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WORLDS OF if SCIENCE FICTION

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KEITH LAUMER • BENFORD and FRANSON

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WORLDS OF IF SCIENCE FICTION

ALL NEW STORIES

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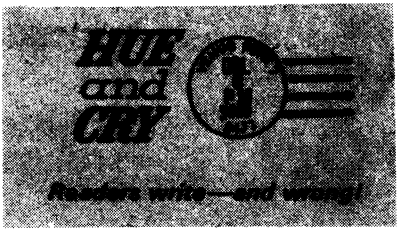


Dear Editor:

I have been meaning to protest for some time, and finally got around to it. In the Hue and Cry *column in IF, why don't you publish complete addresses? It would hardly take up enough time or paper to be a bother, and the lack of address is occasionally infuriating. For a blatant example, in the May-June issue you published a letter from one Brian Hval, who wanted information on organizing a local science fiction club. Since you provided no address to which information could be sent, why did you bother publishing his letter at all? It was certainly no help to Mr. Hval; okay, you published one reply, which was too general to be much help. With a published address, he might well have bombarded with information—I'm certainly not going to send items specifically directed to one person to your magazine in the hopes that you'll publish them, and other fans feel the same way. They write directly or they don't write. If Ted White can publish complete addresses, why can't you?*

Not everyone wants his address published—many people object to being targeted for mail-order solicitations, doorbell ringers or someone who just wants to argue. Mailing lists have become a marketable commodity and I don't want *Hue and Cry* so used.

This policy will continue in effect, but you do raise a point. Let's try it this way—contributors who want their addresses published may request that we do so and we'll try to oblige.

Starting with you. Your comments continue:

. . . What's all the alleged editorial confusion about Monarch *being an "enigmatic" ending to the Dr. Dillingham series? The story fits, chronologically, parallel to* Equals Four, *which you ran in your July-August issue, with the ending of* Monarch *coming somewhere in the middle of* Equals Four—*some time between the time the Jann leaves the observation booth and the time it returns to it. What's so enigmatic about that? Don't you read the stories you publish?*

Sincerely,
Robert Coulson
Route 3
Hartford City, Ind.

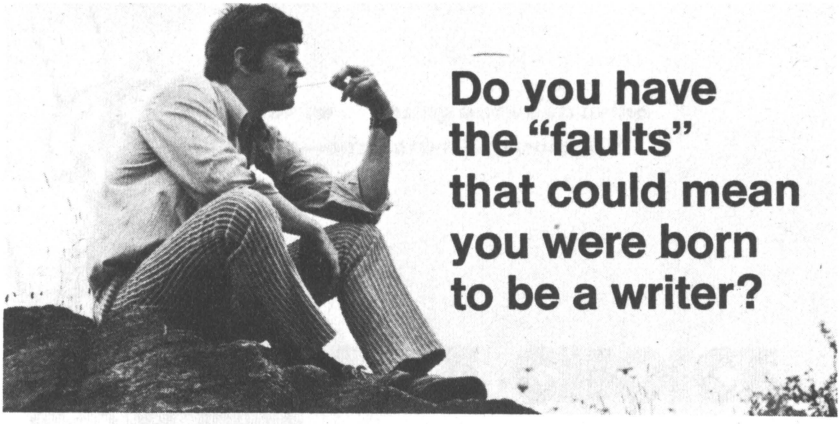
Gentlemen:

Monarch *was a good story. I didn't read the first story or two of the sequence. The stories have seemed lighthearted, but there just is no way to be lighthearted about a slave-labor camp! To say the least, that was grim.*

Now, about the ending—it's not enigmatic at all. The next-to-last story of this series, so far, was Equals Four, *roughly simultaneous with this story (excluding trips to the past, of course), ends with Dr. Dillingham's robot presenting him with Judy. The robot rescued her—so the story ties in.*

Sincerely,
Michael N. Tierstein
Brooklyn, N.Y.

(Continued on page 189)



Do you have the "faults" that could mean you were born to be a writer?

Writers usually hate to be "labeled," but there's no denying most of them share certain characteristics. They're dreamers. Loners. Bookworms. Too impractical, intense, idealistic. If you have "faults" like these, remember they may be the most creative parts of your personality. They could be a clear indication of a gift.

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GAMBLER'S CHOICE

novelette

BOB SHAW

I

MIKE TARGETT stared morosely through the forward transparency of Module Five. The vehicle was traveling at a height of a few feet—and at its maximum survey speed of five hundred knots—across a flat brown desert. Apart from the plume of dust which roiled constantly in the rear screen there was no sign of movement anywhere on the broad face of Horta VII. And no sign of life.

"Eight dead worlds in succession," he grumbled. "Why do we never find life?"

"Because we work for the Cartographical Service," Dave Surgenor told him, shifting to a more comfortable position in the module's other seat. "If this were an inhabited world we wouldn't be allowed to buzz all over it like this."

"I know, but I'd like to feel there was some chance of making contact with somebody. Anybody."

"I would suggest," Surgenor said peacefully, "that you join the diplomatic service." He closed his eyes with every appearance of a man about to drift into a contented after-dinner sleep.

"I'm indebted to you."

Targett glanced resentfully at the older man's relaxed profile. He had a deep respect for Surgenor and his vast experience in the Service, but at the same time he had no desire to emulate Surgenor's career. It took a special kind of mind to withstand an endless succession of treks across bleak, alien globes, and Targett was aware that he did not have it. The thought of growing old in the Service filled him with a dismay that strengthened his resolve to make some money quickly and get out while he was young enough to enjoy spending it. He had even decided on where he would have his fling. Next furlough he was going to visit Earth and try his luck on some of the legendary race courses there, the ones where it had all started. A gambler had no trouble finding facilities on any of the Federation's inhabited worlds—but actually to stand on the historic turf on Santa Anita or Ascot . . .

"Dave," he said wistfully, "weren't you in the Service in the old days when they used to allow the modules to break the search pattern and race back to the ship for the last five hundred miles?"

Surgenor's eyelids flickered. "The old days? That was only a year or so ago."

"That's the old days in this line of business."

Targett glanced at the instruments on the control panel, which told him there were less than three thousand miles between Module Five's present position and the planet's north pole, where the *Sarafand* was waiting. The mother ship had disgorged its six sur-

vey modules at the south pole and —solely under the control of the AESOP computer—had done a half circuit of Horta VII, leaving the six modules to traverse the planet with their geodesic sensors.

"We used to race back to the ship, but it led to trouble once and they introduced a regulation specifically forbidding it." Surgenor sounded more interested in getting to sleep.

"Did you make any money out of it?" Targett persisted. "By laying odds on the winner?"

"It wouldn't have worked." Surgenor yawned theatrically, making his point about not wanting to talk. "Every module had exactly the same chance—one in six."

"Not *exactly* the same chance," Targett said, warming to his subject. "I happen to know that Aesop tolerates a dispersion of up to twenty miles when he's setting the *Sarafand* down at a pole—and if it worked out right at both ends one module could have a forty-mile advantage over its opposite number. All you would have to do to set up a profitable book would be—"

"Mike," Surgenor interrupted tiredly, "did you ever stop to consider that if you poured all that ingenuity into a legitimate business enterprise you'd be so rich you wouldn't need to gamble?"

Targett was appalled. "What has getting rich got to do with gambling?"

"Is that not the whole idea?"

"Go back to sleep, Dave—I'm sorry I disturbed you." Targett rolled his eyes skyward and settled down to scowling through the forward transparency again. A range of low hills had appeared a few miles to the right, but otherwise the brown deserts of Horta VII were featureless as ever. He had been slumped in his seat for perhaps ten minutes when the module's computer--which was actually a sub-unit of Aesop—made an annoucement.

"Receiving atypical data," it droned. "Receiving atypical data."

"COMPUTER FIVE, give details," Targett said, nudging Surgenor.

"Bearing two point sixty-three, cosine increasing with module displacement. Range fifty-one point eighty-one miles, tangent decreasing with module displacement. Metallic objects on planetary surface. First estimate of number—three hundred sixty-three. Concentration and consistency of metallic elements indicate refining. Analysis of reflected radiation indicates machine-finished exteriors."

Targett's heart began to jolt powerfully. "Did you hear that, Dave? What does it mean?"

"It sounds to me as though you've got your wish—those can't be anything but artifacts." Surgenor's voice betrayed no excitment, but Targett noticed he was

now sitting upright as he made a bearing check. "According to the reading they must be in those hills on the right."

Targett scanned the slowly unfolding slopes trembling in the yellowish heat haze created by Horta. "It looks pretty dead over there."

"The whole planet is dead—otherwise Aesop would have noticed something during the preliminary orbital survey."

"Well, let's go over and take a look."

Surgenor shook his head. "Aesop won't agree to our breaking the search pattern unless there's an emergency. It distorts his world map."

"What?" Targett bounced impatiently in his seat. "Who cares about the world map? Are we supposed to run straight on and ignore a real archelogical find? I tell you, Dave, if—" He stopped speaking as he noticed Surgenor's smile. "You were doing your Oldest Member bit again."

"I guess I was." Surgenor nodded. "Don't worry about passing up a find. We aren't archeologists, but there's a provision in Survey Regulations for this kind of thing. As soon as we get back to the *Sarafand* Captain Aesop will send a couple of modules out again for a closer look."

"Everybody won't be in on it?"

"If Aesop thinks it's important he might bring the ship down here."

"But this has got to be important." Targett gestured helplessly towards the hills drifting by on his right. "Hundreds of machine-finished objects just lying on the surface. What could they be?"

"Who knows? My guess is that a ship put down here, possibly for repairs, and dumped a load of unwanted canisters."

"Oh?" Such a prosaic explanation had not occurred to Targett, and he fought to mask his disappointment. "Recently?"

"Depends on what you mean by recent. The *Sarafand* was the first Federationship to enter the Horta system—and it's been four-thousand years or more since the old White Empire withdrew from this cluster, so—"

"Four-thousand years!"

Targett experienced a brief headiness strangely reminiscent of the sensation which had once come over him—the time he had brought off an eight-throw anti-martingale on the gaming tables of Parador. This was a new kind of gambling—one in which a man staked lonely hours of boredom as he skimmed across the surfaces of dead worlds and the prize was a swift, clear look at the crazy sparkling treasures of reality, a handshake from the ghost of an alien being who had been computing his way across the ionic tides of space

before the pyramids were planned. Suddenly, and for the first time, Targett was glad he had signed on with the Cartographical Service—but suppose he was not among the group Aesop was going to send back to investigate the find?

"Dave," he said carefully, "how will Aesop select the modules he wants to come back here?"

"Like a computer." Surgenor gave a wry smile. "For an unscheduled foray he likes to use the modules which have clocked up the least engine hours—and this old bus is due for—"

"Don't tell me—a complete overhaul next month."

"Next week."

"That's great," Targett said bitterly. "Two modules out of six. Odds of only two to one against me and I couldn't even bring it off. With my luck I'd—" He fell silent as he saw the slow grin spreading over Surgenor's face.

"May I make a suggestion?" Surgenor kept his gaze straight ahead. "Instead of sitting around here calculating odds, why don't you get suited up and take a walk over into those hills? That way—"

"What? Can you do things like that?"

Surgenor sighed. "I would also suggest that you read Survey Regulations when you get back. Each suit is fitted out for an EVA of up to fifty hours for precisely this—"

"Skip all that stuff, Dave—I can bone up on regulations later." Targett's mounting excitement overrode his respect for Surgenor's seniority. "Will Aesop clear me to leave the module and take a look at—whatever is over there?"

"He ought to—the logistics make sense. You could give him television coverage and a verbal report while I'm taking this module back to the ship. Only one module would need to return to pick you up. And if your report shows the find is worth bringing the *Sarafand* down for, there'll be no extra engine time on the modules at all."

"Let's talk to Aesop right now."

"You're sure you want to do this, Mike?" Surgenor's eyes had become serious. "The Cartographical Service has an occupational disease all to itself—there's a tendency for us to confuse the map with the territory."

"I don't even know what that means."

"It means that no amount of *thinking* about a ten-mile walk on an alien world can be equated with the actual experience. That's why Aesop hasn't already taken the initiative and ordered one of us to investigate those objects—the Service doesn't require a man to walk new ground alone."

Targett snorted and pressed the TALK button which would con-

nect him directly to Captain Aesop, the vast artificial intelligence which occupied one entire deck of the *Sarafand*.

II

MODULE FIVE lifted into the air, dipped its nose slightly and whined away to the north in a cloud of brown dust. Targett watched it vanish, mildly surprised at the speed with which all sign of the vehicle vanished. He took a deep breath of the suit's plastic-smelling air. It was early afternoon and he had about six hours of daylight to go—ample time to reach the group of metal objects which lay due east at a distance of just over four miles. He began to walk toward the hills. Horta VII's atmosphere contained no trace of oxygen and the planet had never known any indigenous life, yet Targett found he was unable to keep his eyes from scanning the sand underfoot for shells and insects. Intellectually he could accept that he was traversing a dead world, but on the instinctive and emotional level his consciousness simply rejected the concept. He walked quickly, feeling a little self-conscious each time the holstered ultralaser pistol bumped against his thigh.

"I know you don't need it," Surgenor had said patiently, "but it's standard EVA equipment and if you don't wear it you don't go out."

The planet's gravity was close to 1.5 and by the time Targett neared the hills he was sweating freely in spite of the suit's cooling system. He unbuckled the pistol—which seemed to have maliciously quadrupled its weight—and slung it over his shoulder. The ground was becoming increasingly stony and on reaching the hills he found they were composed largely of naked basaltic rock. He sat down on a smooth outcropping, glad of the chance to rest his legs. When he had sipped some cold water from the tube that nuzzled against his left cheek he pressed the TALK button on his communicator.

"Aesop," he said, "how far am I from the objects?"

"The nearest is nine hundred and twelve yards west of your present position," Aesop replied without hesitation, drawing on the data continuously fed to him by his own sensors and those in the six converging survey modules.

"Thanks."

Targett scanned the slope ahead of him. It formed an ill-defined ridge a short distance away. From there he should be able to see the objects, provided they were not buried under the accumulated dust of forty centuries.

"How are you making out, Mike?" The voice was Surgenor's.

"No problems." Targett was about to add that he was beginning to understand the difference between the map and the ter-

ritory when it dawned on him that Surgenor had maintained radio silence till then with the deliberate intention of making him feel cut off. "How about you?"

"I've got decisions to make," Surgenor said comfortably. "I'll be back at the *Sarafand* in less than three hours and the question is whether to eat now or wait for a proper steak dinner on board. What would you do, Mike?"

"That's one of those tricky decisions you have to sort out for yourself." Targett kept his voice level with an effort. This was Surgenor's way of reminding him that by waiting a few hours he could have done his investigating in comfort and on a full stomach. As it was, he was going to spend an uncomfortable night with nothing to keep him going but water and surrogate.

"Yeah—I think I'll sleep on it. See you, Mike." Surgenor's voice faded into a yawn.

"See you."

Targett rose to his feet with a new determination to make his private expedition worth while. He moved up the slope, being careful not to slip on the loose surface stones and dust which cascaded around his ankles at every step. Beyond the ridge the ground leveled out for perhaps a mile before rising sharply to the rocky spine of the hills. The small plateau was bounded to the north and south by tumbled palisades of boulders, almost as if it had been cleared by bulldozers. Scattered across the level ground—in random groupings—were hundreds of slim black cylinders, the nearest only a few dozen paces from Targett. They were about twenty feet in length and tapered at each end. Targett's heart began a steady, peaceful pounding as it came to him that the alien objects certainly were not discarded canisters, as Surgenor had suggested. He took the miniature television camera from his belt, plugged it briefly into the suit's powerpack and aimed it at the nearest cylinders.

"Aesop," he said. "I've made visual contact."

"I'm getting a moderately good picture, Michael," Aesop replied.

"I'll go closer."

"Do not move," Aesop commanded sharply.

TARGETT froze in the act of taking a step forward. "What's the matter?"

"Perhaps nothing, Michael." Aesop was speaking at his normal tempo again. "The picture I'm receiving from you would suggest that the surfaces of the objects are free of dust. Is this correct?"

"I guess it is." Targett examined the shining black cylinders, ruefully wondering how he had failed to notice their condition. They might have been scattered across the plateau only that morning.

"You guess? Does some visual defect prevent you from being positive?"

"Don't be funny, Aesop—I'm positive. Does it mean the objects have been put here recently?"

"Improbably. Has there been any accretion of dust in the vicinity of each object?"

Targett narrowed his eyes into the brilliantly reflected sunlight and saw that the cylinders were lying in cradles of accumulated dust, the upper edges of which were a few inches clear of the black metal. He described what he could see.

"Repellent fields," Aesop said. "Still effective after a possible four thousand years. It is not necessary for you to study these objects any further. Michael. As soon as the planetary survey has been completed I shall bring the *Sarafand* to your present location for the purpose of a full investigation."

"Thanks, but I have no intention of cooling my heels for four or five hours." Targett made his voice firm, although he was uncertain of how good Aesop was at interpreting inflexions. "I'm going to take a closer look."

"I will permit that, provided you continue to supply uninterrupted television coverage."

Targett almost pointed out that, with close to three thousand miles separating them, the computer had no way of imposing its will on him, but he suppressed his irritation. During his months in the Service he had managed to swallow the facts that his crewmates addressed the ship's computer as "Captain" and obeyed its every instruction as though they were serving a three-cluster marshal. There was no point in blowing up about it just when something of genuine interest had come along to break the routine.

He crossed the level ground, keeping the camera trained ahead. And as he walked, something about the general appearance of the cylinders began to disturb him. They looked like military materiel. Torpedoes, perhaps.

The same thought must have occurred to Aesop. "Michael, have you made a polyrad check of the area?"

"Yes." Targett had not, but he held up his left wrist as he spoke, examined the suit's polyrad dial and saw it was registering nothing unusual. He moved the dial into camera view for a second. "All clear. Do these things look like torpedoes to you, Aesop?"

"They could be anything. Proceed."

Targett, who had been proceeding anyway, clamped his mouth shut and tried to put Aesop out of his mind. He approached the nearest cylinder, marveling at its gleaming electrostatic freshness.

"Hold the camera three feet from the object," Aesop said in his ear. "Walk around it and return to your starting point."

"Yes, *sir*," Targett muttered, moving crab-wise around the cylinder.

ONE end of it tapered almost to a point, in the center of which was a one-centimeter circular hole, reminding him of the muzzle of a rifle. A ring of black glass, practically indistinguishable from the surrounding metal, was located a few inches back from the point. The other end was more rounded and covered with smaller holes like those on a pepper shaker. In the cylinder's mid-section were several plates set flush with the surface and secured by screws of a surprisingly Earthlike design. There were no markings of any kind.

"Thank you, Michael—now see if you can remove the plates from the center section."

"Right."

Targett was mildly surprised at Aesop's instruction, but he set the camera where it could cover his actions and unsheathed his knife.

"Just a minute, Mike," Surgenor's voice cut in unexpectedly, loud and clear in spite of the hundreds of miles between Targett and Module Five. "You mentioned torpedoes a minute ago. What do those things look like?"

"Dave," Targett said wearily, "why don't you go back to sleep?"

"I've got indigestion—now tell me what you've got there."

Targett described the cylinders quickly and with a growing feeling of exasperation. His projected stroll down the centuries, among the relics of an ancient civilization, was somehow getting him more tangled than ever in the petty restrictions of the present.

"Do you mind if I get on with the job?" he concluded.

"I don't think you should touch those things, Mike."

"Why not? They look like torpedoes. But if there were any danger Aesop would have warned me off."

"Would he?" Surgenor's voice was hard. "Don't forget that Aesop is a computer—"

"You don't need to tell *me* that. You guys are the ones who personalize him."

"—and therefore thinks in a very cold, very logical manner. Didn't you notice his sudden change in attitude just now? At first he wanted you to stay clear of the objects—now he's telling you to take one apart."

"Which proves he thinks it's safe," Targett said.

"Which proves he thinks it could be dangerous, you bonehead. Listen, Mike, this little jaunt of yours has turned out rather differently from what any of us expected and, since you were the one

who volunteered to go out on the limb, Aesop is quite prepared to let you saw down the tree behind you."

Targett shook his head, although there was nobody to see him. "If Aesop thought there was any risk he would order me away from here."

"Let's ask him," Surgenor snapped. "Aesop, why did you instruct Mike to remove the casing from one of those cylinders?"

"To permit inspection of its interior," Aesop replied.

Surgenor sighed audibly. "Sorry. What was the reasoning behind your permitting Mike to proceed with this investigation alone instead of waiting for the arrival of the customary two modules or the entire ship?"

"The objects in question resemble torpedoes, tanks or bombs," Aesop replied without hesitation, "but the complete absence of electrical or mechanical interfaces suggests that they may be self-contained automated devices. Their contamination repellant systems are still active, so there is a possibility that other systems are either active or capable of being activated. If the objects prove to be robot weapons it is obviously better that they be examined initially by one man rather than by four or twelve."

"QED," Surgenor commented drily. "There you are, Mike. Captain Aesop is a staunch advocate of the greatest good of the greatest number."

"I cannot risk the ship."

He can't risk the ship, Mike. Now that you know the score, you are entitled to refuse to chance going near those objects until a team arrives with full probe instrumentation."

"I don't think there's any risk worth mentioning," Targett said steadily. "Besides, everything Aesop said makes sense to me. I'm going ahead."

ANALYZING his own feelings, Targett was surprised to discover that he was slightly disappointed in Aesop. He had always objected to personalizing the computer, yet in his heart he must have regarded Aesop as a benign entity who looked out for Targett's welfare with greater scrupulousness than could have been expected of a human skipper. Possibly there was something there a psychoanalyst could get his teeth into, but his immediate concern was with the interior of the nearest cylinder. He unclipped the heavy backpack, set it on the ground and kneeled beside the sleek black torpedo.

The screws holding the mid-section plates had Y-shaped slots, which did not provide a good purchase for the point of his knife but were spring-loaded and turned easily when depressed. He lifted the first plate carefully, exposing a

mass of components and circuitry, much of which appeared to be duplicated and arranged symmetrically about a central spine. The conduits were drab and not color-coded, but looked fresh enough to have been installed the previous day. Targett, who was not an engineer, suddenly felt a profound respect for the long-departed beings who had created the cylinders. Within five minutes he had stripped off all the curved plates and laid them in a row beside the cylinder body. An inspection of the complex interior told him nothing about the object's function, except that a mechanism in the sharper end had the hard uncompromising lines he associated with machine guns.

"Hold the camera about two feet from the object," Aesop instructed, "and move along its entire length."

Targett did as he had been told. "How's that? This looks like an engine section but the metal looks queer—a bit crumbly."

"That would be caused by nitrogen absorption associated with —" Aesop stopped speaking in mid-sentence, a strangely human mannerism which Targett had never known the computer to exhibit before.

"Aesop?"

"Here is an instruction you must obey instantly." Aesop's voice was preternaturally sharp. "Scan your surroundings. If you see a rock formation that would give you protection against machine rifle fire—go to it *immediately!*"

"What's the matter?" Targett glanced around the shimmering plateau.

"Don't ask questions," Surgenor's voice cut in. "Do as Aesop says. Run for cover."

"But—"

Targett's voice faded as his peripheral vision picked up a sudden movement. He turned toward it and saw that—in the center of the plateau—one of the hundreds of cylinders had reared its sharp end at an angle into the air. It was swaying slowly and blindly, as though supported by a loose wire. Targett gaped at it for a moment, filled with an almost superstitious dread, then ran north toward the nearest barricade of rock. Hampered by the suit and the extra gravity, he found it impossible to pick up any real speed. On his right the cylinder spiraled lazily into the air like a mythological creature awakening from millennia of slumber. It drifted in his direction.

Two others stirred in their dusty cradles. Targett tried to move faster but felt as if he were waist deep in syrup. Ahead he saw a black triangular hole formed by tilted slabs of rock. He swerved toward it.

THE sky to his right was clear again, giving him the impres-

sion the cylinder had vanished. Then he saw it moving around behind him, foreshortening, aiming itself. His thighs pumped harder in the nightmarish slow motion and the dark opening swung crazily ahead, but too far away. He knew he was going to be late.

He threw himself at the opening—just as a massive hammer sledged ferociously into his back. The television camera spun from his hand as he was lifted off his feet and flung into the space between the rocks. Astounded at finding himself still alive, Targett burrowed desperately for cover. The triangular space proved long enough to take his whole body. He squirmed into it, moaning with panic at the thought of another bullet finding him at any instant.

I'm alive, he thought numbly, *but how?*

He slid a gloved hand around to the lower part of his back where the bullet had struck, felt an unfamiliar jagged edge of metal. His probing fingers discovered a crumpled, boxlike object—the ruins of his oxygen generator.

He started to reach for the backpack containing the spare generator, then remembered the pack was lying out on the plateau where he had set it down before going to work on the cylinder. He clawed feverishly at the confining rock until he had reversed his position, then peered outside. The small segment of open sky he could see was crossed and recrossed with the black silhouettes of torpedoes in flight. Targett inched forward a little for a better view. His jaw sagged as he saw that the torpedoes had taken to the air in hundreds, swarming silently upward, their shadows rippling over brownish dust and rocks. Even as he watched, a few laggards angled their noses into the air, swung groggily for a moment and drifted up to join their fellows in the circulating cloud. A slight fold in the ground made it impossible for him to see where the backpack lay, or if the cylinder on which he had worked had also taken flight. He raised his head slightly and fell back amid a sudden shower of rock splinters and dust. The banshee howl or ricochets left no doubt in his mind that several of the torpedoes had noted his movement and used their guns.

"Report on your position, Michael," Aesop's voice seemed to come from another world.

"My position isn't too good," Targett said hoarsely, trying to control his breathing. "These things seem to be robot hunters fitted out with machine rifles. The lot of them are airborne now—perhaps the radiation from my television camera triggered them off—and they're swarming about like mosquitoes. I'm hiding out under some rocks but—"

"Stay where you are. I will have the *Sarafand* there in less than an hour."

"That's no good, Aesop. One of the torpedoes took a shot at me as I was getting in here. The suit isn't punctured, but my oxygenerator is out of action."

"Use the spare from your pack," Surgenor put in before Aesop could reply.

"I can't." Targett made the strange discovery that he felt embarrassed rather than afraid. "The pack's lying out in the open and I can't get at it."

"But that gives you only—" Surgenor paused. "You'll have to reach the pack, Mike."

Targett could feel his lungs begin to labor as the suit's residual oxygen was depleted.

"That's what I was thinking."

"Look, perhaps the torpedoes respond only to sudden movement. If you crawled out very slowly—"

"Hypothesis incorrect," Aesop interupted. "My analysis of the sensor circuitry in the torpedo which Michael opened indicates that it was a duplex system, both channels of which use movement and heat for target identification. Any exposure of his body would be certain to draw more fire."

"It already has—I tried to poke my head out of this hole a minute ago," Targett said. "I almost lost it."

"That shows my conclusion about the sensor circuitry was accurate, which in turn—"

"We haven't time to listen to you congratulating yourself, Aesop." Surgenor's voice crashed in the suit's radio. "Mike, have you tried your sidearm on them?"

III

TARGETT reached for the ultralaser, which was still slung over his shoulder, then pulled his hand back. "It wouldn't help, Dave. There are hundreds of those things buzzing around out there and an ultralaser pistol holds—how many charges?"

"Let's see. Twenty-six."

"So what's the point of even trying?"

"Maybe there isn't any point, Mike, but are you just going to lie there and suffocate? Blast a few of them at least."

"David Surgenor," Aesop interupted. "I instruct you to remain silent while I deal with this emergency."

"Deal with it?" Targett felt an illogical stirring of his former blind faith in Aesop. "All right. What do you want me to do?"

"Can you see any of the torpedoes without endangering yourself?"

"Yes." Targett glanced at the triangular area of sky as a black cigar-shape drifted across it. "Only one at a time, though."

"That is sufficient. Your record

shows that you are a good marksman. I want you to use your sidearm on one of the torpedoes. Hit it."

"What's the point?" Targett's brief, irrational hope dissolved into anger and raw panic. "I've got twenty-six charges and there are three hundred of those robots out there."

"Three-hundred-and-sixty-two, to be precise," Aesop said. "Now listen to my instructions and obey them without further delay. Direct an ultralaser burst against one of the torpedoes. Hit it as close to the nose section as possible and describe the effects of your action."

"You smug—" Realizing the futility of trying to insult a computer, Targett wrenched the ultralaser free of its holster and flipped the tubeless scopesight up into position.

He set the sight for low magnification and wriggled around in the narrow space between the rocks until he was in a reasonably good firing position. The controlled breathing essential for high-accuracy shooting was impossible—his lungs were working like bellows in the suit's stale air—but the torpedoes were a relatively easy target. He waited until one came questing across his segment of sky, put the cross-hairs on its conical nose section and squeezed the trigger. As the first capsule in the weapon's magazine yielded its energy a quarter-second burst of violet brilliance lanced out, flaring briefly on the torpedoe's nose. The black cylinder seemed to falter slightly, then recover and cruise out of sight, apparently unharmed. Targett felt perspiration prickling out on his forehead. Incredible as it seemed, he—Michael Targett, the most important individual in the universe—was going to die, just like all the anonymous beings who had gone before him.

"I hit one," he said through numb lips. "Right on the nose. It just flew on as if nothing had happened."

"Was there any searing or scarring of the metal?"

"I don't think so. I'm seeing them in silhouette, so I couldn't be sure, though."

"You say the torpedo flew on as though nothing had happened," Aesop persisted. "Think carefully, Michael—was there no reaction at all?"

"Well, it seemed to wobble for a fraction of a second, but—"

"Just as I expected," Aesop commented. "The internal arrangement of the torpedo you examined suggested it had a duplex sensory and control system. The new evidence confirms this."

"Damn you, Aesop," Targett whispered. "I thought you were trying to help me but you were just gathering more data. From now on, do your own dirty work—I've retired from the Service."

"The ultralaser radiation would have been sufficient to burn out the prime sensory inputs," Aesop continued unperturbed, "causing the back-up system to take over. Another direct hit on the same torpedo would make it fall out of control and the probability is high that the impact would cause catastrophic failure of the motor casing, which appears to have deteriorated. The high level of prolonged nondirectional radiation normally associated with failure in a motor of this design would in turn be sufficient to overload both sensory channels in the other torpedoes, causing them—"

"That's it!" Targett felt a fierce pang of relief—it faded almost as quickly as it had come. He fought to keep his voice level. "Except that I could see no mark on the torpedo I hit—and if I try to poke my face out for a better look I'll get it blown off. Maybe that would be the best thing that could happen—at least it would be quick."

"LET me say something here, Aesop," came Surgenor's voice. "Listen, Mike—you still have a chance. You've got twenty-five energy capsules left in your magazine. Blast away at the torpedoes as they go by and maybe you'll burn the same one twice."

"Thanks, Dave." A gray mood of resignation settled over Targett as he realized what he had to do. "I appreciate your concern, but remember I'm the gambler in this outfit. Twenty-six into three-sixty-two put the odds at about thirteen to one against me right at the start. Thirteen's a bad number and I don't feel very lucky."

"A superstitious gambler's a loser, Mike. Let Aesop figure your odds. It's your only chance."

"Not the only one." Targett gathered his legs beneath him in preparation for violent action. "I'm a pretty good shot with radiation weapons. My best bet would be to get outside fast—out where I can track one of the torpedoes long enough to take two shots at it."

"Don't try it, Mike," Surgenor said urgently.

"Sorry." Targett tensed himself and edged forward. "My mind is—"

"Your mind appears to be confused," Aesop cut in. "Possibly due to oxygen starvation. Have you forgotten that you dropped the television camera outside your shelter?"

Targett hesitated in the act of diving forward. "The camera? Can you see the swarm?"

"Not all of it, but enough to let me follow individual torpedoes for a considerable portion of their circuit. I will instruct you when to fire and by timing your shots to match the general circulation rate of the swarm we can bring the probability of a second

hit on one torpedo close to unity."

"All right, Aesop—you win." Targett settled down again, burdened by the dull certainty that nothing he could do would make any difference to the situation. His breathing had become rapid and shallow as his lungs rejected their own waste products. His hands were clammy inside their gloves. He raised the sidearm and peered through its sight.

"Begin firing at will to initiate the sequence." Aesop's voice came faintly through the roaring in Targett's ears.

"Right." He steadied the weapon, waited until a torpedo drifted across his segment of sky and directed a burst of energy onto its nose section. The torpedo wavered for an instant, then flew on. Targett repeated the sequence again and again, always with the same result, until the pile of expended capsules spat out by the weapon numbered more than a dozen.

"Where are you, Aesop?" he breathed. "You're not helping me."

"The ultralaser radiation leaves no visible marks on the surfaces of the torpedoes, so I am forced to work on a purely statistical basis," Aesop said. "I now have sufficient data to enable me to predict their movements with a tolerable degree of accuracy."

"Then start doing it."

There was a slight pause. "Each time I say, 'Now—' fire at the next torpedo appearing in your field of view."

"I'm waiting." Targett blinked to clear his vision. Bright-rimmed black spots had begun to dance across it.

"Now."

A torpedo appeared an instant later and Targett squeezed the trigger. The ultralaser ray raked along the nose section—but after an initial tremor the black cylinder drifted steadily out of view without changing direction.

"Now."

Targett fired again, with the same result.

"Now."

Once again the beam of energy flicked across a torpedo—with no effect.

"This isn't working out too well." Targett focused his eyes with difficulty on the indicator on the butt of his weapon. "I'm down to eight charges. I'm beginning to think I ought to go ahead with my own idea while I—"

"You are wasting valuable time, Michael. Now."

Targett squeezed the trigger and another torpedo drifted heedlessly on, effectively unharmed.

"Now."

Hopelessly, Targett fired again. The torpedo had passed out of sight before it dawned on him that perhaps it had begun to change direction.

"Aesop," he managed to say, "I think maybe—"

He heard a dull explosion and the triangular segment of sky turned a blinding white. Light seared Targett's eyes before the helmet filters automatically clicked into place. The brilliance continued unabated for seconds. He imagined it burning out the primary and back-up sensors on the swarming robots, which would in turn blunder down and—

JUST in time Targett jammed his eyes shut and buried his head in his arms. When the prolonged rumble of explosions and the almost palpable flood of brillance had died away he crawled out from under the rocks and forced his legs to accept his weight. He opened his eyes cautiously. The plateau was littered with hundreds of inert torpedoes, their motor compartments glowing red, vaporing. Several of the torpedoes were still airborne but they paid no attention to him as he ran, weaving drunkenly, toward the spot where he had left the backpack. On the way across the plateau the thought occurred to him that one of the torpedoes could have landed right on the pack, but he found it lying safely beside the stripped-down cylinder, which apparently had not flown. He opened it with trembling fingers, took out the oxygenerator and experienced a moment of exquisite dread as the ruined generator refused to let itself be detached from the suit's breather hole. With the last dregs of his strength he wrenched it off, clicked the replacement into position and lay down to await oxygen.

"Mike? Are you all right?"

Targett breathed deeply. "I'm all right, Dave. Captain Aesop got me through."

"Did you say Captain?"

"I said Captain." Targett rose to his feet and surveyed the littered battlefield upon which he and a distant computer had vanquished an enemy host which had lain in ambush for four thousand years. In all probability he would never know what the torpedoes' original purpose had been, or why they had been dumped on HortaVII—but his taste for archeology seemed to have faded. It was sufficient just to be alive in the present. As he scanned the incredible scene one of the torpedoes which was still aloft flew blindly into a ridge more than a mile away. The resultant explosion drenched the plateau with radiance.

Targett shielded his eyes. "There goes another one, Aesop."

"Your meaning is not clear to me, Michael," Aesop replied.

"Another torpedo, of course. Didn't you see the flash?"

"No. The television camera is not functioning."

"Oh?" Targett glanced towards

his former hiding place, where the camera had fallen. "Perhaps all those explosions burned it out."

"No." Aesop paused. "Transmissions ceased when you dropped the camera. There is a good probability that the switch got jarred to the off position."

"Very likely. I was moving—" Targett stopped speaking as a disturbing thought occurred to him. "Then you lied to me. You weren't able to track the torpedoes—"

"That is correct."

"But you were telling me when to fire. How did you know I would hit one of the torpedoes twice?"

"I didn't." Aesop's voice was precise, unruffled. "This is something you in particular should understand, Michael. I simply took a chance."

"ALL this is great stuff for my book, Mike." Clifford Pollen's reedy voice was pitched high with excitement as he leaned across the mess table on the *Sarafand*. "There were three-sixty-two torpedoes skimming around and you had twenty-six shots. That means Aesop staked your life on odds of about thirteen to one—and the gamble came off!"

"You'll never make a successful gambler, Clifford." Targett smiled pityingly as he cut up a king-sized steak. "You've no idea of how to calculate odds."

Pollen looked offended. "I can perform a simple calculation.

Twenty-six into three-sixty-two—"

"Has nothing to do with the actual mathematics of the situation, my friend. It was necessary for me to hit one of the torpedoes twice, right?"

"Right," Pollen said grudgingly.

"My first shot could hit any torpedo. There was one chance in three-six-two that my second shot would hit the same torpedo—or three-six-one in three-six-two that it would not. For the third shot to coincide with either of the first two, it was two chances in three-six-two—or three-sixty in three-six-two that it wouldn't—and so on. In this sort of calculation it's easier to work out the probability *against* something happening, so all you have to do is multiply three-six-one over three-six-two by three-sixty over three-six-two, and so on right up to the odds against my last shot which would have been three-three-seven over three-six-two. Multiply it all out and you get odds of around two to one that I would hit a torpedo twice. It wasn't much of a gamble, really."

"That's hard to believe."

"Work it out for yourself." Targett put a piece of steak into his mouth and chewed appreciatively. "It's a good example of the difficulty of judging complex probabilities by common sense."

Pollen shook his head. "It's too complicated for me."

"That's why you'd never make a successful gambler."

Targett smiled again as he worked on his steak. He did not mention the fact that his own common sense had been outraged by the mathematics of probability, or that it had taken a long and tedious conversation with Aesop on a private link, after all danger was past, to convince him of the truth. And he would never mention the cold, lonely feeling which had come over him when he genuinely realized that Aesop—behind all the illusions—was simply a logic machine. At one point, wedged between the rocks, it had dawned on him that it would have been more comforting, while wandering on alien worlds, to address Aesop as "Captain", and to think of him as a superhuman being who never came down from his isolated command post on the *Sarafand*'s computer deck.

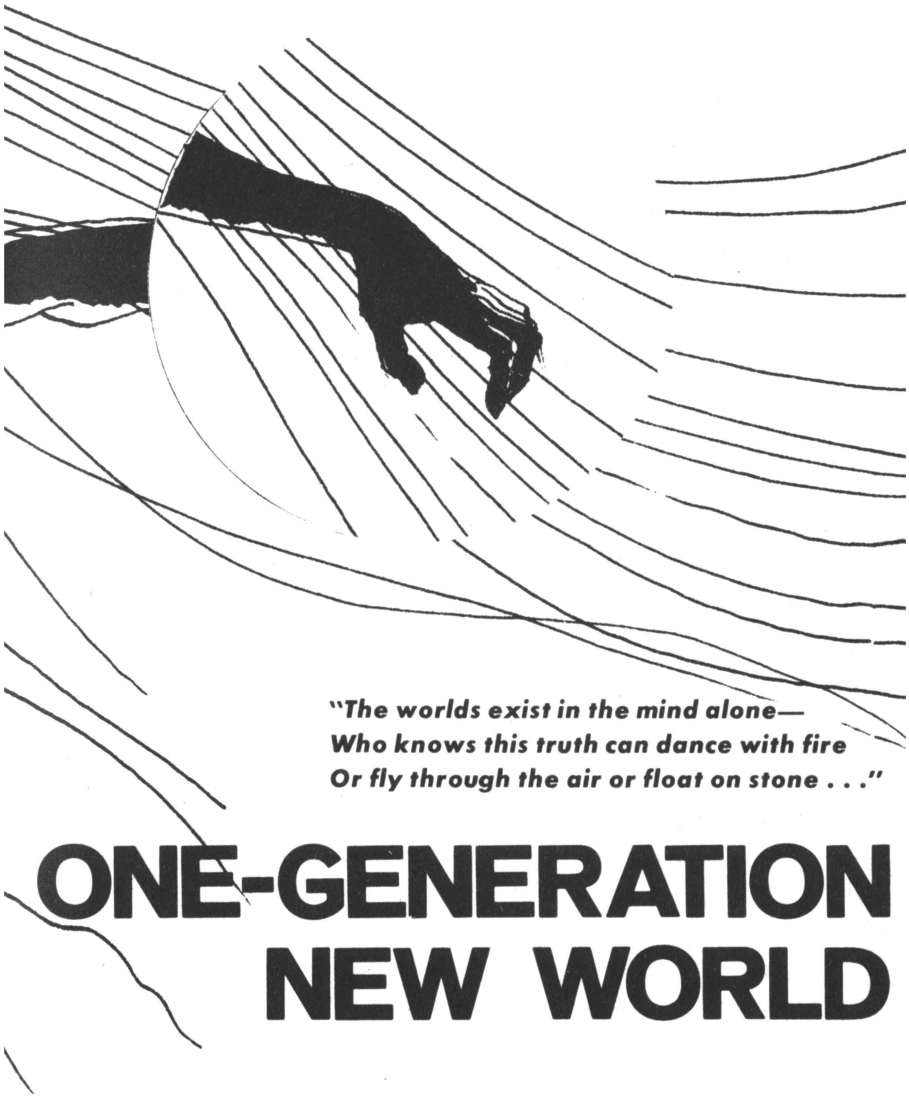
"We'll be putting down on Parador at the end of this survey," Dave Surgenor said from the opposite side of the table. "Are you going to give us a practical demonstration of how a successful gambler operates?"

"I don't think so." Targett put another forkful of steak into his mouth. "The syndicates who run the gambling houses are probably sneaky enough to use computers to calculate the odds."

He glanced at the nearest computer terminal and raised his cup of coffee. "No disrespect to Captain Aesop, of course." •


novelette

W. MacFARLANE



"The worlds exist in the mind alone—
Who knows this truth can dance with fire
Or fly through the air or float on stone . . ."

ONE-GENERATION NEW WORLD

I

RAVENSHAW stood against the wall of the railroad station in San Francisco. There was a long, withdrawn, melancholy honk down the tracks in the windy sunshine. Squashed popcorn paved the floor, all the glass was grimy, a quickshot bar with painfully exotic decor usurped a section of the lobby. Only the magazine stand on the platform was bright and clean. A chubby station guard with a Fu Manchu mustache ambled to the gates. Ravenshaw decided one efficiency derived from the shambles: no one would lounge here by choice.

General Craddock brought up the rear of the hustling commuter crowd. He said, "Good morning," and didn't say another word until they had driven through the factories to the 5th Street on-ramp and were into thick traffic on the Bay Bridge approach. Then: "I would not choose to live at any other time, but tell me this, Arleigh, why do some very pretty girls at Stanford dress like refugees from a Ukranian potato bog?"

"To match their young men as romantic vagabonds."

The general snorted. "Romantic?"

"Dictionary says imbued or dominated by idealism." Ravenshaw followed the great arc of the suspension cables with his eyes. "Irrational idealism is a starving snake finding its own tail around a tree."

Craddock took off his black-rimmed glasses and rubbed the bridge of his nose. "You have a pretty way with words," he said, "but watch your tongue when we meet the think-tank."

"Yessir," said Ravenshaw. "Besides Rand Corporation and Systems Development and the Hudson Institute, what is a think-tank?"

"Throw 'em a problem and they bark like a herd of seals—a conditioned reflex—how do I know? I never met one before. I take a dim view of the whole thing." They were running downhill from the anchor block of the twin suspension spans. It was a sparkling day, brisk and sunny, but Craddock was in a heavy fog of thought. "This outfit is supposed to be unique. They don't make egregious pronouncements. It's a club with a clubhouse. Very exclusive. They pick their own members. You've got to have a pretty good introduction to meet them."

"How's their batting average?"

"I asked that question. About eight-eighty, but a lot of the work is not susceptible to percentage analysis. There's another yardstick, and that's the hundred thousand dollars they got for investment fifteen years ago when they cranked up this brain machine. They have something over seven million in the kitty now."

"Wow," said Ravenshaw, "a bunch of financial experts." They rumbled through the Goat Island Tunnel and onto the cantilever span.

"They're a bunch of generalists," said Craddock, "not nuts-and-boltsers. But anyone who doesn't pay attention to money is obviously not quite bright. One of the secondary objectives of this group was to become self-sustaining—and they are that."

"Why have we got to talk with them?"

"Because the man said so. While there are no fingers but my own in the day-to-day pie, I have authority to which I respond. Authority wants us to meet with the wise men."

The East Bay spread out ahead of them, wind-polished and bright. Ravenshaw automatically found the Campanile on the Berkeley campus and the tall buildings of Oakland with the skyline hills beyond. There was no question in his mind that the Bay Area was among the most dramatic postcard pictures in the world, but he ignored it today.

"Complete disclosure?" he asked.

"Not on your life!" snapped Craddock. "The arguments about honesty and open dealing are byproducts of a mistaken appreciation of the nature of things. We'll put a hypothetical question to these people and see what happens."

Ravenshaw angled through traffic onto the Bayshore Freeway north. "Well, sir, who are they? How do you make a think-tank?"

"In this case, the man in Washington had some discretionary funds tucked away after the Korean War. It occurred to him that wise old men could be recycled like used copper wire. It was a tough job, because how do you evaluate wisdom? What he did was pick a couple of anchor men and let them do the recruiting. Questionnaires went out to a wide spectrum of groups, the National Association of Manufacturers, the Retail Clerks, the Geophysical Union, the Benevolent and Protective Order of Elks, the Farm Bureau, the Amalgamated Pretzel Benders, the American Association for the Advancement of Science—you name it and they got an inquiry over a hot-line signature. Give us five names in your outfit, give us five names outside, of the best general consultants you've ever come across. Out of eight thousand names, six hundred were mentioned more than four times. A grading scale was set up and the number cut down to just under a hundred. The anchor men interviewed these people and twenty were offered jobs. Eight accepted. They are a hard-nose bunch. I've seen a couple of their recommendations and have a

good opinion of their ability."

"But you don't trust them," said Ravenshaw. He turned onto the university off-ramp.

