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Final Weapon BY EVERETT B. COLE

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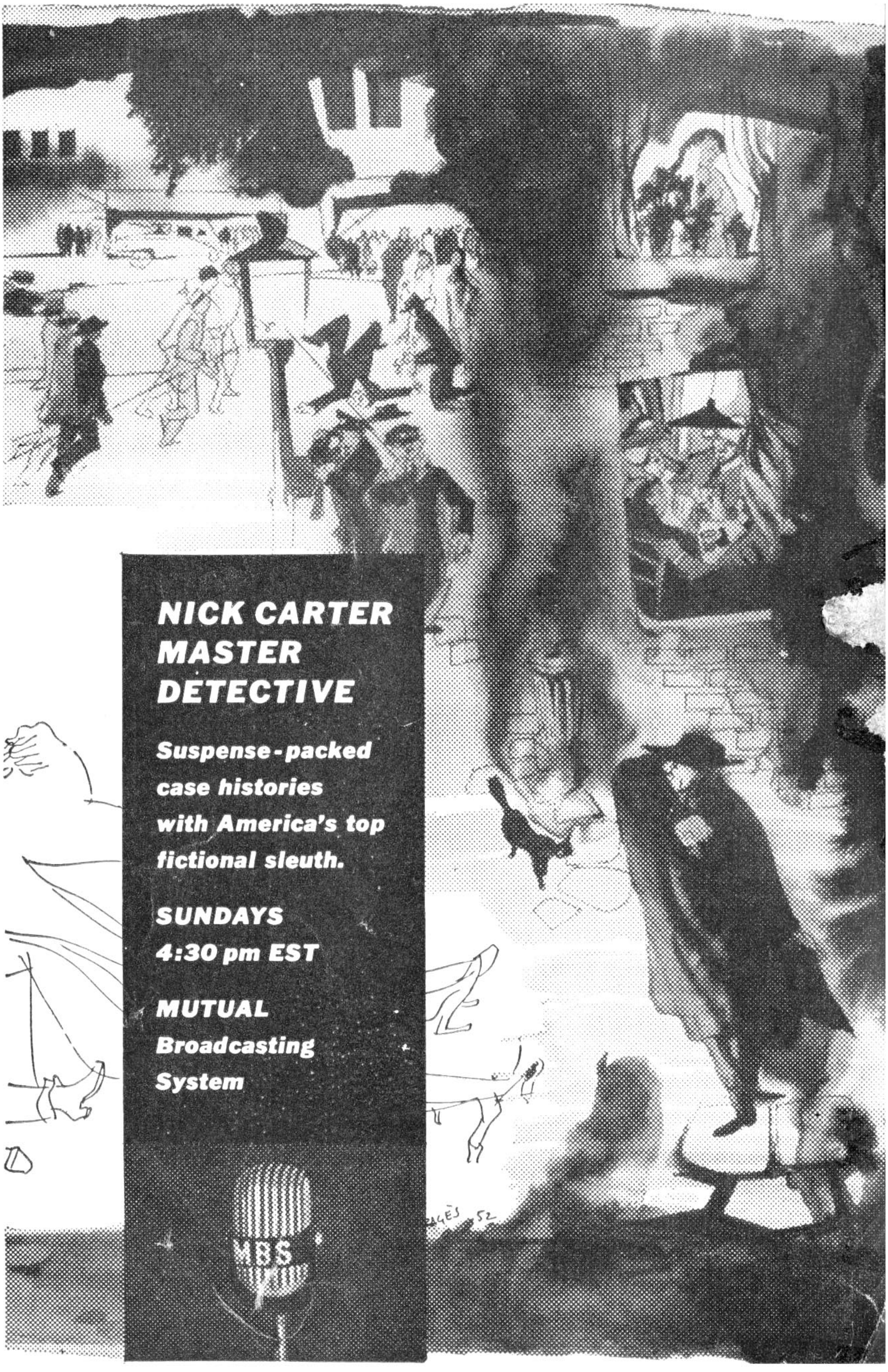
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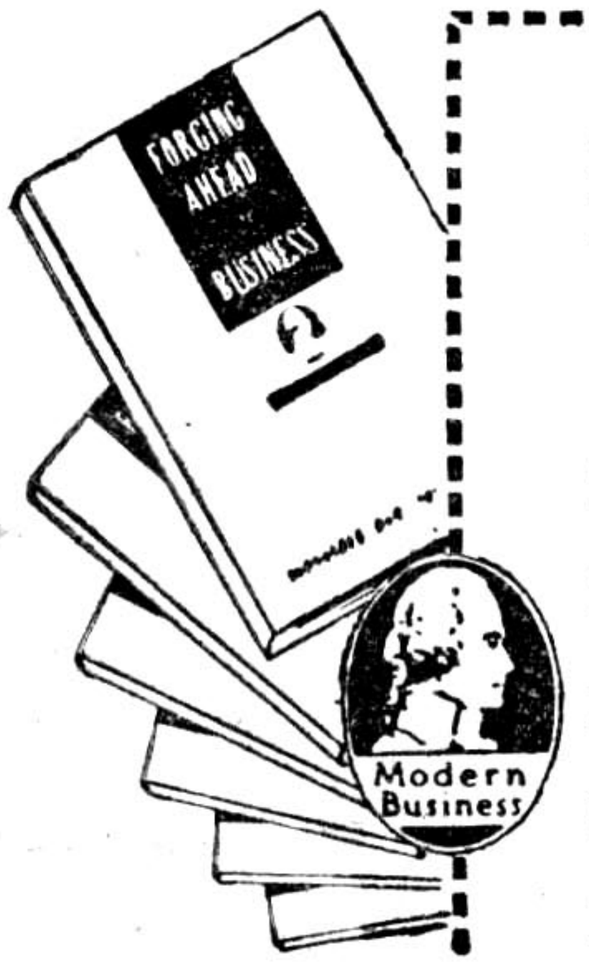

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EDITORIAL

THE LIAR

Perhaps the only completely true statement a human being can make is, "I never state the complete truth." To say "What I say is a complete lie," is just as presumptuous as to say "What I say is the complete truth," for each would require omniscience. Only one who knew the truth, the whole truth, and nothing but the truth could be certain that a statement he chose to make was completely false.

