opener, Theodore Cogswell's "Limiting Factor," gives us a new twist on *Homo superior* and makes an interesting companion piece to Heinlein's "Methuselah's Children," just published by Gnome Press. Robert Sheckley's "Protection" is a characteristic little yarn on the subject of guardian angels. Evelyn Smith's delightful "The Vilbar Party" brings an ivory-towerish professor from Saturn to Earth, and F. L. Wallace's "End as a World" is just a shade too long for its theme.

Two of the volume's other top stories come side by side: Fritz Leiber's "Time in the Round" and Avram Davidson's wonderful "Help! I Am Dr. Morris Goldpepper." Leiber, as usual, has painted an impressionist's portrait of a strange future society, in which children's place is bizarre but important. Davidson, his tongue doubtless in the hole left by a missing wisdom tooth, has at last permitted the dentists of the world to save mankind from an alien invasion.

One of the new writers, Finn O'Donnevan, uses "A Wind Is Rising" to show us a strange other planet—something that's been neglected lately. Isaac Asimov, who needs no introduction here, points out that "Ideas Die Hard" in a story with a twist to the twist to the twist. Lester del Rey's "Dead Ringer," Frederik Pohl's "The Haunted Corpse," and Damon Knight's "Man in the Jar" are middle-of-the-road stories about strange powers. William Morrison's "The Model of a Judge" is in the mood of "Vilbar Party"—an extra-terrestrial coping with human foibles: in this case, a cake-baking contest. "Volpla" by Wyman Guin is another of my favorites: the nicely done story of a biologist who breeds a race of little winged folk. And finally, Clifford D. Simak's "Honorable Opponent" gives a new twist to the philosophy of war.

From where I sit, I'd say this is the best of the three *Galaxy* collections. Certainly, it's the best since Number One. May they keep on coming—and will some publisher persuade John Campbell to keep on doing the same for this magazine?



BRASS TACKS

Dear Mr. Campbell:

Your editorial re "Hyperdemocracy" in the August, 1958 issue has rung a fine bell in political science.

To digress, I have been a reader of the genre since 1923. I started at the age of eight. (No typographical error in the starting year).

Actually, this is the second letter I have ever written to an editor. The first was back about 1932 or 1933 when I wanted *Wonder Stories* to continue.

Take it back—there was a third; this was when I wanted to see Ray Palmer continue in the business a few years ago, and I sent in a subscription to a magazine of his to help him keep going. (Though I still deplore his Shaver, *et al,* in *Amazing.*)

The important thing is that for a number of years now, both independents and many liberals have been puzzled on the very point you raise.

Your editorial answers the point beautifully.

Nevertheless, your choice of examples is not very good.

You state "if you are lucky, and accidentally discover an oil well, and make ten millions or so, that isn't earned income, and you aren't punished for it. There's only a twenty-five per cent capital gains tax.

"If, however, you make an invention, and license the invention to many companies, and the invention is of great value so that royalties amount to $10,000,000—that's antisocial. It's well-earned income, and is punishable with a ninety per cent fine."

The examples chosen show only the product of a certain method of teaching; indeed a sort of brain washing. The remarkable thing about your editorial is that you have risen above the examples to present a truth to the American nation.

(1) Though finding an oil well is a *lucky* accident—or faith, or hunch, or whatever you want to call it—only one out of ten wells drilled in the United States ever produces oil. From experience, the cost of an average deep well—about four thousand feet plus equipment if it is a producer—is over fifty thousand dollars. The greatest cost is in the drilling. Add to this the time of recovery of the initial investment. Most states, except Colorado, put oil production on a pro rata basis. For example, in Kansas, a well that *can* produce three thousand barrels a day is held to a maximum of sixty barrels a day. At less than three dollars a barrel, gross, you can easily figure out how long it takes that one well to pay out and get even. Only the landowner, except for taxes, gets a free ride. He receives a set amount per acre of his land until a well is drilled. If a well is drilled and becomes a producer, he receives one eighth of the income without any expense to himself. He is also reimbursed for any "damage" to his land or crops. The oil producer does receive a twenty-seven and one half per cent depletion allowance, tax-wise,—based on the fact that as the oil is taken out of the ground there is consequently less oil that can be removed from that particular well. However, compare this with depreciation allowance on equipment, buildings, et cetera, in any business or industry.

Add to this the fact that all independent, little, oil men—who drill nine tenths of the oil wells in the United States — are at the mercy, price-wise and every other direction, of both the big oil companies and the government (imports) and you can, I think, easily see the position of the typical oil man today.