"Stop after the next light," said Craddock. "Park the car. I want to throw a little dust in the air. I want to obfuscate things a little." He brooded as they crossed San Pablo and Ravenshaw pulled to the curb. "Trust them? I trust them to do what they want to do. I can nail responsibility upstairs, but it's a bitter exercise to fix blame when the horse is gone."

RAVENSHAW asked suddenly, "Do you see any end to this?"

He meant the entire perplexing problem of the infinite worlds he had stumbled into when General Craddock had pulled him out of Vietnam to head Wide Blue Yonder, Inc.

Craddock did not misunderstand him. "I see dozens of unacceptable solutions and very few I like. Arleigh, I used to go to the Saturday afternoon movies when I was a boy. In one serial a goat ate what they called a 'biscuit bomb' and followed the hero around. The caption read: 'Tick-tick, tick-tick.'" At the time my sympathy was not with the goat. Now, with this funny feeling in my stomach—" His attention was caught by a girl walking toward them. She was in a benny, a maxicoat from the Salvation Army. Craddock sighed. "Will hemlines go up again in our time?"

Ravenshaw pursued his thought further. "I could go back to active duty—hide out in a jungle war," he said tentatively.

"Cut and run? Turn back the clock? Cop out? Stop the world, I want to get off and spit?" Craddock pulled his suitcase from the back seat and opened it. He slammed it shut again.

"Ravenshaw, you and I are lucky beyond the dreams of fortune. We stand at a hingepoint of history. How we act, what kind of men we are, is a question of weight and import. I thought I was a fortunate man, being placed to write a footnote to a footnote. Now it's large type in the main copy. Very sobering. We are involved in affairs of genuine consequence."

Ravenshaw nodded doubtfully.

"And if there's any constant but change, it's Start From Now," Craddock went on. Tattoo that on your heart. I believe in sins of comission and to hell with virtue by default."

"Yessir," said Ravenshaw.

"Right," said Craddock. He turned his attention to a large, leather-covered shaving kit from his case. He took an ivory toothpick from his breast pocket and stuck it into one of the covered hinges. He turned the kit upside down and pulled one snap. He looked at his watch. "I also believe in a few small precautions,"

he said mildly. "One minute forty—" he pulled the other snap—"and here are your papers, Mr. Bill Quintard. Go through your pockets. Match books, laundry lists, the rental contract for this car, wallet, the works into the kit. Got a label in your coat?"

"Eddie Bauer in Seattle, outdoor gear and goosedown garments, a national mail-order house that imports Harris tweed."

The general nodded and Ravenshaw read the letters addressed to Bill Quintard, checked the address book and put three scraps of notes into his pockets along with a swizzle stick labeled Plainsboro Jughandle with a little green mermaid on top. In the wallet, his picture was on an ID card from the James Forrestal Research Center.

"Do I show off this stuff?"

"It's subliminal support. I am Marcus Holloman and I am your boss. Be secretarial and a little bodyguardish. Questions?"

"Why did you say a minute-forty when I made it a minute-ten?"

"Complete disclosure? Hell no. If you got smart and opened this case, you'd get fogged with ethyl mercaptan plus an interesting dye that usually wears off in six weeks. Also, an acid eats the papers inside." The general grinned. "Other questions?"

"What is the think-tank called?"

"Cassandra Investment Company."

"I can't believe it," said Ravenshaw. He started the engine. "Are we off in a blizzard of skunk?"

Craddock put on a pair of glasses with thin gold rims. They gave him a mild, scholarly air. He whistled the first notes of the *Air Force Academy Song* and Ravenshaw pulled into the traffic.

II

THE building was modern nondescript, with a row of thirty-foot arches filled with glass. An old five-story, brick apartment house stood behind it. To the left of the lobby was an open floor with desks, secretaries and business machines. To the right were stairs to the mezzanine, a guard in uniform, vaults and private offices. And a pretty girl.

"My name's Holloman. Mr. Quintard and I have an appointment."

"Yes, sir." She ticked their names on a list. "John, will you take these gentlemen to the elevator."

They followed the guard to a door in the rear and around a corner. The hall was too deep by twenty feet, Ravenshaw noted. They were in the brick apartment house. The guard used a key at the elevator and pushed the button for them. When the door opened they stepped into a reception

room between chromed poles two inches in diameter set in foot-square boxes. There was an immediate *bizz-abizz-bizz* noise. The man walking to meet them stopped in his tracks. He waited until another man appeared from a side door.

"As you know, gentlemen, this is a sensitive area. Will you please empty your pockets onto the desk." He was urbane, competent and sincere. Craddock had a pocketful of change and Ravenshaw had his four-inch stock knife. On invitation they stepped back between the poles and the buzzer was silent. The man examined their credentials. They retrieved their belongings and were escorted down a cork-floored corridor to a pair of disguised fire doors with top quality panic hardware.

There is nothing ostentatious about a dead solid floor and dead quiet ventilation except both are as rare as the owner who can afford them. The room Craddock and Ravenshaw entered was equally low key, but the carpet was wool of theater quality, guaranteed to show no wear after a million people had tromped on it. The egg-crate lighting probably did not vary ten lumins in any part of the room and the bookcases were solid oak of meticulous craftsmanship. There were no windows, there was no fireplace, and the chairs and tables had a well-maintained and well-used appearance with no offensive smell of cedar or lemon oil.

Two groups of men were gossiping. A gray man was consulting a *London Times Atlas* on a stand. Another fellow had his hands cupped over his eyes in a deep chair. A third man came to greet Craddock and Ravenshaw. He had a head like a patent-leather owl, with close-set ears and black hair too flat and polished to be anything but real.

"I'm Swafford Jain," he said, "moderator for this month. I hope our security didn't bother you. I'm convinced precautions are protective to us and not primarily directed to our visitors. Mr. Holloman and Mr. Quintard, right? Coffee? Later, then. We've found it works best to brace the board with the question and socialize with a common background. Agreed?" His eyes were as direct as a living owl's and, to Ravenshaw's pleasure, he swiveled his head on fixed shoulders.

He led them to chairs at the end of the room behind a low table with a fresh bouquet of single roses. He pushed aside an air copy of *The Economist* and rapped on the table with his knuckles. The groups broke up and Jain plunged directly into business.

"This is our first general meeting of the year and will be conducted on a no-record basis. We have a new member, Mr. Sam Asabian, but my reminder to put

doodlings into the security wastebasket on leaving this room is not directed to him as much as to his absent-minded elders in terms of service. Sam, will you do me the favor of making certain I carry away nothing?" A man with a bronzed moon face nodded and Jain bowed to Craddock.

The general stood, slouching a little, and said, "I'm Marcus Holloman and Bill Quintard is with me. I am engaged to offer no source for the information behind the question I'd like you to consider. It should be regarded as a preliminary inquiry into a totally speculative condition. We are after guidelines and no reasonable guesses will be refused. An analogous situation might be that of a group gathered to consider the implications of flight before the Wright brothers got into the bicycle business.

"We are aware that our fundamental premises may be in error. We appreciate the impossibility of detailed forecasts. I can't enlarge on the background, but I'm allowed to say some tentative evidence exists. This is the question: what happens if it becomes practical to travel to an infinite number of alternate worlds?"

THE twelve men were in a loose semicircle. Their ears did not flap nor were they at rigid attention, but Ravenshaw had a feeling that they saw more casually than a pride of Admirals would see on purpose; he would bet that every man could write a thousand words about Craddock by the end of his sixty-second speech. This was a redoubtable group.

The man who had been cupping his eyes dropped his hands. "Break out the Second Coming type," he said in a bullfrog voice. "I'm Alonzo Johnson," he added, "and I thank you for such a notion."

"Who's coming? Aimee Semple McPherson? Buddah, Ogier the Dane, King Arthur?" asked a small man, his feet stretched out in front of him. He had a face like a wedge of putty with home-cured olives pressed in for eyes.

"The Honorable Joseph Levering," murmured Swafford Jain.

"Exactly the point, Joe," said a man with a classic Roman profile, worn by time. "If you have infinite worlds, presumably *everything* can, has, or will happen. Aimee Semple McPherson has returned from the dead again somewhere, and the Four-Square Gospel Church rules the world in righteousness. I'm Ed Masterson. What I want isn't hard. Just give me a world where Shakespeare wrote *Charlemagne* or *Boadicea* or whatever title you like. Give me a world where the library at Alexandria was preserved so I can read Euripides' *Andromeda* and give me a world

where the Bishop of Yucatan was a scholar instead of a fanatic."

"What did Keats write at sixty?" asked a bald stocky man. "I'm Brander Lugard. What are the limiting factors, sir?"

"Unknown, Mr. Lugard," said the general.

"Then anything is possible, invasion from Mars, peace declared, the Greeks stop biting themselves in the small of the back and develop the scientific method."

"Why not?" said a big man with stooped shoulders. "And Count Dracula has just put electric lights in his Transylvanian castle, sure he has. The whole thing's too open for meaningful discussion. Walt Milias." He nodded to Craddock and Ravenshaw.

"Not so. I'm Cyrus Pfister. The same laws would apply—forget a chlorine world—and any real world has to be self-consistent. If you want intelligent animals, you've got to give up steak or eat your friendly neighborhood cow. There is an irreducible rationale in human affairs because of the inbuilt nature of the creature. That's your limiting factor. If intelligence is not human it's a different ball game."

"You're saying that a world must be psychologically viable? Then there's no world of reason, if you rule out fantasy."

"Who needs one hundred percent reason? Panic saves, just like Jesus."

"You're talking about unknowns, not irreconcilables—"

"—mystique about cold steel until some pragmatist with a Colt forty-five blows out the cobwebs the swordsmen use for brains—"

"—another Mesabi to work over—"

"—you can't move a society by example. What influence do the Swiss have on the world except the gnomes who drill holes in the money structure and cheese—"

"—buffalo management and herds of native meat—"

"—but even knowing it can be done is vital. Look at the four-minute mile. As soon as one man did it, so could a dozen—"

"—existence is all the proof logic requires—"

The discussion became general and Ravenshaw was content to look and listen. Sam Asabian was puzzled by his peers as they supported preposterous structures and toppled them with snorts of laughter. The men were alert and mischievous as a cageful of monkeys, some solemn, some jocular. Milias was pompous with a twinkle in his eye, a happy target who would sit on a pigmy with elephantine grace whenever he could lure one close enough. The hottest argument was not heated. Asabian's face cleared as he understood this was for fun, deadly earnest and candy-castle spinning all at once. Ravenshaw wondered what firm base of values made the

bedplate on which these men could bounce ideas like ball bearings.

In a lull, Alonzo Johnson asked, "Mr. Holloman, what is your point of view? What do you want? Where do you stand?"

"Good of mankind," said the general promptly. "Good of the United States. Good for you and good for me."

"Open-ended enough," said Brander Lugard. "What I'd like to see is a world with no World War I. That was a generation cut short of brilliant fruition—a truncated generation."

"So is every generation sir, not only that illuminated by star shells and the crepitating light of Victorian putrescence—"

"—show me a people whose goal is not sloth, indulgence and self-gratification—"

"Contentment is the seed of destruction." Asabian threw that into the pot and settled back with a contented smile as two of the old wolves began to growl at it.

With the discussion fragmented again, Ravenshaw found Swafford Jain's sardonic eyes on him. "Well, Mr. Quintard, what do you think of our tank? We shock a good many people."

Ravenshaw was off guard. "I suspect you'll resolve the question and touch reality like a custard pie spilled on the floor."

"Or a bowl of applesauce?" said Jain softly. "Gentlemen, it's time for refreshments."

RAVENSHAW was relieved to get away from the Cassandra think-tank. General Craddock sat at his side, bemused behind a pair of dark glasses by the exotic youngsters hitchhiking along University Avenue. He marveled at the "heshes" but when he saw one couple dressed in Elizabethan costume holding a cardboard sign reading "Sackamenna" he evidently decided it would be all downhill from there and asked, "Do you want lunch?"

"After that *à la* cart? No, sir."

A security man had driven in a battery-powered tea cart and plugged it into a wall socket. It was the size of a hospital bed and had featured three general sections. Coffee, tea with cozies over the pots had occupied one end. The center had been taken up by a buffet of doughnuts and pastries, cold cuts and sun-cured olives and pickles and San Francisco sourdough. The other end had held a brave display of ice, bottles and bar tools.

"If we turn right," said the general, "isn't there a bridge at Richmond? Then we can cut back over the Golden Gate and on to the airport." Ravenshaw nodded. "My feelings are mixed," said the general. "I was throwing rocks ahead on that foggy trail and a couple of times I didn't hear them hit. Who spilled the drink on your coat and sent it out to be sponged off?"

"Rameses Three, the spry old

devil with the criss-cross face. He was browsing the atlas."

"Austin Mummery," said Craddock, and fell silent.

Mummery had approached Ravenshaw and said, "Come with me, Mr. Quintard. I'm a leading local spiritualist." He had led Ravenshaw to the cart and expertly popped a split of champagne, pouring two tall glasses half full. He had topped them off with a bottle of Guiness and said, "Cheers. What do you think of our little group?"

"A pleasure," Ravenshaw had said. He had looked admiringly at the cart. "How do you get into this club?"

"It's a little tricky. You've got to be right." Austin Mummery's eyes were black and his upper lids drooped a little.

"I have another question," Ravenshaw had said. Hooded eyes—that was the technical term. "How did you pick the name?"

"Cassandra? She was right, you know, but nobody believed her. She was the daughter of Hecuba and Priam and she was cursed by Apollo. I've not been able to satisfy myself whether the curse was knowing the future or the character flaw of telling other people about it."

"I don't know how inquisitive I'm allowed to be," Ravenshaw had said, "but has Cassandra dug any bomb shelters?"

"No. Whether the consensus derives from hope, rationality or futility, I cannot say." Mummery had smiled. "Those who endeavor to pin our butterfly beauty to statistical charts give us about ninety percent, which is a long way from being right all the time."

"You speak of consensus—"

"The powerful force behind democracy. Forget ephemeral intellectual fashions and forget the committee that built a camel instead of a horse. The fuel for Cassandra is accord."

"Agreement on what, sir? Your approach seems—"

"Frivolous?" Even Mummery's lips were seamed and the terrain of wrinkles changed when he smiled. "We were solemn once, until we found we were friends and party people. We only suspected this on the outside because we felt obligated to wear a mask of sobriety in front of the peasants." He was a provocative old scoundrel. "This is Liberty Hall, Mr. Quintard, and we do as we damn well please."

"And the price of liberty?"

"We have no formal philosopher to keep us vigilant with Ps and Qs."

"So what is your base philosophy?" Ravenshaw was certain that Mummery examined and ignored the word "base" in a millisecond. He had to be over seventy, but he was a man like an antique beartrap, old and powerful, with steel teeth in the jaws.

"We all want to be heroes,"

Mummery had answered. "Carlyle pointed out, 'It is the property of the hero in every time, in every place, in every situation, that he comes back to reality; that he stands on things and not the show of things.'"

Ravenshaw had shuddered. Grue is a thin ice that floats in Scotland—he had felt as if someone had scooped up grue and dropped it down his back. Only serious men can afford comedy, buffoons crack jokes. Remembering Mummery's eyes, Ravenshaw shivered again.

GENERAL CRADDOCK looked over at Golden Gate Fields from the overpass as they left U.S. 80 for State 17. "A Chinaman said he was already convinced that one horse could run faster than another. Do you bet races, Arleigh? Who's fast horse?"

"Could be a dead heat. Jain and Mummery. What control do they have on Cassandra?"

"I don't know," said Craddock. "It's a pretty plush setup. Each man has an office; they pay themselves about twenty-five thousand and the club picks up the tab for common expenses. Let me see. Those people in the front office—smarter than average guards—manager—overhead—" He brooded as they zagged and zigged through Richmond to the hill suffused with hydrogen sulphide from the refinery and drifted down to the toll plaza of the bridge. They were on the whaleback with a spectacular view in all directions when Craddock said "Yup. Maybe so. Well, well, When I get back to Washington I'll put a little heat under this pot and see if it percolates."

Ravenshaw winced. "What about their conclusion?"

"'We recommend the positive action of doing nothing,'" the general quoted. "Well, that's the course we've been following. I am the king of an island and I own one boat. I keep that boat busy fishing and I'm scared to let it explore. It has been caught in storms and blown away to strange coasts a couple of times, but so far it's come back home. One boat and there aren't any more." He glanced at San Quentin to the left and sighed. "How is the fishing going, Arleigh?"

"Got a sad rascal on a bare hook the other day," said Ravenshaw. "Maybe he thought I was a booking agent. He opened his cooler and took out a Manhattan in a plastic container with a lid. It had a slice of orange and a maraschino cherry in it. He drank the drink. He put the cherry, stem and all in his mouth. He took it out with the stem tied into an overhand knot. He went through the same routine with another Manhattan and spat out a square knot. He said he was retired Navy and he was going to

work on it until he could tie a bowline with his tongue, but all the drinks were expensive. I suggested putting the cherry in a glass of beer and he walked out mad."

The general had a pained expression.

While he drove around the hill and snaked over to 101 south, Ravenshaw told about the man with the pickling method for rust-clad steel. It seemed the material took a while to oxidize and dripped rust on the passersby. Then there was a real estate broker with an in-tank fuel pump, and the postman who had built an electrostatic dry-wash machine for flour gold in the desert. As they drove past Mill Valley, Ravenshaw pointed out it was still a materials handling process even though the mill was supposed to have a ninety-four percent recovery capacity.

"Anyone following us?" asked Craddock.

"No, sir. I've been checking."

"How about that chemical ore-reduction process?"

"It's another thing I don't understand very well. I once had a fair background in chemistry and physics, but not any more. Maybe we ought to have a smart young man in the office instead of me. I've been away too long."

"I wouldn't say that. WBY has been a surprisingly successful vendor of R & D. Others want in."

"The word gets around," said Ravenshaw. "We're getting a caseload of technical hotshots. We see anybody who walks in the door, and the last time I checked, we hit one out of fourteen. A year ago it was one out of thirty-three. We're getting people from all over, not just locally."

"Our primary mission is still inexplicable phenomena," said the general. "How come you weren't tempted by that offer from Lyne Jolley, about twice what you make as a lieutenant colonel."

"I guess I like fishing."

"How about Nell Rowley?"

"Delightful," said Ravenshaw. The freeway ran through the hills above Sausalito. It was comparatively old and had the faults of youth. It leaped canyons on balanced fills from eucalyptus-sloped cuts. The leaves reflected the cold afternoon sun, thin gold and green. "But with that lady, you've got to learn to bob and weave."

They ran downhill to the Golden Gate Bridge.

"I wonder if you can have crooked wise men?" mused the general. "I'm going to bob and weave with those boys. How do you buy wise men? They've got everything they want. Knaves don't bat eight-eighty. What is their price, do you suppose?"

III

ARLEIGH RAVENSHAW had ordered his life to smooth out

the ups and downs of exuberance and depression. He didn't like to wallow in the troughs or be blown by the high winds of exhilaration. A side effect of this position was detachment, and he had no shame about leaving his opinions suspended in the air, like Mohammed's iron coffin.

He filed the Cassandra affair in the back of his head and went about his business as chief of WBY. It was a refreshing period of quiet work and modest pleasure, when problems were challenging and solutions appeared with gratifying regularity.

Jethro Wellaby had made a hat with a propeller on it. "Swamp cooler," he said. "Sweat evaporates. Cool in shade." The electric motor was powered by selenium cells mounted on the brim of a solar topi. Ravenshaw took it to the window to catch the sun and the propeller picked up speed and sounded like a wasp. "Next model inside hat," said Wellaby. "Problem, not enough power for bigger fan."

Ravenshaw asked about more cells on the side of the topi, a four-bladed propeller and an inner shell to conceal the machinery without clipping ears. Wellaby said he had grape pickers in mind and had to hawkeye expense. Ravenshaw said it looked more like a luxury item and maybe the thing to do was encase the fan in a glittering expanded metal cage on top. It would be a novelty and status symbol for fishermen and golfers and Abercrombie & Fitch. Wellaby said he liked grapes. Ravenshaw said he would like to see Mark II and Wellaby said thank you and stumped out of the office.

Nell Rowley opened the door and asked what Beany wanted and Ravenshaw told her he had read about such a gadget years before but had never seen one in action. "So it's been a variegated day," he said. "Miss Moffet and Leggitt in the morning, and artificial sunlight and Beany in the afternoon."

"You have a man named Timberline Binghorst at four," she said. "He's from someplace in Utah and wants your advice."

"Did you ever see a cat like that?" said Ravenshaw. Nell said Miss Moffet had to be out of her head to put a cat on her stomach to cure indigestion, no matter what she believed about sympathetic vibrations. Ravenshaw said it was not just any cat, but a cat from this particular quaint old English village.

Nell asked what he was going to do about Leggitt, the polywater man who had followed Miss Moffet, and Ravenshaw said he had phoned the Advanced Research Projects Agency at the Pentagon and they were going to have Dr. Hugo Trumble fly down from Seattle for a look-see. They doubted that any druggist could

come up with a catalyst for polywater, orthowater or anomalous water. Ravenshaw didn't know anything about the polymer waters except they boiled high, froze low and turned into a funny kind of ice.

Their eyes met and Ravenshaw kept a carefully straight face. Nell said composedly that she would get out the rest of the letters.

Ravenshaw stood at the window and watched a cruiser driving down San Diego bay, headed for Point Loma and the open sea. He did not admire the Navy, but for a moment he wished he were leaning on a rail watching San Diego drop down the curve of the world, away from the question of Nell Rowley. Oh well, he thought, the Navy served a purpose. If it didn't exist, the Army would have to invent it.

Nell Rowley now, she boiled low and froze high and turned into a very funny kind of ice.

She had been his secretary for eighteen months and together they had found a black box that delivered air from 5000 feet up or water from 5000 feet down. They had encountered a robot watchman redesigning common household appliances to standards of its own technology. Most recently they had scrambled through the infinite worlds together. Sometimes, at night, Ravenshaw awoke, taut with alarm, and turned on the radio and a pot of coffee to reassure himself he was a lieutenant colonel in the U.S. Army on special duty and was safe in his own apartment in his own world.

HE COULD not decide if Nell attracted the lightning bolts or if the endeavor was mutual. Presumably she was a Mier, a member of a family or tribe or race from an alternate world, but her memory had been blanked out as a child and Ravenshaw lived in anticipation of the day it would return.

"Nameless dread," he said wryly.

Nell tapped on the door and announced Mr. Timberline Binghorst.

Binghorst walked into the room, said, "Heh, heh—" and blushed. He wore store clothes, a hairy double-breasted blue suit, probably purchased for an occasion thirty years before. His shirt was pale yellow and his fruitbowl tie had slipped off center. He said, "Heh, heh—" again and Ravenshaw asked him to sit down.

"I won't take much of your time," Binghorst began in a voice like rocks rolling down a distant canyon. "Heh, heh." He cleared his throat and started again. "I read about you in the *San Diego Union* because I have a friend who works in the mailroom and Ben Knell thinks the *Union* has a better flavor than most, so sometimes when we're snuggled around the Ashley with the snow hip-high

outside and we're tired of Clarence E. Mulford—" He ran out of breath and panted, his brown eyes beseeching Ravenshaw for patience. He took a deep breath and started again like a man running uphill.

"It's just that we live at Red Warrior in the Pine Valley Mountains in Washington County Utah not awfully far from St. George but the road is pretty rough even with the 'dozer work I had done last spring because it was a high-water year and made the Narrows so infernally rough I hung up on the gearcase—and almost busted the housing—and after that—I said to myself—" He was distressed that he had to stop to breathe again.

"I have a house in St. George," said Ravenshaw kindly, "just off Tabernacle on Third West. I inherited it when my wife died. It's a yellow waterstone built in the nineties."

"You LDS? asked Binghorst.

"My wife's father and uncle were Mormon—Zadok and Sylvanius Sandler—"

"Syl and Zad, old, old friends! Dead now. My, but this is nice, Mr. Ravenshaw. Oh, but that Syl was comical! He said there were four liars in Washington County and I was one and Zad was the other three!" The old man laughed joyously. "Once Zad returned from Cedar City and said the people there mistook him for Syl and Syl said quick as a wink, 'I'm just as ashamed of it as you are!'" Binghorst choked with joy and Ravenshaw grinned in sympathy.

"Oh, that Sylvanius Sandler! He was laid up on his death bed and somebody remarked he couldn't get around as well as he used to. Know what Syl said? He said, 'If my fool body could keep up with the dictates of my head, I could still get over this country better'n a mountain goat.' Indeed I do, I miss them both. So you knew the Sandler boys! Married Zad's girl, didn't you? Big eyes, bundle of springs, whip bright?"

Ravenshaw nodded.

"How this takes me back. Sylvanius, he was a comical fellow. Oh, years ago, he took some grain to Stanley Mossis to have it ground to flour. Syl became impatient and said, 'Damn it, Stanley, you grind so slow that I could eat that flour as fast as you grind it.' Stanley wanted to know, 'For how long?' And Syl, he said, 'Until I starved to death!'" The old man laughed until he had to wipe his eyes with a blue bandana. "Ah, Mr. Ravenshaw, it's a great pleasure to meet home people in a big city like San Diego."

"How can I help you here, Mr. Binghorst?"

"WELL, sir, I do have something on my mind besides reminiscences." The old man blew his nose on the bandana. He ex-

plained he had been clearing out an abandoned stope and had come across an old trunk Zadok Sandler had stored there when he had left the country for California. It was filled with oddments of no particular value, but it also contained Zadok's journals. Binghorst leaned forward, his hands on his knees.

"You see, that's the entire point. Ben Knell and me's the only ones left at Red Warrior. The road's twenty-seven miserable miles to St. George and in the winter there's not much to do, so I suppose we read over the journals two-three times. There's something *naggy*, something I can't quite see, and I am troubled in my mind. Ben Knell would be rolling cigarettes on his machine out of the San Diego Union and we'd both be puzzling away—and I still don't know what the matter is."

"What sort of man was Cay's father?"

"Quiet, quirky, fifteen years younger than Syl. Oh, for instance, he speculated on the names of things. He wanted to hire a pharmaceutical house to manufacture liquid hair soap so he could make a label that said REAL POO. Things like that. Little secret jokes, like the summer of 'forty-one when he bought a pound of columbine seed wholesale. McKana's Improved, I think the name was. Went into the Sierras after tungsten and sprinkled the seed all up and down Mono Creek and the Recesses where columbines grow. Said the native flower was pale gold and all the reds and purples and pinks ought to pop peoples eyes. He found scheelite so far back and high up nobody could get at it.

"Another thing Zad did was paint apples. Down in Santa Clara they grow very sprightly apples. He stirred up some whitewash and painted punkin faces on Romes and twenty-ounce and Wolf Rivers over at the top end of Mother Jepperson's place when the fruit was a month from harvest. Just before picking time, he went in and wiped off the whitewash—and left the pale jack o' lantern face on the red skins. Caused a stir. Never knew who did it until I read his journal."

"What would you like me to do, Mr. Binghorst?"

"Well sir, I'm not a poor man. Even at thirty-five dollars an ounce, Ben Knell and me shoot just twice a year. Then we high-grade and concentrate and go over to Denver to the mint. Me and my partner bought the discovery mine when all the smart fellas quit." Binghorst stuck out his tongue and raised his eyebrows in mock surprise. "Don't really need to shoot twice, but it makes a change. So I can indulge myself." He took a record book out of his coat pocket. It was five by six and half an inch thick. "I'd like you to read it, Mr. Ravenshaw. This is

the last one, nineteen-forty to nineteen-forty-one. What will it cost?"

"Nothing. It might take a while."

"No-no, whatever's right. I am not easy in my mind."

"How do I get in touch with you?"

"Oh, Sylvanius! I do miss him." The old man's voice was gentle and his smile was very sweet. "Somebody asked Syl how the weather was on Pine Mountain and he said, 'We have nine months of hard winter and three months of damn-late-in-the-fall.' It snowed after we got out and we can't get in a while. Just write to St. George."

NELL ROWLEY was drowsing in the back seat of the 210 Cessna. She had folded her windbreaker for a pillow and wore a plaid wool shirt that would drive a Scotchman to drink. Ravenshaw looked through the window and marveled that the pioneers ever reached the Pacific. This section of desert was desolate and deserted as it had been a hundred years before. The sun flooded the cabin as they flew east at 9000 feet at nine on a Saturday morning. The pilot chewed gum, watched the instruments and the sky, listened to his earphones and occasionally adjusted the trim. He was a fine, narrow-minded young man, interested only in flying. Ravenshaw approved of him, however dubious he might be about the trip.

General Craddock woke him at six with a report on Cassandra Investments. Alonzo Johnson owned a string of newspapers in Nebraska and the Dakotas. Brander Lugard had been chief of the Charleston Port Authority. Cyrus Pfister had built a medical supply house into a mini-conglomerate that dominated certain phases of the industry.

"How about Jain?" said Ravenshaw.

"Georgia Christian College, Rochester Institute of Technology, University of Chicago. That's a mixed bag. A commodity speculator, presidential economic advisor, World Bank expert. A very sharp and shifty sort of man."

Asabian was a highway contractor, Milias was railroads. DeWitt, Masterson and Roehlich, O'Conner, Taddonio and Levering, all were low-profile success stories. They were models of financial acumen, but in some aspects, slippery as greased pigs. Jain had once kept a mistress in all the Bowash cities and, when threatened by a blackmailer, had said, "Publish and be damned." The invulnerability each man made for himself seemed to be a common factor.

"Mummery is a wild westerner, old school. He was up and down in sheep and cattle and minerals until the war made him sell. He parlayed that money into a fortune

when the Salt Lake exchange went wild with uranium in the early 'fifties. He's into primary resources now, and holds things together with an agrochemical company in Stockton."

Ravenshaw asked if Cassandra had cooked the books and Craddock replied if they had, they were smarter than the IRS men he had combing them. He asked what was new with WBY. Ravenshaw told him about the man growing Holland cucumbers in an old citrus packing shed under red and blue lights. Ravenshaw had told the grower that incandescents gave off the same colors and the system was not patentable. The man accused him of floccinaucinihilipilification and he condescended to explain it was the action or habit of estimating as worthless.

"So maybe I'm overreacting to the charge. I'm going on a wild hare chase in a couple of hours. I made a deal with Fabio Marquien for his plane and a pilot. I'm victim of my expressed opinion that I should be Johnny at the rathole."

HE HAD taken Nell to dinner at an Italian restaurant and told her about Binghorst. She asked to see the journal while they were waiting for the pizza. Ravenshaw studied the Lombardy poplars on the wall, and the sheep and shepherdess with a rougish twinkle in her eyes, while Nell looked through the old record book. She read by the light of a candle stuck in a wax-encrusted bottle. Her palomino hair was in disarray and her jumper, if he had the term right, was just as handsome a weave as Binghorst's suit. Her eyebrows were mahogany brown and smooth and her lashes cast shadows on her cheeks. She looked up and Ravenshaw's heart stopped beating.

"Listen to this," she said. "May fifth, nineteen-forty. Germany invades Holland, Belgium and Luxemburg. The cold war is hot. I have no faith in Gamelin or Weygand. Cay asked why I was so excited by a war five thousand miles away. Must get new battery for all-wave Zenith. Mucked out today. Drill tomorrow."

How could he ever have thought her voice high when it was silky velvet? Pitched above middle register, it had a sheen like sun through a bottle of clover honey.

"September twenty-two, nineteen-forty. Kraut-Wop-Jap pact. Should not familiarize the enemy. Now it's sure we won't keep out of the war. School people agree Cay can stay at Red Warrior as long as Betty will teach. They supply books. Betty was onstage when Melchior watched the swan boat pull out ahead of time. How odd to have an opera star at Red Warrior and teacher for Cay."

Her honey voice had lime in it, or lemon, or alum or quinine. Ravenshaw relaxed. A voice like

cough syrup, that's what.

"Are you listening?" She marked a page with a finger. She had violet eyes that ranged from soft lavander to purple. "Do you want to know what happened on December second? I'll tell you what, Arleigh. Pearl Harbor."

"Sure. Zadok's interests were Cay, the war and mining."

"December second? Pearl Harbor?"

"Uh-oh. I see what you mean."

"And I don't think the Germans invaded Russia on June seventeenth. If the error's constant, he's always five days off."

"That could be what puzzled Binghorst. Wait a minute—I know—Zadok had a nineteen-thirty-five calendar in nineteen forty.

"Sure he did. And he used the same calendar in nineteen-forty one."

"Nineteen-thirty-six would keep the five-day differential. Binghorst said Zadok had a fey sense of humor. Quirky practical jokes a specialty of the house. This is a chuckle from beyond the grave, that sort of thing."

"Are you being intentionally obtuse? Sometimes you are. Just suppose you could see five days into the future."

"'If you're smart, why ain't you rich?'" said Ravenshaw.

"When her father died, was your wife poor?"

"We were married a year later. Now look, Nell. The old man played the market. He went down to Fresno once a week and sat around a brokerage house. Cay got a fat wad of stocks and more money than anyone ever figured. But tell me this, if Zad could read the future, why should he piddle around with mines? I don't believe it."

"Arleigh, are you rich?"

"It runs to pie *à la mode*, if that's what you want."

"Arleigh, why have you stayed in the Army?"

"Just so I could meet you," he said promptly.

"You're a devious man." She leaned back. "An evasive scoundrel."

Ravenshaw sighed heavily. "There used to be a popular philosophic ploy called free will versus predestination. It was just as much fun as counting angels on the point of a pin—"

"Arleigh—"

"All right. I suppose we'd better look at the other journals. Thank God, here's the pizza. I'm hungried to death."

GENERAL CRADDOCK had listened to all this and said, "Give a man enough rope and he can tie it around his world and measure it."

"Isn't there something about hanging himself?"

"Then hang loose," the general had said and hung up.

They were flying over Lake Mead now, the rock hills turned into peninsulas and the barren valleys into ragged coves by the startling blue water. The day was speckless. Boulder City was a sharp miniature in the crisp air.

Ravenshaw studied the map and asked, "Could we cut over by Pine Valley Mountain?"

The pilot said, "It's a little uphill. Ten-three, isn't it?" Ravenshaw said he didn't want to fly over, just parallel the range on the Pine Valley side for a few minutes, then back and south to St. George. The pilot said, "No sweat."

The Virgin River gorge made Ravenshaw glance at the snug interior of the plane, but the instrument panel with the full avionic pack, the toggles, switches and dials did not reassure him when he looked down again at the chopped-up land. He was intricately packaged, but he was conscious of the fragility of his protection. The amazing red sandstone country crawled lumpily below and built to the sweep of Pine Valley Mountain. While the canyons were dun and black with brush and evergreens, every shelf and valley was white with snow.

"Maybe we've had a nice outing," he said to Nell. "Enjoy the scenery."

They banked and went downhill to St. George. The Temple was white and the cliffs were red, the cottonwoods and poplars were leafless. The landing gear clunked and they set down at the airport. They taxied to the tie-down line and the pilot said he'd get gas and lunch and maybe a nap.

A medium-sized helicopter with private markings was being fueled by a small tanker. Standing to one side was a lean figure in cavalry twill pants and coat. The man had a paisley scarf at the open neck of his shirt.

He said, "Hello, Mr. Quintard," and touched the brim of his dove-gray Stetson. Gray eyes in a gray, seamed face. Austin Mummery.

IV

LIKE most men, Ravenshaw had 20-20 hindsight. He could have said, "Nice to see you—" and gone his way. When Mummery said he was going over to Red Warrior to check the cabin after last week's blizzard, Ravenshaw might have said it was a fine day to fly up to Salt Lake City. Mummery said he had grubstaked Timberline Binghorst years before and they were partners in a mine. He had flown over from his ranch up Meadow Valley Wash from Glendale and why didn't they come along to Red Warrior with him? The Vought Aloutte III cruised at 117 mph and they might enjoy the experience.

So, like a cheerful idiot, Ravenshaw told his pilot they'd be back

in a couple of hours and the pilot said if they were delayed, the Cessna flew well in the dark and he liked instrument flying.

Mummery introduced them to Ned Vasu, his pilot, a Filipino whose parents had come to Wenatchee before the war. He had learned to fly in the Army and had spent three years in Germany. He was a quiet man with an impassive face and obviously an expert. The Aloutte rolled ten feet and bounded into the air. The noise level was lower than Ravenshaw had expected and there were none of the windleaks he associated with helicopters.

Flying a bird was the same as patting your head and rubbing your stomach, Mummery explained. It took dexterity and timing to handle the cyclic stick, the collective stick and the foot pedals all at once. "It's expensive in time to learn," he said, "and you've got to ration time. I'll never be a lapidary because I can't afford the patient hours. Options close in as you get older."

Ravenshaw said, "Hadn't we better turn north?"

"We'll run over to the ranch for lunch," said Mummery. His hooded eyes were not smiling.

"No way," said Ravenshaw. "Turn this thing around. My time won't wait for lunch."

"Nor for any man, Colonel Ravenshaw?"

"Back to St. George." Ravenshaw unlatched his seat belt.

"Relax and enjoy," said Mummery. He had an old S&W revolver in his hand. "You are being kidnaped." The gun had a bore like a sewer pipe. "Fasten your belt. No shenanigans or I'll plug your girl first."

Ravenshaw raised his voice. "Vasu! They jug accessories."

"Mr. Vasu came to me from Ft. Leavenworth on the intercession of a quite influential congressman. Ned, is there anything critical in that panel under the window?"

"Only insulation, sir."

"Then don't be surprised." Mummery squeezed the trigger.

The bullet grazed Nell's knee. Ravenshaw surged against his belt and dropped back. His ears rang. The .38 was fastened on him. Mummery coughed. Nell was white, staring at the rip in her pants and the blood beginning to seep from the scratch.

Mummery coughed again as the fumes sucked out. "That should establish my bona fides. Don't delude yourself. I was curious enough after our first meeting to put men at the airports. Holloman lost himself at O'Hare, but Quintard turned into Ravenshaw in San Diego—and he turned out to be a mysterious Army officer who was once married to Zadok Sandler's daughter."

Nell patted the slow seep of blood with a handkerchief. Raven-

shaw turned his attention back to the mad old man. At the same time he went onto war status. Perhaps it showed, because Mummery's big hand tightened on the pistol grip.

"What do you have in mind?" asked Ravenshaw.

"Friendly persuasion." Air whistled through the hole in the panel. "Stuff your handkerchief in there, girl." Nell did as she was told and the shrilling stopped. Mummery smiled and Ravenshaw noted that only his teeth and eyes were unwrinkled. "You are going to tell me about the alternate worlds and how to get there."

"You've flipped your wig."

"Lace your fingers behind your head, Ravenshaw. Don't fiddle with the belt. The life you save may not be your own. I don't like waste, but there are lots of scrubby women around."

NELL was sniveling. Her hair straggled over her face; one shoulder and elbow were pulled in toward her body. She looked like a charwoman after a twelve-hour shift. She may have convinced Mummery, but Ravenshaw thought she was as frightened as a nest of hornets.

"My colleagues at Cassandra are resigned to fate," said Mummery in tones of sweet reason, "except for Jain—and I beat him to the punch. No question, the great achievement of the human brain is association, the assembly of disparate facts to a purpose. What good is bumbling, innocent Binghorst, or Sandler's crazy journals mildewing in a stope. Good for bait. Before we land, we'll radio your pilot and tell him to drop off your bags at McCarran in Las Vegas and to go on home."

The revolver cracked again. The cut on Nell's knee was paralleled by another. Mummery coughed and his eyes watered. The pistol did not waver. "I'll tolerate no more tomfoolery," he told Nell. "Next time I take off your kneecap."

"I duh-duh-didn't mean anything," she blubbered.

"You're raising hell with a good secretary," said Ravenshaw.

"You won't be needing one—unless you cooperate."

"A carrot for the donkey—what's in it for me?"

"Surcease," said the old man. "And if you can persuade me to it, something better. I have only the simplest inducements to offer: food, water and warmth. That ought to be enough." He glanced through the window and back at Ravenshaw. "We're over the Tule Desert now and we'll land on the Meadow Valley side of Mormon Mountains. There's an old line house by a spring. Remote, isn't it?"

There was no sign of a road, not even a game trail. Snow salted the tops of the ranges. Clouds were gathering to the north. It was lonesome lost country where in

summer a coyote would pack a canteen. Vasu was mumbling into the mike about St. George and Las Vegas and leaving gear at McCarran.

Mummery said, "About a week ago Ned and I sawed off four-foot lengths of light rail—fifty pound—and fixed them in concrete. Got some old logging chain and welded it to the tops of the posts, six inches off the ground. It's twenty-foot chain and the spring is thirty feet away. Got some cuffs and tacked them on. One post on each side of the little creek. Nothing fancy. You can listen to the water until it freezes. When you want to talk with me, I'll be in the cabin drinking coffee."

"What do you want?" said Ravenshaw.

"Twenty or thirty or fifty years." The old man was in dead earnest. "Is it a gate? A door? An entrypoint at Forrestal? Or is that a stinking red herring? I don't expect a fountain of youth. Maybe Jain had that in mind. There have got to be worlds where a man is not cut off in his prime. Too much to ask? I think not." That answered General Craddock's question about price. Mummery wanted something money couldn't buy.

The helicopter was descending. Ravenshaw caught a look at a crooked stream in the bottom of the valley. Beyond, on a low mesa, was a large house with outbuildings. In the clear air he could see a caterpillar tractor painted cat-yellow by a corral. Dust swirled as they hovered a few feet above the ground. They landed—*whup-whup, whup*—the bird was quiet. Ned Vasu flicked switches. In a careful ritual dance, he stepped behind Mummery and opened the door, never blocking the pistol.

Mummery ordered his guests to the ground. "Don't make a break for it. I gave the hands a week off with pay. There's nobody around for twenty miles minimum." The air was sharp and smelled of snow and sagebrush. Nell winced as she stepped down. Mummery backed off and Vasu stood slightly to his rear.

The Aloutte was across the creek from the old line shack and Ravenshaw got a good look at the posts and chains. The ground was sandy and had been cleared of brush. Thunder grumbled miles away. The little creek was rimed at the edges and the white trunks of the bare aspens made the landscape even chillier.

Vasu stepped behind Mummery and whipped an arm around his neck, seized his right wrist and bent it behind his back. The cabin door opened and Swafford Jain walked toward them, an incongruous figure in high-laced boots of another age, whipcord breeches and a cashmere sweater under an old duffle coat. He wore a sheathed hunting knife. He carried a pump shotgun as if he knew how to use

it. "Join your friends, Austin," said Jain.

Vasu had the .38. Mummery stumbled over to Ravenshaw and Nell, coughing and rubbing his wrist.

"Two items to mull over in hell, Austin," said Jain, swiveling his head like an owl. "Ned is tired of driving your chopper and the important figure in our little puzzle is Holloman—General Bill Craddock in real life. You should not be taken in by appearances." He pushed his fur cap back on his polished hair. "I can do without the three of you." He raised his shotgun. The stakes were high. He was a pragmatic old man.

Nell switched worlds.

V

A HURTLING body knocked Ravenshaw off his feet. A shotgun bellowed. He was in the middle of a melee and he got up with a broken branch in his hand. A man in mottled brown and red came at him and Ravenshaw broke the length of punky aspen on his head. The man went down. Over the grunts and blows and shouts of the donnybrook came a whooping, steamy whistle—*whoo-woo, whoo-wow*. A man in green spun him around and Ravenshaw mashed his nose sideways with the heel of his hand. He caught a glimpse of Nell being dragged off before he was blindsided and hit dirt. His fingers closed over the shotgun barrel. The stock was bent but solid. He swung it right and left with satisfying thunks and shoved the butt into the stomach of a man who staggered into Austin Mummery and knocked him over. The whistle sounded again.

The fight stopped as suddenly as Ravenshaw got into it. Men in red and brown ran downhill to a peculiar vehicle with a flat platform. It began to move with a stately *achoof-achoof* noise. Jain had been dragged aboard with Nell. Ravenshaw ran toward it and sprawled over a body. The platform picked up speed on eight big wheels, mashing the sagebrush, lurching and creaking at 10 mph.

"My God, what's happened?" Mummery clutched his arm. "Where did all those crazy Indians come from?"

"Custer's last words," snapped Ravenshaw. The man who had tripped him was Ned Vasu, dead and already dusty with a shotgun blast in his chest. Mummery was babbling. The old man drew back in alarm when Ravenshaw pulled away, and did not follow him down the slope. No one followed.

Ravenshaw jogged through the sagebrush, thinking about the revolving barrel at the funhouse in Santa Cruz. Once you slipped, there was no way to go but head over heels until you found your feet again. Nell Rowley had the pre-

posterous ability to slip into the infinite worlds with as much effort as falling through tissue paper hoops. He did not know how she did it, he only knew he had the nightmare sensation of being dropped into the middle of noontime Istanbul with no trousers. A worse nightmare was being separated from Nell and marooned in an alternate world.

A wide shallow river ran down the valley with flourishing cottonwoods on either side. The sage was tall and the bunch grass thick. Aspen and low oak grew on the slopes. The leaves were just beginning to turn color and this country obviously had more rainfall than his own world. The mechanical platform disappeared behind a low hill and Ravenshaw dropped to a walk with a stitch in his side.

Beyond the river was a rise to a bench, a low mesa with broken hills beyond. There were two long, enormous blurs on the bench, unlike anything he had ever seen before. A smaller blur squatted between the two. The sun was warm and the temperature in the seventies; there were no heat mirages and the air was crystal. The platform forded the river and struggled slowly up the slope on the other side. The passengers dismounted and pushed. He could see them clearly against the long reach of the northern blur.

A shallow wash meandered to the river and he stopped into a clump of screwbeans and looked back. Austin Mummery was walking with some men in green. Even a half-mile away he looked chirky as a cricket. Ravenshaw waited until Mummery and his friends crossed the river and made their way up the rise. Ravenshaw went up to his chin in a channel near the far shore. There was no footpath and no road. He climbed the slope and crawled to the crest.

THE mesa had been leveled, but the ground was gullied to within a hundred yards of the blur. A concrete apron ran to the reach of his fuzzy vision. It was broken back here and there, in spite of a riprap and gravel base. He had a corner view of the enigma. It was rectangular and ran half a mile to the west and a full mile south. The middle blur was much smaller and oval in shape. He stood and followed the concrete apron south, to cut the tracks of the lumbering steam vehicle. There were no friendly beer cans or gum wrappers. A low dune of rippled sand ran for two hundred yards along the blur, piled there by some subtlety of wind and configuration. He walked over a stretch of mud puddled halfway up the sloping concrete, curled and crazy-cracked since the last rain.