But we can have fun speculating on what is normally meant by "a lie"—and, perhaps, discover something useful with respect to our own thinking, and the thinking of the cultural system in which we live.

Now normally, the idea of "a lie" implies that the speaker knew the truth, and knowingly chose to communicate a statement other than the truth. Leaving aside the impossibility of any human being knowing absolute truth, if there is such a thing, let's examine the matter of communication of statements.

A friend of mine was making an expedition into a village of the Bushmen in Africa, to try to understand their conceptions of the nature of the world—their philosophy, in essence. He is a doctor of philosophy from the University of Leipzig, has been a lecturer in philosophy at Leipzig, Capetown, the University of Maine, at Harvard and elsewhere.

The Bushmen are, essentially, a living-fossil culture—they are still in the Neolithic period. When a visitor from outside the tribe comes, it is the duty of the chief to question him, and determine the social standing of the visitor among his own people. A visiting chief must be accorded honors and rights appropriate to a chief; if the hangdog outcast of tribe A comes to visit tribe B, he has no right to the treatment an honored chieftain of tribe A should receive.

The Bushman chief, therefore, greeted my friend, and questioned him in the traditional manner. "How many wives do you have?" he asked.

"Five," said my friend.

"How much did you pay for them?" asked the Bushman chief.

There was a discussion of the prices in terms of goats and cows, of how one of the wives was rather an old hag—practically sixteen—but one was a nice nine-year-old.

Now we will stipulate that my

friend had one wife, who was forty years old, as a matter of fact, and ask the important question, "Was he lying?"

No, he was not. If he had said he had fifteen wives, he would have been lying; that would have indicated to the Bushman he was an over-chief in his culture. If he had said, "I have one wife, who is forty years old, and I got her for nothing," he would have been lying also—for the Bushman chief was seeking the answer to the problem "What is the status of this visitor in his own culture?" and such an answer would have meant, to him, "I am an outcast pariah, living on the scraps and cast-offs of my people."

In Bushmanese, there are no words meaning "philosophy," "University," "lecturer," or "doctor of philosophy."

What is a lie, then? Is it, perhaps, a communication that conveys to the listener an impression which the speaker considers incorrect? I have a modern chemistry textbook, intended for high school students, which states that the mass of the reaction products equals the mass of the substances entering the reaction—and this must be a lie, for the author of the book shows he does understand the mass-energy equivalence later on in the book. Then his original statement is one which conveys to his students an impression which the author considers false.

Now there is a curious phenomenon involved in the human concept of lying, and the cause and source of lying. Obsèrve what people believe to be indications of "the truth," and we can deduce from that what the folk-belief—and even the scientific belief!—about lying is.

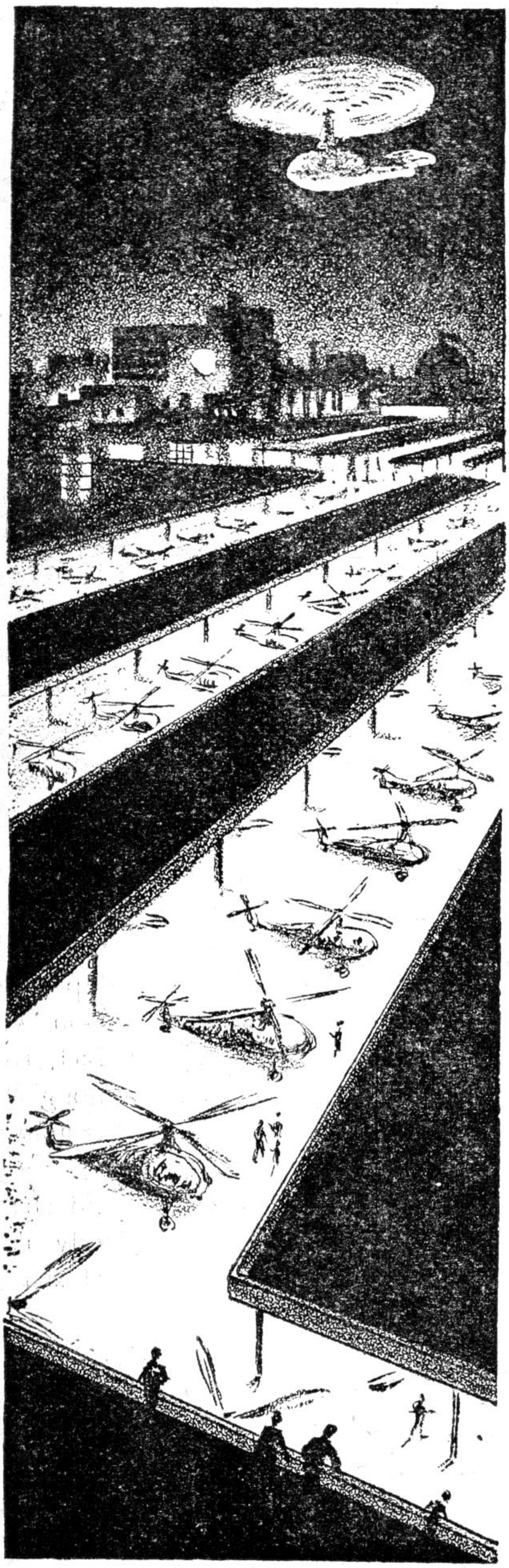
There's the very ancient statement "In vino veritas." Get a man thoroughly drunk, it says, and you'll get "the truth." The modern "truth serum," scopolamine, and the sodium pentothal narcosynthesis approach, like alcohol, serve to paralyze the higher brain centers, rendering the ability to select and judge inoperative.

The "lie detector" systems depend on the principle that a human being does not have complete conscious control of his emotional reactions, so that heart rate, breathing, and perspiration flow are not directly controlled by any process involving thought and judicious selection.

The ancient Hindu "rice test" involves the principle that the man who is afraid tends to have a dry mouth; the guilty party will not be able to spit out a mouthful of rice, while the innocent will. It's essential basic postulate, like that of the polygraph and the brain-numbing drugs, is that a man capable of judging and conscious, thoughtful action, will lie. Only a man who can't think will tell the truth!