Further, the only way an oil man can take advantage of capital gains is to sell his interest in a producing well or wells. This sounds good until you realize one thing; the price for producing property is only the estimated income of the property for a three-year, or two-and-one-half year, period. This for a well or wells that might produce for thirty to fifty years, and, in toto, over a six-year period will produce at least twice the amount of the selling price—plus the fact that the buyer will have advantage of the twenty-seven and one half depletion allowance.

But the oil man, the small one, is an incurable optimist. He wants to keep drilling, and he must keep drilling to be happy—something like the old prospector, he keeps hoping to hit a million-dollar proposition. In the meantime, to keep operating, he must sell what production he has achieved in order to keep going.

Incidentally, oil imports don't hurt the big oil companies—only the little fellow. Remember this, when the big companies are importing oil—sup-

posedly helping our poor neighbors—they put the products in their stations at the same price as the domestic oil. In the meantime they pay the domestic little guy only what they want to pay.

Even so, most of the price of gasoline and oil products is tax money, not the actual price.

However, I might add; oil from the Near East, et cetera, counting transportation costs and everything, can be put into United States stations—gasoline stations that is—for under one dollar—a barrel that is. You may have a friend in the big company industry who will dispute this. Look it up for yourself.

(2) On the other hand, let us look at the holder of a patent. Recognizing his difficulties; among them the cost of lawyers, the tracing of previous patents, the stealing of ideas, et cetera, let us go beyond that. Let us say all those expensive, irritating problems are out of the way. These are similar to the cost of drilling of an oil man, without being quite as expensive, generally speaking.

In the ordinary course of events the holder of a patent is either a corporation or an individual. Usually, if an individual, he has a job with some measures of security, except in such cases as where his contract calls for all new ideas to be owned by the corporation. The typical oil man has no security except as he makes it for himself. Not that an invention invalidates the inventor's security. It may or may not.

I agree that the inventor, where he is receiving money benefits from his invention, is still unfairly treated. He should have the same depletion or depreciation allowance for his invention that declining earning power, life of patent, or brainpower shows to be necessary. Such a scale should be set up.

None of this, of course, changes the fact that your choices of examples were poor, and, in themselves, hurt your premise on hyper-democracy—true as your political science might be.—Duane Solter, 220 Wood Lane, Wichita 12, Kansas.

But you're talking about a man who earns *an oil well—not about one who* accidentally discovers *one! You're talking about the man who earns a living by finding oil wells; naturally, since his success is an earned success, he must be appropriately punished. As you truly state, only the man who accidentally owned the piece of land under which someone else searched for and found the oil makes money on it! He has a right to wealth, you see, because he did nothing to earn it—it just happened to him.*

Dear John:

Readers interested in Finagle's Constant, the Bugger Factor, Murphy's Law, Parkinson's Law and other astute discoveries in the onward march of science will naturally want to keep abreast of events. I am happy to report that at a recent con-

vention of the STDK (Society for Those Dazed by Knowledge) some intriguing papers were read upon the following:

Brumfit's Law: That the critical mass of any do-it-yourself explosive is never less than half a bucketful. This was demonstrated by Emmanuel Brumfit at the age of twelve. He mixed half an ounce of gunpowder, applied a match and nothing happened. He added more of this, that and the other, applied another match. Nothing happened. He went on adding and mixing without result. The volume reached exactly half a bucketful when he applied match number fifty-four and went out the window without bothering to open it.

Yapp's Basic Fact: That if a thing cannot be fitted into something smaller than itself some dope will do it. This was discovered by Harold Poindexter Yapp at the remarkable age of seven. He proved it to the complete satisfaction of two hundred onlookers including one regarded as a scientific expert—a mortician. He trapped his head in a fence and had to be sawn out by the local fire department.

Potter's Theorem: That the greatest possible prime number is equal to infinity minus one. By profession Horace Potter is a whacks' wheeler and probably the world's greatest expert at shoving a coffee truck around the corridors to the other inmates. Like Fermat, he got to his theorem intuitively. *But* quite recently he came up with incontrovertible proof. It can't be controverted because nobody can figure how forty-two cans of tuna-fish get into the calculations.—Eric Frank Russell.

And that should be enough to end Finagleing for good!

Dear Ed:

Pertaining to the article "Divining Rod, Standard Equipment":

My God, it works!—T. H. Milton, 324 17th Street, Dunbar, West Virginia.

Thought we were kidding, huh?