The wall was sixty feet high and cast a shadow beyond the river by the time he crossed the tracks. The tracks ran near the end of the structure and vanished into the blur.

Ravenshaw examined the building closely for the first time. He tossed a rock at it. The stone slowed and fell to the ground. He broke a switch and poked. It was the same as poking a pound of butter on a boulder. When he whipped the branch, the energy of its motion was soaked up before it reached the surface. He had seen this phenomenon once before in the protective clothing worn by a man who called himself a Drishna. It was evidently a physical principle unexploited on his own world.

Because he was unable to knock and there was no doorbell, he continued around the structure. The south side was also featureless. He thought a strobe light might help and blinked, but he was not in any kind of synchronization. He reached the southwest corner and walked off the concrete for a better view. The terrain was irregular at a slightly lower level than the pad. If he crossed to the hills, he could at least see over the wall. They were a mile away but he get a look before dark.

Ravenshaw found himself walking in an area intricately intercut by vertical channels. Sparse brush and a few rocks dotted the top; the cuts in the hard white clay bottomed out at twenty to twenty-five feet. The sun set and a few pink clouds reflected from the water standing at the bottom of a little gorge. He scrambled down for a drink. His thirst satisfied, he continued along the narrow trench to an intersection with another and followed it upstream to meet a blank wall. He returned to the first channel, missed his way. It was almost dark before he made it to the surface. A chilly wind had picked up, but he stood and thought that he had put in an outstandingly stupid day. Given a choice, he unerringly picked the door that dropped a bucketful of slop on his head.

He groped for a handful of rocks and pitched one at a darker patch. It rattled down the side of a cut. He broke a branch of brittle wood and had to cut the leathery bark with his knife. He tasted the cambium and it was bitter. He thought of long-rats, the freeze-dried long range patrol rations issued by the army in Vietnam. He wished he were there and poked ahead with his stick.

Eleanor Farjeon said, *The night will never stay/The night will still go by/ Though with a million stars/ You pin it to the sky* . . . Ravenshaw thought this was a damn lie. It was the dark of the moon and the night had gone on for several weeks. He felt like a printed man in a maze puzzle for children: *Little Arleigh wants to get into the picture. Pick up your pencil and help little Arleigh.*

HE HAD just proven to himself that he was standing on a

surface totally surrounded by moats. It was impossible. He tossed a pebble. He could touch the other side with his stick. He jumped in the dark and sprawled on another impossible tabletop. On legs rubbery from hunger, he followed a gray streak that led into a gorge. He could see the North Star and much good it had done him. He had been as directional as a hot Mexican jumping bean. The wind was cutting cold. The walls rose on either side.

He stepped into ankel-deep mud and was too tired to swear. A little later his foot slipped and he sat down in water. He was not as tired as he thought. He got up vigorously and bumped like a bee in a bottle between the clay walls. He hit a dead end, swore and turned back, turned around and threw a rock at it. *Clang.*

The bottom of the metal door was chin high. This particular cut in the clay was four feet wide, so he gouged steps in either wall with his knife and did the splits up to a bar in the middle of the door. The step caved away, the bar tilted and he fell to the muddy bottom. When he squirmed through on the next try, the door closed on the small of his back, leaving his mug tangled with a short ladder inside and his wump dangling.

He was in a dark tunnel. He could scrape his fingers and whack his head at the same time. Prudence made him crawl along the rough bottom. When his knees gave out, he walked backward painfully, like a bear. It was bitter cold and when he kicked the end of the tunnel, he was surprised he did not shatter like a Dresden figurine. He wanted to smile until he stood and hit his head against a metal rod. It was the rung of a fixed ladder and he climbed it.

It went straight up for eight miles and when he topped out, his muscles were trembling uncontrollably. When the twitches were spasmodic, he found he was in a closet about five by eight with a low ceiling of slats. The walls were made of large smooth rectangles. He groped around, nearly fell down the shaft and found a rectangle with fingerholds in it. A plug came out of the wall, letting in blessed light. He squeezed into the hole and found himself looking at cardboard boxes across a width of floor: Goodbody and Son, Calcutta, Arizona. Select, Choice, Tenderfresh Collard Greens.

He closed the door through which he had squirmed. It was the middle case of a pallet load marked: Kohlrabi. Greens were piled three tiers high on either side. He walked to a cross aisle past case after case of Cardoon, Salsify, Florence Fennel and Spinach Dock, none of which interested him. Across the aisle were Broad Beans in Ham Gravy. He climbed twelve feet to the top pallet with only a glance at the blurred wall in

the distance. The cartons were not cardboard, but honeycomb plastic, and opened by turning an inset circle at either end of the case. The cans were institutional size, square and also plastic. They opened with a finger ring. It was almost warm so close to the dim ribbon lights in the ceiling. He ate a quart of beans with his fingers. He was thirsty, but he stretched out on top of the cases. He kicked the can of beans over the edge. He blinked his eyes. He fell asleep.

RAVENSHAW was perfectly willing to believe that other people had memorable dreams, but his own experience lay on what Nell Rowley once called "the shores of sleep." He slept and his mind made figures of dreamdust in the hypnogogic state, the return to wakefulness after sleep.

His wife had black eyes and shining black hair. Her face was triangular and she moved like a dancer. When she stopped, she stopped like a statue. She spoke in a grumbly lovely voice without punctuation. He learned to listen to the melody as much as the sense. She strutted when she walked, went willowy when she chose, danced as she pleased: lady, loose lady or gamin. She had died instantly of an embolism while throwing dishes ten years before.

Cay Ravenshaw had been quick as sunlight through shadows, salt and sweet, with facets like a handful of emeralds. He remembered her beside a bed of tall cannas, red and yellow in the Oklahoma sun, caught with the flowers in an afternoon stillness. He saw her slim white body like a white velvet otter in the warm, willow-scented Nacimiento River on the valley side of the Hearst San Simeon estate.

He was drowsily pleased with this true color representation. There had been other occasions when the topic was handled in off-purple hues to illustrate her chancy temper and blind demands for a better moon. *There is a lady sweet and kind/ Was never face so pleased my mind . . .*

He murmured the words aloud. The brilliant black hair snapped to palomino without a fadeout or any proper transition. Almost awake, he was too wary to unbridle his imagination. He opened his eyes.

A woman was sitting crosslegged on top of Broad Beans and Ham Gravy, looking at him, statue still.

"You are a horrible sight," she observed, "muddy and mazed and bean-bespattered."

Ravenshaw stifled a groan. "I hurt, too," he said.

"What's to be done and weary-deary," she grumbled. "I prowl for pleasure and this is the onus of conspiracy and no benefit from it. I set a turkel to scrubbling your beans and mess from another world, no doubt. Oh willow woe,"

she said, "is me." Her eyes betrayed her languishing speech. They snapped with excitement.

"Excuse the expression," said Ravenshaw, "But where am I?"

"In twenty-three-Kah-eight-seven-two."

He waited and wondered if the sensation in his chest were fibrillation. She was very much like his memory of Cay, vivid as the arc of an electric welder. She was also a little grimy. The smudge on her cheek and the dirt under her fingernails were misplayed notes in a symphony—oboe or contrabassoon.

"This is the One Generation New World and I am of that generation. If of an equal age, you wear less well than we."

"What is a One Generation New World?" She looked to be in her early twenties. He ignored her grubby appearance and admired her straight-backed, crosslegged grace.

"We were set as babes on a multiple world with the bent philosophic to perfection in secret—"

Ravenshaw groaned. "Will you start from the beginning?"

She spoke slowly to a backward child, "A Floridian spirited to Cheyenne will be Cheyennese. A child of Texas grown in Boston will be cod-stiff and constant to its guidance. Or should the son of the King at Bonneville be childhooded at the court of Porfirio III, would he not on all counts but color be conformable to his upbringing?" She rubbed her nose with her wrist. "Therefore in us, the folly of our fathers is extirpated. We are the men beyond man, the ideal realized, experiment perilous carried to glorious fruition."

"I'm thirsty," said Ravenshaw, who had his doubts. He swung his legs around and hung over the edge of the cases on his stomach. "'An ape's an ape, a varlet's a varlet, whether his clothes be green or scarlet,'" he said and climbed down to the floor. "Does this brave new world have a bath in it?"

SHE dropped beside him, nimble as a boy. "You are besotted with dirt and ignorance, an immensely improvable subject for the huffinpuffin," she said with a flash of white teeth. She wore a rust and gold garment, a close fitting jumpsuit with stretch material at the waist and shoulders.

She turned down the canyon of boxes, around corners and to a narrow transparent door in a thick cross wall. When Ravenshaw hesitated, she stepped into the cubicle herself. Dust sprang out in a cloud and was sucked through the floor. He would not easily forget her eyes squinneyed shut in her gamin face and the black sunburst of her hair. He found the huffinpuffin much like a sandstorm. The external mud fell into clay and sand com-

ponents, there was a smell of ozone and his hair stood out from his head.

"Water solves thirst, too," he said. "I feel scraped."

"Water is an emotional concept currently but in allowance of obligation and generosity as well, I have potables stashed."

She banged a vertical panel and a large door slid open, leading to another room piled high with boxes. They zigzagged through different sorts of vegetables, evidently more popular than those in the warehouse they had left. Ravenshaw stopped and quenched his thirst with a can of orange-colored tomatoes from a broken stack of boxes. She opened a can and ate a tomato, threw the rest away.

A humped, rectangular machine hauling a caboose crawled down the aisle, scuffed up the spilled tomatoes, swallowed the can and left the floor clean and shining. She said turkels would eat anything, but tomatoes were too lumpy for her, just like the lake, and led him to a narrow room with dusty forklifts along a wall. The girl rummaged in a cupboard behind spare parts and brought out two tall cans. A flattish tube emerged when he pulled the tab. It was divided into larger and smaller sections and when he drank, alcohol and pineapple juice mingled in his mouth. She said she had hidden the drinks three years before when it became obvious that desirable items were in shorter supply. In a closed system there was no replacement. And she did miss swimming.

Ravenshaw asked how it could be a closed system when he had seen men outside? She choked and spluttered. She jumped to the floor and ran down a corridor and through a room filled with bales of cloth, into another with pipes and plumbing fixtures racked in rows, and turned abruptly into an area piled at haphazard with boxes. She danced over, around, through and across them with sure feet. Ravenshaw followed until she brushed three stacked containers that poured out feathered, scarlet balls. The girl was gone by the time he blundered through them. So was his sense of direction.

HE WANDERED through endless rooms. There was no sound but his own footsteps in the whole enormous warehouse. The pattern of storage was random from his worm's eye view and he felt like a bug walking over a blueprint. He stifled a feeling of panic when he thought of Nell Rowley and took the only sure direction open to him. When he founds stairs or ramps or a circular staircase, he went up. He stopped in a congeries of rooms that held him in horrid fascination. He interpreted them as roboticized nurs-

eries with mimic mothers grown dusty beside individual pens.

One of the figures said, "You must take your nap, dear," and advanced toward him.

He fled in panic. The air was motionless and the floors were spotless, but when mother moved silently toward him her figure was alive with dust.

He ran across padded floors and infant toys into an artificial turfed gymnasium and lost the series when a corridor opened to an S-curved space with toys and games suitable for ten-year-olds. There was a row of booths against a wall and when he sat on a low bench at a table, a door closed and he was trapped.

A panel opened and he was served a peanut butter sandwich and a glass of milk. His mouth was dry and the milk helped the peanut butter down. When he returned the plate and glass to the recess. the panel closed and the door opened.

A voice said, "Good child."

He wondered if the children had dreamed of people behind walls, and decided that by ten they would be conditioned to accept taped voices. He tried another booth and was served the same menu. He was trapped again and ate the sandwich but did not finish the milk. He thought milk was great for young cows. The door did not open when he returned the glass to the recess. He spilled it on the floor and a small turkel scrubbed up the mess.

A voice said, "Finish your milk, dear—" and he was served a full glass. He drank it and got out.

A little later he was caught in a study carrel. The voice had him solve problems in geometry with a stylus on a ground glass desk. The notation was different from his own, but the voice was patient and the explanation simple enough. The drawings remained until he tapped the erase bar. When the lesson was over he estimated the warehouse was five stories high and figured a little. He ended up with forty-three million plus square feet in the building. The Pentagon had six and a half million. He got out of the carrel and stayed out of similar traps. What if he had been stuck in a history class? He found a compass in a room stocked with supplies for simple physical experiments. He went east and down at every opportunity. He opened one more door and stepped outside.

He was in an enormous enclosed park, with hillocks and trees and grass and rocks. He could see a strange green surface through a screen of trees. There were cabanas and tents and tree houses. At least a hundred people were in view in almost a hundred different costumes. They were in their early twenties, though the variety of clothes and hairstyles gave

the illusion of a much wider age range. A few were gathered around a youngster dyed bright pink who was reading from a manuscript. A woman dressed in ribbons caught at her neck and ankles was working at a crude loom. A man in a full spade beard and a red-lined cape was swinging in a swing with his eyes shut. The park was in hard use and the grass was badly scuffed. A mechanical gardener, a variety of the turkel, was planting marigolds in blossom, followed by a girl who picked the flowers and tore them to shreds.

It was a contented scene with little cohesion. A woman engaged with some sort of dice looked at Ravenshaw, shrugged and went back to her game. He walked two hundred feet to the screening trees and through them to the shore of a lake, where a large group was following the progress of a four-wheeled steam vehicle. It had a central steering bar and the girl in the jumpsuit was dancing around on the platform with a dozen others. The man at the tiller pulled a large lever and the thing whistled like a horsedrawn 1890 popcorn wagon. The girl threw her arms around his neck as a wheel hit a rock and turned to the lake. *Achoof-achoof,* it waddled into the thick water. The passengers jumped and struggled ashore through stinking mud, algae and weeds. There was an underwater explosion, an intense burp that bubbled the surface before it flung gollops of green-brown slime into the air. It was a spectacular and ridiculous performance that hypnotized Ravenshaw. He looked around just in time to see Austin Mummery swing a short baseball bat at his head.

VI

RAVENSHAW folded like a cardboard skeleton.

He did not lose consciousness, but his thoughts went random. *The old man doesn't pull his punches—with a length of sausage—tries to slam the ball into the centerfield stands—a very sincere effort—had to be a twenty-year-old sausage—a picnic in the park with friends—how nice . . .*

He was heaved upright by a couple of men on each arm. They marched him back into the building. He tried to keep his head from bobbling as he pedaled an invisible bicycle through what could have been a foyer if it had featured potted palms, through administrative offices to a large bare room lined with dull blue cabinets stuffed with electronic gear. Rows of jewel lights blinked; machined metal spools turned behind panels and a low drone filled the dry electric air.

The room lurched. Ravenshaw screwed his eyes shut. He sat down abruptly, as a chair hit the back of

his knees. His head lolled forward. He opened one eye to see an earnest young man with the tip of his tongue caught between his teeth walking around and around him in a dizzying pattern, and Ravenshaw was trussed with a white rope like a fly for a spider's dinner.

Nausea surged and was gone. His eyes focused. Mummery was sitting in a cylinder of light. Ten feet away, Swafford Jain sat in another. They looked like two tomcats full of canaries.

"—so cream rises to the top," said Jain complacently. "Is your mechanical genius going to build another steam wagon?"

"We have better equipment in storage and so do you," said Mummery. "There's a kind of flying carpet I want to check out."

"What amazes me is the building—the computer says the roof is laser-structured, absolutely dead flat—have you poked around in your library yet?"

"Enough to begin the lake. So much to do, so little time—"

"Time? Have you looked at the medical section?"

"Hah!" said Mummery and both old men smiled. "But I do wish you had dedicated yourself to scholarly pursuits. Do you suppose a mechanical background is essential to—"

"Technical," said Jain. "Without a technical base you stand on an intellectual skateboard—until you move. I wish you'd been an absentee rancher and market manipulator."

"Too bad," said Mummery. He looked at Ravenshaw from his cylinder of light. "We'll take them one at a time, of course."

"Certainly. If he wears out, we have the woman in reserve. We'll find their method yet. Austin, I congratulate you on the idea. If this were Rome, I'd call you P.T. Barnum. Give 'em circuses."

Jain faded and the projection vanished in a twinkle of light. Mummery yawned as his own cylinder dimmed to the light level of the room. His eyes were hooded. Rameses Three brooded.

Ravenshaw's head throbbed in a slow drumbeat. He regretted his tendency to see the infinite worlds as dismal fantasies on the part of the natives. He could not overcome the idea that this was a funny-money world. Funny-money, even though Ned Vasu had found death negotiable. He could even admire the old men for their catquickness to land on their feet. No energy wasted in recrimination. He had reservations about their situational estimate, but, tied to the chair, all he could do was sit tight. His grin was sour.

It was somehow comical that he had found the wrong warehouse—he had had a choice of three structures—after his search for Nell in the night and it was fairly humorous that Mummery had slugged him with a salami. It was less fun-

ny that this world's young inhabitants seemed to have fallen into line so easily with the suggestions of the two old men. *Cream rises to the top.* Granted that Jain and Mummery were charismatic characters, it was an accomplishment for them to have assumed authority here with such ease. He said as much to Mummery.

"How about it?"

"They are anarchists. They believe that everyone should do what he wants to do. The idea of common good is alien to them. They live in a vacuum of the present without historical perspective, so they have no judgment. Push the proper button and they drool like dogs."

"Big deal, cleaning the lake. Why didn't they do it themselves?"

"Change filter and flamer and flow patterns. I've been thinking about that. No responsibility? Every man his own master? They have no children to test themselves against—something to do with the closed system—so pride incurs no obligations and accepts none. Only a stranger can kick his way out of this paper bag."

"They don't look stupid to me."

"Ravenshaw, I wouldn't think you stupid leading a squad or maybe a platoon—but I've noticed that army officers, clergy and professors always buy enough phony oil stock to paper their walls. You people live in a protected situation, inside a security framework, like monkeys in a zoo. You are public welfare cases. Me? I had to cut out a tin beak and peck around with the rest of the chickens."

"So why did they fight at the springs—when we first came here?"

"That was a joint venture. A limited-liability company had gone out to get fresh water and exercise the eight-wheeled steam hoopee. Another band of gentleman adventurers jumped them. We just happened to show up in the middle. Ravenshaw, how did we get into this world? Tell me, and I'll arrange some accommodation."

"Just lucky, I guess."

The old man favored him with a basilisk glance and shrugged. "Call me stout Cortez," he said.

"Pizarro is a real sweet guy, too," said Ravenshaw.

"I'll miss your conversation," said Mummery, "but not much."

He stood and stretched and left the room.

THE girl walked in and patted Ravenshaw's cheek as she crossed to the phone. She activated the light cylinder. A person appeared. Ravenshaw didn't care if the instrument was a vid or a see-easy or an Ojo de Dios, an Eye of God. This was a funny-money world. Where was Nell Rowley? They ought to cut out of here.

The girl spoke to a man with red hair and a freckled face who appeared in the cylinder of light. "I

think the woman is something called a Mier and they're a tricksome species. It turns out they disappear and the library hahs and hums about whys and hows and whatever—keep an eye on her."

Freckles leaned forward to touch controls. "She's solid enough," he said as the cylinder enlarged to include Nell.

Nell had a stony expression. Her head stuck out of a box that was like a steam cabinet. She looked at Ravenshaw in his wrappings and smiled. "Well, Arleigh. Quite a world, isn't it?"

"Amscray!" said Ravenshaw in a choked voice.

"Utsnay," said Nell. "How do I get out of this box? Besides, I've been to a lot of trouble over you. I might not be able to get back."

Colonel Ravenshaw said, "That's an order!"

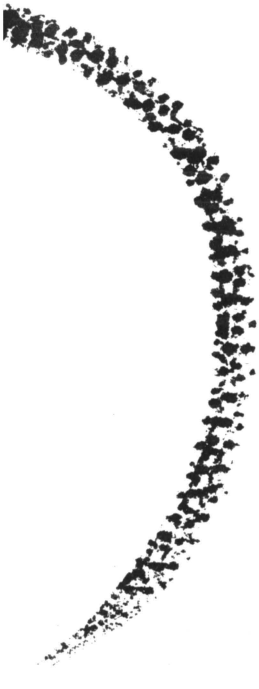
His detachment had vanished. It fried the edges of his soul to see Nell with her head sticking out of a box. He turned red, lurched forward and tumbled to the floor, chair and all. He got a sideways look at her eyes before Freckles dimished the cylinder to himself. He had never thought violet could be such a hot color. He was wet with sweat.

"—keep them around for jollies maybe, why not?" the girl said, and the projection faded. She walked over and nudged Ravenshaw with her toe. "Don't go away. A closed system needs variety and the entertainer should be worthy of his audience. Those two old men have amusing ideas and men are as alike as feathered balls and what does one ball more or less matter?" She hunkered down and regarded him more closely. "And yet—you are a beast of some character—who can tell? Raised under a different sun—or the same sun—there's disagreement on the question." She frowned. "Still, it might be best if you were scrubbed.

Her words registered for later examination. Ravenshaw lay on the floor and repeated Nell's jingle. With all the intensity he could command, he wanted her back in their own world. He screwed down his eyelids until his eyes hurt. He had not forgotten a vivid picture she had once given him of a small girl in the shade of a chinaberry tree, singing a lonely song to her doll, Elinor:

The worlds exist in the mind alone—
Who knows this truth can dance with fire
Or fly through air or float on stone.

They were not magic words that spilled you through worlds like a riffled deck of cards. The song was conditioning to the idea that infinite worlds existed thicker than fruit on a chinaberry tree. It might also indicate that labels of body and mind were devisive and if an individual held unity at a level of



belief, such things as dancing with fire or jumping worlds or sailing on a boulder were possible. Id, ego, super-ego? Jargon. Don't look at the tree trunks or the snake or the wall of the building, dammit, look at the elephant whole.

Then all worlds were funny-money worlds, just like a Pancho Villa ten-peso note when Pancho himself presented it to a storekeeper. It was irrelevant that it was homemade. It was legal tender when backed by a .45 revolver. If the storekeeper thought it was funny-money, he had a weak grip on reality.

Go, Nell, go!

Just because Ravenshaw had been an idiot when he stepped into the helicopter and it seemed inadvisable to change worlds in the air, and he was fuddled when Ned Vasu jumped Mummery—all this was no reason why Nell should be stuck in a box.

Go, Nell, go!

Two husky young men heaved the chair back onto its legs. Ravenshaw opened his eyes because he had been washed over by a sense of comfort. He drew the conclusion that Nell had escaped, switched worlds, was out of danger. It was the same relief a skindiver knows after two minutes under water.

Mummery was back in his chair talking with Jain.

Jain enlarged the cylinder of vision and there was Nell Rowley with her eyes shut and a faint

smile on her face, still prisoned in the box.

VII

WHEN three men unrolled the rope and led him to another room, Ravenshaw waited until his reflexes seemed dependable before he kicked one in the stomach, backhanded another in the adam's apple and chopped the third under the ear with the side of his hand. Cay appeared and pointed to a door. He slammed it open and ran into a crowd. He turned and Cay had another gang of men running to meet him. It was a brief excursion into freedom.

They spreadeagled him over their heads and carried him through the interminable warehouse. When one tired, another took his place. Ravenshaw had no idea that gripping hands could be so painful. They were whooping and yelling and singing, men and women, the whole mob, and all his addled brain could do was repeat, "If it wasn't for the honor of the thing—if it wasn't for the honor of the thing—" He was too scrambled to finish Mark Twain's remarks about the man tarred and feathered, riding on a rail. When he was stood on his feet with the world reeling around him, he knew he would rather be elsewhere—except for the honor—and he would have fallen to the floor except for two dozen hands supporting him.

His vision cleared and he identified the wet stuff as a nose-bleed dripping off his chin. He might as well have stayed dizzy, because the building in which he found himself was unreasonable, unfamiliar and unlike anything in his experience. Bleachers followed the curve of the oval dome on either side, but between the tiered seats was a gulf, a void where a basketball court might have been. There was a pier, a stack, a tower in the middle, a central oval island rising from the depths, repeating the curve of the seats. The tunnel from the north was on the east side. The tunnel through which he had been hauled was to the right. The gulf was a constant width from one end of the building to the other. The roof arched overhead in the ambiguous blur.

Latecomers straggled in. The bleachers were almost full. The spectators got to their feet when the doors of the tunnels closed. It was kickoff time. A cylinder of light appeared in the middle of the oval platform. A man with a benign expression stood there. His voice carried without distortion, but Ravenshaw could catch only parts of the speech, due to the tumult of boos and catcalls.

"—resources and ingenuity of our community—twenty-six years in conception and planning, eight years to build and supply—chosen genetic stock—no immediate return from this colossal investment

—" When the audience chanted along with the speaker, Ravenshaw realized this must be a recording and wearisomely familiar. "—transmogrified to men beyond man, mankind changed in one generation—" He lost the rest in the hoots and shouting and caught only the conclusion. "—so in trust and love, bless you, our children."

The projection faded. A bridge like a tongue of steel arched to the island. It rose up and out, three feet wide with no rails. It was white and made a smooth join at the far side. First class engineering, was Ravenshaw's opinion.

The girl who looked so much like Cay walked onto the island dressed in ice-blue, a shimmering garment that must have been uncomfortably tight from her toes to her neck, where it broke into a frothy collar framing her face in blue ice. She waited for relative quiet.

"Anybody want to jump?" she said. "I deplore private suicide. It's deprivation of us all, selfish and a nuisance, and you might just as well make an occasion of this. If you need something fancier than jumping—remember, only two people missed all the pipes and there's a challenge—talk it over with your friends. The spirit of our new world demands a little consideration, not much maybe, but some. We'll arrange anything reasonable, hanging, head-chopping, whatever you want. Any takers?"

She waited and said, "Second item's transfers. Come on over, anybody." Eleven men and women crossed the bridge and stood to one side. The girl stepped on and the bridge retracted. The bridge from the other side slid out to the island. Freckles rode it over. Eight people followed him and cleared the way for the transfers.

"I have old business and continuing business and dammit," said Freckles. The gabble of the audience dropped. "I know we got entertainment tonight and I don't want to naggle anybody, but those clowns who busted out after water had a good time and a nice fight, but they're going to yince us up. Maybe a session tomorrow? Think about it, dammit—we're either a closed system or we're not. They had us programed to bury seeds in the ground, dammit, three years ago dammit, and build houses and raise kids and all that, and I still say the hell with it and those clowns are going to yince us up good. Think about it."

His bridge sucked in and the girl's went out. The transfers walked over and found seats. She said, "Don't yell the bridge, the bridge at me because nobody's figured how to schtunk the system yet. Library says we're positive and negative and you shove something between and bang, it blows. And those guys who busted out found out how to bust out, so why

worry about a bridge anyway?" There was a chorus of boos and she thumbed her nose at both sides. She stuck out her tongue, patted her head and pointed a finger down. That was evidently a ruder gesture because it was greeted with shouts of laughter and anger. "Fahngulah!" she said. A witty riposte, thought Ravenshaw, because everybody laughed. "Entertainment!" she yelled, and he was shoved onto the bridge.

LONG bamboo sticks urged him forward. He stumbled and got a good look at an oily, churning liquid two hundred feet below. A wind sucked down. There was a maze of large and small pipes from the wall to the stack, color coded, entering at all angles and elevations. Offhand, he didn't believe a sockful of oatmeal could make it down to the liquid without hitting a pipe. A stick popped him in the neck and he wrenched it out of the hands of a man behind him, and staggered to the island. He turned to the girl, but she avoided him neatly. He could have tipped her into the void, but saw no point to it.

When she cleared the bridge, a turkel started briskly up the far side.

"This is a heat-seeker," said Mummery. "Don't suppose it's been activated for a coon's age." Ravenshaw found the old man directing a horn at him from the middle of the bleachers. "Big problem with warehousing is vermin. If the rats don't get you, the mice will."

The turkel turned toward Ravenshaw as the bridge retracted. It spawned two sixteen-inch snakes before he got his stick under the edge and tipped it into the gulf. Three more wriggled out in the air. There was a cling-clang-whanging noise as they bounced on pipes. The snakes darted at him. They were covered with short, fine wire for traction; their microminiaturized sensing gear was elegant. When he tried to smash one with the stick, it avoided the blow and kept coming in. It chewed on his toe and he stomped it with the other foot. He bent down and swept off the second with his stick.

"Watch out, Arleigh!" Nell shouted over the crowd noise. She, too, had a horn.

From the other side another turkel unloaded snakes and they wriggled toward him. He ran to the far end of the oval. The little mechanical monster had chewed through his boot with a rotating blade and he had a shuddersome idea of what a dozen might do. Cut off my legs and call me Shorty. He kneeled with the gulf behind him and, as the snakes converged, he swept them away with the stick, one side and the other, until they were gone. Both bridges were retracted now. He tipped the mother turkel off and had time to look for

Nell. Jain had wrestled the horn from her hand and spoke into it.

"See how you like the old hot-foot."

"Pre-emergence weed flamer," said Mummery from the other side. "Give you something to think about. Of course, you can use it for mature row crops if you have the right baffles—"

Ravenshaw ran to the center of the oval. The first turkel was almost to the island, shooting out blue flame around its edges. Following across the bridge were five more firespitters. Ravenshaw leaped onto the back of the first through a blast of heat, caught his balance on the rounded surface and took desperate six-foot strides on the backs of the others over the bridge. With momentum, he scattered spectators right and left as he leaped up the bleachers.

He had Mummery by his antique throat before he heard Jain yelling on the horn, "Choke the old bastard and I stab the girl!"

HE LOOKED across the gulf. Jain had his knife at Nell's breast.

"All right. Maybe we can make a deal." Ravenshaw tucked Mummery's head in the crook of his arm, told him to come along or he'd tear it off, and returned across the bridge to the island. The crowd was in a tumult. They enjoyed the action and took a while to settle down for the next act.

Jain said, "I changed my mind.. Go ahead and strangle him."

The girl, Cay, had followed Ravenshaw across the bridge. She came up and kissed him full on the mouth. "It's immoral, but go ahead and stick her," she shouted to Jain. Ravenshaw dropped the old man. She announced further: "I'll take him dirty and forlorn and we'll make you silly clowns cringe, won't we, poppet?"

"In a pig's valise you will," said Ravenshaw.

She slapped him broadhanded. He jerked her to him by the collar of her suit and spanked her over his knee. The crowd went wild. This was the best entertainment in years. He dropped Cay and caught Mummery before he reached the bridge and dragged him to the middle of the oval. He could not see Nell in the surging crowd. Cay was back on her own side and Freckles rode his bridge to the island with Jain in his grasp.

"Weapons are immoral and violence is nasty," said Freckles. He dropped the old man and retreated. Ravenshaw welcomed him aboard with a kick that drove him sprawling after Mummery to one end of the oval.

He looked again for Nell and could not see her in the cheering crowd. The bridge was alive with fire. New turkels advanced, shooting a blaze that made the bleachers waver in the heat. The six turkels already on the island met

those from the other side. The twelve formed a line and advanced slowly on Ravenshaw. The old men were at the other end of the oval. Both bridges were withdrawn.

"Uh-oh, dance with fire or fly through air?" said Ravenshaw softly. He retreated. He was bloody and battered. He was on an alien world with the choice of being broiled or bouncing two hundred feet through a web of pipe to the sewer works.

The wall of flame advanced. He stood on the edge of the drop. He looked at the ceiling. It was properly described as a surface of revolution around an axis. These people had revolved around an unexpected axis, no matter the forethought and idealism of the builders. The far limits of the beast are unknown, though certain predispositions have been observed in 6000 years of history. A revolting development. Ravenshaw sheltered his face from the furnace blast with his hands and said, "It only hurts when I laugh."

So why couldn't he be all things at once, scared spitless, raging mad, filled with apprehension for Nell and laughing?

Look at the elephant whole. Keep cool, Ravenshaw.

A creeping blue flame licked the fuzz of his trousers.

Believe or burn, my dear Ravenshaw.

A whole man vanished from the One-Generation New World.

IT WAS dark and cold. Ravenshaw brushed out the little fires. Hard pellets of snow rattled on the ground. He was standing at the corner of a corral next to Mummery's ranch house up Meadow Valley Wash in his own world. That thing was the D-8 tractor, cat-yellow, cat-black in the bitter night. His foot slipped on the ice when he climbed up and he just avoided breaking his neck. He took the tin can off the stack and put down the seat. He was shivering with cold by the time he got the big diesel going. It blew smoke rings, tattered away by the wind, and he shuddered as the engine smoothed to a responsive bellow. He advanced the throttle and raised the blade in front and the rippers behind. He located a gear, pulled the friction, spun around and rumbled to the corner of the corral in which he had found himself. He rode over the posts, and stopped.

"Come back often, now that you know the way," he growled.

Cat and man vanished.

THEY appeared just about where Ravenshaw wanted to be, on the island between retracted bridges. Only a few people were left of the crowds on either side. Jain was sulking at one end of the long oval, Mummery at the other. Nell was nowhere in sight. He left the diesel idling and stood up. The two wise men stared at him, wild

and bloody on the snow-encrusted cat.

"I'll read the future," said Ravenshaw, "not that you'll take the advice. Hang together or you'll hang separately."

Mummery said, "They left us here—awfully nice of you—"

Jain blinked his owl eyes.

"Angle the blade and bridge the cat," said Ravenshaw. "Maybe you can reach the side before the balance point. Maybe you can't. I'll miss you, gentlemen, but not much."

He vanished.

NELL ROWLEY fell into step beside him as he walked from the corral to the house. "I got lost," she said.

The kitchen door was unlocked or Ravenshaw would have kicked it in. When he turned on the light switch a generator started up, fluorescents stuttered to brightness and he got a good look at her. There was blood, still wet, on her horrible plaid shirt. He held himself stiff as a glass man.

"A dozen frantic worlds," she said, "all wrong."

He cleared his throat. "I'll tell you what let's," he said huskily. "Let's not touch a thing—"

"I homed on you," she said.

"That's what let's not touch. I want a shower and shave and a set of the old man's pinks. I don't like this place, any part of it—there's bound to be a car or pickup—we'll get our stuff at McCarran—save water in Las Vegas—if you like—"

The hottest violet eyes in the world blazed affirmation.

"With a friend?" she said in her honey voice. "All right to touch a coffeepot?" she asked and the bones melted in his legs.

"Yarp," he croaked and stumbled away.

MUCH later on that night she said drowsily, "Break the pipes or make a permanent bridge —either opens the closed system."

"Uh-huh, they gotta turn to the real world, cat or no."

"Two buildings are sound psychological engineering," she mused. "You get rivalry, romance, mystery, someplace to go—"

"Uh-huh." He was altogether relaxed. "If you're going to change a world, how do you program the programers?"

"Very carefully." She yawned. "What time is it?" He thought of a cat yawning, the tip of its pink tongue quivering. He grinned with pure delight in the dark. She stuck an elbow in his ribs. "What do we tell the general?"

"Lady, we're on our own time."

"We ought to catch the seven-o'clock plane."

"All right," said Ravenshaw, "but hush for now. This is the first morning of the rest of my life and I want to start it right."

"Sententious, Arleigh dear—" she said, and fell silent. ●

GENE WOLFE

SLAVES OF SILVER

No room left in the world—but there was space to steal!

THE day I formed my connection with March B. Street has remained extraordinarily well fixed in my memory. This shows, of course, that my unconsious--my monitor, I should say; you must pardon me if I sometimes slip into these anthropomorphic terms; it's the influence of my profession--What was I saying? Oh, yes. My monitor, which of course sorts through my stored data during maintenance periods and wipes the obsolete material out of core, regards the connection as quite important. A tenuous connection, you will say. Yes, but it has endured.

The hour was late. I had finished the last of my house calls and it was raining. I may be more careful of my physical well-being than I should be, but my profession makes me so and, after all, quite a number of people depend on me. At any rate, instead of walking to my quarters as was my custom I bought a paper and seated myself in a kiosk to read and await the eventual arrival of the monorail.

In twenty minutes I had read everything of interest and laid the paper on the bench beside my bag. After some five minutes spent watching the gray rain and thinking about some of my more troublesome patients I picked it up again and began (my room being, in several respects, less than satisfactory) to leaf through the real estate ads. I believe I can still remember the exact wording:

> **Single Professional** wishes to share apt. (exp. clst.) Quiet hbts, no entrtnng. Cr8/mo.

The cost was below what I was paying for my room and the idea of an apartment--even if it were only an expanded closet and would have to be shared--was appealing. It was closer to the center of the city than was my room, and on the same mono line. I thought about it as I boarded, and when we reached the stop nearest it (Cathedral) I got off.

The building was old and small, faced with unlightened concrete time had turned nearly black. The address I sought was on the twenty-seventh floor; what had once been a single apartment had been opened out into a complex by means of space expanders, whose all-pervading hum greeted me as I opened the door. One had, for a moment, the sensation of tumbling head first into gulfs of emptiness. Then a little woman, the landlady, came fluttering up to ask what it was I wanted. She was, as I saw at once, a declassed human.

I showed her the ad. "Ah," she said. "That's Mr. Street, but I don't think he'll be wanting any of your sort. Of course, that's up to him."

I could have mentioned the Civil Liberties Act, but I only said, "He's a human, then? The ad said, "Single Professional." Naturally I thought—"

"Well, you would, wouldn't you," the little woman said, looking at the ad again over my shoulder. "He's not like me. I mean even if he is declassed, he's still young. Mr. Street's a strange one."

"You don't mind if I inquire, then?"

"Oh, no. I just didn't want to see you disappointed." She was looking at my bag. "You're a doctor?"

"A bio-mechanic."

"That's what we used to call them—doctors. It's over there."

It had been a hat and coat closet, I suppose, in the original apartment. There was a small brass plate on the door:

MARCH B. STREET
CONSULTING
ENGINEER
&
DETECTIVE

I WAS reading it for the second time when the door opened and I asked, quite without thinking how it might sound, "What in the world does a consulting engineer do?"

"He consults," Mr. March-Street answered. "Are you a client, sir?"

And that was how I met him. I should have been impressed—I mean, had I known—but as it was I was only flustered. I told him I had come about the apartment and he asked me in very politely. It was an immense place, filled to bursting with machines in various stages of disassembly and furniture. "Not pretty," Mr. Street remarked, "but it's home."

"I had no idea it would be so big. You must have—"

"Three expanders, each six hundred horsepower. There's plenty of space out there between the galaxies, so why not pull it down here where we need it?"

"The cost, I should say, for one thing. I suppose that's why you want to—"

"Share the apartment? Yes, that's one reason. How do you like the place?"

"You mean you'd consider me? I should think—"

"Do you know you talk very slowly? It makes it damned difficult not to interrupt you. No, I wouldn't prefer a human. Sit down, won't you? What's your name?"

"Westing," I said. "It's a silly name, really—like naming a human Tommy or Jimmy. But the old 'Westinghouse' was out of style when I was assembled."

"Which makes you about fifty-six, confirmed by the degree of wear I see at your knee seals, which are originals. You're a bio-mechanic, by your bag—which should be handy. You haven't much money; you're honest—and obviously not much of a talker. You came here by mono, and I'd almost be willing to swear you presently live high up in a fairly new building."

"How in the world—"

"Quite simple, really, Westing. You haven't money or you wouldn't be interested in an apartment. You're honest or you'd have money—no one has more and better chances to steal than a biomechanic. When a passenger with a transfer boards the mono the conductor rips up the ticket and, half the time, drops it on the floor—and one is stuck to your foot with gum. And lightened concrete and plastic facades have given us buildings so tall and spindly-framed that the upper floors sway under the wind load like ships. People who live or work in them take to bracing themselves the way sailors used to—as I notice you're doing on that settee."

"You are an extraordinary person," I managed to say, "and it makes me all the more surprised—" And here I am afraid I stopped speaking and leaned forward to stare at him.

"Extraordinary in more ways than one, I'm afraid," Street said. "But although I assure you I will engage you as my physician if I am ever ill, I haven't done so yet."

"Quite so," I admitted. I relaxed, but I was still puzzled.

"Are you still interested in sharing my little apartment, then? Shall I show you about?"

"No," I said.

"I understand," Street said, "and I apologize for having wasted your time, Doctor."

"I don't want to be shown the door, either." Though I was upset, I must admit I felt a thrill of somewhat guilty pleasure at being able to contradict my host. "I want to sit here and think for a minute."

"Of course," Street said, and was silent.

LIVING with a declassed human (and there was no use in my deceiving myself—that was what was being proposed) was a raffish sort of thing. It was bound to hurt my practice, but then my practice was largely among declassed humans already and could not get much worse. The vast spaces of the apartment, even littered as they were, were attractive after years in a single cramped room.

But most of all, or so I like to think, it was the personality of Street himself which decided me—and the fact that I detected in him, perhaps only by some professional instinct not wholly rational, a physical abnormality I could not quite classify. And there was, in addition, the pleasing thought of surprising my few friends, all of whom, I knew, thought me much too stuffy to do any such outlandish thing. I was giving Street my money—half a month's rent on the apartment—when he froze, head cocked, to listen to some sound from the foyer.

After a moment he said, "We have a visitor, Westing. Hear him?"

"I heard someone out there."

"The light and tottering step is that of our good landlady, Mrs. Nash. But there is another tread—dignified, yet nervous. Almost certainly a client."

"Or someone else to ask about the apartment," I suggested.

"No."

Before I could object to this flat contradiction the door opened to show the birdlike woman who had admitted us. She ushered in a distinguished-looking person well over two meters tall, whose polished and lavish solid chrome trim gave unmistakable evidence, if not of wealth, then at least of a sufficiency I—and millions of others—would only envy all our lives.

"You are Street?" he asked, looking at me with a somewhat puzzeled expression.

"This is my associate, Dr. Westing," Street said. "I am the man you came to see, Comissioner Electric. Won't you sit down?"

"I'm flattered that you know my name," Electric said.

"Over there past the nickelodeon," Street told him, "you'll see a cleared spot for tri-D displays. There are several cameras around it. Whenever a man I don't know appears I photograph the image for later reference. You were interviewed three months ago in connection with your request for additional expanders for the hiring hall, made necessary by the depressed state of the economy."

"Yes." Electric nodded and it was plain that Street's recital of these simple facts, accurate as it was, had depressed still further spirits already hovering at the brink of despair. "You have no conception, Mr. Street, of how ironic it seems that I should hear now—here—of that routine request for funds, and so be reminded of those days when our hall was filled to bursting with the deactivated."

"From which," Street said slowly, "I take it that the place is now empty—or nearly so. I must say I am surprised; I had believed the economy to be in worse condition—if that is possible—than it was three months past."

"It is," Electric admitted. "And your first supposition is also correct—the hall, though not empty, is far from crowded."

"Ah," said Street.

"This thing has been driving me to the brink of reprograming for six weeks now. The deactivated are being stolen. The police pretend to be accomplishing something; but it's obvious they are helpless—they're only going through the motions now. Last night a relative of mine—I won't name him, but he is a highly placed military officer—suggested that I come to you. He didn't mention you were a declassed human, and I suppose he knew that if he had I wouldn't have come, but now that I've seen you

I'm willing to take a chance."

"That's kind of you," Street said dryly. "In the event I succeed in preventing further thefts by bringing the criminals to justice my fee will be—" He named an astronomical sum.

"And in the event further thefts are not prevented?"

"My expenses only."

"DONE. You realize that these thefts strike at the very fabric of our society, Mr. Street. The old rallying cry, *Free markets and free robots*, may be a joke now to some, but it has built our civilization. Robots are assembled when the demand for labor exceeds the supply. When supply exceeds demand—that is, in practical terms, when the excess cybercitizens can't make a living—they turn themselves in at the hiring hall, where they're deactivated until they're needed again. If news of these shortages should leak out—"

"Who would turn himself in to be stolen, eh?" said Street. "I see what you mean."

"Precisely. The unemployed would resort to begging and theft, just as in the old days. We already have—I hope you'll excuse me—enough of a problem with declassified humans. You yourself are obviously an exception, but you must know what most of them are like."

"Most of us," Street replied mildly, "are like my landlady: people who lost class because they refused death at the end of their natural lifespans. It's not very easy to learn to earn your living when for a hundred years of life society has handed you an income big enough to make you rich."

It wasn't really my affair, but I couldn't help saying, "But if you can help Commissioner Electric, Street, you'll be helping your own people in exactly this area."

Street turned his eyes—which were of an intense blue, as though his photosensors were arcing—to me. "Is that so, Doctor? I'm afraid I don't quite follow you."

Electric said, "I should think it's obvious. Surely the motive for stealing our deactivated workers must be the desire to use them as forced labor, presumably in a secret factory of some sort. If this is being done, the criminals are competing illegally with everyone trying to earn an honest living—including the declassed."

I nodded my emphatic agreement. The thought of an illicit factory, perhaps in a cavern or abandoned mine, filled with dim figures laboring without cease under the threat of destruction, had already come to haunt my imagination.

"Slaves of silver," I muttered half aloud, "toiling in the dark."

"Possibly," Street said. "But I can think of other possibilities—possibilities you might find more shocking still."

"In any event," Commissioner

Electric put in, "you will want to visit the hiring hall."

"Yes, but not in company with you. I consider it quite possible that the entrance may be watched. Human beings do visit the hall from time to time, I assume?"

"Yes, usually to engage domestics."

"Excellent. Under what circumstances would you deal with such visitors personally?"

"I would not ordinarily do so at all, unless all my subordinates were engaged."

Street looked at me. "You seem to want to be a party to this, Westing. Are you game to visit the hiring hall with me? You must consider that you may disappear—for that matter we both may."

"Oh, no," Electric protested, "the disappearances occur only after dark, when the hall is closed."

"Certainly I'll come."

Street smiled. "I thought you would. Commissioner, we will follow you in one half hour. See to it that when we arrive your subordinates are engaged."

WHEN the commissioner had gone I was able to ask Street the question that had been nagging at my mind during the entire interview.

"Street, for God's own sake, how was it you knew Commissioner Electric hadn't come about the apartment before Mrs. Nash had opened the door?"

"Be a good fellow and look in the drawer of the inlaid rosewood table you'll find on the other side of that camera obscura to the left of the tri-D stage, and I'll tell you. You ought to find a recording ammeter in there. We'll need it."

I didn't know what a camera obscura was, but fortunately the rosewood table was a rather striking piece and only one instrument was in its drawer, lying amid a litter of tarot cards and bridge score pads. I held it up for Street to see and he nodded. "That's it. You see, Westing, when someone arrives in answer to a newspaper ad he almost invariably—ninety-two point six percent of the time, according to my calculation—carries the paper with him and shows it to the person who answers the door. When I failed to hear the telltale rattle of the popular press as our visitor addressed Mrs. Nash I knew there was little chance that he had come about the apartment."