Remarkable, isn't it? We see the same proposition in the idea that a child will tell the truth about adult affairs—since a child is utterly in-

(*Continued on page* 161)



FINAL WEAPON

BY EVERETT B. COLE

Man has developed many a deadly weapon. Today, the weapon most effective in destroying a man's hopes and security is the file folder...and that was the weapon Morely knew and loved. But there was something more potent to come.

Illustrated by Leydenfrost

District Leader Howard Morely leaned back in his seat, to glance down at the bay. Idly, he allowed his gaze to wander over the expanse of water between the two blunt points of land, then he looked back at the skeletonlike spire which jutted upward from the green hills he had just passed over. He could remember when that ruin had been a support for one of the world's great bridges.

Now, a crumbling symbol of the past, it stubbornly resisted the attacks of the weather, as it had once resisted the far more powerful blasts of explosives. Obstinately, it pointed

its rusty length skyward, to remind the observer of bygone conflict—and more.

Together with the tangled cables, dimly seen in the shoal water, the line of wreckage in the channel, and the weed-covered strip of torn concrete which led through the hills, it testified to the arrival of the air age. Bridges, highways, and harbors alike had passed their day of usefulness.

Not far from the ruined bridge support, Morely could see the huge, well maintained intake of one of the chemical extraction plants. He shook his head at the contrast.

"That eyesore should be pulled down," he muttered. "Should have been pulled down long ago. Suggested it in a report, but I suppose it never got to the Old Man. He depends on his staff too much. If I had the region, I'd—"

He shook his head. He was not the regional director—yet. Some day, the old director would retire. Then, Central Coördination would be examining the records of various district leaders, looking for a successor. Then—

He shrugged and turned his attention to his piloting of the borrowed helicopter. It was a clumsy machine, and he had to get in to Regional Headquarters in time for the morning conference. There would be no sense it getting involved in employee traffic—not if he could avoid it.

The conference, his informant had told him, would be a little out of the ordinary. It seemed that the Old Man had become somewhat irritated by the excess privileges allowed in a few of the eastern districts. And he was going to jack everyone up about it. After that would come the usual period of reports, and possibly a few special instructions. Some of the leaders would have pet projects to put forward, he knew. They always did. Morely smiled to himself. He'd have something to come up with, too.

And this conference might put a crimp in Harwood's style. Morely had carefully worded his progress report to make contrast with the type of report that he knew would come from District One. George Harwood had been allowing quite a few extra privileges to his people, stating that it was good for morale. And, during the past couple of months, he'd seemed to be proving his point. Certainly, the production of the employees from the peninsula had been climbing. Harwood, Morely decided would be the most logical person—after himself—for the region when the Old Man retired. In fact, for a time, it had looked as though the director of District One was going to be a dangerous rival.

But this conference would change things. Morely smiled slowly as he thought of possible ways of shading the odds.

He looked ahead. Commuters were streaming in from the peninsula now, to make for the factory parking lots. His face tightened a little. Why, he wondered, had the Old Man decided to call the conference at this hour?

He could have delayed a little, until commuter traffic was less heavy. He'd been a district leader once. And before that, under the old government, a field leader. He should know how annoying the employee classes could be. And to force his leaders to mingle with commuting employees in heavy traffic!

For that matter, everyone seemed to be conspiring to make things uncomfortable today. Those heavy handed mechanics in the district motor pool, for example. They'd failed him today. His own sleek machine, with its distinctive markings was still being repaired. And he'd been forced to use this unmarked security patrol heli. The machine wasn't really too bad, of course. It had a superb motor, and it carried identification lights and siren, which could be used if necessary. But it resembled some lower-class citizen's family carryall. And, despite its modifications, it still handled like one. Morely grimaced and eased the wheel left a little. The helicopter swung in a slow arc.

Helis were rising from the factory lots, to interlace with incoming ships before joining with the great stream headed south. The night workers were heading for home. Morely hovered his machine for a moment, to watch the ships jockey for position, sometimes barely avoiding collisions in the stream of traffic. He watched one ship, which edged forward, stopped barely in time to avoid being hit, edged forward again, and finally managed to block traffic for a time while its inept driver fooled with the controls and finally got on course.

"Quarrelsome, brawling fools," he muttered. "Even among themselves, they can't get along."

He looked around, noting that the air over the Administrative Group was comparatively free of traffic. To be sure, he would have to cross the traffic lines, but he could take the upper lanes, avoiding all but official traffic. A guard might challenge, but he could use his identifying lights. He wouldn't be halted. He corrected his course a little, glanced at the altimeter, and put his ship into a climb.

At length, he eased his ship over the parklike area over Administrative Square and hovered over the parking entry. A light blinked on his dash, to tell him that all the official spaces were occupied. He grunted.

"Wonder they couldn't leave a clear space in Official. They know I'm coming in for conference."

He moved the control wheel, allowing his ship to slide over to a shopping center parking slot, and hovered over the entry, debating. He could park here and take the subsurface to Administrative, or he could use the surface lot just outside of the headquarters group. Of course, the director frowned on use of the surface lot, except in emergency. The underground lots were designated for all normal parking. Morely thought over the problem, ignoring the helis which hovered, waiting for him to clear the center of the landing

area. Finally, his hand started for the throttle. He would settle in the landing slot, let the guards shove his heli to a space, and avoid any conflict with the director's orders regarding the surface lot.

Suddenly, there was a sputtering roar. Someone had become impatient at the delay. A small sports heli swept by, impellers reversed, and dropped rapidly toward the entry to the underground parking space. Morely's ship rocked a little in the air blast.

For an instant, Morely felt a sharp pain which gnawed at the pit of his stomach. His head was abruptly light, and his hand, apparently of its own volition, closed over the throttle knob.

This joy boy was overdue for a lesson.

Morely measured the distance quickly, judging the instant when the other pilot would have to repitch his impellers and halt his downward rush. He allowed his own heavy ship to wallow earthward.

Scant feet from ground surface, the sportster pilot flicked his pitch control and pulled his throttle out for the brief burst of power which would allow him to drop gently to the landing platform.