THE END

(*Continued from page 7*)
by buried water, gas, or sewer pipes. For the steel company engineers, they locate buried pipes of any kind; the engineers want to know where the pipes are so that, in driving piling, they won't hit them.

Science has ducked the issue of studying psi very simply; it has denied that there is any phenomenon to study.

In doing so, it is denying a truth —an unpleasant, perhaps disastrous, truth.

The Department of Agriculture I mentioned didn't *continue* their investigations—they denied them.

The engineering use of dowsing rods is widespread today, in the United States, in every state of the Union. There are companies manufacturing dowsing rods such as Marklund uses, and they can be bought from suppliers anywhere in the country.

One company manufacturing them is the Jayco Company, of Birmingham, Michigan; they sell them as the Ayco Pipe Locators.

They are used, strictly at the engineering rule-of-thumb level, by men who find they do a job no other known device will do. They are, simply, pragmatically economical of time and effort. Such men will not waste their time and effort convincing you they work; they have a job to do, and if you don't like their tools, that is, of course, your business, so far as they're concerned.

Science, I can say flatly, with plenty of solid evidence to back it up, is *wrong*. Dowsing rods, used to locate pipes underground, do work. Science is simply, explicitly, wrong in denying the phenomenon.

And this, I propose, is the place that we *must* start studying. We *must*, whether we like it or not—and believe me, from what little studying I've done, we won't like it.

Psi phenomena exist at the same level that emotion, desire, and want do, as far as I can make out. If that's the case, then in studying the psi phenomena, you're studying the level which men, today, hold to be the ultimate level of privacy—Subjective Reality. An understanding of the laws of this level would make it pos-

sible to manipulate desire, change attitudes, control emotions.

And that, of course, no man wants possible.

Of all the things Logic and Philosophy and Science have investigated, Emotion, certainly one of the most tremendously important in all human affairs, has been least investigated. Essentially, Science and Logic and Philosophy have agreed on only one thing for sure; "It shouldn't exist! Get rid of it! It just fouls everything beyond hope of straightening out! Stop it—destroy it—stamp it out!"

Psychology, of course, has had to deal with the anathematized stuff. But even psychology seeks to eliminate it from patients; it's an unfortunate, intractable human weakness that must be dealt with.

A logician's attitude toward emotion is startlingly similar to that of a Victorian maiden lady toward Sex. The nasty stuff shouldn't exist, and certainly decent people won't talk about it or investigate it.

Emotion is, essentially, beyond any possibility of logical analysis; it's an individual's reaction to his perception of subjective reality. And so long as "subjective" has the semantic connotation of "not real," logic certainly isn't going to be able to get a real solution to the problem.

I suggest that Subjective Reality bears the same relationship to Objective reality that field-forces do to matter. Field forces are not material; they obey wildly different laws—but they do obey laws.

I suggest that Subjective Reality is a true, inherent level of reality in the Universe. It's no more something exclusively generated by human minds than "organic" chemical compounds were exclusively generated by living organisms. For all men knew, as little as one hundred fifty years ago, the ability to perceive light was a subjective mystery; no known inorganic system had the ability.

It took the development of quantum physics to explain the interaction of electromagnetic radiation and matter sufficiently to make photoelectric cells possible. Eyes, however, had been around for some megayears before that.

To date, no interaction between psi forces and either material or field-force phenomena has ever been discovered. Considering the extreme resistance to serious study of psi phenomena, however, that's not exactly surprising. Isaac Newton tried, Oliver Lodge tried—and their efforts in that direction have been hushed up as the indiscretions of two otherwise great men. Probably they didn't have enough data on either psi phenomena or physics when they worked; maybe something more useful could be achieved now.

And we *must* achieve it.

Every human effort to build a dynamically stable civilization—*every* effort, without exception—has foundered on the problem of emotions, desires, and the demagoguery that those uncontrolled wild variables introduce.

And the very best advice Logicians, Philosophers and Scientists have had has been . . . "There shouldn't *be* any such things! Suppress them! Deny them! Do away with them!"

And, every time without exception, they have, instead, done away with the philosophers, logicians, scientists and egg-heads.

You can't control a phenomenon by denying its existence. You can't control it by suppressing it either; suppression simply causes an energy-storage effect that leads to eventual explosive release. If there's a river flowing through a valley where you want to build a city, it's rather futile to simply build a dam to block the river; eventually the dam will be burst by the building pressure, and the city wiped out in the resultant flood.

A phenomenon can be controlled only by acknowledging it, studying it, understanding it, and directing it usefully. Properly handled, that river should be dammed, channeled through turbines, and made to supply the city with light and power.