"Astounding!"

"Oh, it's not so much," Street said modestly. "But get a move on, won't you? It wouldn't do to ride down in the same elevator with Electric—but on the other hand it's seldom a waste of askance to view a public official with it. We're going to shadow him."

Despite Street's suspicions, Commissioner Electric did nothing untoward that I could see while we followed him. To give him time to prepare for us, as Street said, we

idled for a quarter of an hour or more at the window of a tri-D store near the hall. The show being carried on the display set inside was utterly banal and I could swear that Street did not give it even a fraction of his attention. He stood, absorbed in his own thoughts, while I fidgeted.

The hiring hall, when Electric guided us around it, we found to be a huge place; impressive from outside but immensely larger within and filled with the hum of expanders. The corridors were lined with persons of every age and state of repair—they stretched for slightly curved miles like the vistas seen in opposed mirrors. Gaping spaces showed where the disappearances had taken place, but, sinister as they were, in time they seemed a relief from the staring regard of those thousands of unseeing eyes. Street asked for data on each theft and recorded the date and the number of persons missing in a notebook; but there seemed to be no pattern to the crimes, save that all the disappearances took place at night.

At last we came to the end of that vast building. Commissioner Electric did not ask Street for his opinion of the case (though I could see he wanted to), nor did Street give it. But once we were fairly away from him, Street pacing impatiently alongside the sidewalk while I trotted to keep up, he broke forth in an irascible tirade of self-abuse: "Westing, this thing is as simple as a two-foot piece of aluminum conduit and I'm confident I know everything about it—except what I need to know. And I have no idea of how I'm going to find the answer. I know the robots are taken—I think. And I believe I know why. The question is: Who is responsible? If I could get the patrol to cooperate—"

He lapsed into a sour silence, unbroken until we were once more back in the huge, littered apartment I had not yet learned to call "ours." Indeed, my arrangement with Street was so recent that I had not yet had an opportunity to shift my possessions from my old room or to terminate my tenancy there. I excused myself—though Street seemed hardly to notice—and attended to these things.

WHEN I returned nothing had changed. Street sat, as before, wrapped in gloom. And I, reduced to despondency by his example and with nothing better to do in any case, sat watching him. After an hour had passed he rose from his chair and for a few moments wandered disconsolately about the apartment, only to return to the same seat and throw himself down, his face blacker—if that were possible—than before.

"Street—" I ventured.

"Eh?" He looked up. "Westing? That's your name, isn't it? You still here?"

"Yes. I've been watching you for some time. While I realize you have, no doubt, a regular medical advisor, you were once kind enough to say that you might call me. On the strength of that—"

"Well, out with it, man. What is it?"

"There will be no fee, of course. I was going to say that though I don't know what means of chemical reality enhancement you employ, it would appear to me that it has been a considerable time—"

"Since my last fix? Believe me, it has." He laughed, a reaction I thought encouraging.

"Then I would suggest—"

"I don't use drugs, Westing. None at all."

"I didn't mean to suggest anything strong—just a few pinks, say, or—"

"I mean it, Westing. I don't use pinks. Or blues. Or even whites. I don't use anything except food, and little enough of that, water and air."

"You're serious?"

"Absolutely."

"Street, I find this incredible. We were taught at medical school that human beings—being, after all, a species evolved for a savanna landscape rather than our climax civilization—were unable to maintain their sanity without pharmaceutical relief."

"That may well be true, Westing. Nevertheless, I do not use any."

This was too much for me to absorb at once and while I tried to encode it Street fell back into his former gloom.

"Street," I said again.

"What is it this time?"

"Do you remember? When we first met I said that I detected in you, perhaps only by some professional instinct not wholly rational, a physical abnormality I could not quite classify?"

"You didn't say anything of the sort. You may have thought it."

"I did. And I was right. Man, you don't know how good this makes me feel."

"I have some comprehension of the intellectual rewards attendant on successful deduction."

"I'm sure you do. But now, if I may say so, a too-avid pursuit of those rewards has led you to a severe state of depression. A stimulant of some sort—"

"Not at all, Westing. Thought is my drug—and believe me it is both stimulating and frustrating. My need is for a soporific, and your conversation fills the bill better than anything you could prescribe."

This was said in so cheerful and bantering a way, albeit with a barely perceptible touch of bitterness, that I could not resent it—and, indeed, the marked improvement this little spate of talk had brought to Street's mien emboldened me to continue at whatever risk to my vanity.

So I answered, "Your powers of concentration, admirable as they are, may yet be your undoing. Do you remember the quarter-hour we spent in front of a store window? Where the tri-D had such poor reception? I addressed you several times, but I would swear you heard none of my questions."

"I heard every one of your questions," Street said, "and since none admitted to intelligent responses I ignored them all. And that tri-D, if not of the most exquisite quality, was at least better than passable. I apologize if I sound peevish, but really, Westing, you must learn to observe."

"I am not an engineer," I replied, perhaps rather too stiffly, "and so I cannot say if the reception in fact was at fault—but acute observation is a necessity in my profession and I can assure you that the color stability of the set on display was abominable."

"Nonsense. I was looking directly at it for the entire time and I could, if necessary, describe each stupidity of programing in sequence."

"Maybe you could," I said. "And I don't doubt your assertion that you were watching with commendable attention while we waited outside the hiring hall. But you quite obviously failed to observe it when we *left*. You were talking excitedly, as I recall—and as you spoke we passed the window again. The actors were blushing—if I may use that expression here—a sort of reddish-orange. Then they turned greenish blue, then really blue, and finally a shade of bright, cool green. In fact, they went through that whole cycle several times just during the time it took us to walk past the window."

THE effect of this perhaps overly detailed and argumentative statement on Street was extraordinary. Instead of countering with argument or denial, as I confess I expected, for a few moments he simply stared silently at me. Then he jumped to his feet and for half a minute or more paced the room in silent agitation, twice tripping over the same ball-clawed foot of the same late Victorian commode.

At last he turned almost fiercely back to me and announced: "Westing, I believe I can recall the precise words I addressed to you as we passed that display. I will repeat them to you now and I want you to tell me the exact point at which you noticed the color instability you mentioned. I said: 'Westing, this thing is as simple as a two-foot piece of aluminum conduit and I'm confident I know everything about it—except what I need to know. And I have no idea of how I'm going to find the answer. I know how the robots are taken—I think. And I believe I know why. The question is: Who is responsible? If I could get the patrol to cooperate—' at which

point I broke off, I believe. Now, precisely where did you notice the reddish orange color you mentioned—I believe that was the hue you noticed originally?"

"To the best of my recollection, Street, it coincided with the word *believe*."

"I said, 'I know how the robots are taken—I think. And I *believe*—' and at that point you noticed that the figures in the tri-D illusion blushed a color you have described as a reddish orange. Is that correct?"

Dumfounded, I nodded.

"Excellent. Among my other antiques, Westing, I have assembled a collection of paintings. Would it interest you to see them? You would be conferring a favor of no mean magnitude upon me."

"I don't see how—but certainly, if you wish."

"Excellent again; particularly if, while drinking in their loveliness, you would take the trouble to point out to me the shades which most closely match the four colors you saw when the tri-D malfunctioned. But please be most exact—if the match is not perfect, you need not inform me."

For an hour or more we pored over Street's pictures, which were astoundingly varied and, for the most part, in a poor state of preservation. In size they ranged from Indian miniatures smaller than coins to a Biblical cyclorama five meters high and (so Street told me) more than three kilometers in length. The greenish-blue long escaped us, but at last I located it in an execrable depiction of *Susanna and The Elders* and the art display was abruptly terminated. Street told me bluntly—his manner would have been offensive if it had not been so obvious that his mind was totally engaged on a problem of formidable proportions—to amuse myself and buried himself in an assortment of ratty books and dusty charts, one of which, as I particularly remember, was like a rainbow bent into a full circle, with the blazing colors melting into one another like the infinitesimal quantities in a differential equation.

While he pondered over these the hours of evening rolled past on silent rubber wheels. Others, their day's work done, might rest now; I waited. Humans, rich and fortunate or declassed, might sleep or busy themselves in those pointless naked tumblings which mean so little to us; Street worked. And at last I wondered if it might not be that we two were the only wakeful minds in the entire city.

SUDDENLY Street was shaking me by the shoulder. "Westing," he exclaimed, "I have it—let me show you." I explained that I had taken advantage of his concentration to edit my memory banks.

Street shrugged my mumblings aside. "Here," he said. "Look at

this and let me explain. You told me, if you remember, that you saw a cycle of four colors and that this cycle was repeated several times."

"That's correct."

"Very well. Now observe. Has it ever occured to you to wonder how ROBOTS—yourself included—speak?"

"I assume," I said with as much dignity as I could muster, "that somewhere in my monitor the various words of the English language are stored as vibration patterns and—"

"The Chinese system. No, I am convinced it must be something far more efficient. English is spoken with only a trifle more than sixty sounds; even the longest words are created by combining and recombining these—for examples we might use the *a* as it appears in *arm*, the *r* as in *rat* and the *ch* from *chair* to describe our inestimable landlady, Mrs. Nash. Combined in one fashion they give us *char*—her profession—but rearranged in another they contribute *arch*—her manner."

"You mean that all of spoken English can be stored in my central processing unit as a mere sixty-place linear array?"

"That is precisely what I've been saying."

"Street, that's marvelous! I'm not a religious man, but when I contemplate the ingenuity of those early programers and systems analysts—"

"Exactly. Now, I do not know the order in which the various English sounds were listed, but there is an order which is very commonly used in the texts to which I have referred. It is to list the sounds alphabetically and, within the alphabetical sections, to order them from longest to shortest. Thus these lists begin with the long *a* of *ale*, followed by the half-long *a* of *chaotic*; and this is followed in turn by the *circumflex a* of *care*, so that the whole reads like a temperance lecture. What I have done here is to take these sounds and space them evenly along the visible spectrum." He held up a hand-drawn chart on which there were, however, no colors, but only a multitude of names.

"But," I objected, "only a few true colors exist and you said there were more than sixty—"

"A few *primary* colors," he returned, "but believe me, Westing, if the artists were to make up a pallet containing every oil and watercolor known to them there would be a great many more than sixty. As you may remember, you described the four colors you saw as reddish-orange, greenish-blue, true blue—which is just like you, Westing—and bright, cool green."

"Yes."

"Afterward, when you pointed out these colors on canvas, I was able to identify them as scarlet lake, cyan blue, blue and viridian. Please observe that on my chart

these correspond to the consonant sound *p*, the consonant *h*, the short *e* heard in *end* and the *l* sound of *late*."

I considered this remarkable statement for a moment, then replied, "You seem to believe that someone is trying to communicate, using the colors of the tri-D; but I do not see that the sounds to which you say these colors correspond possess any significance."

Street leaned back in his chair, smiling. "Let us suppose, Westing, that you came in late as it were, to the message. Catching the last sound of a repeated word, you supposed it to be the first. In short—"

"I see!" I exclaimed, leaping up. " 'HELP!' "

"Precisely."

"But—"

"There's no more time to waste, Westing. I have only given this much explanation because I want you to be an intelligent witness to what I am about to do. You will observe that I have set up a tri-D camera before our viewing area, enabling me to record for my own use any image appearing there."

"Yes, you said something about that to Commissioner Electric."

"So I did. What I intend to do now is to code that store near the hiring hall and ask for a demonstration. At this late hour it seems improbable that anyone will be there but a robot clerk—and it's unlikely he will be implicated."

STREET was pushing the coding buttons as he spoke and a clerk—a robot—appeared almost before he had finished the last word.

"I should prefer to deal with a human being," Street told him, displaying an excellent imitation of prejudice.

The clerk groveled. "Oh, I am sorry, sir. But my employers—and no person ever had better—have gone to snatch a few hours of deserved rest. If you would—"

"That's all right." Street cut him off. "You'll do. I'm interested in another tri-D and I want a demonstration."

"Very wise, sir. We have—"

"As it happens, I was passing your shop today and the set in your window looked attractive. I presume there would be a discount, since it's a demonstrator?"

"I would have to consult my masters," the clerk answered smoothly, "but I assume something might be arranged."

"Good."

"Is there any particular program—"

"I don't know what's on right now." For an instant Street feigned indicision. "Isn't *The Answer Man* always available?"

"Indeed he is, sir. Personal, Sexual, Scholarly, or Civil Affairs?"

"Civil Affairs, I think."

In an instant The Answer Man, a computer-generated illusion designed to give maximum reassur-

ance in the field of civil affairs, appeared in the tri-D area.

He nodded politely to us and asked, "Would you like a general report—or have you specific fears?"

"I have heard rumors," Street said, "to the effect—well, the fact is that an old family servitor of mine is—uh—resting in the hiring hall. Is it quite safe?"

The Answer Man reassured him, but as he did so he (and indeed the entire illusion) blushed a series of colors as astonishing as it was—at least by me—unexpected.

"Names," Street prompted softly. "I must have names."

"I beg your pardon?" The Answer Man said, but as he spoke he coruscated anew with dazzling chromatic aberrations.

"I meant," Street returned easily, "that you would have to have my servant's name before you could properly reassure me. But it's really not necessary. I've heard—"

Abruptly The Answer Man vanished, replaced by the clerk robot.

"I'm terribly sorry," he said. "Something seems to be wrong with the color control. Could I show you another set?"

"Oh, no," Street told him. "The trouble is in the network signal. Didn't you get the announcement? Sunspots."

"Really?" The clerk looked relieved. "It's extraordinary that I should have missed it."

"I would say," Street sounded severe, "that in your position it was your duty to have heard it."

"I can't imagine— About an hour ago, could it have been? I had to leave—only momentarily—to dispose of the surplus water created by my fuel cells, but except for that—"

"No doubt that was it," Street said. "I wish you a good evening, sir." He switched off the tri-D. "Westing, I've done it! I've got everything we need here."

"You mean that by going over the tapes you made and comparing them with your chart—"

"No, no, of course not," Street interrupted me testily. "I memorized the chart while you were asleep, The tapes are only for evidence."

"You mean that you understood—"

"Certainly. As well as I understand you now—though I must confess that before I heard that poor machine speak it had never occurred to me that the word *dread*, especially when given the slightly pre-Raphaelite pronunciation of our unfortunate friend, could result in such startling beauty."

"Street," I said, "you're toying with me. With whom are you communicating when you talk to those colors? And how were the deactivated robots stolen—and why?"

STREET smiled, fingering a small, cast iron "greedy-pig"

coin bank he had picked up from the table beside his chair. "I am communicating, as I should think must be obvious, with one of the stolen robots. And the method of theft was by no means difficult—indeed, I'm surprised that it is not employed more often. A confederate of the thieves concealed himself in the immensities of the hiring hall during the day. When all were gone he momentarily interrupted the flow of current to one of the expanders, with the result that the expander space returned to a position between the galaxies, carrying its contents with it. As you know, the exact portion of space taken by an expander is dependent on the fourth derivative of the sinusoidal voltage at the instant of startup, so it is most improbable that, upon being restarted a split second later, the expander should return the robots to their proper places. They are picked up instead by a deep-space freighter and eventually returned to Earth. The recording ammeter I contrived to fasten to the hall's main power supply while Electric was showing us around will tell us if anyone tries the little trick again, as well as convincing a court that might not otherwise belive my explanation."

"But the colors, Street? Are you trying to tell me that the National Broadcasting Authority itself is employing slave labor?"

"Not at all." Street looked grave, then smiled—I might almost say grinned—at me. "The robots in the hiring hall are there because society can find no present use for them—but has it never occured to you that the electronics they contain might themselves be useful?"

"You mean—"

Street nodded. "I do. A tri-D set requires considerable computing power: a quite complicated signal must be unscrambled almost instantly to produce the three-dimensional illusion. The central processing unit of a robot, however, would be more than equal to the task—and very economical, if it were free. Unfortunately—for them—the criminals made one mistake. A criminal always makes one mistake, Westing."

"They wired the speech centers to handle the color coding?"

"Precisely. I am proud of you."

I was so elated that I leaped to my feet and for a few moments paced the room feverishly. The triumph of justice—the chagrin of the criminal manufacturers! The glory that would be Street's and, to some degree as his friend, mine! At length a new thought struck me, coming with the clarity of the tolling of a great bell.

"Street—" I said.

"You look dashed, Westing."

"You have done society a great service."

"I know it—and the fee will be most useful. There is an early twentieth-century iron-claw ma-

chine in a junk shop over on four hundred and forty-fourth I've been lusting after. It needs a little work—the claw won't pick up anything now—but I think I can fix it."

"Street, it might be possible—Commissioner Electric possesses great influence—"

"What are you blathering about, Westing?"

"It might be possible for you to be reclassed. Have your birthright income restored."

"Are you insinuating, Westing, that you believe me to have been declassed for criminal activity?"

"But all human beings are born classed—and you're not old enough to have refused death."

"Believe me, Westing, my income is still in existence and—in a way—I am receiving it. You, as a bio-mechanic, should understand."

"You mean—"

"Yes. I have had a child by asexual reproduction. A child who duplicates precisely my own genetic makeup—a second self. The law, as you no doubt know, requires in such cases that the parent's income go to the child. He must be reared and educated."

"You could have married."

"I prefer to have a home. And no man has a home unless he is master of a place where he must please no one—a place where he can go and lock the door behind him."

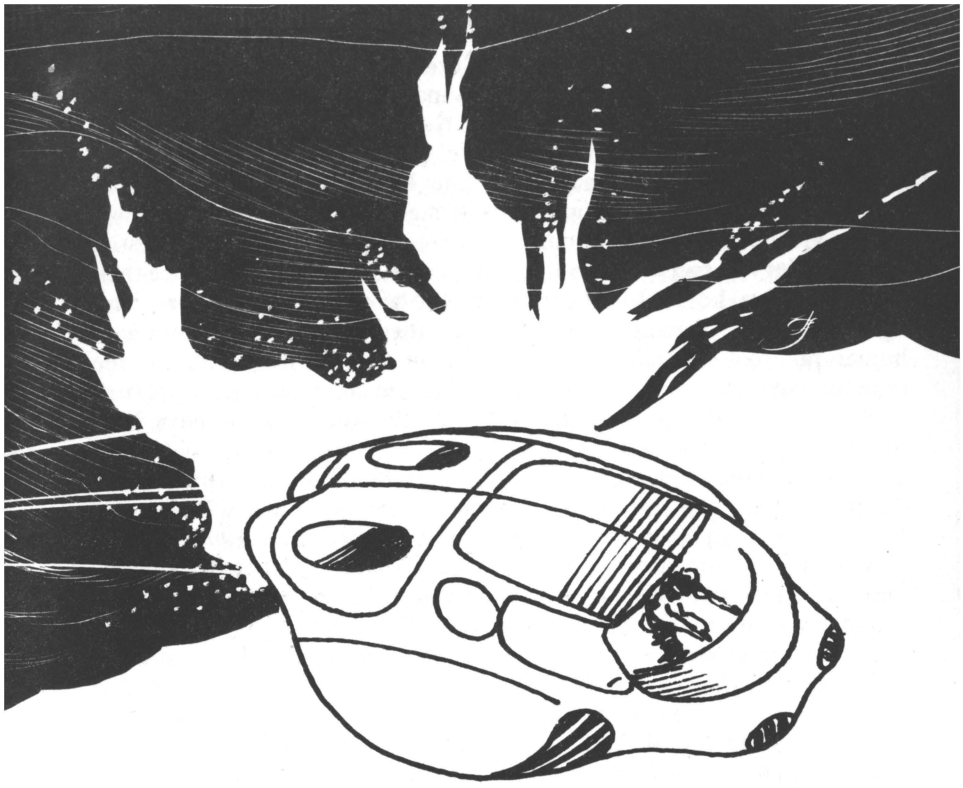
This was what I had feared. I said, "In that case perhaps you won't want—I mean, with the money you'll be getting from Electric you won't need to share this apartment. I would quite understand, Street, really I would."

"You, Westing?" Street laughed. "You're no more in the way than a refrigerator." ●

novella

STAR

His enemy was so like himself that not even death would tell them apart . . .



CROSSING

GREG BENFORD and DONALD FRANSON

I

THE skater lifted abruptly off the ramp, caught the wind and slid sideways toward the water. In a moment it was rocking and bouncing above the waves, building up to its top speed of two hundred miles an hour. Jim Forrest was thankful for the autopilot—no human pilot could handle the skater in this weather.

Behind him the buildings of Mark Station vanished into the gray rain and the island's dark bulk disappeared in a few seconds more. Forrest was driving by dead reckoning, with no need to use a map, as there was only one other island on Marconi, the ocean-covered planet of Denebola.

To say that the sea was choppy would be an extreme understatement. The wind pounded, the rain poured on the windshield of the little craft and the clouds turned early afternoon into night as the jet-cushion craft skimmed just above the water, underjets echoing the roaring storm. The autopilot chattered as it computed the height of the oncoming waves, increasing or decreasing the pressure of the jet pillar beneath.

Too close, thought Forrest as he set the altitude level to fifty feet. This would take more power, but he didn't want to plow through any crests. Forty-foot waves! He'd never seen them before on Marconi. There had never been such a storm in the planet's short history—and he had to be out in it.

It was B.H.'s fault, he thought. He should have expected something like this and gotten Harrison off the isolated outpost before now. Three men on a planet should stick together, especially now since there might be *others* around. He peered out into the gloom, trying to imagine where he could not see. Where in all that watery vastness could the alien capsule have landed?

If it *had* been a capsule. The automatic recording satellite had only told them that *something* had entered the atmosphere and the distant guard ship had warned them of a Dent starship in the vicinity. But it didn't take a computer to put two and two together.

Forrest had known nothing about any of it until that morning, when Commander Howard had called him in. "You can put down your comic book, Jim. I've got a job for you," Howard had said, reclining on his bunk in the control office while the automatic machinery around him ran the busy communications station.

Slouching semi-respectfully within the door, Forrest had protested that it was Meyer's *Dialogues* he was holding in his hand and had added, "I've been grounded for four days, B.H. There isn't much else to do."

The scene recreated itself in detail in Forrest's memory . . .

B. H. HOWARD sat up, rose heavily to his stockinged feet. "Don't take me seriously, Jim. I really do appreciate your volunteering to stay on and there hasn't been much to do around here. But now there is." He padded over to the message desk. Howard was not a military man—the title of Commander had devolved on him along with Director, Station-Master and several other offices when the *Stardust* had left a month ago with the rest of the personnel. He cut no figure in his wrinkled blue suit—it looked as if it had been slept in, as it probably had. But he was Forrest's boss and, though they had little in common, they had got on well.

"Here's a message from Harrison over on the other island," said Howard. "It was sent via the stars—Regulus picked it up on the gravity beam and relayed it back to us. I think I know how he did it—hooked onto the planet's carrier-wave. He used to do it for a joke until they made him cut it out, years ago. I didn't know that equipment was still left at the old station. It seems his planet radio is out. This is Morse code—he could only switch on and off—but the translation is below."

Forrest took the paper, squinted at the markings and the penciled letters below them. " 'Retransmit to Howard, Marconi Station, Denebola. Radio out. Require box of Contrad at once. You have it in medical supplies. Must have some in twelve hours. No transportation. Sorry. Harrison.' What's Contrad?"

Howard ran a hand over his balding forehead. "What do you know about Warner Harrison, Jim? Not much? Well, I'll tell you." He stared at the flashing lights indicating messages passing through from Regulus to Arcturus and elsewhere, the light-years spanned instantaneously by the gravity waves and requiring little monitoring here at the booster station. Forrest waited silently while Howard collected his thoughts.

"Harrison was a pretty important man when Marconi Station was on Nexus Island, before they built this place. When he retired he wouldn't leave the island. He said he liked the ocean air on Marconi, didn't think he'd last the long journey back to Earth, so they let him stay on at Nexus Island as sort of unofficial caretaker. They used to have a lot of workers at the old station—not like here where everything's automatic—and they even had a small community on an island adjoining, maybe a couple hundred people. Of course there's no one there now and the installation is dismantled, but Harrison keeps busy with his astronomy and other hobbies. The only thing is—well, he was in a space accident about twenty years ago—lost his wife and family and suffered from radiation effects himself. He got a

lot of it into his bones—they've got a cure for that, only it has to be kept up."

"So Contrad is short for contra-radiation," said Forrest.

"Right. And when he says he needs it in twelve hours, he means it. If he doesn't have regular doses to suppress the radiation coming from his bones damage will be done elsewhere—he probably means he'll die in twelve hours. So we've got to bring it to him before then. I've got the stuff, I'm sure—he made me store some here. I don't know *why* he ran out; he always kept an ample supply of Contrad. We're a long way from the drug store."

Forrest was hardly listening. "But how will we get there? Nexus is a thousand miles from here. The submarine will take twenty hours—and that's the only thing that'll make it in this storm."

Howard looked worried. "Don't you think the plane is in condition?"

"The *plane*? Are you crazy? Even if I could take off in this mess I'd have to land, wouldn't I? I'd have to make two impossible landings—or don't you want me to come back?"

"Take it easy. I was just wondering," said Howard.

"Besides," added Forrest, "The plane isn't in condition. It took a lot of beating in that wind before I got it under cover."

"Take the skater, then. It ought to work in a storm if you set the jets up high enough—and it can make it in about five hours. We've never used it except in a calm sea, but—"

"It certainly is a wonderful thing," said Forrest sarcastically. "They left us all kinds of transport. Only none of it is any good in an emergency."

"Well, who could predict a storm like this? Marconi's never had one before. I don't know how long it will last and I don't want to wait for it to let up. This is a mission of mercy, Jim, and if you don't go, *I'll* go."

Forrest flushed. "I'm the pilot around here, B.H. I guess the skater will make it. Find the medicine and I'm on my way."

"Thanks," said Howard. "I wish I could just shoot it there. I could probably come close to the island with a missile, but he wouldn't have the ability to retrieve it. Besides, there's something else. Something I haven't told you."

That was when he mentioned the Dents. "I don't have continuous contact with the guard ship. They can't use gravity waves, so they have to signal by radio or light and they were about two light-days out then. That was three Marconi-days ago—I just got the message this morning. I don't know where they are now—probably chasing the Dent starship."

"But this is fantastic," said Forrest. "One lousy guard ship for the

communications hub of the stellar empire!"

Commander Howard frowned. "Why isn't this place better guarded? Because the Dents are normally peaceful. Too many of our guard ships in the heart of someone else's territory could cause trouble. This station can take care of itself, don't worry. No one can get within a hundred miles of this island, on, above, or under the surface. Or from space either. A free-falling missile, or any missile sent here, would be detected and destroyed without hurting us."

"But can one man handle all the defenses?"

"They're computer-run. One man here is just as tough as an army. Otherwise they wouldn't leave this station with minimum personnel. The station and base could even be completely automatic, but that's a little too dangerous. If Regulus or Arcturus could operate this station by remote control, so could anyone else with the right equipment. The only weak spot is the human element. I could *let* the Dents in—but I won't. You'll even have to pass a test to get back in here, when you return, to make sure you're not a Dent in disguise. But don't worry, this base is safe. The robot defenses are always on guard. All they need is a button-presser. I can push buttons in my sleep."

"So it isn't just a mission of mercy. You want me to check the island and see if there are any Dents around."

"The satellite recorded the entry about the same time the Dent starship was seen. It's possible—only *possible*, mind you—that a capsule could have landed in the ocean near Nexus Island. It certainly didn't land within a hundred miles of *here*, or I would have detected it. And blown it out of the water, needless to say."

"What'll I do with a Dent if I see one?"

Howard looked as if this had not occurred to him. "The skater is armed. But try to avoid the Dents, if any. Just get the Contrad to Harrison. H'mmm—maybe you'd better take him off. Bring him back here."

"That would be best," agreed Forrest. "If Nexus is undefended it would be better not to have anyone there. Does he have any specialized knowledge they would particularly want?"

"No. He's been out of the communications service too long. They'd get nothing new out of him. They'd get nothing out of the old station either—what's not dismantled is obsolete. Still, Harrison's a good man—so bring him back. If he doesn't want to come, persuade him."

Forrest smirked wryly. "So all I have to do is go out in this terrific storm, manhandle an untested skater a thousand miles, keep a sharp lookout for aliens and talk a

hermit into coming to town. That's a big order."

Howard smiled.

"You asked for work when you came here."

"Couldn't you simplify the defense problem by shooting a missile to blow up the other island? I mean, if Harrison weren't there."

Howard was startled, then thoughtful. "Yes, I could. Let me know, as soon as you get him off, and I might just send that missile. There's another little thing I might as well tell you. It's in the balance whether they're going to maintain this station, or abandon it. If they decide to abandon Marconi—a relief ship will come to get us out of here. So maybe it's best if Harrison were here with us anyway. Then we wouldn't have to go get him when we leave. The space tender is ready to lift any time, as soon as there's a starship around to rendezvous with."

The older man padded over to the stellar sphere, the three-dimensional globular chart of the stellar empire, three feet (or three hundred light-years) across. He poked a pencil through it. "Here's Denebola . . . Arcturus . . . Regulus . . . Sun. Shiplines are white, gravity lines red. If Denebola is taken out they'll have to reroute the Sun-Regulus channel through Pollux, here. That'll be expensive. It'll require an additional booster somewhere farther along the route. We're forty-three from Sun here, fifty from Regulus, not far from a straight line between the two. We're on an exact straight line between Arcturus and Regulus. Detouring there will add a lot of light-years, but they're thinking of doing it. That's how desperate they are."

"Well, we're not going to abandon Denebola, are we?"

"It's not what *we* do. It's what the *Dents* do. They're all around us. If you remember your Earth history, we're about in the position of the American island of Guam in the midst of the Japanese Mandate. We're surrounded by Dent-occupied stars."

Though Forrest knew Howard had made a study of famous wars and battles, it always surprised him to hear this non-bookish man say something like this. He looked through the window at the raging storm, then at the TV picture sent by the satellite, showing endless cloud cover.

"It reminds me of another battle, too, in that same war," he said. "The Battle of the Bulge."

Howard nodded. "Exactly. This storm is making it easy for the enemy. You might almost think they are making the storm."

"I wouldn't put it past them," said Forrest. "Under cover of a storm—a planet-wide storm—they could land a capsule almost without detection. But—so what? What's so dangerous about a couple of lousy Dents landing in a capsule?"

WHAT'S so dangerous? he had asked. The dark, onrushing waves were now higher and it looked like the storm would keep up all the way to the island. He adjusted the skater's clearance a notch and leaned back in the seat, tired from the vibration and noise of the engines and from the storm just outside the windows. At one time the Dents didn't seem dangerous, though he had never liked them himself. Once they could only imitate men imperfectly. Howard had tried to downgrade their powers but he had not been convincing.

"They can't read minds," he had said. "So their imitations are only from observation. They can only imitate specific individuals—ones they've got some personal data on. And get it out of your head that they *replace* people—they don't. They only seem to, because occasionally they have impersonated someone after they disposed of the original. The Dents were always capable of some kind of imitation. In the early days of interstellar trade, they were caricatures of humanoids. You've seen the trade-form. Now, they're—better."

"Or worse."

"There's nothing to worry about. Dents can't beat humans, in a fair fight. They can only infiltrate by disguising themselves. And we've got a sure-fire test to tell them from humans."

"I've heard of that. 'Dear Dent, kindly hold still while I test you.' It certainly—"

"Take a pistol."

"You don't really expect me to find Dents on the island? What about Harrison?"

"They may have landed there. We've got to be prepared. As for Harrison . . . " Howard had made a sour face. "Test *Harrison*, too, when you meet him. That's one reason I can't go. I don't know what I'd do if he failed the test. He's too close a friend. I might be slow to shoot."

Forrest had hefted the pistol Howard had given him, a Grennell special guard model with mounted flashlight. "All right." He had strapped on the holster.

Howard had said, "I'd better tell you the other reason I can't go. You see, in addition to my other duties and titles, I'm also the captain."

Forrest had waited for the expected punch line.

"I'm the captain, who has to go down with the ship." Howard had padded over to the gravity beam controls, the most imposing array in the room. "The gravity waves are generated deep in the planet's interior. That's why these booster stations can't be out in space, where you'd think they'd logically be. Only a large, solid planet, like this one, can generate enough gravity power to send the beam to the stars instantaneously. There's a lot of power locked up in this station.

"Do you see that button over there?"

Next to a busy seismograph Forrest had seen a glass case with a red button inside, marked "P.B."

"P.B.?"

"Panic Button. Someone has to push that as a last resort. It's a safety measure to prevent an enemy from taking over the station in a surprise attack. All it does is cut off a damper that suppresses a secondary vibration of the gravity waves that can cause an earthquake that will not only destroy the station—but will break up the planet. Naturally this can't be safely rigged to operate by remote control. Someone else might find a way to operate it, then."

"It certainly is a wonderful thing," Forrest had said.

Now he was nearing the island and the storm hadn't let up. It had grown darker, as the eight-hour night had begun. He tried to contact Harrison, but no response, as expected. Mark Station was long out of contact, the TV shredding before a hundred miles had gone by. At the last Howard had pressed a slip of paper to the facsimile plate and Forrest had peeled the copy from his own plate. He looked at it again. There were several lines in B.H.'s barely legible scrawl—a series of questions for him to ask Harrison.

Howard had said that the official test was sure-fire. Why, then, the additional quiz?

II

AHEAD of him a light gleamed and suddenly a long, flat-topped island grew visible in the gloom, plainly artificial and surrounded by a high sea wall. He saw the dome of the observatory to the left, circled toward the flare-outlined airfield. At the last moment he veered and landed in the water just off the skater-ramp, taxied in. The violent rocking of the waves made him a little sick. He drove high up on the ramp and stopped the engines. Opening the door with difficulty against the wind and rain, he got out. He was instantly drenched—he had no raincoat. The place looked deserted, as of course it almost was.

Someone was coming toward him from the airfield, running, raincoat flapping. Forrest hastily took out his Grennell pistol.

"Stop," he shouted. "Stop where you are." He tensed—what would he do if the runner *didn't* stop? Cold chills ran down his back. He sneezed.

The slight figure halted about fifty feet from him.

He flicked on the pistol-mounted flashlight and the beam stabbed through the raindrops, lighting up a small white face beneath a dripping rain hat. It was Harrison, from his pictures. He was squinting in the bright light. He had already passed the "blink" test,

though it was raining too hard to be certain.

"Is that B.H.?" called Harrison in a weak voice.

"No, I'm Howard's pilot, Jim Forrest." He held the light steady.

"Did you bring the Contrad?" The voice was even weaker.

"Yes. I have a little test for you. Close your eyes, stand still and say nothing for one minute after I give the signal, 'time.' " This was the fabulous "elapsed time test" that Earth's scientists had devised to tell Dents from humans.

Harrison protested mildly, "It's raining—" but obediently closed his eyes.

I know, thought Forrest. He was much wetter than Harrison, who at least had a raincoat. "When I say 'time' you start counting, or whatever you want to do, until one minute—one standard stellar minute—is up. Then say so." The Dents had no innate sense of time, perhaps because they were said to have no hearts.

"Time." Forrest looked at his wristwatch, tried to make sure that the other man wasn't looking at his. This was not the most favorable condition for conducting any test. The rain came down harder.

"The minute's up," said Harrison at last.

Forrest looked at his watch: 55 seconds. That was close enough. It's human to judge time too fast by a little. If it had been exactly sixty seconds he might even have been a little suspicious. He kept the light on the shining face.

"Can we go in now? Let's go in," Harrison was pleading.

"Just a minute." Forrest pulled a slip of paper out of his pocket. It was soaked, nearly falling apart. Well, he could remember the questions B.H. had written down.

Chilled to the bone, Forrest kept the Grennell pointed. The figure seemed to sway. The paper had now disintegrated in the rain. "Okay. *One*, said Forrest, clearly. "When you and Howard were working together at the old station, what was your private nickname for him?"

"Shoeless," said Harrison.

All right so far, thought Forrest. But that was fairly easy.

"*Two.* There was a golf game on Nexus Island the last time Howard was there. Who else was in the foursome?"

"Uh—Howard's wife and Lieutenant Betty Kay of the Transportation Corps. Can we go in now?" The wind began blowing in gusts, driving the rain crazily around them.

"One more," said Forrest miserably. He stopped to sneeze. "*Three.* There was a Christmas party fourteen years ago in the Nexus Hotel. Besides you and Howard, what other people were there?"

Silence. Then, weak but stronger than before, "You can tell B.H. to go to Antares and take up an

orbit within the perimeter. How the hell should I know?" The last words were barely audible.

Forrest heaved a sigh of relief. *That was the right answer.* Few people could remember such details; but a disguised Dent, notorious for overacting, was expected to try. He put his pistol away and walked toward Harrison in the dark.

He almost panicked when he didn't find him, then he saw a crumpled form at his feet. Harrison had fainted.

Forrest felt like kicking himself. He had forgotten that Harrison was in a weakened condition, might even be dying. It was an instant's work to lift him and carry him up the ramp and into the building; the door was unlocked.

This was apparently Harrison's living quarters. Forrest laid the unconscious man down on a couch, then ran out again to the skater and brought in the box of medicine. Closing the door, he took off his soggy collar-shawl. It was cozy in here, but he was soaked.

Harrison seemed to be in a bad way, breathing heavily. Forrest did what he could to make him comfortable, removing his wet outer clothing and covering him with a blanket. Then he administered the Contrad, an injection into the arm, as well as several other medications prescribed in the emergency instructions on the box. Harrison responded rapidly and soon was relaxing in a deep sleep. Forrest tried to relax, too, began looking for a place to dry his clothes.

A COUPLE of hours and a short nap later Forrest felt somewhat refreshed, but he marveled at Harrison's quick recovery. He watched the older man eat heartily of bacon and eggs across the table. Harrison now wore a casual outfit of clashing striped colors, contrasting with Forrest's tasteful greens and browns, hanging behind him to dry.

"You've got a varied cuisine here for an abandoned outpost forty-three light-years from San Francisco," said Forrest, toying with the remains of his steak.

"I stocked up," said Harrison with a broad, toothy smile. "They told me I could have any supplies still left on the base when the communications personnel left and—"

"How did you run out of Contrad, then?" interrupted Forrest, getting up from the table. His clothes were dry, so he took them off the hangers.

Harrison looked embarrassed. "That was my fool mistake. I thought I had enough. I counted the empty boxes."

He would say no more about it and Forrest changed the subject. He was beginning to like the little man, though he had known him for only a few hours. Forrest slipped on his cigar-brown shirt, stepped

into his leaf-green slacks and joined them deftly. He was curious about another thing.

"How did you manage to hook onto the gravity beam?" he asked, pulling on his brown bootsox.

"Oh, that." Harrison grinned. "I still had the old rig I used before. Burned it out, though, finally. Lucky I got through with what I sent. I assume I did—you're here."

" '*Strange, that one learns of one's own house from the distant stars.*' " Forrest threw his dark-green collar-shawl around his shoulders and snapped the button in front.

"What's that, a quotation?" asked Harrison, spooning Arcturan peaches.

Forrest nodded. "The seventeenth-century playwright, Charles Burbee." He looked around at the homey little room. He realized that Harrison was happy here—yet Forrest had to get him off. He brought up the subject of the Dent capsule.

"All we know is that it entered the atmosphere—we don't know exactly where. If they'd landed within a hundred miles of Mark, we would have had them. If they'd landed in clear weather anywhere on Marconi we could have picked them up without any difficulty. But this storm—"

Harrison stopped eating, looked up in surprise. "Then that's what it was I heard about three or four nights ago—a whistling roar woke me up. I thought it was a funny sound for thunder."

"Then they might have landed in the ocean somewhere within a few miles of here," said Forrest. The feeling of peace left him and nervousness replaced it. He picked up the heavy holster and strapped it on.

"Well, I haven't seen them," said Harrison. "They ought to have shown up by now. Maybe they crashed in the ocean." He seemed to be taking the matter calmly, went back to his coffee. "I was wondering about the lodge ritual last night."

"Howard thought they might have already landed on this island. That's why he told me to test you. How big is this station? It's bigger than the new one, isn't it?"

"No, it's smaller. That is, the station itself. Nexus City covers a larger area on its own island."

"Well, couldn't an alien have put ashore somewhere without you knowing about it?"

"I doubt it," said Harrison. "But we'll just take a look." He got up, turned toward the stairs. "The observatory's just above."

THE little man mounted a circular staircase, pressed a button on the bannister and the stairs started moving upward. Forrest got on behind and below him. Harrison turned and smiled down crookedly.

"Ever see a circular moving stairway?"

Forrest had to admit that he hadn't. This station, though smaller than Mark, was built for a large staff of technicians. He wondered how many men had once used this stairway back in the Old Nexus days.

On the second floor they walked past the open door of a large room whose appointments looked familiar to him. Of course—this was the communications control room. Quaintly different from Commander Howard's, it was fitted with fewer computing-machine stands and more desks and chairs.

"Many of the functions were manual here," explained Harrison superfluously. "It would take a dozen men to operate the gravity beams alone. All I could do was jury-rig some surplus apparatus to get a simple message out, the old on-off code, hooked onto the New Nexus beam to Regulus. That's the wreck over there." He pointed to a Rube-Goldbergian contraption bristling with wires and levers, scorched black and covered with fire-extinguisher foam. "I often talked with Howard via Arcturus —or Regulus or the Sun—after he moved over to New Nexus—I mean Mark—until they traced the astronomical expense involved and made us stop it." He chuckled. "There's nothing much else to interest you here unless you can do something to fix the planet radio."

"I'm a pilot, not a communications expert," said Forrest.

Harrison said, "It probably wouldn't work in this storm anyway. And the mast is down, too."

Harrison stepped up to another set of stairs, clicked it on.

Forrest noticed another door as he passed it. It was closed.

"That's the storeroom," said Harrison, moving upward. "By the way, that box of Contrad you brought me ought to last me for six months. The *Stardust* ought to be back by then with my order."

He vanished around the stairs.

Forrest wondered darkly if the *Stardust* would ever be back. He stared at the closed door of the storeroom, thinking of something else. Harrison reappeared, treading backward, waved at him impatiently.

"Come on up to the observatory."

Forrest got on the moving stairs with a sigh, walked up two at a time and soon caught up to Harrison.

They rose into a blue-lighted room. It was daylight. Not the brightness of a clear day but the blue-gray of an overcast dawn.

There were windows on all sides of the spacious observatory room. Forrest was delighted by the view of the tossing gray sea and went to the nearest window, where he felt the breeze of fresh ocean air from a small, indirect opening. The rain

had let up a little and he could see for almost a mile, though not to the horizon, where dark clouds lingered. The high sea wall of the artificial island was close below him, except on one side where the jumbled building of Old Nexus City stretched away for several blocks, its roofs and streets glistening with rain, still falling lightly. Forrest looked at his Arcturus-made, Marconi-set watch. It was just five o'clock, near the beginning of the eight-hour day. A thousand miles from Mark Station, along the equator, would mean a difference in time of about an hour, not worth bothering with, so the two islands kept the same time.

Maybe the storm would clear up, Forrest thought. This waterbound planet didn't have much stormy weather, being nearly seasonless, so far out from the giant star Denebola that its orbital year could be measured in centuries. If it weren't for the presence of the alien Dents in nearby systems, Marconi would be a good place to live, as well as a communications link. But no one had wanted an ocean-covered world for colonization—with so many others available—and the few and tiny other planets of Denebola were unattractive. Now the Regulus region, fifty light-years farther out, was the new heart of empire, with hundreds of better planets than this. He'd have to go there some day. Fifty light-years were not too many.

THE voice of Harrison roused him from his reverie. "You didn't notice my telescope."

There it stood, hardly to be missed in the center of the room—an optical refractor that was obviously not the instrument of a professional astronomer but that of an enthusiastic amateur. It pointed upward through a section of the dome, now closed.

Harrison started its motor, swiveled it, spun it in a circle, pointed out its features and generally displayed it proudly. "I could show you the Sun, even in the daytime, if it weren't for this damn rainstorm. I haven't been able to use this telescope for days."

He shut off the instrument, wiped it with a cloth and turned back to Forrest.

The amateur astronomer was in his element. "Have you ever seen the Sun from here? It's a fifth-magnitude star. The nearest bright star to it is Beta Ceti, third magnitude. Rather an empty region of space. The Sun is just within the borders of the old constellation of Aquarius. They used to have a saying that when the Sun is in Aquarius—the Water Bearer—there'll be lots of rain." He flashed a broad grin. "Here it's *always* in Aquarius, so—"

"I see you have a stellar sphere, too," remarked Forrest, ignoring the joke. It was a globe smaller, older than the one back at Mark

Station. And it had fewer white and red lines.

"I brought it up here from the control room," said Harrison. "I use it for a star chart once in a while, though it's not up to date."

"It's an antique," said Forrest. "The sphere is only two hundred light-years in diameter." *There weren't any aliens around here then*, thought Forrest. Now the Dents were all around, menacing the link with Regulus, as well as Denebola itself. Twisting the Lion's tail.

No one knew where the Dents had originally come from. They had always been seen in their gray, featureless trade-forms, their sketchy arms, legs and head parodying the humans and humanoids they traded with. It was thought that their original form was more horrible and not at all humanoid. The Dents kept this a closely guarded secret—without claiming the trade-forms were their own. Now they were actually imitating humans and getting good at it.

The reason for the war at present was this very possibility of infiltration through impersonation. Earlier the Dents had been figures of fun with their crude imitations and dressed in ridiculous clothes. Now they were not so funny.

Harrison was explaining something about the workings of gravity beams, but Forrest could not pay attention to the technical stuff. His mind was otherwise occupied. Why were he and Harrison wasting time when they ought to be looking for the Dent capsule? Or better, making tracks in the skater back to Mark Station? But first he had to persuade Harrison to go. He seemed to be contented here. Forrest didn't blame him; it was a nice place—if it weren't for the Dents.

"—dependent on space itself," Harrison was saying. "That's why it's instantaneous anywhere in the stellar sphere, even across the galaxy, if we had boosting stations. To the Andromeda Nebula in a tenth of a second."

"In a tenth of a second?" said Forrest, surprised out of his silence. "I thought it was instantaneous all over."

Harrison flashed his toothy smile. "Not completely. For all practical purposes. At intra-galactic distances. Even gravity waves have their limitations."

Forrest said, "If we could only hook up ships to that beam we could cross the galaxy in no time."