Morely grinned savagely as he saw the impellers below him change pitch and start to move faster. He twisted his own impellers to full pitch and pulled out the throttle for a sudden, roaring surge of power, then swung the control column, jerking his ship up and away. As he steadied his heli and cut power, he looked down.

The powerful downblast had completely upset the sportster pilot's calculations. The small ship, struck by the gale from above, had listed to the right and gone out of control, grazing one of the heavy splinter shutters at the side of the landing slot. The ship lay on its side, amidst the wreckage of its impellers.

Morely flicked on his warning siren and lights, then feathered his own impellers, dropping his ship in free fall. He dropped to the grassy area by the landing slot, ignoring the other ships which scattered like frightened chickens, to give him room. At the last instant, he twisted the impellers to full pitch again, pulled out the throttle for a moment, then slammed the lever to the closed position. His ship touched down on springy turf, its landing gear settling gently to accept the weight. A klaxon was sounding, and warning lights flashed from the landing slot, to warn ships away from an attempted landing.

It would be a long time before the shiny, new sportster would be in condition to sweep into another parking area. And, after paying his fine and taking care of his extra duties, it would be an even longer time before the employee-pilot would have much business in the luxury shopping center, anyway.

Morely smiled bitterly as he closed the door of his ship. It didn't pay to cross Howard Morely—ever.

He walked slowly toward the land-

ing slot, motioning imperiously to an approaching guard.

"Have someone place that ship for me," he ordered, jerking a thumb back toward his heli. "Then come over to that wreck. I shall want words with the pilot." He held out his small identification folder.

The guard's glance went to the folder. For an instant, he studied the card exposed before him, then he straightened and saluted, his face expressionless.

"Yes, sir." He signaled another guard, then pointed toward Morely's ship, and to the landing slot. "I can go with you now."

The two went down in the elevator and walked over to the wrecked sportster. A slender man was crawling from a door. When the man was clear of his ship, Morely beckoned.

"Over here, Fellow," he commanded.

The sportster pilot approached, the indignation on his face changing to bewilderment, then dismay as he noted Morely's insignia and the attitude of the two men who faced him.

Morely turned to the guard.

"Get me his name, identification number, and the name of his leader."

"Yes, sir."

The guard turned to the man, who grimaced a little with pain as he slowly put a hand in his pocket. Wordlessly, he extracted a bulky folder, from which he took a small booklet. He held out the booklet to the guard.

Morely held out a hand. "Never mind," he said. "Simply put him in custody. I'll turn this over to his leader myself."

He had noted the cover design on the booklet. It was from District One—Harwood's district. He flipped the cover open, ascertaining that there was no transfer notice. He'd give this to Harwood all right—at the right time. He looked at his watch.

"I shall want my heli in about three hours," he announced. "See to it that it's ready. And have a man check the fuel and see if the ship's damaged in any way." He turned away.

The district leaders sat before the large conference table. Among them, close to the director's place, was Morely, his face fixed in an expression of alert interest. His informant had been right. The man must have gotten a look at the Old Man's notes. The regional director was criticizing the laxity in inspection and control of employee activities. He objected to the excessive luxury activity allowed to some members of the employee classes, as well as to the overabundance of leisure allowed in several cases, some of which he described in detail.

He especially pointed up the fact that a recent heli meet had been almost dominated by employee class entries. And he pointed out the fact that there was considerable rehabilitation work to be done in bombed areas. It could be done by employees, during their time away from their

subsistence jobs. That was all community time, he reminded.

It was all very well, he said, to allow the second- and even third-class citizens a certain amount of leisure recreation. That kept morale up. But they were certainly not to be allowed any position of dominance, either individually, or as a class. That, he said, was something else again. It was precisely the sort of thing that had led to the collapse and downfall of many previous civilizations.

"Keep 'em busy," he ordered. "So busy they don't have time to think up mischief to get into. Remember, gentlemen, second- and third-class citizens have no rights—only privileges. And privileges may be withdrawn at any time."

He rapped sharply on the table and sat down, looking at the leader of District One.

One by one, the district leaders made their verbal reports of activity. Occasionally, questions of production or work quotas were brought up and decided. Morely waited.

At last, he made his own report, emphasizing the fact that his district had exceeded its quotas—subsistence, luxury, and rehabilitation—for the fourth consecutive quarter. He cited a couple of community construction projects he had ordered and which were well on the way to completion, and brought out the fact that his people, at least, were being inspected constantly and thoroughly.

Also, he suggested, if any time remained to be used, or if leisure activity threatened to become excessive, it might be well to turn some attention outside of the old urban areas. There was considerable bomb damage in the suburban and former farming areas, and the scrap from some of the ruined structures could be stockpiled for disposal to factories and community reclamation plants.

Further, a beautification program for the entire region might keep some of the employee class busy for some time. And some of the ex-farmers among the lower classes might find it pleasant to work once again with the soil, instead of their normal work in the synthetic food labs or machine shops. With the director's permission, he could start the program by removing the useless tower and wreckage at the bay channel, and by salvaging the metal from it. Of course, he admitted, it was a trifle beyond his own authority, since most of the channel was in District One. The regional director cast him a sharp glance, then considered the suggestion. At last, he nodded.

"It might be well," he decided. "Go ahead, Morely. Take care of that detail." He looked over at his executive. "Have Planning draw up something on salvage and beautification in the former rural areas," he ordered. He looked about the room.

"And the rest of you might try looking over your own districts. You don't have to wait for a directive, and every one of you can find some improvement that could be made. If it's a district line matter, submit some plan for mutual agreement to my office." He rose and went to the door.

Morely waited, watching George Harwood. The leader of District One gathered his papers, looked down the table for an instant, then went out. Morely followed him at a discreet distance.

As Harwood neared the door to the regional director's office, Morely caught up with him.

"Oh, Harwood," he said loudly. "Caught one of your people in a flagrant case of reckless flying this morning. Why don't you bear down a little on those fellows of yours? This one seemed to think he was winning a heli meet."

He held out the folder he had confiscated. "Here's his identification. I had the guards hold him for you. Second-class citizen. Must've had a lot of spare time, to get the luxury credits and purchase authorization for that ship of his."