But emotion is the despair of logicians; it is inherently nonlogical. It's the effort to force it into logic-only channels that causes the explosions that wreck every culture Man has ever built. Uniformly, repeatedly, one hundred per cent of the cases on record.

Evidently what we need is a nonlogical technique of analytical thinking—a method of thinking that is more-than-logical. A not-logical-but-rational technique.

Trouble is, every individual is internally convinced that he's already solved the problem, and is using it right now. And is emotionally willing to work, fight, and, in fact, die for its conclusions. His method of fighting may, for emotional reasons, be limited to a simple absolute refusal, even if he is killed for it—but Ghandi demonstrated that that, too, is a means of destructive fighting.

We *must* study psi, *because it is the only objectively observable set of phenomena stemming from subjective forces.*

Logic was developed and corrected and forged into a reliable tool be-

cause objectively observable phenomena could be used as a check on the validity of logical methods. Logic that didn't correlate with objective phenomena could be eliminated, and logical methods that did work could be proved—in the more ancient meaning of "tested"—by objective experience.

The psi phenomena represent subjective phenomena that can be observed objectively.

When a man uses dowsing rods, the rods don't do anything but act as indicators—the *man* does it. He uses some subjective-level-of-the-universe phenomena; *he* does it, not the rods.

But he does something that isn't scientific, in the truest sense of that statement; the phenomena involved are hyper-scientific. If "natural" and "scientific" are correlated on a one-to-one basis, then what he does is truly supernatural.

Fine; now we know that, and acknowledge that, let's start looking into the nature of the supernatural. It, too, must have laws!

In order to understand psi, we are going to have to develop a totally new kind of analytical thinking; known psi phenomena violate the inverse square law, the distance-law, and every other basic law of Science and Logic. They violate the basic law of Semantics; the map *is* the territory! What is done to the map, is in fact done to the territory—and treating a photograph kills Japanese beetles on a farm five hundred miles away.

That is absolute scientific nonsense —logically impossible!

Good; now inasmuch as it does happen . . . what are the laws of thought, of analytical thinking, that do explain such things? Let us fully understand and agree that it is scientifically impossible, and logically nonsense.

But let us be honest; we do not annihilate the phenomenon by denying the fact that it happens.

As of now, Russia's got us licked at the level of science and logic. We're ahead by reason of progress we made earlier, but our rate of acceleration has dropped way down, while theirs is rising.

In Russia, people truly *desire* science.

In the United States, they do not *desire* science, and do *desire* stability and traditions.

We *must* study psi—even though it will mean development of techniques that will force you, against your will and wish, to desire things that, today, you loathe.

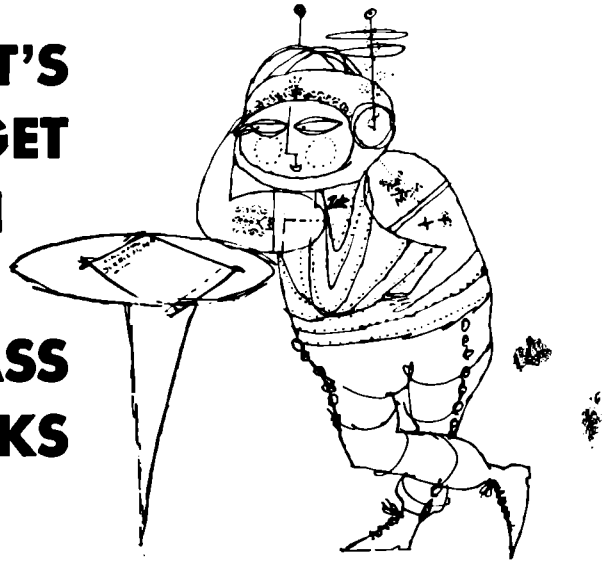
And such psi phenomena as dowsing rods that work for eighty per cent of the people, when used to locate buried pipes, are key facts—objectively observable phenomena—that can lead to breaking the problem of subjective-level reality.

If it was important for the United States to develop the thermonuclear bomb . . . then

We must study psi!

THE EDITOR.

LET'S GET DOWN TO BRASS TACKS



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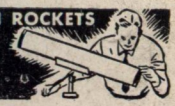

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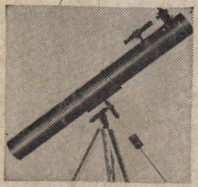

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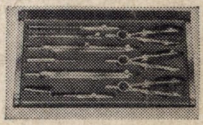

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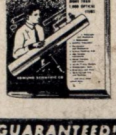

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