"Why should we?" said Harrison. "We couldn't explore it all in a million years. Leave some of it to other races."

This brought Forrest back to the present, down to Marconi. "What do you know about the Dents?"

"The Identities? Not much, really. They are an industrious race, they are almost humanoid—at least in their trade forms."

"Have you ever seen one?"

"No," said Harrison. "They've never actually landed on Marconi—although they have made some entries into this system in the past. Accidentally, mostly. But, outside of TV, no."

"I have," said Forrest. "A long time ago, when I was a kid on Arcturus, one came to Einstein with a circus or something. He was a gray, greasy, rubber-doll-like little bastard—when he wasn't trying to disguise himself as a human."

"You know that even *that* isn't the Identities' true shape," said Harrison. "They assumed it only to trade with humanoid races."

"Blech," said Forrest. "I don't think I *want* to see the real Identities."

"Why, you're prejudiced." Harrison grinned. "I didn't think it of you. I suppose we must all put on our prejudices—along with our uniforms—now that war is impending."

"You're an idiot," said Forrest softly.

III

HE RETURNED to the observatory windows. Harrison handed him a pair of 7 x 50 binoculars and he scanned the horizon, less visible now than ever, though the day was further advanced. Dark clouds obscured the sea, hung closer in than before. He turned to examine the shoreline of the island.

Down below him the skater ramp was awash with bouncing rain. The skater itself sat solidly there, a bit of familiar security. The adjoining airfield was empty. Scanning farther, Forrest gave a grunt of surprise.

"What's that sticking out of the water there?" He indicated the sea just below the airport, where what looked like a bundle of rods broke the water.

"That's the copter," said Harrison. "The storm wrecked it the first blow, knocked it down there from the field. So, no transportation. As if I could fly in this storm anyway."

Forrest continued searching the base of the island—the submarine landing, the isthmus bridge to Nexus City, the skater ramp again. He wondered what had been increasingly bothering him—now he knew. There was no protection here. No armament. The place was wide open. He mentioned this to Harrison.

The little man pointed to a balcony, where a small variable-firepower cannon was mounted. Then he showed the tiny pistol inside his shirt. Harrison looked too smug even to be laughable. Was this all he had? Forrest could easily defeat this puny weaponry with nothing but the skater's own armament.

He turned away and, impelled by a new sense of urgency, strained his eyes in the fading light toward the buildings of Old Nexus City. He

looked at his watch. It was about six o'clock, still two hours short of noon, but it was getting dark. That meant another storm was blowing up. Beyond the bridge he could barely make out the open square, flanked by what looked like a theater and shops. He wondered what Old Nexus City was like.

"You want to see Nexus City? Let's go, then," said Harrison, seeming to read his mind.

"I don't think we have time for any sight-seeing tours," snapped Forrest. "I'd like to get the skater off the ramp and on its way before another storm hits. And you—you're going with me."

"In the skater? What for?"

"You can't stay here."

"Why not?"

"Because—oh, hell, you don't see it, do you? You have no defenses. You don't even have any detectors."

"Yes, I have," said Harrison. "They're all over the island. They just haven't shown anything so far. Metal detectors, radiation detectors, motor detectors, all kinds. I was ready for you last night, wasn't I? I'm not defenseless." Harrison calmed down, looked unhappy. "But you better go ahead, before the storm prevents your departure."

"You're coming along," said Forrest. Then he sighed, admitting temporary defeat. "All right. Tell me about Old Nexus City." He'd wait his chance to use force. He'd have to watch out for the pistol now.

Harrison's face relaxed. "Nexus means 'link.' Fancy guys in those days. Now this isn't the only interstellar link any more. When they opened the new station they just called it Marconi—or Mark. Everyone left here when Nexus closed, so the city is vacant. I guess the *Stardust* took off most of Mark's personnel too, didn't it? Is Howard the only one left there?"

"Yes," said Forrest. "Except me. And I'm not there. That's another reason I want to get back."

"I'm sure B.H. can take care of himself."

You don't know the half of it, thought Forrest. He had better not mention the missiles Howard had trained on this island or Harrison would never agree to leave. Another thought occurred to him. He wondered how long Howard would wait without hearing from him before launching the missiles anyway.

Forrest raised the binoculars again, gave up. Outside was too dark and the rain too heavy. "I'm suspicious about that ghost town."

"It's not a ghost town. I use some of it; it stays in good shape. Nexus City had everything, still has a lot. Let's go down there and I'll show it to you."

Forrest didn't like the waste of time involved, but he agreed because he wanted to see if there were any traces of the aliens' landing

there. He wasn't supposed to tangle with the Dents but . . .

HE STARTED for the stairway but Harrison led the way to a door opposite the stairs. Behind the door was a large closet. In it were two little cars, like miniature railway cars. Harrison got into the front one and motioned Forrest to climb into the other. He did so, thinking this was some kind of fast, tobogganlike elevator to the control room and living quarters below. It was a tight fit but he made it.

"I took this from the amusement park," said Harrison, moving levers. Another door opened in front of them and a blast of cold, wet air hit their faces. "Hang on."

The cars jerked forward and down, out into the dark, and the bottom dropped out from under Forrest's midsection. Driving rain hit him like a waterfall. He saw for an instant a dark, yawning pit and, with a roar that drowned out Forrest's cries, the vehicles rolled down the side of the observatory tower, flashed out over the bridge, coasted across the old market place, braked to a slow rolling glide. It was all over in seconds. The cars stopped and Harrison hopped out. Forrest climbed out more slowly, shaking. It was raining heavily and he was getting soaked again.

So this was Old Nexus City. He could hardly see the surrounding buildings. Harrison was hurrying into a store and Forrest followed, sloshing across the square.

"What's in here?" he asked hoarsely when he had gotten inside.

"Raincoats," said Harrison, taking them off the shelves.

They walked through the store, carrying their new raincoats. All the merchandise was new but seemed ten or more years out of date, which of course it was.

"Take anything you want," invited Harrison, but Forrest was preoccupied.

He could understand Harrison's reluctance to leave this island. He had everything he wanted here. For a retired man it was a nice little place. It was too bad Howard was going to destroy it soon. This was a nice little *planet*, too. Was Howard going to have to destroy it also? He wondered uneasily what Howard was doing now, what he was thinking.

They walked through an arcade, shops on both sides, and entered the lobby of the Nexus Hotel. Despite everything that Harrison may have done to preserve it the lobby did not look quite natural—it was empty of people. Nevertheless, it was clean and well-lighted. They made their way to the automatic bar.

They sat down at a table and Harrison ordered—punched buttons—for both. Forrest made a

decision. Harrison was likely to stall here all day. Forrest still had not convinced him of the necessity of leaving the island. He needed shock treatment.

"I'M WORRIED," Forrest began. "B.H. gave orders to take you back with me. He also said to let him know as soon as we left the island, so that he could bomb it. Just to make sure that no Dents land here he intends to sink the island with missiles."

If Harrison was shaken by this information he didn't show it. "After we leave, did you say? Then there's nothing to worry about. I'm not leaving."

He smiled engagingly.

Forrest tasted his drink. "He also said—" now was the time to stretch the truth a little— "that if I didn't get back in sixteen hours he might send the missiles anyway."

Now Harrison was distrubed. He put down his glass. "He wouldn't do that."

"Wouldn't he? He'd as soon do that as press the Panic Button."

Harrison drank. "Ah, yes. The Panic Button. I had forgotten that. Well, if he presses that, what difference does it make whether we're here or there?"

"You have just about an hour to decide. It's too late now to stop him—it would take four hours just to get within radio range in this storm—but at least we can get off the island."

"You're lying." Harrison said this with such certainty that Forrest was startled. "If there were a time limit you would have told me about it before this."

"All right," said Forrest. "But maybe I'm not lying when I say that B.H. has a nervous trigger finger. You know him better than I do. How can we play it safe? By contacting him. But to do that we have to go back at least part of the way."

Harrison seemed thoughtful. "Maybe you better go back and tell him that I'm not leaving the island. I'll take my chances on B.H.'s nerves."

"I'm not going without you," said Forrest. He might have to jump Harrison if nothing else worked.

Harrison shrugged. "Okay. I'll show you the rest of the island—convince you that there are no Identities around here." He rose and a check popped up in the center of the table. He picked it up and said, "This one's on me." He walked to the cashier's desk and threw the check into a basket that already held a large pile of checks.

Forrest followed Harrison through the lobby and to the door, donning his raincoat. This was a strangely calm reaction to the news he had thought would be a bombshell. Shouldn't Harrison have tried to hustle him off to tell

Howard not to bomb the place? Instead, he was stalling. It was almost as if he was trying to prove something—that he was reluctant to leave but could be argued out of it.

They walked out into the rain, sloshed across the mall. The rain was still coming down heavily. Forrest caught up to Harrison, who was striding along in a direction away from the observatory and toward the far side of Old Nexus City.

"Aren't you sort of—" *Overdoing it*? Forrest completed the sentence to himself.

Harrison turned, still walking. "Sort of what?"

"Sort of blasé about it all," Forrest said. "This is a dangerous situation. Howard thinks—"

"Forrest, I'm not going. You can tell B.H. to go circle a nova. It's people like him who create situations."

"It isn't just Howard's opinion. I thought—and I still think—that the Dents may have come down near here. You thought so, too."

"I did?" Harrison was going up the steps of an imposing building marked City Hall.

"Well, when you said you'd heard a sound that might have been the capsule coming down."

Harrison didn't answer. They entered by a revolving door, came into a hall with many side doors. Harrison used one and they found themselves in a spacious room.

"This is the council chamber. I'm the mayor." Harrison picked up a gavel. "Or was. Still am, I suppose." He turned to Forrest, his face serious. "You can tell B.H. that if the Identities are going to get me—they can get me. I've lived long enough. I've had a quiet life the past twelve years. I don't want to leave here. If this is the end—so be it." He tapped the gavel expertly. "You go back without me. And that's my last word."

Forrest thought he detected a flaw in the situation. He had guessed Harrison was something of a nut—he had been a hermit for years and would fight to stay as he was. But he ought to know the score. He was a student of interstellar history. He was Howard's close buddy and ought to have some respect for his military opinions. It would seem that, regardless of his attachment to this place, Harrison would sacrifice his personal feelings for the big picture—the danger that all of them were in, together. Though a loner, Harrison was not known to be antisocial or unpatriotic.

Forrest sat down in one of the councilmen's seats, while Harrison browsed through old record books. Forrest believed his own silence would be expected after the unanswerable finality of Harrison's last statement. Forrest would seem to be thinking hard—which he was.

IN HIS short stay on the island he had seen many facets of Warner Harrison, the hermit of Marconi. He had seen the sick man, the happy recluse, the hobbyist, the pedant, the zany, the friendly guide, the reminiscent old man, the defiant one. It was as if Harrison was trying to reveal *all* the traits of his character in a single day. He seemed to want to convince Forrest that he really *was* Harrison.

But why would the hermit want to do that?

Forrest stiffened. If he really were Harrison he wouldn't give a damn. He might still want to stay on the island, come hell or high water—but if, Harrison were *not* Harrison, was an alien, a Dent, he would only *say* he wanted to stay on the island, but would really want to go to Mark Station. Forrest closed his eyes, tried to think clearly and dispassionately while his brain was whirling.

The Identities were imitators, actors, and were getting better all the time. If Harrison was a Dent—then all the tests had failed. Howard had better be advised—and quickly. How could Forrest be sure, though? He could not challenge Harrison with an explosive accusation.

One thing characterized the Dents' acting, good as it was. Sometimes they overacted. Unless they had conquered this failing. For, if Harrison was a Dent, this particular Dent deserved to win the Academy Award.

Forrest felt for the pistol under his raincoat, looking at Harrison speculatively as he prowled the bookshelves of the council chamber. Harrison? Could he even think of him now as Harrison? There was no certainty, one way or the other. He tried to keep in mind the fleeting thought he had just had; it might be the key. *All* actors overact, at times. They must. They are playing out a lie and the lie must be strongly constructed. The Identities, with their perfect memories, were capable of building the ultimate lie—an imitation human being. In strengthening the fiction they might go too far, just to make sure they were believable.

He thought of the little Earth animal, some kind of rodent, which had a life-saving habit of playing dead when approached by some dangerous predator. He had read somewhere that this creature feigned death perfectly, could be touched and handled without showing signs of life. But when placed upright it would roll over and play dead again. Such an action wouldn't fool anyone but the other dumb animals.

Harrison was at the window. "It looks like it's letting up," he said. "Let's go take a look at the beach."

Forrest forced himself to get up in spite of his shaky knees. Trying

not to appear nervous, he walked out with—Harrison?

IV

THE other side of the city hall overlooked a park. The gray ocean lay beyond. There was a small beach below the sea wall, protected by a breakwater. The rain had almost stopped and the sky was brighter, though still overcast. The waters were slate gray and full of tossing whitecaps. Forrest and Harrison stood on the city hall steps.

Harrison said, "You can see the whole outer shoreline, from here. Look for aliens while you have the opportunity."

To one side were an amusement center and a playground; on the other were small apartment houses. The park extended along the shore and the beach could be seen along its entire length. There was a boat-landing farther on, but otherwise nothing broke the symmetry of the combers and the sands.

What a perfect place for a Dent capsule to land, out of sight of the observatory . . .

They stood for a while in silence, the sounds of the seashore coming faintly up to them. Something seemed missing.

"No sea gulls," said Forrest.

"No fish," said Harrison. "There's some life on this planet, but it's very primitive. About the trilobite stage. Still, when the men imported some fish for sporting purposes something ate them. Interesting, but not my line."

Forrest was thinking of how to prove that this man was or was not a Dent. How could he? No test would work now. He couldn't test Harrison for overacting. Had Harrison rolled over once too often? It was strange that the radio was out, while no reception was possible in any case because of the storm and because the mast was down, too. That the copter was wrecked, though no one, least of all Harrison, would think of flying one in this weather. That he had contacted Howard by means of a haywire hookup via the stars—but not even that was destroyed. The situation was too pat.

There was one way to make Harrison show his hand. Hermit and Dent had different goals, different intentions.

It was Forrest's turn to lie.

"I don't think the capsule has landed here at all," he said, watching Harrison's reactions. "I think I'd better get back to Mark. If you don't want to come, all right. I'll talk B. H. out of bombing the island. If he's held out this long, he'll wait till I contact him. You can stay here and more power to you. If the Dents come, give 'em hell."

"I can take care of the Dents," said Harrison.

THEY returned by a different route, walking past the workers' deserted apartment houses. Harrison took Forrest through one of them and he found it still in livable condition. Merely uninhabited. Harrison was silent now—he seemed to be baffled. Was he trying to think of a way to reverse his stand? Forrest found himself waiting for Harrison to suggest that perhaps he might change his mind and leave the island after all . . .

Not that this in itself would prove that Harrison was—or was not—a Dent. Forrest would have to come up with a test, a positive one.

He had not tried a physical examination—he wished he had done so when he had had a chance, but at that moment Harrison had been ill and had just passed two tests with flying colors. If Forrest pulled a pistol on him now to force him to submit to an examination, the game would be over. Harrison had a pistol too.

The game would be over—maybe a showdown was best by now. Forrest's own play-acting had gone on long enough. The real Harrison should not object to physical examination. And suddenly Forrest remembered—another test that could bear repetition.

When Harrison led him out to the street and across it to the old theater, Forrest saw his opportunity had come. Theaters were not lit from outside and could be made perfectly dark. He was going to try the "blink" test again.

"This was once the most popular place on the island," Harrison was saying, walking down the theater aisle. "I just wanted to see it one more time before—before you go." He walked to the front row and sat down.

The lights had come on when they had entered, as they had in all the other buildings. But here, Forrest thought, there had to be a switch. He walked below the stage, pretending to be inspecting the place, but actually he was headed for the side door. As he reached it he noted with satisfaction that there was a switch on the wall. He put his back to it, leaned against it, facing the interior of the theater.

"Harrison," he said. "I'm sorry, but my time's up. I really have to be going. Now."

The other man looked at him and said, "Wait. I've changed my mind. I think I'll go back to Mark with you after all." He stood up, started toward Forrest.

You haven't changed your mind, just your body, thought Forrest. He took out the pistol, pointed it at Harrison.

"Stand where you are." He flashed on the light, playing it on Harrison's face. "You blink too much. Can't you face a strong light?"

Harrison's eyes widened, but he stood still. "What's the matter with

you, Forrest? Have you gone insane?" He held his hands loosely in the air.

"No, I've suddenly gone sane. Stand right where you are—don't move."

Harrison attempted to smile. "What is this, another test?"

FOR an answer, Forrest reached behind him and snapped out the house lights. He also turned off his flashlight. Pitch blackness surrounded him and he suddenly realized that this was a foolhardy thing to do.

He counted silently, intending to count to ten. But at five he lost his nerve and flicked on the flashlight. The brilliant beam lit the pale face of Harrison, now much closer to him, eyes unblinking in the full glare of the light. He saw that Harrison had his own pistol out. Forrest flipped off the light, ducked and fired almost simultaneously with Harrison. Both shots went wild. In the darkness Forrest went for the door.

It was only a few feet behind him. He plunged into the dimly lit alleyway, which soon led him to the marketplace. He was not going to go after Harrison now—it was back to the skater and he knew the way.

He ran across the wet square and made for the bridge. The observatory was plainly in sight—the rain was only falling lightly. He risked turning around and saw Harrison—or the Dent—just now coming out of the theater, aiming a shot at him. He ducked, returned fire and started a zigzag run toward the bridge. He saw with satisfaction that he could outrun Harrison all the way.

Harrison? It was hard to think of his pursuer as a Dent—an alien Identity. The real Harrison was probably dead. The test had worked—or rather, the trap. The Dent had decided that the situation had become unpredictable and had tried to take advantage of the darkness that Forrest unexpectedly had given him.

He had exposed the alien, but he was barely escaping with his life. What would Howard say? Howard had warned Forrest to be careful, and now he had fiddled away hours talking to a damned Dent. Now if he could just get back to the skater and launch it, back to Mark and tell B.H. to loose the missiles, the situation might still be saved. It certainly was a wonderful thing . . .

He pounded onto the bridge, almost tripping over the roller-coaster tracks. That crazy ride—that should have been his tip-off. He should have gone back to the skater then.

Another shot whistled past him, whined off the buildings on the far side. He was halfway across the bridge and decided not to slow down to see what Harrison was

doing. Better to concentrate on running.

Nearly across the bridge, trying to think of the shortest way to the skater ramp, he saw a figure ahead of him, beyond the end of the bridge.

A man wearing a flapping raincoat was running toward him. The gait, the bulk, the blue suit showing under the open raincoat, all were familiar.

Howard.

Forrest didn't pause—he continued running. What was Commander Howard doing here? How had he come here? Who was watching the store?

"B.H.," he called, "Get back! Harrison is a Dent and he's right behind me—"

He ran to within a few yards of Howard, turned, aiming his pistol. He could not see Harrison, who was not yet on the bridge, but he squeezed off a shot anyway, heard it ricochet across the railings. Then the figure of Harrison appeared at the far end of the bridge, pumping away, and Forrest took careful aim.

He couldn't miss.

Something hit him from behind. Clubbing blows on his head and shoulders caused him to drop the pistol and fall to the wet pavement. Rapidly losing consciousness, he saw Howard standing over him, his face expressionless. He heard Harrison's voice, then nothing.

V

JIM FORREST came to his senses gradually against the resistance of a throbbing headache, a loud roaring, a tightly cramped position, and, over all, a continuous jouncing motion. Though he seemed unable to move his body he was never still—he was seated, legs folded, upon a jolting floor, which slanted and jumped, tossing him about with every shift and slide. Even before he opened his eyes he realized he was in the rear compartment of the skater, moving at top speed through the fury of a storm. Pain and sickness threatened to return him to unconsciousness. He groaned, shook his head to clear it and opened his eyes.

He was facing forward, his back against the rear panel, next to some luggage. He was surprised to find he was not tied, but he could not move his limbs—or at least he found that it was extremely difficult to move them. A sort of numbness enfolded him, not entirely explained by his stiff and cramped position. It felt like some kind of paralysis, slowly wearing off.

Harrison and Howard sat in the front seats. Neither, of course, was human. Harrison—not-Harrison—was driving the skater. The storm was worse than ever and Howard—or the Dent who looked like Howard—was helping to drive, as was the automatic pilot.

its whining up and down the scale adding to the din—and between the three of them they were having a difficult time. Forrest could not help smiling, despite his predicament. Everyone had problems.

Lightning and darkness and driving rain were all he could see through the windows. He could not see the instruments from where he was, but he could imagine their wild warnings. The waves could be heard—and felt—hitting the bottom of the skater. *Take it up higher*, he tried to say, but he could not make an intelligible sound. Soon, however, the aliens seemed to arrive at the same conclusion and the skater became more stable. The shaking continued with moderation. The Dent-that-was-Howard relinquished the controls to Dent-Harrison and turned around.

Forrest looked into the face of Howard that was not the face of Howard. He felt sick. He wanted to go back to unconsciousness, but instead stared into the eyes of the Dent. He imagined he could see hatred there, but he could not be sure. He knew nothing about the psychology of the Identities—he would soon learn, he imagined.

"Is he awake?" asked Dent-Harrison, not turning around, his attention on the instruments.

Dent-Howard opened his mouth and a croaking sound came from it.

"Speak English," admonished the other Dent. "You've got to keep in practice, even if we won't need your impersonation for a while."

"Practice?" snapped Dent-Howard. "I fooled Harrison—and you didn't fool this one."

"All right, I admit I delayed too long. He wasn't suspicious at first. But I had to play hard to convince, remember." Forrest noticed that Dent-Harrison was wearing a slightly different combination of clashing colors, purple and green.

Dent-Howard, in the usual subdued blue, seemed angry. "And so you nearly ruined our chances. If I hadn't come running you would have let him escape in the skater—and then where would we be?"

"I thought of calling you from the theater, didn't I? That was quick thinking—"

"The only time you ever thought anything quickly. If you weren't my own bud I'd—" He ended with a croaking, hissing sound.

DENT-HARRISON was silent, busying himself with the controls. Dent-Howard looked coldly at Forrest—an expression that Forrest himself had never seen on the real Howard's face.

"What'll we do with him?"

Forrest waited for the other Dent's reply.

"Why—we'll use him. Even though we can no longer use him as a dupe, we can use him as a model."

Forrest couldn't see Dent-Harrison's face, but he imagined the alien smiled.

"He would have been better as a dupe," croaked Dent-Howard.

"Of course," returned Dent-Harrison. "But we *Krawk-sss*—"

Now it was Dent-Howard's turn to admonish.

"Dents! Don't say *Krawk-sss*. You must remember."

"Identities—always say, if one thing doesn't work, try another. It would be hard for me to go it alone now, try to convince Howard that Forrest got lost or killed or something—that would immediately make him suspicious. So we've got to replace Forrest with another imitation."

"Not me," said Dent-Howard. "I can't shift from character to character, like a damn repertory player. This is method acting, and you've got to *be* the man you impersonate. Trying to do more than one character weakens both. Note how well I've learned. I don't have to tell you how important this expedition is. There can't be any more slips. That's why they chose me—us. I've got to keep on being Commander Howard—later we'll be using him in contact with the outside." Dent-Howard's face became almost genial. "Two down and one to go. Tomorrow we control Marconi—and with it this system. The day after that, the stellar sphere."

"You're getting ahead of yourself. We haven't head from the starship yet."

"We will. As soon as we do our part, they'll do theirs."

"If this storm keeps up—" began Dent-Harrison.

"It had better keep up," said Dent-Howard. "I don't know how long it's supposed to last, but our people will be back and seed another before this one blows itself out, if necessary. By that time we'll be in possession of the station and we won't have to worry about cover. And then we won't have to worry about anything. We'll dominate space from Denebola to system's end. Say—he's moving a little. I thought you—"

Forrest had managed to move his arms a bit, but had only succeeded in attracting the Dent's attention. Dent-Howard frowned, reached out a hand and touched Forrest on the side of the neck with the tip of a finger. It seemed to Forrest that a needle had struck him— he felt a stinging, pain, then numbness. He became dizzy; then the dizziness steadied into a paralysis that spread down his neck and shoulders and through his body. So this was how they had kept him quiet, without the necessity of bonds. What *were* the Dents, anyway? What kind of creatures were they really?

Dent-Harrison said, not turning from the control panel, "You'll have to bud again."

"Why me? Why not you this time? It takes a lot out of me," complained Dent-Howard.

"You'll have more time to rest. I'll have to do Harrison very shortly, when we contact Mark Station. This is the most important impersonation we've attempted and I'll have to be alert. Howard knows Harrison well. He hardly knows Forrest at all."

"He has the personnel records on Forrest. We don't."

"We have the original." From the sound of his voice, Dent-Harrison was grinning.

Without further argument, Dent-Howard stood up as far up as the ceiling of the skater allowed, swung the seat back and climbed into the rear compartment, pushing Forrest to one side. Jammed back against the luggage in a corner, Forrest watched helplessly.

The Dent took off his blue coat, swaying slightly, but managed to remain standing. The skater ran more smoothly now, gave a jar or twist only now and then. Dent-Harrison was driving better—the Dents learned fast.

DENT-HOWARD stripped to his undergarments, which showed him as beefy but not flabby and very pink-skinned.

Swiftly, the pink changed to gray.

His face lost its features along with its color. The Dent's body became slighter and a little shorter. The arms and legs became smooth, shiny, modeling-clay gray. The arms now ended in long, tapering fingers and the legs and feet were like gray boots. The torso became tubular and the head like a gray rubber ball, balanced on a small neck. Two black spots of eyes and a small oval mouth were all the features that remained.

The trade-Dent slipped off the loose underclothing and was revealed as sexless and uniformly smooth, gray and shiny all over. ***Rubber doll*** was a fitting description. Forrest shrank back in his corner.

The Dent wasn't horrible in itself. It was more comic than frightening, but Forrest had the feeling of a nightmare coming on. He was overcome with a childhood fear, of the circus-Dent back on Einstein, the parody of Man, with its black spot eyes and comic mouth. The Dent who had been Howard had reverted to the trade-form, which, Forrest remembered all too well, was still not the ***real*** Dent.

Now another transformation was taking place. Forrest wished he could look away, but he stared, fascinated. He had never seen an original Dent, nor had any other human alive, as far as he knew. He fought down his horror, kept his eyes open.

The rubber-doll aspect began to

disappear, but the gray color remained. The figure shortened again, or perhaps it only seemed so because the head was vanishing into the shoulders. Watching this, Forrest missed seeing the legs grow together, but now they were one, the figure standing solidly like a gray tree trunk. It only swayed slightly when the skater hit a rough spot, painfully jolting Forrest against the wall.

The top of the rapidly changing creature was not flat, except for a circular mouth facing upward. The arms shortened while the fingers lengthened, becoming tentacles. Now a crown of ten waving tentacles surrounded the mouth, topping the cylindrical body, which tapered to a single foot or base, not rooted to the floor but moving freely, if slowly. The creature as a whole looked like some sort of gigantic polyp. Which no doubt it was, Forrest thought.

Howard's clothes, scattered on the floor, seemed utterly irrelevant to the thing standing there, tentacles waving. Forrest had to look out the window at the raging storm for a moment to steady himself.

Of all forms of life, this was one of the lowest. The *coelenterates* of Earth's warm seas, near the base of the evolutionary tree, did not even have a circulatory system, nor a separate digestive tract. They were simply animated barrels.

Forrest smiled, in spite of himself. He was thinking of Harrison at the beach—Harrison, or Dent-Harrison, had mentioned *trilobites*. It would be a long, long time before creatures such as the Identities could reach the level of the trilobites—even if they hadn't branched off in another direction. So these were the real Dents. Forrest had expected something different: insects, squids, spiders, slugs—all of them less alien than this.

He and the Dents—or at least the similar forms of life on Earth—had had nothing in common since before the planarian worms and a little after the sponges. The Dents weren't even bilateral, they were radially symmetrical. How alien can you get?

Yet he had to hand it to them. Of all the many forms of life which had attained intelligence within the explored stellar sphere, this was the only race he had heard of that belonged to the *coelenterata*. On many planets, similar forms of diverse origin conformed to conditions that were similar, just as on Earth creatures of different ancestry approached each other in form. So the polyps were not peculiar to Earth. These had attained great size, were able to live out of water and support themselves without skeletons, he supposed. And they had somehow added protective mimicry, shape-changing. No skeleton, a soft, tough, rubbery skin—just right for it.

The gray creature was standing as if rooted yet it was in constant motion. The tentacles were waving inward and outward in a complex motion that made Forrest dizzy. One reached toward him—a long filament came out of its tip, touched Forrest's cheek and he felt numb again. He had time to think of the stinging nettles of the Hydra.

The tentacles seized Forrest roughly, pulled him up, held him suspended for a moment, then threw him back into the corner.

"What are you doing?" inquired Dent-Harrison. "Don't *eat* him."

The polyp-creature made a deep approximation of Howard's voice. "I *deserve* him after all the trouble he's caused me." His voice sounded as if it came from a rain barrel.

"The trouble he's caused *you*?" said Dent-Harrison. "Why didn't you eat Harrison while you were in the storeroom?"

"I thought you still needed him for study," boomed the other Dent.

"Well, we still need Forrest now." Dent-Harrison turned back to the controls.

FORREST suddenly felt better. This was a reprieve. And Harrison was alive, back on the island. He wouldn't be of any immediate help, back there with no transportation and probably locked up, but his being alive was a plus. The Dents, like people, had regrets, made mistakes. Forrest began to feel like a man again.

He knew now that the Dent landing was no mere spying mission. This was a planned attempt to take over Marconi Station and with it the entire planet and system. He wished he had some way of communicating with Howard. What he could tell him! Not the least of it would be that the Dents by their hostile landing had committed an act of war and need no longer be dealt with as nonbelligerents.

Forrest looked speculatively at the alien creature, now quiescent. In spite of the queasy feeling it gave him, he could not help but feel admiration for the thing. It was almost alone on an alien planet, carrying out its mission with rigid self-control. So this was the enemy.

Dent-Harrison said impatiently, "Get on with it. We haven't got all day."

The Hydralike creature stirred. A round bump formed on its side. This grew into a bud, a branch a few inches long. A crown formed at its tip—a crown of tentacles. The bud separated and dropped off. It righted itself and attached its lower surface to the floor. Then it began to move. Forrest watched it for a long time. It seemed to grow taller and thicker, its tentacles waving.

He heard a rustling noise and saw that the bigger Dent had already changed back to the trade-

form, was dressing in Howard's clothes. The figure looked ludicruous for a while in the conservative blue suit, then the grayness faded and the Dent assumed the ruddy features of Commander Howard. It pushed past Forrest and rummaged in the bags, found something which it tossed to the little creature on the floor. The latter caught the food deftly in its tentacles, brought it to its mouth cavity.

Forrest felt dizzy and sick. He could take it no longer. He passed out again.

VI

HE WAS talking, talking earnestly, telling B.H. all about the alien menace, and Howard didn't seem to care or understand him. He tried to tell Harrison; but Harrison only grinned and turned away. Forrest tried to explain to a faceless rubber doll with eyes like black dots, but the doll wouldn't listen either. He was writing a report and, after he had finished each page, the paper disintegrated. He was talking on the phone and the party at the other end couldn't seem to hear—there was too much noise, a pounding, crashing, roaring. The sound of the storm separated from the roar of the skater. He realized that he had been dreaming.

Forrest struggled to sit up. He felt more uncomfortable than ever. He was not only stiff but his throat was sore. He was bone-tired. He also felt oddly constricted and saw that he was wearing strange clothes. They looked like one of Harrison's outfits, too small for him and with weirdly clashing colors. The red-and-tan striped shirt, the blue-and-green dotted slacks, the bright red shoesox earned his sincere distaste. What had the Dents done with his own clothes?

Dent-Howard was sound asleep on the floor. The strange new Hydra bud was nowhere in sight. Occupying the seats ahead were Dent-Harrison and another, a taller, younger man. Dent-Harrison was talking in low tones.

Who was the other man? From where Forrest was sitting, he could see only the curly brown hair, the back of the head and fair-skinned neck, the green-and-brown fitted collar-shawl over the natty dark brown shirt—so that was where his clothes had gone.

Dent-Harrison glanced back over his shoulder, remarked, "I think your prototype is awake."

The tall man turned his head and looked at Forrest, who stared back in a daze. That face was familiar. The young man showed a superior smile. That smile was familiar, too. The stranger spoke. Even the voice was familiar.

"It certainly is a wonderful thing," he said.

Forrest groaned. He'd have to call this one Dent-Forrest.

Dent-Harrison took the controls and the Dent that looked like Forrest resumed asking questions. Forrest did not want to talk, but found he couldn't help answering. Everything, from military information to personal secrets, came out. When the Dent paused in his questioning Forrest found himself volunteering further information, unasked. Things the Dent would never have thought of, probably.

Dent-Forrest flashed his superior smile. "We can't really read minds," he explained. "But we have something just as good, you see. We have drugs to loosen your tongues. Combined with our encyclopedic knowledge and our tape-recorder memories, what else is needed? Of course only select spies, with great talents, such as—we—are chosen for infiltration."

What an insufferable egotist, thought Forrest. Then he realized that the Dent was faithfully copying his own image. He resolved to reform if he ever got out of this.

"We've only recently perfected our disguises," said Dent-Forrest. "Your vaunted 'elapsed time test' is no good any more—nor are any of your other tests. If you really want to know, you've been defeated by our scientific inventiveness, something of yours we've also developed only recently. Hoist with your own petard. A simple injection of a radioactive element gives us all the time-sense we need. Other tests can be counteracted—that's a good word, *counteracted*, because it is our superior acting ability that defeats you."

"How about overacting?"

The Dent sneered. "Watch your language. Speak when I tell you to speak and then don't stop till I tell you to stop. For too long we Dents— Identities—even the *name* is derogatory; we don't all look alike—we *Krawk-sss* have posed as silly traders. Do you think this is the start of a war? It's been a war for a long time. We expanded into the region of Denebola for the express purpose of cutting your empire in half. We're going to take over this planet first—with its impenetrable defenses that can be run by only one man. How? By replacing that man with one of ours."

"You haven't replaced Howard yet."

"No, but it's just a matter of time. We had to do all this in stages, first by coming in under cover of a storm—our own storm, by the way—then by landing on Nexus Island, the weakest spot on the planet, and imitating one of you, Howard, to capture another one of you, Harrison. Then our clever scheme of sending a message—"

Forrest frowned.

"Then Harrison didn't even send that message?"

"Of course not. I—we sent it. You should have been more suspicious."

"You still haven't got to Mark Station. B.H. is not as defenseless as Harrison was."

"I know," said the Dent. "This is why we chose this roundabout method. We couldn't possibly have taken Mark Station by force. So we worked out this infiltration scheme, involving only one Dent at first. Of course we found it necessary to increase our number to three." He grinned. "The only tough thing was getting a dossier on Commander Howard in the first place. We didn't have a live model, so we faked him, even to Dent-manufactured clothing. Since he is a public figure the task was not impossible, merely difficult. And the result fooled Harrison for the short time necessary. That was all that was intended. Next time we'll have a live model to work from."

FORREST wondered if they really would—he pictured B.H. pressing the Panic Button, blowing up the planet. Then he was telling the Dent about the button—against his will.

Dent-Forrest shook his head. "We know all about the Panic Button. It will be touch-and-go—but we can handle it. If the planet is destroyed, of course, that would be a victory for us too, but we don't want it that way. We have plans. No use telling them to you now. You might—talk." He smiled maliciously.

Forrest's mind was racing. The fact that this invasion was so carefully planned might be its weakness. Maybe it would succeed only if everything went exactly right. A slight deviation had already been forced by his exposure of Dent-Harrison, making it necessary for them to create a subsitute for himself.

Another deviation it might mean their defeat.

But how could he force another one? The Dents might fool B.H. at least long enough to land on Mark Island and get inside the base. They were, ostensibly, Jim Forrest and Warner Harrison coming back from Nexus, Forrest bringing Harrison to safety from the aliens. Howard, if not told otherwise, would believe that bringing them inside his defenses would make Marconi safer.

Warned, Howard had the firepower to blow the skater out of the water as it approached the island. If he missed he could push the button that would mean his own destruction and everyone else's. Forrest was wishing for his own death in hoping to warn Howard, but he knew that letting the Dents take Marconi was worse. This was only one battle in a big campaign

to take over the stellar sphere, but it was a decisive one, as first battles sometimes are.

Forrest had no illusions about his own survival much longer. The Dents wouldn't be needing him once they had taken the base. They needed him now for questioning and study, but he didn't know for how long. Dent-Forrest was becoming pretty convincing. Dent-Harrison was nearly perfect and couldn't help but fool Howard. Forrest couldn't do anything about that—but he might be able to do something about the imitation of himself, before it was too late.

Perhaps he could strike some false note, speak some uncharacteristic phrase or give some phony information that would, when Commander Howard heard it, betray Dent-Forrest. This second-hand method was Forrest's only hope of warning Howard, because he knew that when the time came for contacting the station he would not be allowed to talk, move or even be seen.

But Dent-Forrest, as well as Dent-Harrison earlier, had already gotten a lot out of him, more than Forrest himself realized, perhaps. What could he say that was out of character now? One problem was the fact that B.H. really didn't know him very well. Forrest tried to recall what he and Howard had discussed in the Mark control room just before this mission. He had probably already blurted out to Dent-Forrest everything Howard had said. What had he himself said that he might not have told the Dents, that he could falsify now?

He remembered something about a comic book. No, it was Howard who had mentioned comics. Forrest could remember saying nothing that hadn't been a direct response to something Howard had said and therefore known to the Dents.

He had suggested some ideas to Howard—could he switch credits, say that one of his suggestions had been Howard's? Did Howard remember the dialogue well enough for the switch to have meaning?

Forrest spoke, heedless of the Dent's orders. "I wish Howard had carried out his idea to shoot missiles at the island. I wouldn't have minded—"

"That was *your* idea, wasn't it?" said Dent-Forrest.

"Yeah. I guess it was. After I told him the Dents were dangerous—"

The Dent mimicked, " 'What's so dangerous about a couple of lousy Dents landing in a capsule?' "

Forrest sighed. "I guess I talk in my sleep. Calling you lousy is a compliment, anyway. No offense, of course."

The other grinned. "Well, it's been nice talking to you. Pretty soon we'll be contacting Howard and you'll have to keep quiet.

Maybe this will help." The Dent flicked his fingertip several times around Forrest's mouth and he found he couldn't move his lips or make a sound.

Now he couldn't talk at all. He had failed in trying to fake something and now it was too late. It certainly was a wonderful thing . . .

THE skater roared on toward Mark Station. That it was quite close now was evident from the fact that Dent-Harrison was trying to make radio contact. Dent-Forrest, now driving, was likewise preoccupied. The wind had increased and was tossing the little ship from side to side. Oblivious to it all, Dent-Howard was sleeping soundly in one corner of the rear compartment, while Forrest sat wakefully in the other corner. *Now is the time for all good men to come to the aid of the party* . . . ran through his mind, ironically appropriate.

Forrest tried to move his legs and found that he *could* move them. All the numbing stings that he had recently received had been on his face and neck and the numbness had spread through his upper body alone. His legs seemed to have lost their previous paralysis. He shifted about uncomfortably, straightened his legs and stood up, leaning against the corner of the wall, swaying with the skater's motion. No one noticed. *The quick brown fox jumps over the lazy dog* . . .

As an experienced skater pilot, Forrest knew the way the ship was balanced precariously atop its jetstream. And not too irrelevantly, yet another typing-practice sentence popped into his mind. *A quick movement of the enemy will jeopardize six gunboats.*

He put one foot against the wall and braced. Starting to topple toward the center of the compartment, toward the sleeping Dent on the other side, he put all his strength into the kick, hoping he'd fall on Dent-Howard instead of the hard floor. Fighting to keep from bending his knees, he threw his body sideways, tumbled headlong across the compartment.

At once the skater faltered. Forrest landed on Dent-Howard's body with a thud and the skater slipped sideways, off balance, and plunged into the waves with a tremendous crash. Forrest, jammed into the back of the front seat, was not thrown forward with the terrific deceleration. The shock of water reducing its speed, the skater bounded into the air and down again, now on its side, now upright, and Forrest was tossed about with the luggage and Dent-Howard. The splashing and crashing seemed interminable.

Cries of alarm and confusion revealed that the two Dents in the pilots's seats were trying to stop the

skater. After it had skipped and bounced along for a few moments more they finally succeeded. Now it tossed about, floating upright on the water, swaying to the motion of the waves, its engines idling. The rain pounded on the roof, but stayed outside. No windows were broken.

Strapped in, Dent-Harrison and Dent-Forrest had not been injured. Dent-Howard was unconscious and Forrest was nearly so. After a cursory examination of the ship the two Dents were satisfied that no major damage had been done. The skaters were tough little craft.

Dent-Howard stirred, opened his eyes, shook his head and asked, "What happened?" He turned over, pushed Forrest away from him.

"We struck a waterspout or something," said Dent-Harrison, matter-of-factly. "You should strap down back there."

Forrest, unhurt but thoroughly discouraged, stayed motionless. As long as he had not succeeded in wrecking the skater, he was glad they didn't realize he was to blame for the incident. But when would he get another chance? Dent-Howard was awake now and alert to any movement.

DENT-HARRISON roared the engines, the skater bucked along on the waves and rose into the slightly smoother air. Dent-Forrest took his turn at the radio, trying to contact Mark Station and Commander Howard.

What would happen next? When the Dents talked to Howard, what would he do? It all depended on how good the imitations were. Forrest wanted to believe otherwise but he was convinced that they were good enough. Once inside the base— His thoughts were interrupted by a warning from Dent-Forrest.

"Get Forrest down," he told Dent-Howard. "And you get out of sight, too. We don't want B.H. seeing himself."

Forrest was pulled roughly to the floor of the compartment, and Dent-Howard sprawled over him, holding him down. The nettles stung him in the mouth again, for good measure. He couldn't move his upper body but thought it wise not to reveal just now that his legs were relatively free from the paralysis. He couldn't kick out anyway but if the Dent shifted his position, he might be able to. It was a matter of waiting for the right moment. He didn't want to be premature again.

Above the roaring of the engines and the storm a new sound echoed through the skater. It was the amplified voice of B. H. Howard. Forrest could not see the screen, could only hear the voices. It was like listening to a conversation on an old blind telephone.

"Just a minute," Howard was saying. "Oh. It's the skater. Forrest is back, and Harrison is with him. I'll call you back . . . Am I glad to see *you*? I've been hanging by my thumbs. How's your health, Warner? Glad you made it, Jim."

The Dents made appropriate answering sounds. Forrest could only see the backs of their heads. The other Dent's face was close to his own, expressionless.

Howard cut their greetings short. "Time enough for talk when you get in. Where are you now? Never mind, I've got you, eighty-seven miles out. Come right in and go to work, all hell's breaking loose. You'll have to park on the ramp and walk in through the shed, so I can test you. Did you see any Dents?"

Forrest could see his counterpart shaking his head. "Not a sign of them, B.H." Was Howard being taken in? It looked like it.

"Everybody's asking me," said Howard. "I'd sure like to know, one way or the other. Hold on . . . Mark here. Yes, Commander Roscoe. What?" There was a long silence. "Damn the military. They can't see beyond their eyeballs. This place is worth defending if anything is. You can't get a better link planet than Marconi or a better location than Deneb-ola . . . No, I'm staying here, hell or high water and I think I'm going to get both pretty soon . . . Just *until*? If they can get us off, they can defend us . . . How do we know what the Dents are going to do? All the real spies are on *their* side . . .Look, if I gave you some proof, would you? Just a minute . . . Warner, tell me, did you see any evidence that there was any landing made, did you hear anything, see any—"

"Not a thing," said Dent-Harrison innocently. "All I know is what Forrest told me. I was ready for them, though. Listen, why can't we—"

"Not now," said Howard. "Whatever it is. Hello, Roscoe? Isn't the fact that the capsule landed somewhere enough? My men are back now and they haven't seen anything, but that doesn't mean . . . No, I can't prove a damn thing yet . . . Yes, I know it would be an overt act . . . Yes I know President Grulzak wants to declare war. So do I . . . Hello . . . Cut off."

THERE was comparative silence for a few moments, though Forrest could hear Commander Howard making some mechanical clicking noises.

Dent-Harrison said, "Why can't we defend Nexus? I didn't want to abandon it. Forrest says you might destroy the island. Wouldn't it be better to fortify it?"

"Too late for that," said Commander Howard. "Never mind that now. Get in here at top speed.

We're going to have to button up."

"You're going to destroy the island?" asked Dent-Harrison in a worried voice.

"I don't know," said Howard. "I'll have to consult Regulus about that, I suppose. I get all kinds of advice from the stars. And I don't believe in astrology . . . Hello, Regulus? No, not Director Bennett. I was speaking to Commander Roscoe. I was cut off. This is Howard, Commander Howard, Director Howard, what-have-you, jack-of-all-trades Howard, Marconi. Hello, Roscoe. No, it wasn't my fault. I never cut anybody off . . . Look, if I see any Dents, I'll hit 'em first and then tell you about it, but I haven't seen anything to shoot at yet. If there were some of *your* ships around, they could chase some Dents in here . . . No, I haven't heard from the Lone Ranger yet, our Grand Home Fleet of one guard ship. Probably tangling with the Dents a light-month away." Howard paused, seeming to remember something.

"I wanted to ask you, shall I shoot missiles to destroy Nexus Island? All right, I won't . . . Certainly they can land on the water, but not around here. Maybe near Nexus, that's the reason . . . I can't do any searching till this storm lets up. Can't see the nose in front of your face with instruments . . . Not a thing on the scope . . . I have my own skater here on the screen, shall I blast it? Maybe it *is* Dents, how the hell should I know? . . . Certainly, I'll test them, before I let them in. What do you take me for? . . . What do you mean don't be sarcastic? I can be as sarcastic as I want to be. You're not *my* military commander. I'm responsible for this station and if you want to get the President on the line . . . Well, I *thought* you were ordering me around . . . Sorry, Roscoe, I got carried away . . . What do I need? More Dents, maybe . . . Goodbye. Off."

Dent-Harrison spoke up. "What did he say?"

"No decision yet. Don't do anything. Well, I'm doing it. They said not to bother hitting the island now. We'll either abandon the whole planet, or if we reinhabit the island we can fumigate it. As long as you're here now, Warner, it doesn't matter. The whole purpose was to keep the Dents out of Mark Station. They can't get here from the island now, any more than they can from the sea. And there might be peace, he thinks. Or someone thinks."