Harwood looked at him, a faint expression of annoyance crossing his face. Then, he glanced at the open door nearby, and comprehension grew on his face. He took the folder, nodded wordlessly, and walked rapidly past Morely, who turned to watch him.

As Harwood swung through the door to an elevator, Morely smiled appreciatively. That had been a smart trick, he thought. Have to remember that one. No argument to disturb the Old Man. Not even positive proof that Morely hadn't been talking to empty space. But there was an answer to that, too, if one was alert. He walked through the doorway into the director's office.

The regional director looked up.

"Oh, Morely. You wanted to see me?"

"Yes, sir." Morely stood at rigid attention. "I just thought of all those useless highways around the countryside. Of course, a few of them have been camouflaged and converted to temporary and emergency heli parking lots, but there's still a lot of waste concrete about that could be removed. It would improve the camouflage of the groups. It could be divided into community projects for spare time work, sir."

"Very good idea. If this stalemate we're in should develop into another war, it would be well to have as few landmarks as possible. And some of these people do have too much time on their hands. They sit around, thinking of their so-called rights. Next thing we know, some of the second-class citizens'll be screaming for the privilege of a vote. Set it up in your district, Morely. We'll see how it works out, and the rest of the district leaders can follow your example."

He looked sharply at Morely. "Heard a little disturbance in the hall just before you came in."

"Oh, that." Morely contrived a look of confusion. "I'm sorry, sir. I didn't mean anyone to hear that. It was just that I had a minor bit of business with Leader Harwood. One of his people nearly knocked me out of the air this morning, over a parking area, and I confiscated his identification. I tried to give it to Harwood after the conference, but he

must have been in a hurry. I caught up with him and gave him the folder."

"So I heard." The director smiled wryly. "Anything more?"

"No, sir." Morely saluted and left.

"That," he told himself, "should drop Harwood a few points."

He went to the parking area to reclaim his helicopter. Better get back to his district and start setting up those community projects. Too, he would have to run a check inspection or so this evening. See to it his sector men weren't getting lax. He'd check on Bond tonight.

He flew back to District Twelve, dropped his helicopter into the landing area, and made his way to his office.

Inside, he went to a file, from which he took his spot-inspection folder. Carrying it to his desk, he checked it. Yes, Bond's sector was due for a spot inspection. Might be well to make a detailed check of one of the employees in that sector, too. Morely touched a button on his desk.

Almost immediately, a clerk stood in the doorway.

"Get me the master quarters file for Sector Fourteen," Morely ordered.

The clerk went out, to return with two long file drawers. Quickly, he set them side by side on a small table, which he pushed over to his superior's desk.

Idly, Morely fingered through the cards, noting the indexing and condition of the file. He nodded in approval, then gave the clerk a nod of dismissal. At least, his people were keeping their files in order.

He reached into a pocket, to withdraw a notebook. Turning its pages, he found a few of the entries he had made on population changes, then cross-checked them against the files. All were posted and properly cross-indexed. Again, he nodded in satisfaction.

Evidently, that last dressing down he had given the files section had done some good. For a moment, he considered calling in the chief clerk and complimenting him. Then, he changed his mind.

"No use giving him a swelled head," he told himself.

He drew a file drawer to him, running his finger down its length. At last, he pulled a card at random. It was colored light blue.

He put it back. Didn't want to check a group leader. He'd be a first-class citizen, and entitled to privacy. He pulled another card from a different section of the file. This one was salmon pink—an assistant group leader. He examined it. The man was a junior equipment designer in one of the communications plants. For a moment, Morely tapped the card against his desk. Actually, he had wanted a basic employee, but it might be well to check one of the leadmen. He could have the man accompany him while he made a further check on one of the apartments in his sub-group. Again, he looked at the card.

Paul Graham, he noted, was forty-two years of age. He had three children—was an electronics designer, junior grade. His professional profile showed considerable ability and training, but the security profile showed a couple of threes. Nothing really serious, but he would be naturally expected to be a second-class citizen—or below. It was not an unusual card.

Morely looked at the quarters code. Graham lived in Apartment 7A, Group 723, which was in Block 1022, Sector Fourteen. It would be well to check his quarters first, then check, say, 7E. Morely went through the numerical file, found the card under 7E, and flipped the pages of his notebook to a blank sheet, upon which he copied the data he needed from the two cards.

He put the notebook in his pocket and returned the cards to their places in the file, then riffled the entire file once more, to be sure there would be no clue as to which cards he had consulted. Finally, he touched the button on his desk again.

Once more, the clerk stood in the doorway.

"This file seems to be satisfactory," he was told. "You may bring in the correspondence now."

The correspondence was no heavier than usual. Morely flipped through the routine matter, occasionally selecting a report or letter and abstracting data. Tomorrow, he could check performance by referring to these. At last, he turned to the separate pile of directives, production and man-hour reports, and other papers which demanded more attention than the routine paper.

He worked through the stack of paper, occasionally calling upon his clerk for file data, sometimes making a communicator call. At last, he pushed away the last remaining report and leaned back. He spun his chair about, activated the large entertainment screen, and spent some time watching a playlet. At the end of the play, he glanced at his watch, then turned back to his desk. He leaned forward to touch a button on his communicator.

As the viewsphere lit, he flicked on the two-way video, then spoke.

"Get me Sector Leader Bond." He snapped the communicator off almost before the operator could acknowledge, then spun about, switching his entertainment screen to ground surface scan. A scene built up, showing a view from his estate in the hills.

There were some buildings on the surface—mostly homes of upper grade citizens, who preferred the open air, and could afford to have a surface estate in addition to their quarters in the groups. These homes, for the most part, were located in wooded areas, where their owners could find suitable fishing and hunting.

Most of the traces of damage done by the bombings of the Nineties were gone from about the estate areas by now, and the few which remained were being eliminated. Morely increased the magnification, to watch

a few animals at a waterhole. He could do a little hunting in a few weeks. Take a nice leave. He drew a deep breath.

Those years after the end of the last war had been hectic, what with new organizational directives, the few sporadic revolts, the integration of homecoming fighters, and the final, tight set-up. But it had all been worth it. Everything was running smoothly now.

The second- and third-class citizens had learned to accept their status, and some few of them had even found they liked it. At least, now they had far more security. There was subsistence in plenty for all producers, thanks to the war-born advances in technology, and to the highly organized social framework. To be sure, a few still felt uneasy in the underground quarters, but the necessity for protection from bombing in another war had been made clear, and they'd just have to get used to conditions. And, there were a very few who, unable to get or hold employment, existed somehow in the spartan discomfort of the subsistence quarters.

For most, however, there was minor luxury, and a plenitude of necessities. And there was considerable freedom of action and choice as well as full living comfort for the full citizens, who had proved themselves to be completely trustworthy, and who were deemed fit to hold key positions.

The communicator beeped softly, and he glanced at the sphere. It showed the face of Harold Bond, leader of the fourteenth sector. The district leader snapped on his scanner.

"Report to me here in my office at eighteen hours, Bond."

"Yes, sir."

"And you might be sure your people are all in quarters this evening."

Bond nodded. "They will be, sir."

"That's all." Morely flicked the disconnect switch.

He got up, strode around the office, then consulted his watch. There would be time for a cup of coffee before Bond arrived. Time for a cup of coffee, and time for the employees in Sector Fourteen to scurry about, getting their quarters in shape for an inspection. They would have no way of knowing which quarters were to be checked, and all would be put in order.

He smiled. It was a good way, he thought, to insure that there would be no sloppiness in the homes of his people. And it certainly saved a lot of inspection time and a lot of direct contact.

He went out of the offire, and walked slowly down to the snack bar, where he took his time over coffee, looking critically at the neat counter and about the room as he drank.

The counter girls busied themselves cleaning up imaginary spots on the plastic counter and on their equipment, casting occasional, apprehensive glances at him. Finally, he set his cup down, looked at the clock over the counter, and walked out.

Bond was waiting in the office.

Morely examined the younger man, carefully appraising his appearance. The sector leader, he saw, was properly attired. The neat uniform looked as if freshly taken from the tailor shop. The man stepped forward alertly, to halt at the correct distance before his superior.

"Good evening, sir. My heli is on the roof."

"Very good." Morely nodded shortly and took his notebook from his pocket. "We'll go to Building Seven Twenty-three."

He turned and walked toward the self-service elevator. Bond hurried a little to open the door for him.

Bond eased the helicopter neatly through the entry slot and on down into one of the empty visitor spaces in the landing area at Block 1022. The two men walked across the areaway to an entrance.

As they went up the short flight of stairs into the hall, Morely took careful notice of the building. The mosaic tile of the stairs and floor gleamed from a recent scrubbing. The plastic and metal handrails were spotless. He looked briefly at his subordinate, then motioned toward the door at their right.

"This one," he ordered.

Bond touched the call button and they waited.

From inside the apartment, there was a slight rustle of motion, then the door opened and a man stood before them. For an instant, he looked startled, then he straightened.

"Paul Graham, sir," he announced. "Apartment 7A is ready for inspection." He stepped back.

Morely looked him over critically, saw nothing that warranted criticism, and went inside, followed by Bond.

Cursorily, the district leader let his gaze wander about the apartment. The kitchen at his left, he saw, was in perfect order, everything being in place and obviously clean. He went to the range and motioned with his head.

"Pull the drip pan," he ordered.

Graham came forward and pulled a flat sheet from the range, then opened an access door at the front of the stove.

Morely peered inside, then thrust a hand in. For a moment, he groped around, then he pulled his hand out and looked at it. It was clean. He sniffed at his fingers, then turned away.

"You may replace the pan, Fellow." He went into the living room, noting that the woman and three children were neat and in the proper attitudes of attention. One of the children was looking at him, wide-eyed. He saw that the child was clean and apparently healthy.

In addition to the usual chairs, table, and divan, there were some bookcases which formed a small alcove around a combination desk and drawing table. Morely circled the bookcases, to stand before the desk.

"What's this?" he demanded. He turned to a bookcase, to examine the titles.

Most of the books were engineering texts and reference works. There

were some standard works of philosophy and a few on psychology. None of the titles seemed to be actually objectionable.

"I—" Graham started to speak, but Morely silenced him with an upraised hand.

"Later," he said coldly. "Bond, has this been reported to you, and have you investigated?"

Bond nodded. "Yes, sir," he said. "Graham is a design engineer, sir, and has been granted permission to do some research in his quarters.

"He's commercially employed, sir, and it was a routine matter. His employer says he has been keeping his production quotas, no alteration to the apartment has been made, and no community property has been defaced. I'm told that several of Graham's designs have been of value in his plant. I didn't think—"

"I see you didn't. What is this man working on now?"

"A new type of communicator, sir. I don't know all the details."