Dent-Forrest asked, "What's the situation now? Strategy-wise, I mean."

Howard paused a moment before answering. "The Dents can't attack Marconi in force and they're not going to try, he says. It has to be infiltration. Somewhere on this planet there's a Dent capsule. After the storm, we'll find

it. Right now we button up. He says if there was positive evidence of a landing, they'd call it an overt act and declare war. I wish I could find some evidence, but I can't. I'm too honest. The Dents might be peaceful, after all. Then again, they might want to take the base *without* causing a war. They aren't going to get away with *that*. I've got Regulus and Arcturus on sixteen-hour alert. If they hear from me, or if they *don't* hear from me—" He left the sentence unfinished.

ONLY the roar of the storm filled the skater for a bit. Forrest was calculating the exact moment to throw off the Dent, jump up and attract Howard's attention. Dent-Howard looked strong, especially in the arms. Forrest tried to picture him as a tentacled polyp. What were its strong points? What were its weak points?

"Now, tell me," said the voice of Commander Howard. "How did it go? What took you so long?"

"Convincing Harrison to leave," said Dent-Forrest.

"I could have done that in ten minutes," said Howard. "Anyway, while this phone is quiet, let's talk. I have some questions to ask. Uh, purely routine. Warner, you used to be quite a fan of detective fiction. In *The Case of the Oil-Stained Gardener*, who was the murderer?"

"The author," answered Dent-Harrison. "Why don't you ask me what my great-aunt's maiden name is?"

"Well, what *is* your great-aunt's maiden name?"

"I don't know. What's the point of these tests? If the Dents can read minds—"

"They can't read minds," replied Howard. "That's where we have them. No matter how they grill their victims, they can't get everything out of them. So random questioning may trip them up. Jim, I have one of your books here. Sorry to have to pry, but I've been looking through your bookcase—"

"I hope you haven't torn my comic books." Dent-Forrest laughed.

"What comic books? I've never seen you with a comic book. What are you talking about?"

Forrest, down on the floor, felt a thrill of hope.

But the Dent laughed it away. "I meant my paperbounds—you sometimes called them comic books."

"So I did," said Howard. "Anyway, here's a book. *The Life and Times of Claude Degler*. What's it about?"

Dent-Forrest said quickly, "A French artist who goes to the South Pacific and gets his ear cut off in a native brawl. Sort of a historical novel."

A fluttering noise came, then a snap. "All right. It might be a best-

seller among the Dents for all I know. I can't tell anything on TV anyway. I'll test you again when you come in. I have a whole battery of tests I can use."

None of which will work, thought Forrest despondently. He began to tense for the job of overthrowing the Dent holding him down. Now? What was his weak spot? Not his arms, which were tentacles, really. Not his body, which was tough and strong. Not his head, which was only a dummy. His mouth— If he could hit him in the mouth and penetrate deeply inside it—might make him uncomfortable. But Forrest could only move his legs. Could he get his foot in the Dent's mouth?

VII

HE STRUGGLED silently. The Dent prevented him from shifting his position without hardly being aware of him. He supposed he was making some noise but it couldn't be heard above the competition of the skater and storm. Just as Forrest thought he was about to get into a position where he could shake off the Dent, stand up and attract Howard's attention, the opportunity was lost.

The skater bumped twice, then rose at an angle, settled with a jar and stopped moving. They were on the ramp at Mark Island. Forrest struggled harder, seemed to be gaining at least a chance to use his legs. The engines stopped and the rain was left as background noise.

"We're here," announced Dent-Harrison.

"Welcome aboard," said the voice of Commander Howard, on the TV. "Leave the skater there, walk up the ramp and into the shed. I'll be ready for you."

"All right, B. H. Be seeing you," said Dent-Forrest and snapped off the TV.

This was an unexpected blow to Forrest's chances. He slumped, exhausted and weary. How could he attract Howard's attention without the TV?

The two Dents in front were struggling into their raincoats. The door was opened. The noise of the rain came louder and a cool breeze blew in on Forrest. He felt Dent-Howard relax his grip—he must have been uncomfortable too—so he wormed his way into a more favorable position.

Dent-Howard asked, "What'll I do with Forrest?"

Forrest could plainly see the smirking face of his double in the door light. "You can do anything you want with him."

This was the black moment to end all black moments. Forrest had hoped to plant some suspicion in B. H.'s mind, so that he would not let the Dents in. But Howard was letting them in. They would get into the shed, pass all the tests, enter the control room, chat a while, catch B. H. by surprise and kill

him. The base would be theirs, and the whole system it controlled. But first—Forrest's *own* end. The rain drifted in as the two Dents stood in the doorway. Forrest shivered and not just from the cold.

"Keep him alive," decided Dent-Harrison surprisingly. "I think your bud needs more lessons. His goof about the comic books almost fixed us." He turned to Dent-Forrest. "Let me do most of the talking but keep your pistol handy. I've got the grenades, if we need them."

Dent-Howard had sat up. The pressure was off and Forrest was able to move a little. He didn't want to reveal that he could move a lot until the other two were gone. Dent-Howard would be tired and stiff, relaxing after his long ordeal. It was still three to one; soon it would be one to one. Forrest lay still, waiting his chance.

Dent-Forrest walked up the ramp. Dent-Harrison lingered, gave Dent-Howard some last-minute instructions, or perhaps consolations for being left out of the action. "It won't take long. Watch him closely till we come back—or till we give you the word to come in. Don't call us, we'll call you." And he was gone, slamming the door.

Immediately, without giving the Dent a chance to think, Forrest sprang into action.

Literally sprang. Putting all his strength into straightening his legs, he threw off the Dent and stood up in one swift motion. He was counting on the fact that Dent-Howard wasn't up to par and that the surprise attack would prevent him from using his paralyzing stingers.

Forrest found his balance, avoided the Dent's groping arms and kicked him full in the face. The Dent's mouth sagged open and he fell back against the wall. Forrest pushed one of Harrison's bright red shoesox right into the Dent's mouth.

Farther and farther he pushed it, the Dent now sitting helplessly on the floor, his head back, arms waving aimlessly. The Dent's face was beginning to deform like heated plastic, the mouth expanding enough to take the whole foot. Forrest stood above the Dent, jamming his foot in up to the ankle, the shin. The Dent seemed to be weakening rapidly. Forrest imagined he was doing great damage to the Dent's primitive insides. He kicked around and his foot felt like it was sloshing in something liquid.

Suddenly he felt the Dent go limp. Forrest breathed heavily a while, then withdrew his foot. The Dent slumped to the floor like an empty bag. Forrest stood swaying for a moment, then leaned against the corner of the skater. No cheers, but he had won. What now? There was no time to be wasted. What could he do?

The Dents were in the shed. He had to warn Howard quickly. What he had to do was a job for an acrobat.

Balancing carefully, so he wouldn't fall to the floor and have trouble getting up again, he managed to push one knee against the front seat, swing it back. He crawled into the other seat, sat down with a painful crash and groaned. Or tried to—he still couldn't make his mouth work.

He tried to lift the foot he had used on the Dent, but it hurt so much that he had to put it down. He lifted the other foot and stretched it toward the control panel. *Don't call us, we'll call you.*

He snapped on the TV with his toe, leaned forward as it came on brightly.

COMMANDER HOWARD was looking the other way, peering into another TV screen, which apparently showed the interior of the shed. He was pressing buttons. Tape reels were rotating, instruments were flashing and humming. Tests were being given. *Tests that would fail, as had all the others*, thought Forrest.

Howard must have fixed up the skater shed as a test room while Forrest was away. No doubt he could see the two Dents in there, but the expression on his face was merely intent, not suspicious. Before long he would be satisfied and would push the button to let the Dents into the main building of Mark Station. That would be the beginning of the end. But now Forrest was on TV and he was trying to make a noise. He banged on the panel with his good foot, now with both, unmindful of the pain. Howard, fiddling with dials and pushing buttons, seemed oblivious to the racket.

Forrest kept up his foot-drumming, frantically, Suddenly Howard frowned, turned toward him.

Staring into the TV, Howard's eyes widened. His mouth opened, but he made no sound. He looked back at the other TV, and then at Forrest, who could only sit there, trying to make some meaningful motion with his head, some sound with his mouth. He wondered what sort of a crazy man he looked like to Howard.

Howard closed his eyes for a moment, then turned back to the other screen. A look of anger was now on his face, the one that Forrest had never seen, had only heard of by reputation. Howard's face grew red.

He pressed buttons, pulled switches and reached out for a lever that looked something like the handle and trigger of a gun. He looked steadily into the other TV, gripped the lever. Forrest heard a noise like the stuttering of a typewriter or the chattering of a machinegun. There was a sudden loud explosion, then another. The control panel in front of Howard

shattered. Dust filled the air. Forrest could see Howard doggedly gripping the lever, his expression slowly changing from angry to determined and finally tired. He let go of the lever, glanced at the damaged control panel and turned toward Forrest, who was still trying to understand what had happened and was helpless to say or do any thing.

Commander Howard stared angrily at Forrest. "I might have killed my best friends, just now. But I don't think so. What are *you*, a spare?" At this, he moved some levers and switches, pressed some more buttons, frowned in annoyance when nothing happened, hesitated a moment and grabbed for the gun handle again. With a last look of aversion at Forrest, he snapped off the TV. Forrest stared into the blank screen.

Now he understood what had happened, but not all of it. The Dents were dead; Howard had gunned them down. He had no time to exult at this, because he now heard the slapping sound of bullets on the skater's hull. He had to act at once.

An expert skater pilot can do almost anything with his feet he can do with his hands. Forrest started the engines, lifted off savagely and sailed straight ahead, up at a steep angle. He thought he would confuse Howard for a moment by taking off over the island, instead of backing up toward the sea. It was a hairy maneuver and Forrest nearly fell out of his seat—he couldn't strap in—but he just made it over the roofs. In a few moments he was bowling along close to the waves on the other side of the island, the automatic pilot resuming its job. It was several seconds before the bullets commenced to follow him again.

The island's automatic defenses must have been damaged or he would never be getting away, Forrest thought. Howard was firing manually, obviously, with whatever he could point.

It certainly was a wonderful thing. In a way, he had won. Two of the invading Dents were dead and the other was dead or unconscious on the floor of the skater. The station was safe for the moment and he himself was still alive. Yet . . .

Here he was, running for his life.

FORREST set the automatic pilot at an altitude just above the highest waves. The skater was working perfectly, for which he was thankful. He was also thankful for the storm, for a change. Howard seemed to be firing bigger and bigger stuff as Forrest got farther and farther away from the island. Occasionally the skater rocked with concussion as a big one hit nearby. It demanded every second of Forrest's attention to keep changing his course, to avoid lapsing into a

pattern that could be predicted manually.

He wondered how long the storm would last. Would the Dent starship return to renew it? Would the guard ship, or any other help, arrive?

He thought of his friends, homeward-bound on the *Stardust*. He had volunteered to stay here, thinking perhaps to get ahead where there was little competition. Well, he wasn't too sorry. Maybe he'd get out of this. He just didn't know how.

In addition to his constant evasive action, he tried to put maximum distance between himself and Mark Island, but there was nowhere to go. Correction, there was *one* place to go on the whole planet—Nexus Island. Howard would expect him to go there. No doubt he would be dropping a missile on the island soon, thinking, and not incorrectly that it was a nest of Dents. Poor Harrison, if he was still alive.

The paralysis seemed to be wearing off. Forrest could move his arms again and he immediately set about tying up the Dent, who was not dead but unconscious. He found some straps among the luggage. He improvised them into bonds, doing a thorough job of trussing up the alien. The Dent's resemblance to Howard, in spite of the torn mouth, was remarkable. How did they do it? Well, here was a captive to work on, more valuable alive than dead, when or if he could be put into the hands of the scientists. He found no weapon other than a small pocket pistol, like Harrison's.

He returned to the pilot's seat and made a futile attempt to contact Howard. The base did not respond to any signal.

What would happen next? It all depended on the orders Howard received from Regulus, which in turn depended on the report Howard turned in. A planet swarming with Dents? It would look like it. Having failed to take over the station by infiltration, they could still try force.

Three humans on a planet in the middle of Dent domain. Too bad they were separated. He was a hunted fugitive, scooting over the ocean. Harrison was helpless on Nexus Island. Howard, on Mark, was armed and warned, but not in possession of the facts. The three of them together could hold off an army of Dents. They were not together.

A wall of sound hit him. The skater lurched, rose violently into the air, flipped end over end and sank beneath the waves. The engines stopped and Forrest thought the ship wasn't going to surface, but it did. It bobbed erratically on the stormy waters. One of Howard's long-rang missiles had scored.

Forrest decided to play dead for a while. He waited, enduring the

seasick motion for about ten minutes. His borrowed clothing was in rags. He rummaged through Harrison's luggage and found a slightly less nauseating combination. Rust and yellow, it was, with a hardly noticeable blue stripe.

The island was the only destination possible, after all. Once there he could try—if the buildings still existed—to contact Regulus, if he could rig up the radio once again, so that it hooked up to the gravity beam. Get a message to Commander Roscoe, tell him the truth about the enemy and the situation here, get Howard to stop shooting. It seemed like a long, impossible chance. He was a pilot, not a communications technician. The hookup that had been used before was a mass of junk. The odds were against him. But it was the only game in town.

Besides, Harrison was there. This was an act of rescue, a mission of mercy once more. He had to get Harrison off the island.

Once again.

He started the engines, swung around and was off like a bullet, toward Nexus Island.

VIII

BEFORE the navigation instruments told him otherwise he had begun to expect to see no island ahead at all. Howard had big missiles in his arsenal and the island was an artificial one, built up from the ocean floor. So he was a little surprised when he saw it looming darkly and lightless through the rain. It was three o'clock, not yet dawn. He zoomed onto the skater ramp, killing the engines to stop.

Why had the island not been bombed? He preferred not to speculate on the reasons for this right now, finding it sufficient to keep in mind that it could be bombed any moment, so that he had to make haste. See what he could do about the radio hookup, rescue Harrison and clear out fast. Make for the other side of the planet, maybe, until the storm was over. Oh, yes—rustle up some food and supplies.

He glanced back at the tied-up Dent and opened the door. The rain soaked him as he ran into the building. He entered the little kitchen belonging to Harrison. He walked over to the circular staircase, pressed the button on the bannister, then impatiently mounted the stairs, two at a time.

On the second floor, he looked into the radio room, the lights coming on as he crossed the threshold. The contraption in the corner, blackened and ruined, caught his eye at once and immediately discouraged him. How could he repair this thing, knowing almost nothing about it? How could even an expert fix it? He gave up the idea of communicating with anyone and left the room. He went to the

door of the storeroom. This was the door he had almost tried before and Harrison—the Dent—had urged him to come away.

It was locked. He had no idea where the key was, so he pulled out the Dent's little pistol, stood back and fired. It took four shots before the wrecked door swung open.

The place really was a storeroom, he saw when the lights came on. It was stacked with boxes of every description and many other things, some not even recognizable to him. Harrison, too, might be here—and was.

FORREST found him at the end of the room, stretched out on a cot. He looked to be unconscious or sleeping. Harrison—if it really were Harrison and not another Dent—turned over and suddenly sat up, blinking. Forrest saw that he was shackled to the bunk, which was fixed to the floor. He had been working on his bonds, but ineffectually, as evidenced by signs of scraping on the metal.

Forrest was the first to speak. "You've passed the blink test."

"Who are you?" said Harrison, weakly. "I don't know you, so you can't be a Dent. Dents are only people I know." His mind seemed to be wandering and Forrest became concerned. He asked Harrison if he had had the dose of Contrad he had needed.

"Oh, yes," said Harrison. "They deprived me for a while to see what the effects were, I suppose, then gave me a shot, to see what the recovery effects were. They wanted to fool someone with a half-baked imitation of me. Glad to see that they didn't. Did you shoot them? I thought I heard a lot of shooting going on, but I've lost all track of time. That makes me a possible Dent, doesn't it? The time test, you know."

"They're dead. Two of them anyway. But they did fool me." He brought Harrison up to date, while he was working to cut the shackles with some tools he'd found in the storeroom. "So you had the Contrad all along? By the way, my name's Jim Forrest, B.H.'s pilot. I keep forgetting that everything I told the *other* Harrison isn't known to you."

The little man smiled.

"So Howard got them both. Good for him. I'll have to talk him out of shooting at us," said Harrison. "He always was a stubborn character. Once B.H. gets an idea, he carries it to extremes. Of course, that's one of his good points, too."

Forrest looked up from his hacksaw work. "Never mind that. We're going to get out of here. No time now to try to fix the star hookup. We'll contact Howard after the storm is over and he's cooled down a little."

The last link fell off and Harri-

son rose shakily. "No, I'm all right. I'm ready to go with you, but let's take a look at that radio first." He led the way out of the storeroom to the communications room, at first limping, then with a firmer stride.

He walked into the radio room, Forrest following. Harrison went over to the multiple TV screens, Forrest waiting by the burnt-out wreckage in the corner. Harrison turned around, looking puzzled. Then he caught sight of the messy contraption near Forrest.

"That's not it," said Harrison. "That's an old-style gravity calculator." Irrelevantly Forrest noticed that Harrison was wearing an even more outlandish outfit than any he'd seen, black-and-green dotted shirt clashing with red-and-yellow slacks and blue shoesox.

Harrison picked up a pair of needle-nose pliers. A few wires stuck out of the jaws.

"I just attach this to the back of the TV." He laid down the pliers, fiddled with the TV knobs, got a dim picture.

Forrest felt hope returning. Was it possible? Did the thing work? "I thought you said the radio was out?"

Harrison flashed another of his grins. "I didn't say that. Did I?"

"No—you didn't. But the mast is down, too."

"You're right—the mast is down." Harrison pressed a button, there was a whirring noise and the TV brightened.

"It certainly is a wonderful thing," said Forrest, not knowing whether to be dismayed at the extent of the Dent lies, or jubilant.

The picture on the screen showed the inside the skater. Barely visible behind the two empty front seats sat the Dent, trussed up, unmoving.

"That's all I can get right now," said Harrison. "I can't get New Nexus direct because of the storm. Who's that? The fake Howard? I'd like to pulverize that creature. He had me fooled for a while. Made up a story that his plane had crashed in the water. I talked too much before I found out he wasn't Howard. Then I wrecked the copter, so he couldn't leave the island. He budded another of his kind to study me, copy me. I have nothing against the Dents—did you see their natural form? Fascinating. But I don't want them masquerading as us. Sure that guy is safe there?"

"WE're going out as soon as I pick up supplies," said Forrest. "Can you get that thing working? We might try to contact Regulus, at that. I'll write out a message in code."

"Forget the code," said Harrison. "There's nothing wrong with the TV." He attached the pliers-like gimmick. Another screen lit

up, the view of the skater remaining on the first.

"That looks like Director Bennett on Regulus," said Harrison. "Hello, Cecil. You know me, don't look so surprised. I'm not a ghost. Or a Dent either—don't look at me like that."

Forrest saw that the communications director's horror was genuine. He stared at Harrison but addressed someone else. "Commander Roscoe. I think I've got Marconi here."

"Marconi?" said another voice. "I've already got Marconi. Let me have that." The picture changed to another face, one Forrest knew well, that of the military commander of the Regulus area, Commander Roscoe. He looked at Harrison long and carefully, glanced at Forrest briefly. He winced.

"If you're Harrison and Forrest, I'm an Algieban alligator. What are you trying to pull? For your information, your first Forrest and your first Harrison are in the skater-shed at Mark Station, stiff as barrels. How stupid do you think we are? We're not fooled by identical twins."

"Now just a minute," said Harrison angrily. "I've had enough of that. It's bad enough having Dents imitate me without being taken for one. Let me talk to Howard. Put me through to Mark Station. You can do that for me—even if you think I *am* a Dent."

"You want to see Howard?" The commander's face hardened some more. "Yes, I'm sure he'll want to see you. I've got him on the line now. I've been trying to talk him out of bombing Nexus Island. Maybe I'll change my mind." He cut off and another room filled the picture.

It was the familiar interior of the control room at Mark Station, a thousand miles away, relayed via the stars, a trillion times that distance.

As soon as B.H. Howard came on the screen, he turned red. "Roscoe, don't try to keep me from bombing the island now. You killed my friends, you slimy polyps, and you're soon going to pay for that."

"Wait a minute, B.H.," said Forrest. "Aren't you going to give us a fair trial before you condemn us?"

Howard glared. "What kind of trial? No tests work. You Dents are too clever. I'm happy to tell you that war's been declared. I've been given a free hand to wipe out any Dents I see. And that includes you." He reached for his evidently repaired control panel, pushed buttons, set dials.

"Hold it, Howard." Commander Roscoe came on the screen again and Harrison fixed it so that both occupied separate screens. Roscoe was calmer, at least by comparison. "You're zeroing in on military property.

That island may be valuable to us when we bring in the forces. Can't you wait for your revenge?"

"No," said Howard. "I'm not in your jurisdiction. I'll take the responsibility. It's not revenge, it's caution. There's no room for Dents on this planet. Islands are expendable."

Forrest didn't like the way things were turning out. He wished he had prepared to leave before making this contact. They had to get out of here right now—he tried to pull Harrison away. The little man was staring speechless at Howard, who was reaching for the button—the one that would release missiles already zeroed in on the island.

At that moment, motion was seen on another screen, the one that showed the skater's interior. The Dent had gotten loose, and was climbing up front toward the controls. He no longer looked like Howard—he was a gray rubber doll.

Harrison connected the screens so that Howard and Roscoe could see the skater. "There's your Dent—and, damn it, he's getting away!"

The others were frozen at this sight but Harrison sprang into action. He jumped for the control panel, pulled down a lever that resembled the handle of a gun.

Up above, from the observatory, could be heard the chattering of gunfire. Harrison swung the controls of the variable cannon, following the now airborne skater on his sights. He pushed buttons increasing the firepower, but soon had to announce that Dent and skater had gotten away in the storm.

THE incident seemed to have affected Commander Howard at the Mark control panel. He spoke to Harrison in a quieter voice than before.

"Was that the last Dent? I'll take care of him. Give me the direction and the exact moment he took off. What's the top speed of the skater, Jim?"

Forrest was dazed. "About two-ten, B.H.," he replied.

An equally mystified Harrison checked the angle of the gunsight, and Roscoe came up with an accurate figure for the time of the Dent's departure by consulting the playback tape.

Commander Howard began punching a desk computer. Then he adjusted dials on the panel, reached out his arm and pressed a button. "Now if he just doesn't take too much evasive action—"

They watched the screen in comparative silence. It takes quite a few minutes for a missile to go a thousand miles. The picture showed the interior of the skater, the gray rubber-doll figure, balloon head bobbing, gray arms active at the controls, the storm visible through the back windows. They

stared at the comic figure that was no longer funny. Suddenly they were looking at a blank screen.

No one spoke for a few moments, while the images flashed back and forth across light-years.

"It was a good skater," said Forrest.

"You'll have a dozen more," said Commander Roscoe. He turned to Howard. "Are you satisfied they're not Dents? You seemed to be so certain a while back that they were."

"I'll vouch for them," said Howard. "It's not what people say that counts, it's what they do. You fired on the Dent, Warner. This could have been faked, of course, but it shook my conviction. Your cooperation in guiding the missile convinced me."

Howard thought a while, then went on. "The Dents I killed in the skater shed were really Dents. They're some kind of primitive creatures underneath. So you must be the men they replaced. Anyway, it isn't that much of a risk, since now you have to stay on the island. Commander Roscoe tells me that the Marines will soon be landing. They'll bring doctors and a physical examination will tell all."

Forrest felt a mental letdown, after the threat of impending destruction had been lifted. "Let's go up to observatory," he said to Harrison after Howard and Roscoe had signed off.

As they rose into the upper room, brightness met them. It was now after four o'clock and Denebola was coming up into a spacious sky nearly free of clouds.

"I guess the weatherbomb finally gave out," said Forrest. "There go the Dents' chances."

"They may still come in force," said Harrison cautiously.

"B:H. will take care of them. He can easily cover Nexus, now that the sky is clear."

Harrison began tinkering with the instrument in the center of the room. "And now that the storm is over, I can use my telescope again. Have you ever seen the Sun from here? It's in Aquarius. You know they once had a saying, that when the Sun is in Aquarius—"

"There'll be rain," said Forrest.

"Where did you hear that?" asked Harrison.

"From you. From your double."

"Damn! That guy stole my jokes too!" They laughed a little rustily.

Forrest looked through the window at Old Nexus City. Soon it would be reactivated to accommodate military personnel. Marconi would be a busy place. Of course this would be only a small part of a huge operation, the expedition against the Dents.

"You'll be sort of crowded here, Harrison. Do you mind?"

"Well, I could go back to Earth—but I like this weather."

Forrest smiled. "So do I."

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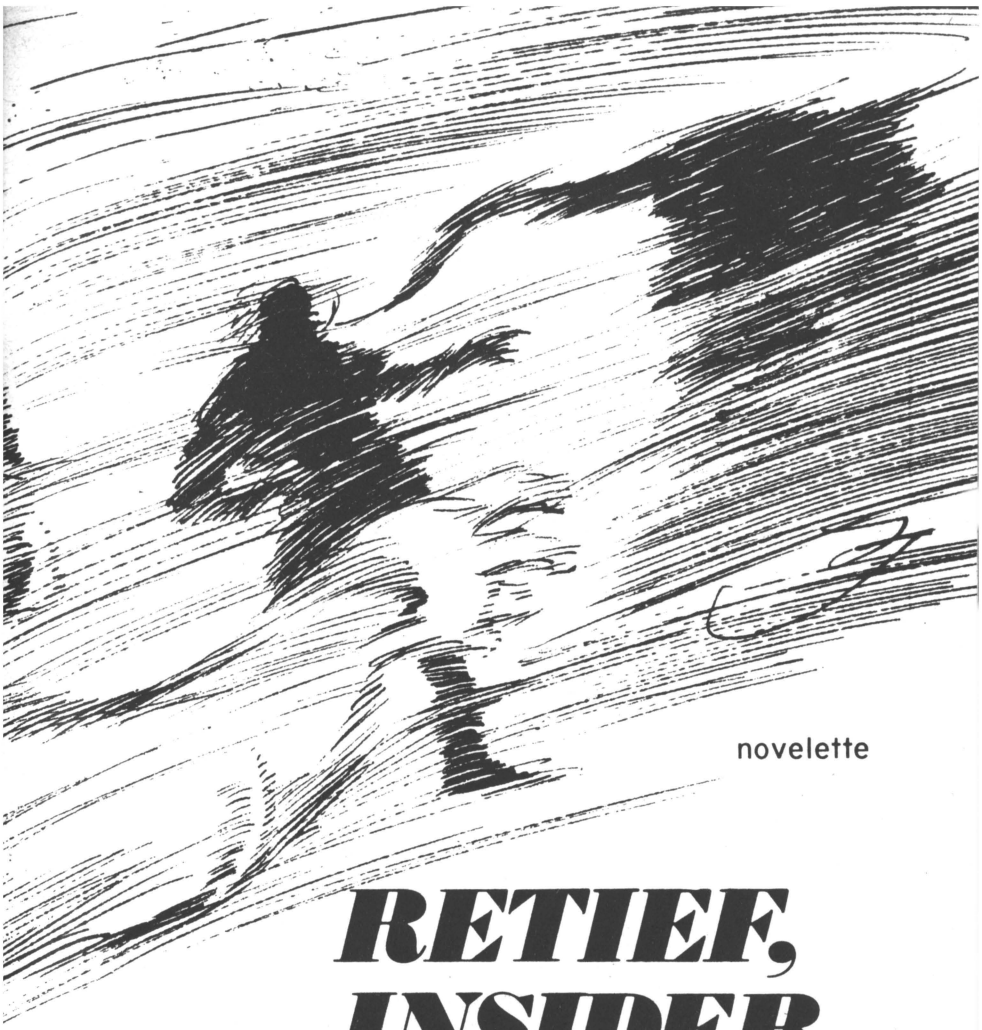
KEITH LAUMER



novelette

RETIEF, INSIDER

Interstellar adventure and a diplomatic coup make a story that nearly was not told . . . .

I

"THE Terran Ambassador to Quahogg," said the undersecretary solemnly, "has disappeared."

Career Minister Magnan, seated opposite his chief across the wide, gold-plated Category 2-b VIP desk, cocked his narrow head in a look of alert incomprehension.

"For a moment, sir," he said, "I thought you said the Terran Ambassador had — ha-ha — disappeared."

"Of course I said he's disappeared," the undersecretary barked. "Vanished. Dropped from sight."

"But that's impossible," Magnan said reasonably.

"Are you calling me a liar—or an idiot?"

"Mr. Magnan is merely expressing his astonishment, Mr. Undersecretary," First Secretary Retief said in a calming tone. "Perhaps if you'd give us a little more background it would help lower his credulity threshold."

"What background? Ambassador Wrothwax was dispatched a week ago at the head of a small mission accredited to the Supreme Fulguration of Quahogg. The party reported landing on bare rock in a violent whirlwind, finding no signs of the local culture, no vegetation, not even a building or the ruins of one. The members took shelter in a cave after being threatened by immense carnivorous worms. At that point Wrothwax's absence was noted. Frankly, we're mystified as to what went awry." The undersecretary looked challengingly at Magnan.

Magnan put a finger to his cheek. "You don't suppose the Quaswine—"

"Quahoggians, if you don't mind, Magnan. No, out of the question. His Supremacy was most cordial during our chats via telelink, though a trifle shy. Never showed his face, possibly underestimating our sophistication, imagining we might find his alien appearance off-putting. He welcomed the establishment of diplomatic relations, gave us landing coordinates, assured us he was laying on a gala welcoming celebration." The undersecretary handed over a rather blurry color photo of a vast, baroquely ornamented chamber.

"The audience chamber in His Supremacy's palace—splendid, eh, in a barbaric fashion? We lifted the image from the TL screen."

Magnan gasped. "Stunning. Just look at all those swags."

"Any exterior shots?" Retief inquired.

"It seems climatic peculiarities render open-air photography somewhat impractical on Quahogg."

"WHAT does His Supremacy have to say about

our man's disappearance?" Magnan wondered aloud.

"Unfortunately our communications link is temporarily off the air—due to atmospheric disturbances. However, my guess is that the mission missed its landing point and came to rest in a patch of desert rather than the magnificent city pictured there."

"Well, I'm sure we'll all miss His Excellency," Magnan said, looking politely grieved. The experience must have been quite harrowing for them."

"It still is," the undersecretary said grimly. "According to their last transmission before we lost contact, they're still holed up in the cave, subsisting on their representation rations."

"Six days on domestic champagne and mummified hors d'oeuvres?"

"These are the hazards a diplomat faces in the field," the undersecretary said sternly.

"The loss of Ambassador Wrothwax is a grave blow to the corps," Magnan said. "I wonder who could possibly fill his slot in the Table of Organization." He pinched his lower lip and gazed ceilingward.

"Actually, Magnan, your name has been mentioned."

"What, me, sir? To be promoted to career ambassador? I really don't deserve—"

"That's what we thought. That's why we're merely naming you as *chargé d' affaires* until Wrothwax is found."

"*Chargé*?" Magnan shifted in his chair. "At Quahogg? My feeling, sir, is why send good men after bad—not that I mean to imply anything, of course—"

"Someone has to go in there and find Wrothwax, Magnan. We can't just drop an ambassador from the records as if he were so much broken crockery."

"No doubt, sir. I was just thinking of this condition of mine. My doctor says it's the most unusual case of aggravated diplomat's elbow he's ever encountered—"

"See here, Magnan—if you have any reservations about this assignment—any reservations at all—I'm sure your resignation will be philosophically accepted."

"Oh, no—I couldn't be more enthusiastic. Why, who needs vegetation? It just requires a lot of mowing and trimming and I've always loved all sorts of creepy, crawly, creatures. Ah—you did say the party was chased by giant worms?" *

"Forty-footers. There seem to be a couple of other life forms as well,

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* Ref CDT Image Guideline No. Y-897-b-34 (Par 2c) *Epithets, Unflattering, Use of.* The terms *Deosseomolluscoid, Vermiformoid,* and *Megadeosseomolluscoid* (abbr. DOM, VF, and MDOM, respectively) are preferred in all official contexts.

referred to by the landing party as, let me see, oh yes: slugs, and super-slugs.* According to the report they're limbless, featureless, boneless, without sensory organs and of the approximate shape and consistency of bagged oatmeal—cooked."

"Cooked?"

"I understand they have hooks on their undersides to help them hang on when the breeze gets over a hundred and ninety knots," the undersecretary amplified.

"I HAVE a capital idea, Mr. Undersecretary," Magnan said brightly. "Why don't we just skip on past Quahogg and try our luck elsewhere, say in a nice, comfortable planet inhabited by nothing more ferocious than a few colorful lichens?"

"Don't talk nonsense, Magnan. Quahogg happens to be the sole planet of the Verman system, which lies squarely athwart the Groaci direction of creep into Terran spheres of influence. It should be perfectly plain to you that we must get a foothold on Quahogg before those rascals steal a march on us."

"Maybe they'll just go around Quahogg."

"What—and lose points? Don't be naive, Magnan. You know how important points are to the Groaci."

"I've got it, sir. Why don't we pretend to be big-hearted and just let them have it?"

"Then *we'd* lose points. Besides, His Supremacy is something of an unknown quantity—we don't know what the beggar's up to." The undersecretary frowned. "I'll be candid with you: there seems to be some possibility that he has imperialistic ambitions. Wrothwax went in with a full Mark XL Undercover kit, and instructions to poke about. From the promptness with which he vanished, I suspect His Supremacy wasn't fooled even for a moment."

"About that resignation," Magnan said thoughtfully. "Would I be able to get a lump-sum settlement from the Retirement Fund?"

"Negative!" the Undersecretary barked. "Look here, Magnan, this could be a millstone in your career. A milestone, that is to say."

Magnan said, "How true. What a pity I never learned the language—"

"Eh? According to your file you brain-taped both Sluggish and Worman back when you were angling for the assignment."

"Ah—unfortunately I only mastered Old Low Worman, an obscure dialect—"

"Bah, Magnan. You're hedging. I want you to go in there and come out covered with glory. Do you understand?"

"But—what about this Supreme

Fulguration? How do I find him among all these—these oversized annelids?"

"That's your problem, Magnan. Now, you and Retief had better step smartly. The personnel ferry lifts in less than six hours and you will be aboard."

"I say, sir," Magnan offered, "I don't suppose you'd like to send a couple of gunboats in ahead of us to—uh—sort of worm the place a trifle?"

"Nonsense, your job is to find out what happened to Wrothwax, not to become entangled with the wild life." The undersecretary fixed the new appointees with a penetrating eye. "We're counting on you, gentlemen. And remember the corps motto: come back with your briefcases—or on them!"

In the corridor Magnan looked despairingly at Retief.

"It simply doesn't pay to be outstanding," he mourned. "My reward for years of dazzling efficiency—exile to a worm ranch."

"Cheer up," Retief consoled him. "I'm sure you'll find the experience exhilarating—once you get the hang of gripping bare rock while conducting a high-level negotiation with deaf mutes."

"There's one consolation," Magnan said, perking up a little. "As *chargé*, I'll rate a salute of seventeen and a half guns."

"Impressive," Retief said. "Let's hope they're not aimed in our direction."

II

IN RETIEF'S cramped cabin aboard the corps' ferry, *Circumspect*, the intercom crackled and spoke.

"Better get set, Retief," a casual voice said. "We'll be hitting atmosphere in a couple of minutes—and I do mean hitting. If you see Nervous Nellie, pass the word. His hutch doesn't answer."

"Nellie?" Magnan frowned. "Is there another passenger aboard?"

"Just a little personal code the captain likes to use," Retief clarified. "I think it's time to strap into the drop-capsule."

"I'm all a-twitter," Magnan said as he and Retief made their way along the narrow access shaft to the tiny compartment in which they would descend to the surface. "To think that I'll soon be presenting my credentials to His Supreme Fulguration—"

"A solemn moment, Mr. Magnan."

"Garb-wise, I'm prescribing full Late Midafternoon Top Formal cutaways, with chrome-plated dickeys, silver lace cuff-cascades, plus medals and orders. First impressions are important, I always say."

"I'd suggest you amend that to read full environmental suits, plus deflector fields and traction boots," Retief said. He waved a hand at the small screen on which a cloud-mottled planetary surface

was slowly swelling. "There seem to be a dozen or so hurricanes, typhoons and tornadoes blowing simultaneously down there at the moment."

Magnan stared at the view in dismay. "We're supposed to land in *that*?"

"Actually, this is almost a lull, by Quahoggian standards."

"You speak as though you knew it would be like this."

"The post report the preliminary survey team compiled mentioned a certain amount of turbulence in the atmosphere."

"Why didn't you warn me? I could have wriggled out—I mean, my peculiar qualifications could have netted us a six-month TDY jaunt doing a tourist facility survey on Beachromp, on full *per diem* allowances."

"Don't tell me that a campaigner of your experience forgot to do his research?"

"Of course not. How would I have known about the seventeen and a half guns?"

"We're in for a bumpy ride," Retief, said. "Maybe you'd better not try to land all the booze you had loaded in the cargo well."

"Medical supplies," Magnan said crisply. "As you know, I disapprove of stimulants except in emergencies."

"I suppose the fellows in the cave could use a snort, at that."

"Um. Foolish of them to have landed off-target."

"That part puzzles me," Retief said. "The controls in these landing bugs are pre-set, you know."

"Possibly some malfunction," Magnan said absently. "Now, I'll want you to observe my technique, Retief. As chief of mission, I'll be moving in the highest level of the local society, hobnobbing with bigwings, attending a gay round of routs and balls. Tedious, of course, but one must accept these trifling inconveniences as part of the burden of leadership."

"What about finding the missing ambassador? Will you be handling that before or after the gay round—I mean the trifling inconveniences?"

"Frankly, Retief," Magnan said in a confidential tone, "I imagine we'll find His Excellency holed up in the native quarter with a pair of local houris. We'll hush up the affair, as is usual in such cases, and—"

"Ready for drop," the captain's voice rasped in the diplomats' earphones. "Happy landings, gents—and look out for falling cargo." With a lurch, as though kicked by a giant boot, the capsule leaped free of the mother ship and arrowed down through the murky atmosphere of Quahogg.

"GREAT heavens, Retief," Magnan said, over the shriek of the wind, peering out through the armor-glass panel set

in the steel bulkhead of the tiny landing pod, moments after the cushioned impact on the surface. "There's nothing out there but a lot of worn-down stone and flying dust, unless you want to count those ugly-looking black clouds scudding overhead. What's happened to the palace of His Supreme Fulguration?"

"The welcoming committee seems to be late, too."

"Good lord—you don't suppose we blundered, coordinate-wise, and missed the drop area, like that last pack of nitwits?"

"If so, we missed it the same distance they did. Look over there."

Magnan exclaimed sharply. "Why—it's a CDT landing pod just like ours!"

"Except that the wind has peeled most of the plating off it," Retief agreed. "Well, let's get started. We don't want to keep His Supremacy waiting."

Magnan assumed a determined expression. "I see we're up against some unexpected obstacles," he said firmly. "However, a diplomat's primary skill is adaptability."

"How true. What do you plan to do?"

"Resign, effective last Tuesday, pension or no. Just thumb that intercom and tell the captain to pick me up at once, will you?"

"One-way link, Mr. Magnan, remember? I'm afraid we're stuck."

"You mean—"

Retief nodded. "We might as well disembark and find out if that report of a forty-foot worm was an exaggeration."

Magnan groaned. "Maybe, if we're lucky, we can find the cave. I hope those gluttons haven't eaten all the antipasto."

AWKWARD in their bulky protective suits, the two diplomats cycled open the exit hatch. At once a violent blast of air seized them, spun them along across a stretch of eroded stone to lodge them with a crashing impact against a low stony ridge.

"So far so good," Retief said. "At least the weather reports were accurate."

"A scant consolation for being marooned in a maelstrom—"

"Still, you only have to hold the job down for thirty days to qualify for full chief-of-mission pay."

"If I live that long."

"Our first move had better be to plant a tracer beam to mark ground zero before they dump any more welcomees off-target."

"Leaving clues to ease the burden of my successor interests me far less than preserving a whole skin," Magnan snapped. "I mean Ambassador Wrothwax's skin, of course," he added quickly. "Gracious, I'm only too glad to hurl myself to destruction if it will help implement corps policy."

"That's all right, my suit recorder's not on," Retief said. "And Wrothwax will be thinking of your skin—in strips—if you hurl yourself to destruction before you've found him."

Magnan, only dimly visible to Retief from six feet away, struggled to a sitting position. At that precise moment there was a descending whistle, followed by a resounding thump a few yards distant in the gloom.

"That would be your medical supplies, right on schedule," Retief said. He got to his feet, forced his way forward into the gale. "That's a lot of medicine, Mr. Magnan," he said admiringly. "How did you sneak it past Supply Control?"

"I hope the bottles aren't broken."

"No bottles," Retief said. "Steel drums, fifty-five-gallon size. Lots of 'em."

Assisted by his suit's servo-boosters, Magnan waded forward to peer at the heaped containers deposited on the rock. Lettering on their sides proclaimed: TINCTURE IODINE—.01%; SULPHURIC ETHER, USP; WHITE PETROLEUM OIL HEAVY.

"You had me fooled," Retief said. "I thought you were just kidding about the medical kit."

"Who, I?" Magnan said weakly. "Would I jest about a subject so essential to diplomacy?"

"Well, we're prepared for a variety of emergencies," Retief observed. "And I think I see the first one coming now." Magnan looked in the direction Retief was pointing. From the swirling cloud of windborne dust came a two-ton mass of leathery, dun-colored gelatin, mist-shrouded, humping itself relentlessly toward the Terrans on blunt pseudopodia.

"YOU SEE? I knew they were exaggerating," Magnan babbled, backing away. "It's hardly more than eight feet long, or possibly twelve—and it's not even a worm. It's more of a slug and—"

"Let's hope it's a superslug, MDOM for short," Retief said. "If not, I foresee a dim future for Terry-Quahogg relations."

Retief stepped aside as a long, tentacle-like member formed itself at the fore end of the amorphous creature and groped toward him. Thwarted, it shifted direction, snatched at Magnan, who leaped away, was caught by the wind and bowled along head over heels into the murk. Retief went after him, brought him down with a flying tackle at the edge of a precipitous gully. For a moment the two suited figures teetered at the lip of the ravine; then a vicious gust caught them, tumbled them over. Giant hammer-blows slammed at Retief through his protective suit as he careened down-

ward, bouncing from ledge to ledge to fetch up hard at the bottom. A moment later Magnan came skidding down, helmet-first, amid a clatter of dislodged stones. Retief caught him by the shoulders, dragged him back into the meager shelter of the overhanging lip of a wind-carved cavern.

"Well, thank goodness you're here at last," a petulant voice chirped in his earphones. "We're almost out of anchovies!"

"BUT this is insane," the slight, paunchy diplomat, shivering in a use-stained environment suit repeated for the fourth time in three minutes. "It's obvious we're the victims of some grotesque hoax—"

"Possibly if you'd seen fit to confide a trifle more detail in your report, Thrashwelt, we'd all have been spared no little inconvenience," Magnan said acidly, holding out his glass.

"I did, Mr. Magnan, I assure you. I TWX'ed all the details to Sector, with particular emphasis on my allergy problem. And instead of a rescue team, they send us two more thirsts to quench—not that you're not welcome, of course," he added with a strained smile as he poured pink champagne. "We're down to the 'forty-four—very poor year. Miserable bouquet and an apalling traveler."

The diplomats were seated on spindly folding chairs grouped around a collapsible table with integral lace napery and bud vase, crowded with dainty glasses, crumb-covered plates, open tins and crumpled paper napkins. In one corner of the cave were heaped a pile of ornately labeled empties, garnished with zwieback crusts, corks and olive pits.

"Still, things could be worse," a silvery-haired press attaché contributed in a tone of half-hearted optimism. "I recall hearing of a Cultural Mission marooned in the Belt for three weeks with nothing but a regulation multi-demoninational chapel kit to sustain them. Twenty-one days on Mogen David and sacrificial wafers." He wagged his head in commiseration as the little group observed a moment of sympathetic silence.

"If only we could find the palace of His Supremacy," Magnan said dolefully. "Suppose we sent out search parties in various directions to comb the countryside."

"No use," Colonel Wince, the military attaché, stated solemnly. "Already done it. Boxed the compass. Nothing. Bare rock, slugs, drifted dust, worms, ravines, superslugs. Range of worn-down mountains in the distance. Filthy great clouds, dust up the kazoo—"

"Now, now no defeatism, Colonel," Magnan wagged a finger. "We're just not looking in

the right places. Think, everyone. Where haven't we looked?"

"Up the kazoon, I say," the colonel muttered. "Give a man an enemy he can come to grips with, not this confounded smog bank inhabited by invertebrate appetites."

"With the exception of His Excellency the Ambassador, all personnel seem to be present or accounted for," Retief said. "What makes you think the wild life is carnivorous?"

"Why, the instant they sight us they come charging down, figurative jaws agape," Thrashwelt said indignantly.

"I didn't see any eyes," Retief said. "How do they sight us?"

"Suppose we leave the zoological musings until later, Retief," Magnan said sharply. "At the moment the problem is how to disinsinuate ourselves from this dismal fiasco without furthur abrasions to hides, egos and effectiveness reports. Now, I propose that we make one more try via telelink, hoping for a break in the weather —" He broke off as the dim light filtering around the curve of the grotto faded suddenly to near total darkness in which the folding emergency chandelier suspended from a convenient stalagtite shed a wan glow on anxious faces.

"What in the world—"

"It's them," Thrashwelt gibbered, leaping up. "They're making another try—"

"Into the back room, men," Colonel Wince barked. "Man the barricades."

Magnan yelped, "Here—what's going on?"

"Every so often one of those great horrid monsters comes poking and probing in here," a grasshoppery little clerk said breathlessly. "They squoosh themselves out thin and come groping in the dark, feeling for victims—"

He dashed away, scrambling through the narrow opening into the next cavern.

Looking in the direction from which the attack was expected, Retief saw a bulge of darkness intrude into the chamber; a foot-thick finger patted the walls and floor like a hand feeling inside a pocket.

"Come along, Retief," Magnan cried. "Do you want to be crushed to mincemeat?"

"It seems to be feeling its way rather delicately," Retief pointed out. "As if it were being careful not to break anything."