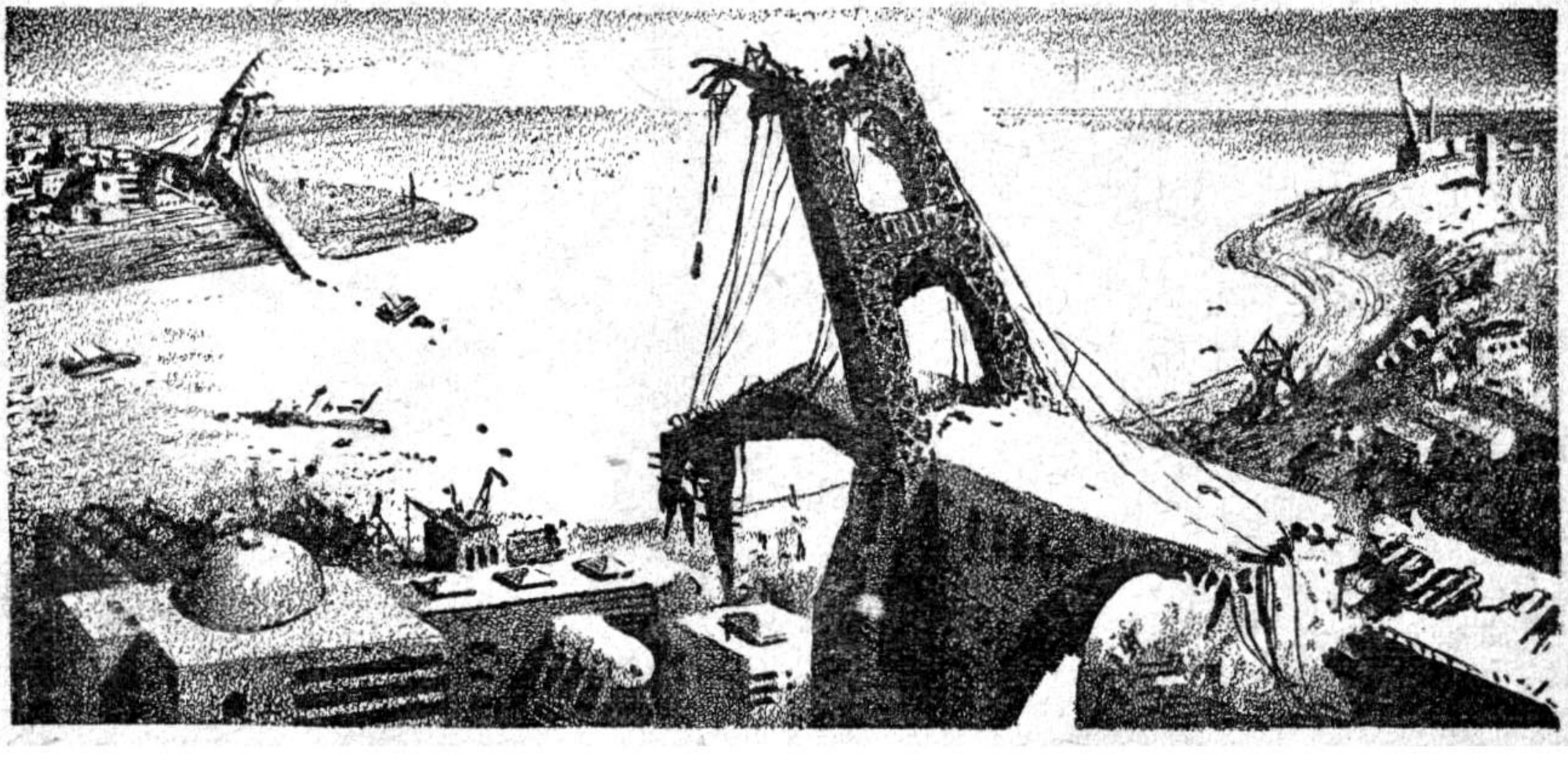
"Get them, Bond. Get them all, and give me a full report on his project and its progress tomorrow. Since this work is being done during time when the man is not working for his employer, he's using community time and the community becomes vitally interested in his results." Morely paused, looking at the bookcase again.

"And, while we are on the subject," he added, "get me details on those previous designs you spoke of. It's quite possible the community has not been getting royalty payments to which it's entitled." He picked out a book, flipping over its pages for a moment, then replaced it and looked searchingly at Bond.

"And get me a full inventory of this man's books and any equipment he may have." He turned on Graham.

"Do you have purchase authorization and receipts for all of this?"

"Yes, sir." Graham motioned toward the desk.



"Very well. I shan't bother with that now. An investigating team can check that."

Morely took a final glance at the half-finished schematic on the drawing board, then circled the bookcases again, to come out into the main room.

"We'll inspect the rest of your quarters."

At last, Morely left the quarters area, followed by Bond. As they reached the helicopter, Morely turned, one hand on the door.

"Laxity, Bond, is something I don't tolerate. You should know that. Possibly this man, Graham, is doing nothing illegal, or even irregular. Possibly, he is not wasting community time, but I have very serious doubts. I'll venture to say the community has a financial interest in several of his recent designs, and I mean to find out which ones and how much. And it's certainly an unusual situation. The man's a leadman, you know, and could spend his time more profitably in checking on the people he's responsible for." He slid into the seat.

"I'll concede," he continued, "that employees are to be allowed a certain amount of recreation of their own choosing. They may have light reading in their quarters, and they may even work on small projects—with permission, of course. But this man seems to have gone much farther than that. He has a small electronics factory of his own, as well as a rather extensive library. He's obviously spending a lot of time at his activities, and that time must come out of his community performance. This certainly is not routine, and I can't condone your failure to make a report on it."

"But, I—"

Morely held up a hand sternly. "Let's not have a string of excuses," he said. "Give me a full report on the man's possessions, his history, and the progress of whatever work he's doing in that private factory of his. Get the details on his previous designs, too. And bring your report in to me in the morning, personally. I shall want to determine whether to make this new device a community project, or whether to allow it to be offered to his employer on a community royalty agreement. And I shall require details on his older designs for Fiscal to examine into. Research, you should know, is a community function, not something to be done in any set of quarters. I shall want to talk to you further when I've gone over this matter.

"Now, get me back to the district offices. I want to get home, and you've work to do tonight."

The report was a long one. Morely smiled to himself as he thought of the time it must have taken Bond to assemble the data and to make up his final draft. Possibly in the future, that young man would be a little less inclined to assume too much authority, or to be too soft in his dealings with the employee classes. The spring in his swivel chair

twanged musically as the district leader leaned back to read.

First, there was an inventory of Graham's effects. It was a lengthy list, followed by a certification by a security inspector that all of the equipment inventoried was covered by authorizations and receipts held by Graham, and that none of the books and equipment were of improper nature for possession by a member of the employee classes. Morely grunted and tossed that section aside.

There was a detailed history of Graham's activities, so far as known to Security. Morely scanned through it hurriedly. There was nothing here of an unusual nature.

Graham had been graduated from one of the large technical colleges during the early nineties. Morely noted that it was one of those schools which had been later closed as a result of one of the post-war investigations.

The subject had been employed by Consolidated Electronics as a junior engineer, and had designed several improvements for Consolidated's products. There was a record of promotions and a few awards. He had held a few patents, which had been taken over by the Central Coördination Products Division during the post-war reorganization. He had also belonged to the now proscribed Society of Electronic Engineers, had contributed articles to that organization's journal, and had taken an active part in some of its chapter meetings.

During the war, he had worked on radio-controlled servos, doing acceptable work. When the professional and trade societies and other organizations were outlawed, he had promptly resigned from his society, and made the required declarations. But he had been reported as privately remarking that it was "a sad thing to see the last vestiges of personal freedom removed."