"Maybe it just doesn't like paté," Magnan croaked, backing away. "Retief—look out!"

The leathery probe suddenly elongated, thinned, shot out to within a foot of Retief's knee.

"Easy, Mr. Magnan," he called, standing fast. "The suit will take plenty of strain."

Gingerly the pseudopod advanced, hovered, then, with a soft smacking sound plastered itself

snugly against Retief's left shin.

"At last, a contact!" a mellow voice boomed inside Retief's brain. "We were beginning to think you fellows didn't want to talk."

III

"IT SEEMS to be some sort of telepathic inductance," Retief said. "He has to make physical contact to transmit."

"Precisely," the soundless voice agreed. "By the way, my name is Sloonge, Minister of Internal Affairs to his Supreme Fulguration. Ever since the arrival of Ambassador Wrothwax, His Supremacy has been anxious to meet the remainder of the mission."

Retief passed the message along.

"Then Wrothwax reached him after all," Magnan blurted.

"Indeed, yes," Sloonge confirmed. "He was perceptive enough to lie down when the others departed so precipitously. He wriggled a bit when I greeted him, but as soon as he completed his ceremonial arrival song I was able to convey His Supremacy's invitation. At least I assume it was a ceremonial arrival song—a series of strident yelps in the audible range?"

"We diplomats frequently burst into yelps on emotional occasions," Retief assured the alien. "I take it after the ceremonies His Excellency went along to meet His Supremacy?"

"Quite so. I hope you'll also favor him with a visit."

"Retief—what's going on?" Magnan demanded. "Why is it fingering your knee?"

"It seems Wrothwax fell down and perforce enjoyed a nice chat with Minister Sloonge here, who conducted him to an audience with his boss. We're invited to join the party."

"Do you suppose it's safe?"

"It's what we came for."

"True," Magnan conceded. "But Retief—do you suppose His Supremacy is of the same species as this, er Megadeosseomolluscoid?"

"I heard, I heard." Sloonge transmitted a chuckle-equivalent. "His Supremacy, a superslug? That's quite amusing, actually. His Supremacy will enjoy the jape. And now, shall we be going?"

"Very well. Just a moment while I summon my staff." Magnan went to the rear of the cave and hallooed. The response was a strident sibilant.

"Quietly—you'll tip off our hidaway—" in Thrashwelt's voice.

"You presume to shush your immediate supervisor?" Magnan said sharply. "Come out at once and join my retinue. We're paying a call on His Supremacy."

"Sorry, sir. My job description doesn't say a thing about exotic forms of suicide."

"What's this?" Magnan choked. "Mutiny? Cowardice in the social arena?"

"Concern for corps property," Thrashwelt corrected. "I wouldn't want to lose a valuable environmental suit containing an expensively trained bureaucrat, namely myself."

"Very well," Magnan said coolly, "I suggest you while away the time until your arrest by composing a letter of resignation."

"Better composing than decomposing," Thrashwelt said tartly.

"Come, Retief. Since you were the only one cool-headed enough to join me in my decision to outface the monster we'll carry on unaided."

With their helmets in place and servos creaking, they followed the giant courtier out into the gale.

"NOTHING like a bracing stroll in the open air to make one appreciate a little shelter," Sloonge commented as the little party slogged ahead, the two diplomats sheltered in the lee of their guide, who slithered along beside them like a bus molded in gray jello. Communication was maintained via a pair of strap-shaped extrusions, which the Terrans gripped.

"Curious," Magnan said, bucking the head-wind. "I see no signs whatever of civilization—no roads, fences or structures of any sort."

"Oh, erecting anything out here on the tundra would be a waste of time," Sloonge commented. "This is just a pleasant zephyr, of course—but when the wind starts to blow in earnest, it's a different matter."

"Underground shelters?" Magnan inquired.

"What—caverns large enough to shelter the entire population—cut into solid rock?" Sloonge sounded surprised. "Quite beyond the scope of our technology, I'm afraid."

The party topped a rise. Through a momentary break in the pall of rolling dust a featureless plain was visible, stretching to a row of humpbacked hills.

"Still nothing," Magnan complained, his voice barely audible over the keening of the wind. "How much farther are we expected to wade through this Niagara of emery dust?"

"Not far," Sloonge said. "We're almost there."

"I suppose the palace is nestled in the hills," Magnan muttered doubtfully as they forged ahead.

Ten minutes later, after mounting a slope of drifted dust in the lee of a rounded promontory they reached a sheltered furrow in the lumpy ground.

"Ah, here we are," Sloonge telepathed, angling toward a lightless fold in the landscape.

"I still don't see anything," Magnan said.

"We Quahoggians don't lavish much effort on externals," Sloonge explained. "Why bother, when the sand would flay a coat of paint off in twelve seconds by the clock?"

The giant creature extended an improvised digit the size of a prize-winning watermelon to thumb a spot on the featureless gray wall. A crack appeared, valved open on a brilliantly lit and wide passage.

"Breath-taking," Magnan gasped as they stepped inside the rose-colored passage. The howl of the wind died as the entry closed behind them, to be replaced by the soothing strains of a Strauss waltz; liveried amoeboids of medium size sprang forward to attend the newcomers.

"You may remove your helmets, gentlemen," Sloonge announced. "You'll find the air here tailored to your specifications, as suggested by Ambassador Wrothwax."

"WHY, RETIEF, I don't believe I've ever seen anything so lavish in scale and decor," Magnan said as they proceeded along a lofty hall paved in red carpeting and draped in irridescent scarlet silk, shot through with bluish traceries. "No wonder they don't bother fancying up the externals with all this in store."

"I'm exceedingly pleased you find the surroundings acceptable," a deep, soundless voice seemed to boom through Retief's brain.

"Good lord! What was that?" Magnan quavered.

"Gentlemen, permit me to introduce His Supreme Fulguration," Sloonge spoke up smoothly. "Your Supremacy, the newly arrived members of the Terran delegation."

"A pleasure," the vast voice rumbled. "Sloonge will show you to your quarters. Just ask for whatever you'd like. As for myself, I'll have to ask you to excuse me for the present. A touch of dyspepsia, I fear."

Magnan was fingering his skull as if exploring for cracks. "I understood you to say contact was necessary!" he hissed at Sloonge. "How is it we can hear His Supremacy when he's not even here?"

"Not here? Surely you jest, Magnan," Sloonge said jovially. "Of course he's here."

Magnan looked around. "Where?"

"Don't you know where you are?"

Sloonge's mental tone was somewhat amused.

"Of course—we're inside His Supremacy's palace—"

"Close," Retief said. "But I think 'inside His Supremacy' would be closer; about fifty yards along the pharynx, on the threshold of the cardiac orifice, to be precise."

"YOU—don't mean we've been eaten alive?"

"Eaten?" Sloonge laughed a hearty telepathic laugh. "My dear sir, you'd hardly constitute for a crumb for His Supremacy, even if he were capable of subsisting on carbon compounds."

"Then—what—"

"I think I'm beginning to get the idea, Mr. Magnan," Retief said. "The external environment here on Quahogg made development in that direction pretty difficult; so they turned to the inner man, so to speak."

"Well put, Retief," Sloonge said. "I think you'll find we live very well here under the protection of His Supremacy."

"But—inside a living creature? It's fantastic!"

"As I understand human physiology, you maintain a sizable internal population of your own," Sloonge said somewhat tartly.

"Yes—but those are merely intestinal parasites. We diplomats are a different type of parasite entirely—"

"I hope, sir," Sloonge said with a noticable chill in his tone, "that you harbor no groundless prejudice toward honest intestinal fauna?"

"Gracious, no," Magnan said hastily. "Actually, I couldn't get along without them."

"To be sure. Well, then, may I show you around? Ahead are the fundus and pylorus; on my left, the arcade leading to the pancreas and spleen; I believe we're having a modest chamber-music concert there this evening. There'll be a few tables of bridge in the jejunum and roulette in the ileum for the more adventurous souls."

"Retief, it's amazing," Magnan murmured as they proceeded. "The hangings, the carpeting, the furnishings—they're magnificent. Whoever would have thought tripe could be so glamorous?"

"Your quarters, gentlemen," Sloonge announced, ushering them through an arched opening into an anteroom done in a rather sour yellow.

"Unfortunately the colors are a bit liverish at the moment, but the decor will improve as soon as His Supremacy is feeling better." Sloonge opened wide doors on a spacious room complete with flowery wallpaper, luxurious beds, pictures on the walls, capacious closets containing complete wardrobes, and an adjoining chamber a-twinkle with ceramics and bright metal fittings.

Magnan thumped the bed; the mattress seemed to be a high-quality inner-spring; the sheets were of pink silk, the blanket a lightweight violet wool.

"Am I to understand His Supremacy provides all this himself?"

"Why not? Once complete control of the metabolic processes is established, the rest is easy. After all, silk, wool, leather, ivory—are

all animal products. His Supremacy simply manufactures them in the required sizes and shapes. He can, of course, duplicate any artifact."

"Great heavens, Retief—there are even nymphs disporting themselves on the shower curtain," Magnan marveled. "How in the world do they—I mean—does he do it?"

"It's really quite simple," Sloonge said. "Over the ages you Terrans have learned to manipulate externals; His Supremacy has merely concentrated on the internal environment."

"Marvelous. I can't wait to see the rest."

"A word of caution," Sloonge said. "Certain areas are off-limits to guests for reasons of internal security. You'd find conditions beyond the pyloric orifice most uncomfortable—and I'd recommend avoiding the trachea and bronchial passages. Some of our people like to go slumming in the quaint little bronchioles over that way, but they run the risk of having some unsavory character jump out of the dark alveolus at them. Kindly limit your explorations to the upper tract."

Magnan looked suddenly thoughtful. "Ah—what happens when His Supremacy has his dinner?"

SLOONGE chuckled heartily. "I suppose you're picturing yourself swept downstream by a sudden avalance of appetizers, eh, Magnan? Have no fear. The living quarters have been evolved as a quite separate complex in the anterior wall of the gut, well out of traffic. In any event, His Supremacy only ingests at intervals of several centuries. Just between us," he added, "he sometimes nibbles between meals, thus his present indisposition, no doubt. However, gluttony is its own punishment, as I've so often reminded him."

"Can't he hear you?" Magnan inquired nervously, glancing at the ceiling.

"His Supremacy would never think of eavesdropping," Sloonge said. "And if he did, he'd soon be looking for a new staff. We treasure our privacy."

"What part do we parasites play in the internal economy?" Retief asked.

"Why, we man posts in every department from liver to lights. We keep tabs on the basal metabolism, monitor gland secretions, control the pH, take care of custodial services, oh, a host of items. Without us, His Supremacy would soon grind to a halt, believe me."

"He seems so self-sufficient—with your help, of course—that I'm a little surprised he even consented to receive a diplomatic mission."

"Frankly, His Supremacy is

thinking of emigrating," Sloonge said.

"Emigrating? Why?"

"Overpopulation."

"Really? Just what is the population—in terms of His Supremacy's species, that is?"

"One," Sloonge said. "But he's a hearty eater. At the present rate of consumption, Quahogg will be entirely consumed in another two millennia."

"Ah—I take it you mean the food supply will be consumed?" Magnan queried.

"A distinction without a difference, my dear Magnan. His Supremacy eats rock."

Magnan smiled blandly. "Still—I should imagine it would require a very long time indeed for a single individual to comsume an entire planet with a bulk somewhat in excess of that of Terra."

"Not when he's a hundred miles long," Sloonge said succinctly. "And doubles in size after each meal. Now, no doubt you'll want to get out of those bulky suits and freshen up. There'll be a reception in your honor in half an hour in the duodenum."

"I hope," Magnan said as their host withdrew, "you noted how skillfully I drew him out, Retief. Why, he was practically babbling his life secrets to me."

"You got everything except the dinner menu," Retief said admiringly. "And of course the wherabouts of Ambassador Wrothwax."

"Doubtless we'll be accepting His Excellency's congratulations in person shortly," Magnan said as he opened the closet door. He clucked and lifted out a scarlet-and-gold creation, heavy with braid, loops, knots, buttons, lapels, aiglettes and epaulettes.

"Amazing," he said. "Regulation Corps Late Early Evening hemi-demi-semi-informals — and they even got the decorations right. Copied from Ambassador Wrothwax's, no doubt."

"I didn't know you had a figleaf cluster to your Doublecross of the Order of St Ignatz," Retief commented. "Congratulations, Mr. Magnan. That's only awarded for hair-splitting at the conference table above and beyond the call of protocol, as I recall."

"I was able to do a trifling service for a certain prince, who proved not ungrateful," Magnan said modestly. "I held out for six-legged bar stools and a hundred-foot, mink-lined, double-decker pool table. Since His Highness' uncle was in the custom furnishings line, the family turned a tidy profit on the affair."

"May I?" Retief examined the sparkling gold-and-enamel decoration closely. He pressed a hidden catch and the central jewel sprang open, revealing a tiny compartment filled with a fine brown powder.

"Interesting," Retief said. "His Supremacy must scan the items he duplicates molecule by molecule, including any Groaci allergy dust that's incidentally included."

"Heavens, close it at once, Retief! One grain of that and my sinuses will burst into flame!"

"I'd like to borrow this, Mr. Magnan."

"Take it and welcome!"

"To fill the gap, I'll trade you my plastic-and-diamond Sunburst for a perfect Staff Meeting attendance record."

"You made every meeting?" Magnan asked as he switched medals.

"Nope, missed them all."

"One day, Retief, you're going to miss something important that way," Magnan said sharply.

"Perhaps, Mr. Magnan. But I still like the odds."

IV

A HORDE of gaily caparisoned Quahoggians thronged the gaudily decorated duodenum when the Terrans arrived. For the occasion, their hosts had squeezed themselves into vaguely humanoid shapes so as to fit into variations of Terran diplomatic garb. Soft music oozed from the walls; silent-pseudopoded servitors passed among the guests with trays of glasses. Sloonge came forward to meet them, unrecognizable in a vast purple suit which threatened to burst at every seam.

"Ah, there you are." He gripped his guests' hands with large, jelly-soft members extruded for the purpose. "Well, how do you like our little gathering? Rather gay, eh?"

"It's so—so silent," Magnan said. "A whole room full of people and not a word being said."

"Ah, an oversight, easily corrected. We'll whip up some vocal chords in a trice." Sloonge's imitation eyes—large pale-violet spots on the blob he used for a head—blurred and ran together as he concentrated silently.

"I've seen noses running," Magnan whispered to Retief as that member slowly flowed out across the Quahoggan's face. "But not like *that*!"

From a nearby group, a babble of conversation started up, at a barely sub-intelligible level. Others joined in; in half a minute a high-pitched roar filled the great chamber like a Niagara of small-talk.

"Ah, that's more like it, eh?" Sloonge verbalized in a voice like boiling tar. "Nothing like a few tribal background noises to put a being at ease, I always say."

"Remarkable," Magnan said, accepting a proffered cocktail. "By the way, I haven't yet laid eyes on Ambassador Wrothwax." He craned his neck to see over the crowd; noticing what he was do-

ing, the crowd instantly shrank by a head—in many cases, literally.

"And now," Sloonge said hurriedly, "may I present a number of His Supremacy's court? They're thrilled at the prospect of meeting you and—"

"Delighted," Magnan said. "By the way—where *is* His Excellency?"

"Where is he, you say?" Sloonge repeated. "Yes, well, as to that—to be perfectly candid—not that I haven't been perfectly candid all along—but what I mean is, now I'm going to be even more candid—"

"Yes?"

"Candidly, as I say—no one seems to know."

"You mean—he stepped out and didn't leave word?"

"Worse than that, Mr. Magnan. He was last seen two days ago. He's gone—vanished!"

"What, again?" Magnan's voice broke. "But—look here, you can't just go around losing Terran Ambassadors."

"Please—not so loud. His Supremacy doesn't yet know."

Magnan drew himself up stiffly. "Then, perhaps it's time to notify him."

"Impossible. It would throw him into a case of the sulks—do you know what *that* means?"

"As it happens, *I do not*."

SLOONGE threw out his temporary arms. "He turns blue; the walls get clammy; utilities are shot to hell and the food—" The minister shuddered, an effect like a ripple in a bathtub full of guava jelly. "No, no far better we simply carry on quietly; he'll never know the difference."

"Impossible, Mr. Minister," Magnan said firmly. "I must request the use of your facilities to notify the undersecretary at once."

"Unfortunately," Sloonge said, "that will not be possible."

"I wondered at the rather curious failure of communications due to a storm which, it now appears, is actually a spell of mild weather," Magnan snapped. "Very well; my associate and I shall be forced to adopt sterner measures."

"Why not accept the situation, gentlemen? His Excellency is missing, alas. But that's no reason we shouldn't continue on amicable terms—"

"We are leaving," Magnan said, "at once."

"*Au contraire*," Sloonge said. He had absent-mindedly slumped halfway back to his normal proportions and now resembled a gaudily dressed two-armed giant squid. "You mustn't think of venturing forth in such weather."

"Is that a threat?" Magnan choked.

"By no means, Mr. Magnan. A simple statement of fact. For you to leave now might lead to all man-

ner of complications interplanetary-accordwise—especially if you rushed back to your superiors with the report that His Supremacy has misplaced an Ambassador. Ergo—you remain. Now, let us be happy, let us be gay. You may as well; unless His Excellency turns up, you'll spend the rest of your natural lives here."

"RETIEF, this is fantastic," Magnan said as soon as Sloonge had flowed and wobbled out of earshot. "How could Wrothwax have vanished without leaving a trace? He had full XL gear, dye markers, radio-active tracers, gamma-ray projectors, supersonic and infrared signal projectors—everything."

"Unless Sloonge can lie telepathically, he's just as puzzled as we are," Retief said.

Magnan mopped at his forehead with a scented tissue. "I must be running a fever. I wonder how His Supremacy is at synthesizing antibiotics?"

"It's not a fever," Retief said. "It's getting warm in here. Must be close to ninety."

All around, the restive crowd—which had diplomatically kept its distance since the exchange with Sloonge—was showing signs of distress, shedding bulky costumes as their quasi-human forms wavered and slumped.

"You don't suppose this is a scheme for getting rid of us by cooking us to death?" Magnan panted, fanning himself with a hand.

"They don't seem to like it any better than we do," Retief pointed out. "They're spreading themselves thin for maximum radiating surface."

Sloonge pushed through the increasingly amorphous crowd; only the big blue eyes remained of the courtesy shape he had assumed. Two small, leathery-looking Quahoggans were at his heels.

"What's going on here, Sloonge?" Magnan demanded before the official could speak. "The place is like a hot-house!"

"What's going on is that the temperature is zooming toward a record high," Sloonge replied somewhat hysterically. "His Supremacy has taken a turn for the worse: he's running a fever—and if a miracle doesn't happen we'll all be dead by morning!"

Magnan grabbed Retief's arm. "We've got to get out of here at once."

"Nothing has changed," Sloonge spoke up quickly. "I still can't permit you to leave." He motioned with a formless arm to his enforcers. "Take them to their quarters," he ordered in a blurry thought wave. "Leave that they don't see. I mean see that they don't see. I mean see that they don't leave. Or is that what I mean—"

"Retief," Magnan said in a stage whisper, "you take the one on the left and the one on the right—and I'll go for help."

One of the small beings produced a chrome-plated power gun, identical with Terran Navy issue.

"Better play it smart, big boy," he telepathed. "I been wanting to see how this worked."

FLANKED by their escort, the Terrans made their way across the wide floor—which was now an unflattering shade of puce and tended to ripple underfoot—and along the somewhat shrunken corridor to their quarters. The wallpaper, formerly a gay pattern of daffodils on a field vert, was now a rancid orange against faded olive drab. The shine was gone from the fixtures. The heat was intense.

"Even the mattress sags," Magnan said. "Good lord, Retief, are we doomed to spend our remaining hours in a third-rate hotel room?"

Retief was watching the two guards, whose shapes were wavering like dying flames. He stepped in suddenly, plucked the gun from flaccid fingers which had sagged to a length of eighteen inches under the weight of the weapon. The former owner made a weak grab.

"Don't try it," Retief advised. "It shoots fire. A short burst into the floor is guaranteed to give His Supremacy instant ulcers."

"Why didn't you warn a fellow?" the Quahoggian said. "I might of shot at you, missed and gotten into a lot of trouble."

"Before you go," Retief said, "where is the little round Terry who arrived last week?"

"Beats me. I ain't seen him since—" He caught himself, but the faint thought leaked through: *since I caught him trying to sneak past post number eight-0-two . . .*

"Where's post eight-0-two?"

"I'm not saying." The guard was in obvious distress from the heat; it was apparent that only will power kept his lumpy body from flowing out into a thin film.

"Let's get outa here, Whump," his comrade proposed. "Maybe if we beat if out inta the exoderm we can cool off."

"Yeah, but we got orders—"

"It's every phagocyte for himself." The first guard fled, closely followed by his partner.

Magnan sniffled. "One encounters them everywhere nowadays—" He broke off as Retief pocketed the gun and headed for the door.

"Let's go hunt up Sloonge," Retief said. "Maybe now he'll be in a mood to negotiate."

THEY found the Interior Minister slumped, quivering, in a corner of the ilium like a truckload of pale liver on which two large eyes floated like broken blue eggs.

"What, still alive?" he telepathed weakly as he caught sight of the Terrans. "A pity, all this. Never intended it to end this way. His Supremacy is done for—temperature up to a hundred and ten and rising. This is the end—for all of us—"

"Maybe not," Retief said. "What's the quickest way out?"

"No use. His Supremacy has slid into *rigor vitalis*; every sphincter's locked tight. We're trapped."

"And you intend to just lie there supinely and let it happen?" Magnan yelped.

"It's as good a place to lie supinely as any," Sloonge pointed out.

"You say His Supremacy is doomed," Retief said. "Are you willing to take extreme measures on the off-chance of saving him?"

"What do you have in mind?"

"Can you lead the way to the olfactory cavity?"

"I suppose so—but—"

"No time to talk now," Retief said. "Let's get going."

Sloonge pulled himself together. "I suppose anything's worth a try. The olfactory cavity, you say? Not that it will do any good. You can't get out that way; nostrils are closed tight, as I said, and—" His thoughts trailed off as he devoted total effort to wobbling across the now spotty-looking floor. Unconscious Quahoggians lay everywhere; the few who retained consciousness lay quivering, their color like unbaked dough. The party made its way along the deserted pharynx, turned left into the nasal passage, a poorly lighted corridor decorated with No Smoking signs and enlarged photos of glamorous nude bacteria.

"Little—cooler here," Sloonge managed. "But—no difference in the end. Trapped. Sorry about this, gentlemen. Should have—let you save yourselves—"

They emerged into a high-domed chamber almost filled with banks of leathery curtains which hung in rows, quivering faintly.

"The olfactory membranes?" Retief asked.

"Correct. As you see, everything's shut tight. Nothing can get through; dust-proof, wind-proof—"

"Unless we can persuade His Supremacy to open up," Retief said.

"I tried," Sloonge said, collapsing into a rubbery heap. "But he's delirious. He thinks he's a mere grub again and is being roasted and dipped into molten chocolate for the exotic tidbits trade."

"For sale to the CDT catering service, no doubt," Magnan groaned. "Hurry up, Retief—burn a hole through to the outer air before my bodily juices coagulate!"

"Retief—you wouldn't—" Sloonge made a convulsive grab for the Terran, who stepped back out of range.

"Not unless I have to."

"You tricked me," Sloonge wailed. "Alas, that I should play a part in torturing His Supremacy in his last moments!"

"Listen, Sloonge, I need your help," Retief said. "How far above ground level are we here?"

"Mmm. About fifty feet, I should say. But—"

"Can you elongate to that length?"

"Easily. But—"

"You'll need a solid anchor at this end. How about grabbing a few of those." He pointed to a stand of wrist-thick sensory spines lining the central aisle.

"Why should I?"

"Because if you don't I'll have to burn our way out."

"Well—" Sloonge followed instructions, coiled himself like a pale fire-hose, gripping the support.

"Lie flat and hang on, Mr. Magnan," Retief instructed his colleague.

"What are you going to do?"

"Trigger a reflex—I hope." Retief said. "Hold your nose." He detached the borrowed medal from his chest, opened it and emptied the contents in a brownish cloud over the nearest sensitive membrane.

The result was remarkable. The curtain-like tissue turned flaming red, twitched, writhed, sending the powder billowing about among the adjacent sensors, which in turn jerked and blushed. Retief dived for a position just above Magnan as, with a violent spasm, the nostril—a forty-foot vertical slit at the far end of the room—opened to admit a blaze of daylight and a great squall of cold air, snapping shut at once.

"That's one 'ah,'" Retief called. Again the shudder, the quick intake, the snap shut.

"Two."

A third violent inhalation . . .

"Sloonge—get set!"

The end wall split. "Go," Retief said.

The aft end of the boa-shaped Quahoggian slithered quickly forward, out, down out of sight.

"Come on!" Retief and Magnan dashed for daylight; without urging, Magnan gripped the leg-thick rope and slid down. Retief followed, was halfway to the windswept rock below when the thunderous *choo!* blasted forth like a quarry explosion; he fell the rest of the way amid coils of rubbery Interior Minister Sloonge.

"WE'RE out." Sloonge groaned, slowly dragging himself back into his normal superslug form. "But to what end? With His Supremacy gone, we few survivors will be back to scratching at rocks for a living. Think of it: a million years of evolution shot overnight."

"We're not through yet, Sloonge," Retief said. "Can you

lead the way back to where you found us?"

"Abandon His Supreme Fulguration in his dying agonies? Look here, Retief, you said something about trying to save him—"

"That's right. I don't guarantee results, but at this stage it won't hurt to try desperate measures. Let's go."

It took the little party half an hour to grope across the plain through the relentless wind to the abandoned landing pod and the heaped drums. At Retief's direction, Sloonge shaped himself into a large, hollow bulb with a slim nozzle at one end. Retief uncapped half a dozen of the containers.

"All right, Sloonge, load up," he directed. The bulky interior minister insterted his small end into the nearest drum, with a powerful muscular contraction siphoned out the contents. Quickly he repeated the performance with the other containers. After the forth he was swollen to a vast drum-tight bulk.

"Retief," he telepathed faintly. "Are you sure you know what you're doing?"

"I hope so. Let's get started back."

It was a painful progress. Laden with the sloshing bulk cargo, Sloonge moved heavily, clumsily, crawling over each bump and ridge with telepathic groans and moans. At last the range of hills that was His Supremacy loomed out of the driven smog.

"Now—one last trick," Retief said. "You'll have to force an entry into the buccal cavity."

"Impossible," Sloonge expostulated. "How can I open a hurricane-proof mouth?"

"Just far enough to get a finger in," Retief urged.

Sloonge dragged himself across to the sealed, fifty-foot wide eating mouth, probed fruitlessly at the sealed orifice.

"I'll have to use a touch of the quirt," Retief said. "Get ready." He set the blaster at low heat, aimed it at the monstrous lip, and pressed the stud. For a moment, nothing happened; then the stony-looking hide twitched; for an instant an opening appeared.

Sloonge plunged his syringe-tip through as the mouth clamped tight again.

"That—that smarts," he said. "Now what?"

"Pump it in," Retief said. "Then we'll just stand back and wait."

With a powerful contraction of his versatile body, Sloonge squirted two hundred and twenty gallons of high-grade medicinal mineral oil into the alimentary canal of his mother country.

A GALA crowd filled the newly decorated ballroom. Sloonge, impeccable in a tent-sized, canary-yellow outfit on which the Order of the Purple Kid-

ney—newly awarded for services to the Fatherland—sparkled, waved genially at the Terran Mission as it was announced.

"Ah, there, Mr. Ambassador." He hurried to offer impromptu hands to all members of the delegation simultaneously. "You're looking quite your old self again after your ordeal."

"Ordeal? What ordeal?" Wrothwax boomed, deftly lifting a glass from a passing tray. "Nonsense, my boy. I had a capital time exploring the palace catacombs." He snared a slab of paté from another tray. "I must confess I did get a trifle weary of maraschino cherries; had no rations but my emergency cocktail kit, you understand."

"Oh? I had an idea you might have been, er, lost."

"Nothing in it, Sloonge. Jolly interesting place, the catacombs. I was just on the point of deciphering a number of fascinating inscriptions when the earthquake occurred."

"You wouldn't have been snooping just a tiny bit?" Sloonge inquired archly, wagging a limp cucumber-sized finger at the Terran envoy.

"Scholarly research, my boy, nothing more." Wrothwax reassured his host, signaling for a refill. "Pity to abandon my finds, but I felt I should rush back and see to the safety of my staff."

"In this case," Magnan murmurred, "I'm sure excretion was the better part of valor."

"Eh?" Wrothwax said. "For a moment I thought you said—but never mind. Slip of the tongue, eh?"

"No doubt."

"Quite. Pity I never got to meet His Supremacy, Sloonge—but I'm sure you and I can come to an agreement regarding the extensive deposits of pure corundum—rubies and emeralds to you, gentlemen—among which I found myself after the avalanche. Now, I had in mind a barter arrangement under which I found myself after the avalanche. Now, I had in mind a barter arrangement under which Corps bottoms haul in Groaci sand, for which you say you have a need, and take away these troublesome gems—waste-products, I believe you called them . . . "

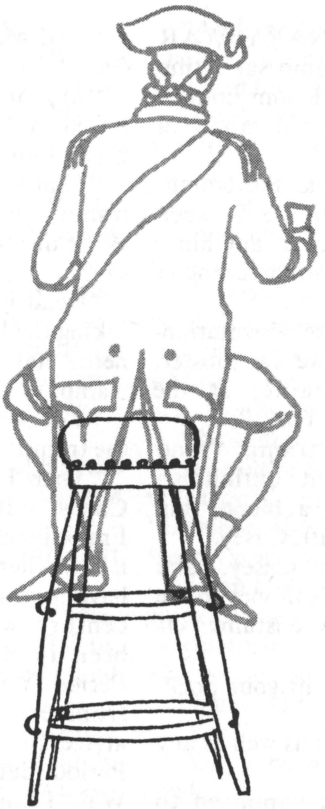
The Ambassador and the minister strolled off, deep in negotiation.

Magnan commented, "Never a word of gratitude to me for arranging his evacuation from the danger zone."

"Still, for once a Terry Ambassador got inside the problem," Retief said.

"And as a result of my efforts—with your assistance, of course, Retief—emerged covered with, if not glory, rubies and emeralds."

"And smelling like a rose," Retief agreed. •



LEE SAYE

CASEY'S TRANSFER

It was not his time, place or kind of war—so he switched all three!

A REVOLUTIONARY WAR soldier and a tramp sat eating lunch in the Rocket Room Lounge atop the Reed-Warren Hotel in Manhattan.

"Now Casey," said the tramp, "explain this thing to me. A week ago we ate garbage, if anything, and smoked cigar butts in corncob pipes. But today—"

"Today," said the Revolutionary War soldier, "we eat lobster, flown in from Maine, at the poshest spot in New York."

"Yes," said the tramp. "And you're wearing that outlandish outfit and carrying a bloody big musket. You look daft, Casey."

"Daft I look." said Casey, "and daft I feel, but there's money in the pockets of this silly costume. Or gold, anyway."

"You've got gold in your pockets?"

"Yes, but it spends as well as any money you ever saw."

"Tell me what's happened to make you this way, daft and rich."

The Revolutionary War soldier laid his musket across the table and lit a fifty-cent cigar. "I've brought you here to tell you, but I hesitate. You'll not believe me."

"Please, Casey," said the tramp. "I'm most curious."

"Okay. Well, it started a week ago today when I went to the post office to pick up my relief check. Another envelope was there for me, one with a smeary postmark so I couldn't tell where it came from."

"And what was in the envelope, Casey?"

"My orders. I'm being transferred to the Revolutionary War." Casey took a puff on his cigar.

"That's remarkable," said the tramp. "But not easy to believe. What did the letter in the envelope say?"

"Read it yourself," said Casey, taking the letter from his three-cornered hat and handing it to the tramp.

"You know I can't read," said the tramp.

"Then I shall oblige you," said Casey, putting on his Benjamin Franklin glasses. " 'Dear Casey,' it says here. 'Through error you have been stranded in the twentieth century when you should have been in the American Colonial Period. You will be resupplied and transferred this week and will arrive in the American Colonial Period during the Revolutionary War. Please stand by and accept our apologies for putting you into a field for which you are totally unprepared.' "

"That's all?" asked the tramp.

"That's all," said Casey.

"And what happened next?"

"I thought it foolishness and kept the letter only as a curiosity. But when I woke up the next morning I found these fine buckle shoes under my bed in the flop house. I felt silly but I put 'em on because my own shoes were gone."

"Amazing," said the tramp.

"A marvelous thing," said Casey. "Of course, when I got back to the flop that night this three-cornered hat was on my bed. I thought some of the boys were puttin' me on."

"Was that it?" said the tramp. "Were some of them putting you on?"

"No. Next morning my pants were gone and I found these knee-britches and silk hose hanging on the doorknob. The next day came this sissy-looking ruffled shirt and the coat," said Casey.

"How'd you get up enough nerve to wear such a getup outside the house?" said the tramp.

"I had to wear it. My own stuff was gone."

"Still, you're sure it's not someone playing a trick on you? You know, stealing your clothes and giving you these?"

"No chance. I know because day before yesterday I found gold in my pockets. Now who would leave that?"

"Nobody we know, I guess."

"And the horse. You know, the one we rode over here on? I found him saddled and parked between a Buick and a garbage truck yesterday morning when I came out of the flop. I knew right off he was mine."

"And he's a nice horse, Casey, a really fine horse."

"I know nothing about horses, but he's handsome all right. And I can ride him well enough—and I was never on a horse before in my life. Can't think how I came by it—the skill to ride, I mean."

"So you're going back to the Revolution," mused the tramp. "Damn— that's hard to believe. How'll you get there?"

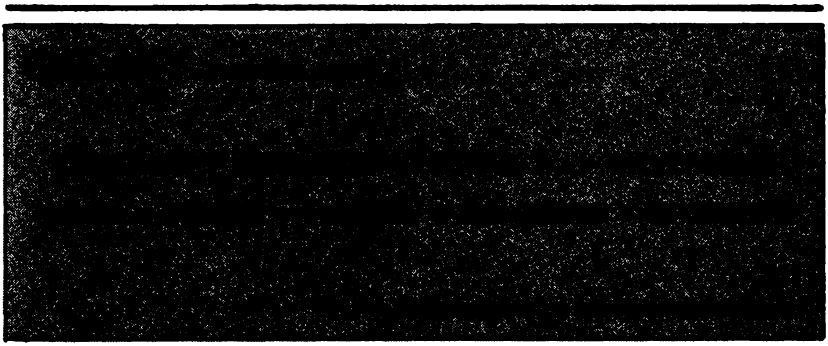
"I can't say, but I'm certain I'm going. I haven't a doubt. In fact, I expect to leave today. It's been a week since I got the letter."

"Right. The letter said a week."

"Yes."

"You'll be missed around here, you know."

"Oh, and I'll miss this city too, and my friends," said Casey. "But



I really am a misfit. I don't like being a bum, really, for all its advantages. I've often felt that time and I were out of joint somehow."

"Perhaps you'll do better back in the Revolution. Perhaps you'll be a success."

"Well, I hope so. I mean, I'm dressed as a fine soldier—maybe an officer even." Casey called attention to his uniform by pulling his vest smartly down.

"And you have a good gun there."

"Tielman at the hock shop offered me three-hundred for it, and you know how close he comes to true value."

"Ha!" said the tramp. "He never comes near it."

THERE was a silence. The tramp and the Revolutionary War soldier looked at each other.

"We've been through a bit together," said the soldier.

"We have," said the tramp.

"I wish you were coming with me," said the soldier.

"And I," said the tramp. "It's difficult to catch a ride on a freight anymore. Been figuring I'm slowing down. This life's no fun."

"Yes, but I can't take you. I don't even know how I'm going myself."

"I think you're going now," said the tramp. "Look at your gun."

"Hey! It's fading away. Look!"

The musket disappeared from the table.

Casey sat up straight and put down his cigar. He patted his chest and felt his shoulders. "I seem solid enough," he said.

"Not to me," said the tramp. "You're fading out. I can almost see through you to your chair."

"Really now? Well—I guess I'm going. I guess this is it."

"Yes. I could read a newspaper through you now."

"Ha! You can't read."

"True, but you're getting mighty faint."

"And I feel faint now. Do you suppose this is happening to the horse?"

"I suppose so."

"Well, old friend, goodbye."

"Before you go—one thing, Casey."

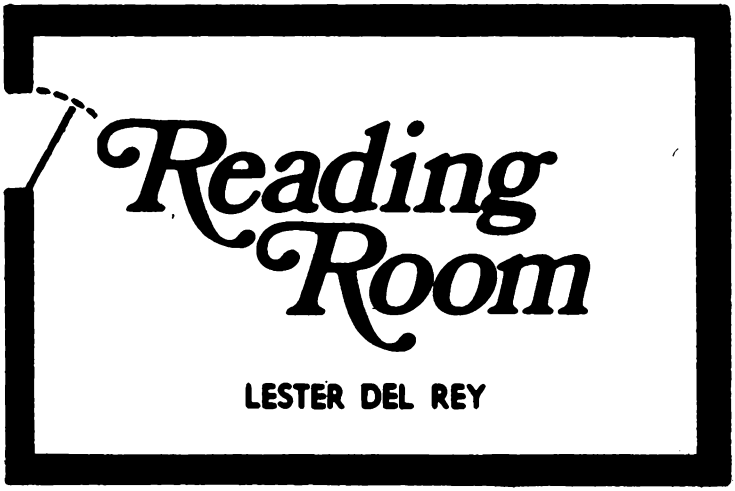
"Hurry—I feel myself slipping."

"Leave some gold to pay for the meal. I'm broke."

"Oh, yes," said Casey. He pulled a handful of gold coins from his pocket and shoved them across the table. "You keep whatever's left. I'm going. So long—"

"Goodbye, Casey." The tramp waved briefly as the Revolutionary War soldier disappeared. "I hope your luck's better in your new assignment."

The tramp stuffed the gold into his pocket. He looked at the chair Casey had been sitting in, shook his head as if to clear it. He picked up the butt of the cigar Casey had been smoking and went to pay the check. ●



LESTER DEL REY

MOST of the science fiction I see today is obviously derivative from stories I saw decades ago. I suppose I should expect this. After all, the field has been mined steadily for almost half a century by clever idea-hunters; it isn't surprising that most of the major original ideas have been discovered and used.

It is more than a hundred years since Achille Eyraud told of using a rocket ship to reach another world. "Doc" Smith wrote the pioneer space opera before there were science-fiction magazines. Wells gave us time travel; his *War of the Worlds* not only invented alien invasion but also set much of the style for disaster novels later done to death by Wyndham, Ballard and a host of others. Weinbaum taught us that aliens must be truly different in backgrounds, attitudes and instincts. I can't remember who first wrote of atomic power or atomic doom.

Maybe we shouldn't expect anything but derivative stories. In most writing courses, original style is exalted and original ideas are forgotten, since mainstream novels have to be endless variations on familiar themes. Until people change radically, stories about them in our normal milieu cannot afford to use the unusual without losing conviction.

Nothing is necessarily inferior about a derivative story, even in our field. Many wonderful ideas first came to us in pretty crude stories with no extensive development. Later writers could then reexamine the concepts with clearer and deeper perception and write far better stories around them. Murray Leinster used the old idea of first alien contact so well that his novelette became the definitive one on the subject. He gave us fresh insight, which is often claimed but all too seldom achieved.

However, the real joy of science fiction to its devoted readers has been that it is a literature of ideas. Unlike other fictioneers, we have continually discovered new concepts and eventually have thought out clearly all the implications of those concepts. If we are to remain more than a minor subcategory of fiction, we continue to need those flashes of invention and insight desperately.

Happily, lights are still burning where busy minds refuse to accept sterility or senescence.

Ringworld, by Larry Niven (Ballantine, 95¢), is a fine example of a writer's thinking deeply and constructively about an idea of real science.

Niven has taken the concept presented by Freman Dyson and thought hard and well about how it could be handled. Dyson proposed that a race may progress until it needs every bit of energy put out by its sun; to catch that energy, it will take all the planetary matter and build it into a sphere around the sun, with life spreading over the inner surface of this sphere.

Niven has discarded the needless hypothesis of artificial gravity to hold objects down to that surface. He has set out to discover a practical way to create room for an expanding population. A sphere cannot be spun to create an inertial equivalent of gravity, since only the equator spins properly; and if you get up a huge ring around the sun, the atmosphere would simply stream off into space at the speed of rotation the ring would need.

Niven has solved the problem neatly and to my mind completely. It's a beautiful concept, far more convincing than the Dyson spheres. (Curiously, however, astronomers have found some evidence suggesting possible Dyson spheres in space. Discovering Niven ringworlds would be far more difficult.)

Furthermore, Niven hasn't stopped with a technical gimmick. He has looked at the effects of the creation of such a world on the race that might build it. And he has explored the world and its wonders in quite convincing detail.

There's a great deal more to the story than the technical material,

of course. There's a subplot involving what might be called a sort of "psi" mutation—a human being who always has exactly the luck she needs. Because of this talent she has been deliberately included in the party that will explore the Ringworld. But the results of her luck are not at all obvious—and Niven has thought this through as carefully and as originally as his background.

She makes for an interesting character in the book. So does an alien who comes from a highly aggressive culture. The alien is handled with a subtlety and finesse that I haven't previously seen in Niven's writing; his growth toward understanding and true cooperation is never described in raw terms but is built beautifully into the patterns of behavior he consistently exhibits.

The whole book marks a major step forward in Niven's writing, in my opinion. The human viewpoint character still has some elements that seem a bit wooden, and the plot doesn't always move forward with the smoothest pacing. But these are minor quibbles. And even in these areas, I find a considerable growth in Niven as a writer.

I think it's a darned good book. In fact, of the science fiction I've seen so far this year, I can't think of a better contender for the *Hugo* and *Nebula* awards.

I hope it will be as widely read as it deserves.

QUITE different in nature is *The Stone God Awakens,* by Philip José Farmer (Ace, 75¢). This is an example of a highly familiar idea. Twenty-five years ago, Beyer's *Minions of the Moon* began with about the same situation—one that was old then. A man from today is somehow put into suspended animation and wakes in the far future when everything civilized has long since passed away.

Farmer, however, hardly ever touches an idea without bringing fresh insight to it. He hasn't merely destroyed civilization a few thousand years from now. He has jumped his hero forward twenty million years and has destroyed the human race after a tremendous background of progress. He has then produced a whole series of sentient beings, different from man in some ways, with whom our hero must learn to live. And above all lies a single, dominant sentient being that bears no resemblance to humanity —though it is a logical product of human progress. This is a vegetable, computerlike thing which has taken over most of what is left of our continent.

The period of suspended animation isn't exactly a simple and convenient dodge to get Ulysses Singing Bear into the future, either. He has been infinitely indestructible and immutable during all those eons and has been mixed up in the

developments as a "stone god" or unchanging object sent hither and thither across the savage or semicivilized worlds behind the future in which he finds himself.

This is essentially the story of his search for a mate in the apparently mateless world, though his immediate job is to prove that he's a skookum god by overcoming the power of another god. Farmer has a trick of mixing what is obvious to the reader with nice developments that are not predictable. And his non-humans mix in complicated ways, as they should in a world where more than one sentient race exists.

I assume this is the first of a series, since the ending is left wide open for the further exploits of Ulysses. But Farmer does sew up his primary problem in this novel, so that the book can stand on its own, unlike too many lately that simply stop after a certain number of pages.

This isn't a major novel. It isn't meant to be anything but derivative in nature. And that doesn't matter, because Farmer has done his homework well; he has thought out those twenty thousand millennia, he has created the richness of background needed—and he has faced the human problem of his hero honestly. It is a book of insight.

Good fun with a few kickers buried in it, and well worth the price and reading time.

When the writer has neither a new idea nor any new insight into handling the concept, he may still sell a book— if his name is, say A.E. Van Vogt. Here is a writer who has long been recognized as having contributed a wild plethora of ideas in story after story, so that his name is genuinely and understandably provocative of intellectual excitement.

His *Children of Tomorrow* (Ace, 95¢), however, is pretty thin fare. Instead of working or thoroughly reworking one idea, he seems to have taken two old ones, thrown them together helter-skelter, and hoped vaguely that some good would come fortuitously. The result is something like taking left-over hamburger and chocolate pie and putting them in a blender in hopes of getting a fresh dinner.

The first element is that an alien race is studying the world, preparing to take it over, with one of its number disguised as a human being. This should be a good idea for a Van Vogt story, given sufficient new insights into the alien ways of thought. The second idea is a humdrum concept of the children organizing themselves into state-recognized bands to bring themselves up without the mistakes of their elders.

Unfortunately, the alien boy in the story never seems to be other than a duller version of the rest of the kids, while his "father" ob-

server is merely a vagueness over the story, not at all realized in the way so many of Van Vogt's aliens have been. The outside menace becomes petty, mere window dressing.

The wonder children fail miserably. They don't even equal the real examples of such attempts to escape the past one reads about in today's newspapers. Van Vogt's kid groups aren't cleared of the ancient ugliness of the tribal heritage, but seem to be rather sorry gangs in a stiff make-believe game of Junior Marvel Assistants. Their morality seems rather weaker, despite their stated aims, than that of some real kid gangs I have known.

Apparently, one of their fathers should be the example of a recalcitrant man unwilling to adapt, while the mother is the sympathetic one. I felt repelled by her idiocy throughout, and the only figure I could even faintly like was the father, until he turned into another patsy.

I finished the book with growing reluctance—but only because I was unwilling to judge a Van Vogt novel without reading it to the bitter end. The whole wasn't worth the trouble. I regret that, since I think the field badly needs some of the magic and excitement that this major writer gave it so often in the past. It's a shame, but I can only recommend that you pass this one by.

THERE are a couple of nonfiction books, however, which should not be overlooked.

The Glass Teat, by Harlan Ellison (Ace, $1.25), has little to do with science fiction, except that Ellison has become a major and controversial figure to those of us who read the field or who have met him at various conferences. It is a collection of his writings for *The Los Angeles Free Press*, ostensibly as television reviewer but actually as critic at large.

It doesn't matter what these treatises are supposed to be, any more than it matters whether you agree with his opinions or not. What does matter to me is that here for the first time I find some feeling of Harlan Ellison, the whole man, telling it as he sees it, far more than he can do in his fiction. And I also find a man writing at his most effective best.

Anyone who has enjoyed the stories by Ellison should read this. Or, lacking its presence on the bookstand, wait for the next collection of columns soon to be brought out. Here is a writer who has been leading a crusade to make science fiction more pertinent to today; this book is his view of the today in need of such pertinence.

The book also happens to be very much alive and fascinating and, from my experience with Ellison, honest. The fact that it is the best writing of his I have yet seen is

an added bonus. I glanced at it, to put the book down only when I'd read to the end. I'm glad that he wrote the columns, that they were collected here and that I had a chance to read them.

The other non-fiction book is directly concerned with science fiction. *The Universe Makers*, by Donald Wollheim (Harper & Row, $4.95), is, to quote part of the blurb: "an excellent personal statement of the place of science fiction in literature, an excellent introduction to the genre for the beginner, and a source of discussion for the aficionado." For once, I have no quarrel with the blurb.

Wollheim seems to have two basic ideas. The first deals with the importance of science fiction (in its totality, not specifically) in predicting the course and hope of civilization or the dooms that may befall man. He indicates his own belief that science fiction has not only often indicated the path of the future before it came about, but that the literature has even helped to shape that future. Certainly, he shows, it has greatly helped its readers to prepare themselves to accept or cope with the future.

His second theme is an attempt to find the main patterns in the field. He finds that most of the fiction can be separated into two main streams: those who follow Jules Verne, dealing with technology and gadgets, with little moral value and much fantasy adventure; and those who follow H.G. Wells, dealing with technology only as it affects the sociological future of man, warning of dangers and offering considered hopes for our survival.

In following his two themes, Wollheim discusses the work of most of the major writers who have written what might be called science fiction, whether in the magazines or in the mainstream. He is unusually frank, at least for a man who must deal with many of those writers; and I found his opinions stimulating and interesting, though I couldn't always wholly agree with them.

I wish more of the men who have spent their lives in being influential in the field would state their personal philosophies of science fiction in books like this one. We've already lost some of them, but John Campbell, Robert Lowndes, and a number of others could well put between hard covers some of the things they have said in letters to their writers and—partially—in scattered writing on the subject. It is from such work as this that literary researchers of the future will be most willing to assess us as a literary movement of the time.

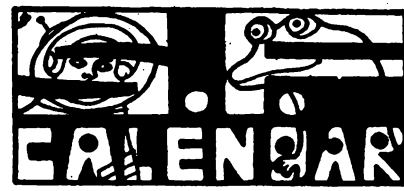
There is nothing new about the idea of memoirs and musings from

influential men; it's an ancient form of writing, too often reserved for the military man and the politician. But since a man cannot live for years in any chosen vocation without developing insights that reflect a great deal of hard thought, it is writing that will always serve us well.

Finally, there is an anthology which relates coincidentally to some of the things discussed by Wollheim and also has more of an honest reason than many I have seen lately. *Nightmare Age*, edited by Frederik Pohl (Ballantine, 95c) gives us a choice of thirteen Wellsian stories which point out futures that might come to pass, their cause—and sometimes, inferentially, their cure.

I have no desire to discuss thirteen separate stories in this space. Sufficient to say that the works run from Paul Ehrlich to Robert Heinlein, with a lot of good science-fiction writers in between. Most of them are very good stories. I can't say that I remember them all with pleasure—but I can say that I'm glad I read them back when many of them foreshadowed what we realize today may be the future, and I'm glad to see them assembled here.

If there is such a thing as Wollheim's Wellsian stream of science fiction, this anthology represents some of the best and most varied samples of that genre. It's a very good job. •



March 26-28, 1971. MARCON VI. At Sheraton Columbus Motor Hotel, 50 North Third Street, Columbus, Ohio. Guest-of-Honor: Lester del Rey. For information: Larry Smith 5730 F Roche Drive, Columbus, Ohio 43229.

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April 16-18, 1971. LUNACON. At the Commodore Hotel, New York, New York. Guest-of-Honor: John W. Campbell. Fan Guest-of-Honor: Howard DeVore. Features: Hospitality Room, Art Show, Banquet—Toastmaster: Isaac Asimov. Membership: In advance (must be received by March 30th) $2.50. For information: Devra Langsam, 250 Crown Street, Brooklyn, New York.

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September 3-6, 1971. NOREASCON: 29th World Science Fiction Convention. At the Sheraton-Boston Hotel, Prudential Center, Boston, Massachusetts. Guest-of-Honor: Clifford D. Simak. Fan Guest-of-Honor: Harry Warner Jr. Features: movies, auctions, panels and speeches by sf pros, awards banquet, presentation of the Hugos. Registration: $4.00 supporting, $6.00 attending. No mail registration after August 10. For information: Noreascon, P. O. Box 547 Cambridge, Massachusetts 02139.

novelette

GERARD REJSKIND

SPACE SLICK

Man had cleaned up Earth,
but polluted the stars . .

I

THE glowing ball of Jupiter should have dominated the corner of space into which Jon Mather was gazing. But he could not see it at all. Only a dim diffused light filtered through the porthole of the spacecraft. The *Santa Barbara* was orbiting more than a million miles from the turbulent surface of the giant planet and Jupiter should have loomed ten times as large as the Moon seen from Earth.

Heavy black droplets floated outside the ship. They were round and dense in the zero gravity, barely illuminated by the light reflected from the hidden planet. And the greenish-yellow Jovian glow grew weaker still as the droplets began to collect on the outside of the porthole. Within a few minutes Jon Mather could see only his own distorted reflection in the glass.

Disappointed, he removed the telephoto lens from his camera and turned to hail the *Santa Barbara's* chief navigator, who was just then floating forward through the craft's all but empty passenger section.

"Not much of a view," he said.

"Not much of anything," said the navigator. "We've lost radio communication, too." Jon raised an eyebrow. "It's no surprise, Jon. Not with all that fuel hanging out there."

"You mean even radio waves won't travel through this muck?"

"Oh, they'll travel through it just fine—once they get off the transmitting antenna. But the fuel conducts r.f. current, and it's shorting out our antenna."

"You mean we're in trouble?"

"Probably not. We won't be running into very heavy space traffic around Callisto. And the Callisto control tower will be watching us on radar even if we can't talk with them."

Jon glanced at the obscured porthole, shook his head sadly, turned back to the navigator. "I hope you didn't arrange the voyage through this fuel slick for my benefit."

"Crazy we're not. Though you did come here to find a way to clean up this kind of mess, didn't you?" A red light flashed on at the front of the cabin. "I'd better get back to my post—we'll be touching down soon."

Jon turned his attention back to the fouled porthole. It remained as dark as before. Presently he felt the acceleration of the *Santa Barbara*'s rockets as the spacecraft began its descent toward Jupiter's second largest satellite.

AS he stepped from the airlock of the *Santa Barbara* onto the frozen surface of Callisto, Jon Mather tried to twist his head to see the huge planet whose image

had been obscured from the spacecraft. But the heavy life-support suit made the maneuver almost impossible and he was able to see nothing more than a reflection of the yellow globe on the curved surface of his face mask.

Frustrated in his second attempt to see Jupiter, Jon glanced back at the ship he had just left. It was difficult to recognize under its heavy layer of grime and even by the light of the sun, high in the Callisto sky, he could not make out the logo of the Solar Federation, which he knew was painted on its hull.

The first navigator's voice sounded in Jon's headphones. "It was a lot filthier than that. Our descent through the atmosphere cleaned off some of the guck."

"How could you see to touch down through this stuff?" Jon asked. "I was blind on my side."

"Automatic vapor cleaner for the control ports. We activated it once we left the slick."

Jon nodded, though he knew the gesture was not visible outside the life-support suit. In a few moments he and the navigator had reached the airlock of the underground compound. A door slid shut behind Jon and the crewman and the automatic elevator began its slow descent. A faint mist formed on Jon's space mask as normal air filtered into the cabin. The door opened again, and he found himself in an antechamber that seemed identical to ones he had seen on the Moon.

The ship's navigator helped Jon off with his bulky helmet and the unwieldy gloves. Then a guide in a turquoise uniform bearing the insignia of the *Terran Mining Corporation,* led him down long corridors to his quarters.

Once alone in his small but comfortable looking room, Jon was quick to remove the rest of the life-support suit and don the light clothes he had packed for what would be entirely an indoor existence.

A light rap came at the door.

"Come in," Jon said.

The door opened and a fair-haired man in his late twenties or early thirties strode in.

"Ralph Lake!" Jon reached for the younger man's hand. "For God's sake—it's been, what, ten years?"

"All of that," said Ralph. "We were still Earthlubbers then, working for the Solar Federation."

"What do you mean, Earthlubbers? You went with me on my first space flight?"

The younger man's brow knitted, cleared. He grinned.

"The Moon hardly counts these days. But you're right—we flew to the Mining Engineering Congress on the Moon."

"And I remember how rough that first flight was. Ships are a lot smoother now."

"I hear," said Ralph, "that

you've made yourself an impressive reputation on Mother Earth—cleaning up the home land."

Jon nodded. "It must have been shortly after the last time we saw each other that I was appointed to head the commission to curb the pollution problem."

"It *was* a problem," said Ralph. "I remember the last time I saw Earth. The lake near the spaceport looked like an oil dump and I could probably have walked on it. Do you know the last thought I had of Earth as the ship lifted off?"

"What?"

"That at least we still had the means of getting above the blanket of smog that covered the planet."

JON Mather was silent for several moments. "It really was covering the entire planet," he said finally. "By the eighties all cities—the smaller ones as well as the metropolitan giants—had their own layer of what we were calling permasmog—a layer so thick that even the prevailing winds couldn't blow it away. But there was worse. At upper atmospheric levels, the blankets of pollution from individual cities were joining together to form a continuous layer. By nineteen-ninety the upper-layer permasmog effectively covered the planet. Even over the poles the stars were dim through the dirt."

"I remember," said Ralph. "That was about the time I left."

Jon continued: "Trouble was, not only the stars were dimmed. Our Sun was, too. In nineteen-ninety New York City was an average four Fahrenheits cooler than it had been twenty years earlier. Extrapolate figures like that and it's not difficult to see where you're headed."

"An ice age?"

"Right. Oh, it would have taken a number of years more of this madness for the glaciers to move down across North America and Central Europe. But it was coming."

"I remember reading some of the predictions before I left, but I wasn't sure I should believe them. They sounded like fiction."

"Science fiction," said Jon, "is often as good as prophecy. But something worse than just cold was coming. And it would have come sooner. The atmosphere was changing. Again nineteen-ninety—a crucial year—the oxygen content of the troposphere was only eighteen percent, a drop of three percentage points in twenty years."

Ralph's eyebrows shot up.

"The effects were already evident. For years, the incidence of respiratory diseases had been skyrocketing because of the pollution. Now, without enough oxygen, the sufferers were having an even more difficult time. People who might have lingered for years

with their ailments were dying of complications. Medically, the atmosphere had the reverse effect of an oxygen tent."

"As I recall," said Ralph, "at the time I left Earth, many business buildings already had oxygen supply boosters installed in their air-conditioning systems."

"After a while even some homes had them," said Jon. "Oh, the industries that had created the disease were quick enough to come up with certain cures—especially those from which more money could be made. Oxygen boosters were already in production before the situation became critical. They began marketing on Earth the same chemical oxygen regenerators they're using here on Callisto."

"After I left Earth," said Ralph, "I took a job on Mars, supervising the installation of oxygen regenerators. Mars was more pleasant than Callisto. In the middle of a summer day you could go walking with only a coat and an oxygen mask. Aside from the mask and the terrible dryness of the air, it wasn't much worse than a cool Spring day on Earth. But I remember thinking that some day I might go back to Earth—and find it like Mars."

"That's where Earth headed," said Jon, "though she would have kept a denser atmosphere than Mars even without oxygen. But there would have come a time—maybe within two decades—when you would have packed that oxygen mask to come home."

"WHY was the situation so bad?" asked Ralph. "It's a good thirty years since government started to do something about pollution.

"They didn't do enough. They managed to slow the rate of pollution some, but not enough to prevent permasmog. Man and his machines were using up more than old Earth could give. There were programs to plant trees. But we've estimated that for every tree planted by a conservationist a lumberjack was clearing one and a half acres of trees. And worse, the seas were dying. Fact is that the algae and other marine plants are the major producer of Earth's precious oxygen supply. Kill them and not even the biggest reforestation program you can devise will prevent the atmosphere from becoming Marslike. Yet the algae were dying as the oceans became a dumping ground for all our most undesirable wastes—while we abused their resources. We felt the oceans were too big for us to dirty or hurt by misuse.

Ralph laughed without mirth. "We're now thinking the same thing about space," he said. "Talk to Terran Mining about the accidental dumping of fuel into outer

space and they'll tell you that it's a drop in a big bucket."

"I intend to tell them that a lot of small drops make a bucketful."

"They won't listen to you, Jon. Here on Callisto—and on Ganymede—everybody lives underground and on artificial air. The situation's different. They'll ignore all the Earth-type horror stories you can tell them."

Jon thought for a few moments. "I'll have to try," he said finally. "That's why I'm here on Callisto, to see the Terran Mining brass. I'll also talk to their Industrial Standards Officer, who's responsible for keeping pollution down."

"Terran Mining won't listen even to their own ISO."

"I'll still see him and try to get the seriousness of the problem across to him."

The silence hung long and heavy. A full minute ticked by before Ralph looked up.

"Jon," he said softly, "I'm the Industrial Standards Officer."

II

THE time was almost eight o'clock by the artificial twenty-four hour day that was a convention at the Callisto compound. The real Callisto day was more than two weeks long and was marked at midday by a solar eclipse, as the huge master planet hid the distant Sun.

Jon Mather was sitting in the compound dining room, trying to shell a soft-boiled egg. And he was finding that carelessly gouged pieces of eggshell tended to fly about in the light gravity.

Next to him, Ralph Lake chuckled as a chunk of egg struck Jon in the eyes.

"You'll find that a lot better in your mouth," he said.

"Damn planet." Jon swore with more feeling than astronomical accuracy. "This is worse than the Moon."

"A little," Ralph conceded. "What do you weigh?"

"Last time I was in a sane place, about one-seventy."

"Here," said Jon, "you weigh only seventeen pounds—eleven pounds less than on the Moon."

"Well," said Jon, poking at the egg with renewed care, "it was worse on the spacecraft."

"Just think how much worse it would be on Jupiter itself. Down there you'd weigh—" he made a rapid mental calculation— "a little better than four hundred and forty pounds."

"I don't think I'll go."

Ralph glanced up at the digital clock on the dining room wall. "About an hour until the meeting," he said.

"Anything you can tell me about the people I'll be seeing?"

"Well, let's see—you'll be meeting Harris, the Terran Mining VP for Callisto. He's the one who does the talking. He'll be af-

fable as can be, provided you don't suggest the company spend money. But if you're going to accomplish anything you'll have to get through to Peters, who has a tendency to say nothing, encouraging or otherwise."

"What's Peters' position?"

"Liaison officer with Earth headquarters," said Ralph. "If anything gets properly recommended to the top men it'll have to pass through his hands."

"And you'll be at the meeting, too?"

"Yes, and on their side of the table. I'll be in charge of convincing you that we really are doing something to prevent space slicks."

"And are you?"

"Just count the slicks in orbit," said Ralph. "Then you tell me."

"Then you think they're going to be difficult to deal with."

"Oh, they'll be polite," said Ralph, "until you mention something expensive."

RALPH LAKE had been right, about the politeness at least. Ron Harris was a large, affable man with a tendency to chuckle easily, if somewhat insincerely, each time he removed the large cigar from his mouth.

Dirk Peters, the Earth liaison man, remained tight-lipped after the mandatory greetings, but Ron Harris was solicitous.

"I hear," he told Jon, "that your ship hit the Chedabucto fuel slick on the way here."

"Chedabucto?"

"The slick was left there by the supertanker *Chedabucto* three years ago," Ralph put in. "We name each slick after the spacecraft responsible."

Harris glared at Ralph briefly, evidently not too fond of the word *responsible.* He switched the grin back on for Jon's benefit.

"Your pilot really should have raised our control tower and let us plot your approach to Callisto. We find we have no trouble avoiding the slicks."

Jon leafed through a sheaf of papers he was holding, then withdrew one sheet.

"It says here that the Chedabucto slick has a diameter of forty-five miles."

"Right," said Harris. "Needle in a haystack."

"The needle takes up about thirty-six thousand cubic miles in this case."

Harris took a long slow pull from his cigar, released a column of smoke toward the ceiling. "An awfully big haystack, too." He looked at Jon through half-closed eyes. "You'll get used to the scale of space."

Jon turned his attention again to the sheet he was holding.

"According to the official report," he said, "The *Chedabucto,* bound for Callisto orbit with sixty-three million liters of Type C

fuel, was struck by a small asteroid, unnumbered, twelve million miles beyond the orbit of Mars."

Harris turned around to look at his Industrial Standards Officer. Ralph nodded. "That would be about right."

"But that means the accident took place more than a quarter of a billion miles from here," Jon said.

From his corner Ralph nodded again. "The *Chedabucto* was on an accurate glide path for the rendevous orbit with Callisto. Even after the breakup of the ship, the fuel slick conserved the momentum of the ship itself and came in for a perfect meeting with Callisto."

"Not perfect," Harris hastened to add. "The *Chedabucto* slick is a good thirty thousand miles off Callisto."

Jon fell silent. He made some unhurried notations on a second sheet of paper. Presently he looked up.

"I understand Ganymede wasn't so lucky. They got hit by—" he glanced down again—"the *Cerebus* slick."

Harris shrugged, not taking the cigar from his mouth.

"Suppose," said Jon, "that the *Chedabucto* had been aimed to miss Callisto, with the goal of applying a corrective maneuver at the last moment. That way a crackup in deep space wouldn't leave a fuel slick near an inhabited body."

Harris seemed displeased, and once more glanced at Ralph Lake. Ralph remained silent and for the first time Dirk Peters joined the discussion.

"Mr. Mather," he said, "I don't think you quite appreciate the economics of our situation. A tanker loaded with seventy kilotons of fuel weighs nothing at all in space. However it conserves its full terrestrial inertia. I believe that's correct Mr. Lake?"

Ralph nodded without enthusiasm.

"The tanker's job is to deliver fuel, not burn it up," continued Peters. "With the enormous mass of fuel involved we are constrained to make correctional maneuvers as early as possible in order to keep them small. Otherwise we burn far more fuel. And in that case the fuel we're delivering will be much more expensive."

No one spoke for some moments. Finally Harris removed the cigar from his mouth.

"The blunt fact is this, Mr. Mather," he said. "If we pay a lot more for Type C fuel, then Earth will pay a lot more for its copper, nickel, and iron."

THE next time Jon Mather saw one of the giant orbiting fuel slicks, it was from a respectable distance of a hundred miles. Through the porthole of the freshly scrubbed *Santa Barbara* the slick was a translucent, almost

black, smudge against the growing yellow sphere of Jupiter. The slick looked perfectly round, like a glassy planet.

"That's the *Liberia* slick," said Ralph from the aisle seat. "It's smaller than average. It came here four years ago, when one of the older tankers sprang a major leak and broke up."

"I hope we won't be flying through this one," said Jon, eyeing first his camera bag, then Jupiter.

"This is as close as we'll come," said Ralph. "Callisto control calculated our orbit this time." He paused before adding: "Incidentally, it's only thanks to a good friend of mine at Callisto control that we're getting this close to a slick. Harris and Peters would put my ears in orbit if they knew I'd maneuvered this little sight-seeing tour."

Jon rubbed his chin with his hand. "That slick is taking up far more space than it did in the tanker," he said thoughtfully. "But even after four years it hasn't expanded very much. I would have expected the droplets to go on dispersing, as an oil slick does on water."

"Trouble is," said Ralph, "space has no currents to scatter pollutants as the sea has. And there is probably electrical attraction among the particles, keeping them from drifting too far from each other. That would explain the roundness of the slicks."

"That would mean," said Jon, "that a space slick would behave as though it were a low-density solid."

He looked out once more at the ghostly new satellite of Jupiter.

ABOUT four hours later Jon Mather had once more fitted the telephoto lens on his camera and was aiming it out of the porthole. The giant planet was close enough for him to see clearly the movement of the stormy equatorial bands as they roamed restlessly over the huge surface. He aimed the small reflex camera; the crystal shutter tripped all but soundlessly.

"Just imagine that's a basketball," said Ralph from beside him. "Then imagine a marble next to it. That would be Earth."

Jon took a second picture, swinging the camera toward the Great Red Spot, just coming into view at the corner of the planet. "The sheer size of it," he said, "makes you realize how fast those winds must be moving."

"That's at least a two hundred-mile gale," said Ralph. "Surface velocity—if Jupiter had a surface."

"No surface? What about those artists' concepts of what the Jupiter landscape looks like?"

"I know—they make it look like a cloudy Moon," said Ralph. "But Jupiter isn't dense enough to be that rocky. It has a quarter of

Earth's density and well under half the Moon's."

"Could it be hollow?"

Ralph shook his head. "The moment of inertia isn't right for a hollow body, nor is the gravity. The planet is mostly light gases, like hydrogen and helium. The pressure increases massively as you enter the atmosphere and when it reaches about a million Earth atmospheres, hydrogen acts like a metal. We're used to having a sharp boundary between atmosphere and ground, which we call the 'surface.' But every body doesn't have one."

"Strange planet."

"That's the odd thing," said Ralph. "Jupiter isn't a normal planet. It seems to be a star that didn't contract enough to build up the heat needed to ignite thermonuclear reactions."

"You mean it's a cold star?"

"Not as cold as you'd suppose. Jupiter radiates twice as much heat as it receives from the Sun. On Ganymede, where we're headed, it's not in the sunlight that it's warmest, it's on the side facing Jupiter."

"Then the base is on the side of Ganymede that looks toward Jupiter."

"No. It's on the side away from Jupiter. The cold is the least of our problems on Ganymede."

GANYMEDE was clearly visible through the porthole of the *Santa Barbara* now. Jon Mather was taking more souvenir pictures when Ralph Lake tapped his shoulder and pointed away from the approaching satellite.

"There," he said.

Jon looked—and saw his first supertanker.

The *Santa Barbara* was still more than fifteen miles from the orbiting tanker but the latter's gargantuan proportions were already impressive. The long cylindrical body stretched through space, longer than sixty football fields. At the head was a stubbier section from which lights glowed.

"That front part is the command cabin," said Ralph, pointing to the head of the giant arrow. "It's detachable so that the crew can use it to get home in case of a disaster. That's why the crew of only one supertanker has been lost."

Jon's eyes roved down the immense latticework of the tanker's girderlike body. Sensing his interest, Ralph continued his description.

"That's the *Torrey Cliff*, which arrived off Ganymede about a week ago. It looks about three-quarters full." He pointed to the ribs of the tanker's body. "That's a collapsible plastic shell inside there," he said. "When all the fuel is gone, you can see through it."

The spacecraft drifted close enough to the huge tanker for Jon to pick out, by Jupiter's yellow

light, the markings of the *Terran Mining Corporation* on the hull of the control cabin. Then the tanker receded and the *Santa Barbara's* rockets came to life for the descent.

III

HIS helmet off, Jon had the fleeting impression that he was back on Callisto. The entrance to the compound, he thought, was as similar to its Callisto mate as two motels of a chain on Earth. The decorator had used slightly different pastel paints this time. But the large entrance sign with the integral clock, reading *Welcome to Terran Mining, Ganymede, 16:30*, looked as though it had come from the same workshop as its Callisto counterpart.

By the time he had been led to his room Jon had seen that, for all its resemblance to the Callisto compound, the Ganymede structure was much smaller. That was logical, he thought, since it lacked the offices of the top Terran Mining officers who were present on the more distant satellite.

By the time the dining room clock read 17:25, Jon and Ralph had completed their light supper and Ralph was proposing a small tour of Ganymede. Jon agreed readily. He had things to see before he met with the governor of Jupiter System. Too, he had always imagined that Jupiter, seen from a near satellite, must be an awe-inspiring sight.

The plastic treads of the two-man surface car rumbled and whined against the cold ground of Ganymede. Jon tried to estimate the speed of the vehicle but found the featurelessness of the landscape made the motion seem more leisurely than it probably was. He wondered that a tread-equipped vehicle was capable of any great speed, but then realized that the *woosh* of air underneath was virtually keeping the car hovering in the low gravity, with only enough ground contact to allow steering.

The Sun was climbing rapidly toward zenith but the stars were still clearly visible. Ganymede lacked even the thin atmosphere that gave Callisto its velvety blue sky.

Jon found the transmitter button of his life-support suit and told Ralph of his desire for another look at Jupiter.

"Fine with me," answered Ralph, "but I think you'll be surprised by what you see."

After a number of minutes of rapid travel along the cratered plain, Jon was realizing that Ganymede, for all its lack of gravity, was not tiny. It was in fact more than a third the size of Earth.

"It's more than two thousand miles to the Jupiter side," said Ralph's voice in Jon's earphones, "but you'll be able to see part of it on the horizon if we take this

route. We'll be there in an hour."

It was in fact forty-two minutes later that Jon noticed the first yellow-green sliver of Jupiter rising above the jagged horizon. Gradually the ball grew and began to climb into the dark sky, as the surface car dropped down a long sloping hill. The hill turned even more sharply down as more of the huge planet appeared and Jon could hear the treads of the vehicle slipping on the rock below.

"That's far enough," said Ralph and braked the car to a stop. He opened the door and invited Jon out. Still clumsy in the unaccustomed bulk of the life-support suit, Jon swung his legs out of the vehicle, but as he stood up he lost his footing and fell several feet down the sharp incline.

"Are you all right?" inquired the anxious voice in his headphones. He was, though he could not instantly find the transmitter button to say so. Ralph helped him to his feet easily in the light gravity.

Jon looked toward the panorama of Jupiter, watching its angry winds spinning across its center. He was momentarily surprised to see the Great Red Spot in this top half of the planet, but then realized that he must be looking at the southern hemisphere. Viewing the yellowish ball made him feel uneasy. The sharp downward slope gave him the impression that if he should slip again he might slide forever, down toward the big planet.

He communicated his feeling to Ralph and heard a chuckle of response. "This isn't really a hill," said Ralph. If you surveyed it from orbit it would look as flat as anything else on Ganymede."

"But it *is* downhill," Jon protested. "That's at least a twenty-degree slope."

"Nice guess. It's just over nineteen degrees, actually. But it's an illusion. Normally, your hundred and seventy Earth pounds wouldn't weigh more than twelve pounds in Ganymede's light gravity. But Jupiter is so huge that even here, six hundred thousand miles away, it accounts for a gravitational pull about half that of Ganymede itself."

Inside the helmet Jon nodded.

"It looks downhill to Jupiter," continued Ralph, "because about a third of the gravitational pull on you is coming from Jupiter itself. That distorts your concept of which way 'down' is."

"I'm beginning to understand why the settlements are all on the side away from the planet."

"Right. On the inhabited side, where you benefit from the gravity of both Ganymede and Jupiter, you'll weigh in at close to nineteen pounds. But if we drove around to the side facing Jupiter, the planet would be trying to pull you upward and you'd drop down to less than six pounds."

JON took a final look at the yellow ball with the angry red spot and climbed back into the vehicle. He felt relieved once the surface car was climbing back up the seeming hill, away from Jupiter.

Within twenty-five minutes, the last sliver of the big planet had vanished behind the speeding vehicle and the bleak plain of Ganymede seemed flat once more. The car rumbled on for more than ninety minutes among bleak craters, some with imposing high walls, but most of them small and unprepossessing.

Then he saw at a distance that seemed to be about five miles their next destination—the outline of a space mining site. Jon could see the huge automatic drills and the ore lifters, all of them as black as the sky of Ganymede.

When the car had reached the site, he could see why the equipment reflected so little light. It was covered by a thick layer of a syrupy black substance. Jon saw even before Ralph spoke that it was Type C fuel.

"The edge of the slick just caught Mining Site Number Two," said Ralph. "We've approached it so as to avoid most of the slick. It goes for almost forty miles that way." He pointed into the distance.

"Two men died here I believe?" Jon said into his suit microphone.

"Yes, two miners," said Ralph's voice. "The danger of Ganymede's meeting the slick was known. But the final warning from Ganymede control came too late. The two men were still here when the fuel began to rain down. Type C fuel corrodes the organic materials used in life-support suits. The miners were dead in two minutes."

"Since the space slicks follow predictable orbits, like solid bodies, why wasn't the disaster predicted sooner?"

There was a long pause before Jon heard Ralph's transmitter carrier again. "As Industrial Standards Officer for Terran Mining Corporation," he said, "I'm supposed to assure you that such a thing wouldn't happen again. Little was known then about the mechanics of the slicks. They behave like solids most of the time because of their internal electrical fields. But they break up suddenly in a strong gravitational field."

Jon's eyes ran over the stout frame of the ore lifter which, even from a few feet away, looked more like a shadow than a substantial object. He fancied he saw a drop of fuel drip from a cable. Jon marveled at how little the fuel had evaporated in four years despite the lack of atmosphere.

He touched his suit transmitting button once more. "Suppose the slick had hit an inhabited compound instead of a mining installation?"

"That," came the answer, "is

something the governor of Jupiter System will no doubt want to bring up with you."

JON MATHER slept badly that night. He could not shut Jupiter from his sight and he was falling, falling into the planet. The stormy bands of powerful wind were getting closer, but his feet were slipping on an ocean of Type C fuel and he could not check his drop toward the angry world. The Great Red Spot glared at him wrathfully, like the eye of a Cyclops.

Come, it said.

Jon saw again the abandoned fuel-fouled structure of Mining Site Number Two. The lonely dark framework of the equipment was awash with the black syrup. And now he could see, standing among the abandoned machines, two skeletons, looking out accusingly, their silent jaws drooling the thick liquid that was everywhere.

He saw Jupiter once more and heard a voice somewhat like Ralph's. "Jupiter is hydrogen and helium," said the familiar voice, like that of a tour guide. "The gases are too colorless to form the Great Red Spot. Helium is inert. But the red-colored compounds of hydrogen are all organic. Thus the spot is undoubtedly organic.

Jon saw Mining Site Number Two again, fouled with fuel. But this time the site was on the tempest-tossed surface of Jupiter itself. And this time the fuel was not inky black but red, like the Great Red Spot, like a vast sea of blood. The two skeletons stood, covered in red, extending bony index fingers.

At him.

GOVERNOR ROBERT NOLAN was a much younger man than Jon would have expected—thirty-five at the very most, he estimated. The reason for that was evident: the rugged and bleak satellites of Jupiter were a place for a young and vigorous man.

Governor Nolan received Jon in an unostentatious private office in the government complex, which was about twenty minutes by surface car from the much larger quarters of Terran Mining. It did not take long for Terran Mining to come into the conversation.

"We have little power here," he was saying. "As you no doubt know, Jupiter System has a status in the Solar Federation inferior to that of most countries on Earth, to say nothing of colonies like Mars or the Moon. There's little we can do—without Federation help—to combat this kind of menace."

"If I understand Terran Mining's argument," said Jon, "they're saying that Jupiter System is not intended to be a pretty environment, but merely a rock

bed to be exploited for all the minerals it contains."

The governor nodded. "I know all that. And they're right in a way, of course. There's no ecology to harm here and I'm not suggesting that we try to beautify Callisto and Ganymede. They're modern equivalents of the old Earth mining towns, meant to pay, not please."

Nolan paused. "But now we have six slicks in orbit, not counting the one that struck Mining Site Number Two. That's the situation after five years. How many slicks will we have after ten years, fifteen years? And how large? Each new tanker is built larger than the last."

Jon looked at him, not speaking. After a decade of fighting the scars of a century of pollution on Earth, Jon Mather's instincts ran parallel to those of Governor Nolan. Certainly he did not believe that limited pollution could remain limited.

Yet he knew that the economic reality of Jupiter System made the pollution inevitable. There would be no settlement of Jupiter's satellites at all without Terran Mining. Indeed, all but a few of the men governed by Nolan were employees of Terran Mining. They owed their livelihood to the continuance of practices that made cheap commercial exploitation of Ganymede and Callisto possible, even if it meant fuel slicks in orbit, like so many man-made asteroids.

THE trip back to Earth was long for Jon. It was true that he had Ralph Lake to talk to, since Ralph had easily maneuvered his employer into letting him accompany Jon to Earth, ostensibly to remind him of the company's side of the argument.

And then he had a report to write. He would be seeing the Transport Secretary of the Solar Federation and he had his recommendations to decide on.

Jon was lonely for Earth. He deeply loved his home planet—perhaps that was why space exploits had tempted him little—and that love had been deepened by the ten years he had spent healing her beauty.

As the *Santa Barbara* sped silently through the blackness of deep space, Jon spoke gladly of the Earth the younger man had not seen for nearly ten years. He would find it changed, Jon promised. The number of trees had more than doubled, would double again in the coming decade. Beaches on the Great Lakes were a booming tourist attraction unparalleled in anyone's memory. There was even good swimming on the Hudson River.

"Is the Nile green again?" asked Ralph.

"Yes. Ten years ago it was all

the rainbow colors an oil slick can produce."

"The last legacy of the petroleum age," mused Ralph. "But it wasn't only the development of new fuels that turned the trick?"

"No, though there was a lot of technology involved. We made more than thirty different recommendations requiring the development of new equipment and techniques. The Solar Federation provided the cash to follow up everyone of them. There were new means to precipitate waste solids in the atmosphere. There were new means of disposing of sewage and industrial waste. And there were new means of catching up for more than a hundred years of neglect. For instance, we drained Lake Erie for six months and scrubbed its basin, before refilling it with fresh water and restocking it with fish."

"Incredible!"

"The Federation expropriated huge tracts of land all over the world to build newly forested parklands."

"To help replenish the oxygen supply?"

"Exactly. And a new paperlike plastic was developed, so that millions of trees need not be cut down just to produce one day's newspapers. Furthermore, we found our own application for the oxygen regenerators that were already on the market. The larger industries are now obliged to generate and release into the atmosphere at least ninety percent of the oxygen consumed by their other machines. The oxygen content of the atmosphere is now back to twenty percent—and it's still rising."

Ralph was thoughtful. "There's no doubt that you're the miracle man of Earth," he said. "But on this mission they sent you all by yourself, with no fellow commission members. Does the Federation really expect you to solve the space-slick problem?"

"I suppose not. I'm expected to make some innocuous suggestions that will keep the crisis at least temporarily within control, to calm the anxious."

"If I know you," said Ralph, "you won't do that at all. You'll tell the Federation to act now or face a situation worse than Earth's later on."

Jon smiled. "I guess you know me," he said, then added: "But if I do that, my report will be put in the circular file."

"Did you suspect that when you accepted the assignment?"

"Oh, I had my illusions. After all, for the first time in history, a man had been given the green light to clean up the Earth. I had been that man and Earth had listened to me. Why could I not hope that it would again, if I told Earth she could not hope to remain pure in a defiled universe?"

"And I thought only the young had illusions like that."

"Which brings up the question," said Jon, "of why you chose to take the ISO job with Terran Mining,"

"How many times I've asked myself that question!" he said. "But you weren't the only man with illusions. I was shaken by what men had done to Earth and were doing even to dead Mars. Rather than remain on Mars and be a party to its ravage. I took a chance on a job in which I could aid industry to keep the environment clean." He smiled wryly.

"Only it took me time to realize that my real job was to find excuses not to do it."

THE meeting at the Solar Federation building, the huge new addition to the complex that had once housed the United Nations, had gone as expected. Jon had been somewhat surprised that he had been allowed to see only the Assistant Transport Secretary and not the Secretary himself. He had explained his report with emphasis on as many telling points as he could think of and he had been rewarded with a patient hearing. But now Jon held the letter from the Federation acknowledging his report. The letter needed very little reading between the lines.

"I understand your point of view," the Assistant Secretary had told him, "but we must look at facts. There is no ecology to kill out there, no delicate balance of nature to upset as there is on Earth. We can learn to avoid fuel slicks in space as easily as we avoid the space debris that is not of our making.

"What you must understand is that the remarkable work you accomplished here on Earth could not have been done at an earlier time—and not only because there was no Solar Federation. Earlier generations had to choose between genuine pollution control and industrial development. They could not renounce the latter and so settled for a useless minimum of the former.

"If we were able to let you clean up Earth, it was because the largest industrial interests are no longer on it. They are on the Moon now, making steel and fuel; on Mars, making heavy machinery and on Jupiter System, mining metal.

"The conservationists have reclaimed Earth because the polluters have forsaken it for space. Before they can reclaim the Solar System, industry will have to go to the stars."

THERE was only one of Jon Mather's recommendations that the Federation seemed inclined to accept. They would not force the supertankers to use indirect approaches to inhabited

bodies, would not force them to use thicker and safer hulls, would not limit their size, would not develop the equipment needed to collapse the electrical fields of the space slicks and scatter them. However, the *Chedabucto*, Jon had noted, had collided with an asteroid because of its malfunctioning radar unit and the commander's failure to get adequate course information from the Martian spaceport. The Federation agreed that there should be stricter rules forcing tankers to carry more safety equipment and to follow navigational rules.

If the Federation had acted swiftly enough to enact the new regulations the *California* and the *Skagway* might not have collided.

Jon was basking in the Spring magnificence of his country home when the news of the collision came. Still with him as a house guest was Ralph Lake, spending his accumulated leave from Terran Mining. Ralph had not yet recovered from the newfound vitality of Earth. He was doubly amazed by the presence of this new Eden in the heavily mined out Appalachian mountains, once an ugly scar on the face of the planet, and the personal hell of some of North America's poorest people.

But now the small mining towns, with the rows of tin shacks, were gone, dismantled. The trees were back, as were the grass, the flowers, the birds and the brilliant unfiltered sunshine. The brook, which Ralph guessed had once served as an industrial sewer, was pure enough to drink from.

The news of the collision of the two supertankers was a jolt back to ugly reality for both men. They watched the television screen anxiously, as space-borne cameras beamed, live, the familiar image of the black smudge of a space slick, this time against the backdrop of the Moon.

But these two new tankers had been the forerunners of a new larger type. They had just been completed in orbit off the Moon and were bound on their maiden voyage to Jupiter, when an uncorrected radar fault in the *Skagway* allowed the two vessels to brush too close. Their cargo spilled into the void.

The huge new slick was not like the others. This time it contained 200 million liters of fuel and its oily bulk diffused into a mist that spread over more than a million cubic miles.

It floated uncertainly not far from Earth.

Earth's inhabitants watched agonizingly, from day to day, as the huge slick skirted the outer reaches of the atmosphere. After five days came the good news from a scientist at Dunway observatory on the Moon: the slick was in a stable orbit about Earth and would remain there. Its threat was ended.

Jon turned off the television screen. Ralph gazed into the darkness.

At length the younger man said, "He's wrong you know."

Jon whirled round to face him.

"He'd be right about the stability of the orbit if he could be sure that the *Skagway* slick would continue to behave like a genuine solid object. But the slick is now in the gravitational field of Earth. Anyone on Ganymede could tell you what will happen."

"Perhaps—" said Jon slowly—"perhaps this time it won't happen."

He was wrong of course. The Sun, rising above the worn Appalachians, shone down through the sullen dimness of the yellowed sky. By noon the thick viscous rain was already falling on the dying trees. ●

HUE AND CRY

(Continued from page 2)

Dear Mr. Jakobsson:

It seems that you don't read what you print in your magazines or you wouldn't have made the statement on page 148 in the Nov.-Dec. 1970 issue of IF at the end of Monarch. *You state that the ending of that story leaves the series open for renewal. Well, it doesn't. Why? If you will remember the Dr. Dillingham story in the July-Aug. 1970 issue of IF* Equals Four, *it explains what happens after the Jann rescues Judy Galland from Lepidop.*

One last thing: please have the authors of stories about Computers keep the terminology in context. It irks me when they don't because I'm a programer. Gene Wolfe's story King Under the Mountain *didn't.*

Kirk Jameason
Mt. Ephraim, N.J.

Your perspicacity re Dr. Dillingham is comforting—it's great to know the stories are being *read.*

Regarding *King Under the Mountain,* if you'd care to be specific I would be glad to forward your comments to the author.

Dear Sir:

I have been reading both your magazine and your sister magazine, Galaxy, *for lo these years and the recent changes in the makeup and content of both magazines bother me.*

I have no objection to the introduction of new writing talent provided it is TALENT! But I haven't completed the current issue and already I'm "regusted" with the levels set in this issue.

To list a few gripes:

The Watchers—*one of the hoariest plots in all of sf, and badly done at that. It's so old it might seem new to a neophyte, but I never thought I'd see that one in print again.*

She Still Do—*introduction of extraneous plot material causes a muddled picture. Just what is Rogers getting at with the introduction of wife-beating, etc?*

Monarch—*This is supposed to*

be the last of the Dr. Dillingham series and I say hurrah! I have never found dentistry a fit subject for fiction.

And on and on and on.

I have heard a rumor that you have several of A. Bertram Chandler's Rim *series with good old Grimes in them in your files. May I suggest, instead of printing neophyte material which would receive an* F *in a beginning writing class that you print a whole issue of Chandler. Then your readers would have something to read!*

Sincerely yours,
JOHN BURNS
Hollywood, Cal.

You'll have to keep burning a while, John. Contrary to your information, we're freshly out of Grimes stories, but hoping for more.

Gentlemen:

I don't belive it! Is Laumer kidding?

Richard Kimmel
Chicago, Ill.

In what context?

Dear sirs:

Since P.H. Vogel raised the issue in your letter column recently, I feel the urge to tell you my own definition of science fiction:

> *Science fiction is that branch of fiction which deals with events and phenomena that cannot be said to have any definite existence in the real world, but which could, in the opinion of the author, exist without our being aware of them, especially in the future.*

Also, in the interest of egotism, I would like to present my idea of those things which science fiction is especially good at doing:

1) Exercising the imagination.

2) Developing perspective.

3) Expanding the interests of the reader into arts, sciences, and politics.

4) Examining the consequences of a change.

5) Examining an ideal pragmatically.

6) Wedding art to science.

7) Illustrating a principle.

8) Escaping into reality (science fiction is a kind of escapist literature that tends to mirror the real world much more than detective stories, television, or sword & sorcery fantasy. It thus has a therapeutic effect on the neurotic escapist.)

Number 3 is the only benefit of science fiction that I can claim as completely my own, but I think the list has value in giving the reader an idea of how science fiction is essentially different and potentially better than fantasy and straight fiction. I hope you will find the definition and the list interesting and useful.

Yours truly,
J.W. Zabel
Youngstown, O.

P.S. Your story introductions are the worst in the business.

If you mean story blurbs, I couldn't agree with you more. And while we're on definitions—how about some ideas on what science fiction can *say*? Or mean?

Dear Editor:

Have read If *and* Galaxy *for many years and this is my first time to write*

any editor. But, like WOW! I now feel I must tell you how much I enjoyed the Nov.-Dec. issue. Not a bad story in it, and one exceptionally great one.

A Helping Hand *by Juanita Coulson has my vote for the* best *short story of the year, followed closely with* Shambolain *by Dean A. Koontz.*

More, more, more by these two fine authors.

Florence Jenkins
Gardena, California

Dear Mr. Jakobsson;

Congratulations on your fine editorial work in Galaxy *and its sister publications. I've been reading them for over a decade and though there have been some lousy stories, I can say on the whole I've enjoyed them tremendously. And perhaps look forward with more anxiety to each new issue since you took over, than before. I think this is only to see what's going to happen next. In fact I think most magazines are pretty exciting these days, even if I don't always agree with the authors.*

I was happy to see that Worlds of Tomorrow *was being revived. I found after much searching the first new issue and was favorably impressed. Then I saw the second new issue and bought it.*

I have a complaint now. Our distributor, like many throughout the country, evidently doesn't like to handle anything but sex and/or slay magazines. Therefore I got my copy out of town while visiting friends. The issue is good, especially the editorial. I know quite a few students from Kent State, living where I do, and have heard many viewpoints on the matter.

I therefore looked forward to the

rest of the issue. Unfortunately, in the first piece, I got halfway through and found myself staring at page 129. Sir, pages 33 to 64 are replaced by pages 129-160.

It is next to impossible for me to return this magazine to the dealer where I bought it. I was and am still burned up over the fact that I paid 75¢ for an imcomplete magazine.

What I have read around, the magazine is good. I hope it makes it, but I think you better check the next time to keep this from happening. I'll buy the next issue, when and if it ever shows up around here. But please don't let this happen again.

Sincerely Yours,
John A. Beck
Youngstown, Ohio

An intact copy has been mailed to you. Machines at the binder's sometimes—but infrequently—make errors and a limited number of misbound copies go through before they're caught. Your letter was the first intimation I had that anything had gone wrong with the winter issue of WOT. Sorry you were inconvenienced.

Dear Sir:

I am interested in obtaining information concerning Paolo Soleri and his Containers for the Condition of Man, (Galaxy, *July, 1970) especially Arcosanti. The Arizona container fascinates me and I would like to know the requirements for obtaining a niche in this revolutionary "city." I would greatly appreciate any help you can give me.*

Thank you.
Susan Soss
Buffalo, New York

Dear Sir:

I would like to correspond with Paolo Soleri who was mentioned in the article, Containers for the Condition of Man, *in your magazine* (Galaxy, *July, 1970). The author was Lauri Virta.*

I am a college student—mathematics—interested in the above-mentioned "condition." I want to find out how Mr. Saleri's work on a live experiment is progressing; if there is anyone in my area doing such work; and if there is any possibility of my working on such a project or related studies. I have access to a large computer, and have some capacity for simulation studies or whatever. I also would not mind wielding a cement mixer for a summer.

Thank you.
Gregory Chesson
Schenectady, New York

You will reach Mr. Paolo Soleri by writing to him at the Cosanti Foundation, Scottsdale, Arizona 85251.

SIX months have passed since the last report to the consumers in *Galaxy*—it's time for another. If I can shoulder enough other type out of the way the latest six-month collection of your bombs, bouquets and bullets will appear in the April issue.

Featured will be your comments on contents from Heinlein to Silverberg and others, survey results. The bouquets are beautiful. The bullets are deadlier than the bombs—and this is true: You never hear the one that kills you. —JAKOBSSON

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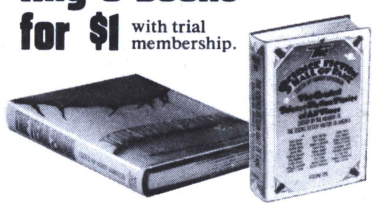

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