Morely pursed his lips. Not an unusual history, he decided. Of course, the man was completely ineligible for full citizenship—bad risk. He was barely qualified for second-class citizenship, his obvious ability being the only qualifying factor. Unlike many, he had no record of any effort to shirk duty, or do economic damage during the critical period. The district leader tossed the dossier aside and picked up the report on Graham's present activities.

There were a series of complex schematics, and several machine drawings which he shuffled to the back of his report. Those could be interpreted later, if necessary. He was interested in the description of function.

The device Graham was working on was described as a communicator which operated by direct mind-to-mind transfer. Morely sat up straighter, reading the paragraph over again. Either this man was a true genius, who had discovered a new principle, or he was completely a crackpot.

"Telepathy!"

Morely snorted and went over to

the descriptions of the device, reading carefully. Finally, he read the comments of a senior engineer, who cautiously admitted that the circuits involved, though highly unconventional, were not of a type to cause spurious radiation, or to interfere with normal communication in any way.

The engineer also noted that it was possible that the device might be capable of radiation effects outside of the electromagnetic spectrum, and that the power device was capable of integration into standard equipment—in fact, might be well worth adoption. He carefully declined, however, to give any definite opinion without an actual model to run tests on. And he added the comment that the first model was as yet incomplete.

Morely tossed the last sheet to his desk and leaned forward, tapping idly on the dull-finished plastic. Finally, he touched his call button and waited till the clerk came in.

"You may send Mr. Bond in now," he directed.

He picked up the section of the report dealing with Graham's past designs, and started scanning it. He would have the Fiscal chief go over this and set up the necessary royalty agreements with Consolidated. Some of them might generate worth-while amounts of funds.

He made no sign of recognition or awareness when Bond entered the office, but continued with his reading. At last, he pulled a notepad to him, wrote a brief indorsement to the Fiscal chief, and clipped it to the part of the report dealing with Graham's older designs. He replaced his pen in its stand and leaned back, to stare at his junior, who stood at rigid attention.

"Yes?"

"Sector Leader Bond, sir, reporting as ordered." Bond saluted.

Negligently, Morely returned the salute, then picked up Bond's report.

"I have gone through this, Bond," he announced. "Very interesting. And you thought it too unimportant to report on before?"

"I didn't want to bother you with some idle fantasy, sir. Until the man's experiments showed definite results of some sort, I—"

"And then, you hoped to spring a completed device on me? Take credit for it yourself, eh?"

"Not at all, sir. I—"

Morely raised a hand. "Never mind. I don't need any kind of aid to read your intentions. They're quite plain, I see. It would have been quite a credit to you, wouldn't it?

"Look what I worked out, with a little, minor help from one of the employees in my sector.

"But I've seen that line worked before, Bond, and worked smoothly. You don't catch the Old Man napping so easily as that." He paused.

"Of course we don't know whether or not this device is going to be of any real use. But we do know that this man, Graham, has developed one thing which can be

profitably incorporated into conventional equipment. That power source of his appears to be quite practical, and we'll adopt it. Offer it to the man's employer, subject to community royalty. And see if you can get Graham a little time off work in compensation. Then, keep a close watch on his work on the rest of his device. He'll probably use his time off to work on it—at least, he'll be a lot better off if he does.

"I want frequent reports on his progress—daily reports, if any significant developments occur. And I want a model of that device as soon as it's developed and has had preliminary tests. If it works, it might be valuable for community defense." He waved a hand.

"That's all."

Bond turned to go, and almost got to the door before Morely called him back.

"Oh, one more thing, Bond. Keep a closer watch on the rest of your people. If any more of them decide to do extra work of any unusual nature, I shall expect an immediate report in full. Don't fail me again. Is that clear?"

"Yes, sir." Bond saluted again and made his escape.

Morely watched him disappear, then turned to his communicator. "Get me Field Leader Denton," he ordered.

The pause was slight, then the face of a middle-aged man appeared in the viewsphere.

"Denton," said the district leader, "I want you to keep closer watch on your sector men. Last night I spot-checked Bond, in Fourteen, and I found an irregularity. I'll expect you to endorse the report back, and I'll expect you to tighten down. Keep an especially close eye on this man, Bond."

The field leader's eyebrows raised a little. "Bond, sir? He's one of—"

"Bond. Yes." His superior interrupted forcefully. "And tighten down on all your men. You know how I feel about laxity."

He snapped the communicator off and gathered Bond's report together. For a few seconds, he looked at the neat stack of paper, then he slipped a paper clamp on it and punched his call button.

"There!" Paul Graham straightened from his hunched-over position at the desk. He laid his soldering iron down and massaged the small of his back, grimacing slightly.

"Oh, me! I'll swear my back'll never be the same again. But that ought to do it, at last." He looked at the equipment before him and grinned ruefully.

"Of all the haywire messes. It started out so nice. And it ended up so awful."

The device *had* started out as a fairly neat assembly, using a headband as a chassis. But the circuitry seemed to have gone out of control. Miniature sub-assemblies hung at all angles from their wires and tiny components were interlaced through the unit, till the entire assembly looked like a wig from a horror play. Gra-

ham shook his head, picked up the band, and carefully fitted it, being careful that the contacts touched his forehead and temples properly.

For an instant, he looked a little dazed. Then, he reached up and fumbled for a moment with the controls at the front of the headband. Suddenly, he stopped, an expression of pleasure on his face. He stood for a time, looking at the wall, then looked up at the ceiling. He frowned and looked at his wife, who was anxiously watching him. A smile grew on his face, and she was clearly conscious of the projected thought.

"I told you, Elaine, it can't possibly hurt anyone. Stop worrying about me."

Elaine Graham looked startled. "I didn't say anything, darling."

Her husband looked at her with an impish grin. She frowned a little, then her eyes widened and her mouth opened a little. She ran at him indignantly.

"It simply isn't decent! You take that thing off, Paul Graham, right now. I won't have you reading my mind!"

Graham laughingly fended her off with one hand as he carefully removed the headband with the other. He set the device gently on the desk, then seized his wife about the waist.

"It works, honey," he said jubilantly. "It really works." He waltzed her away from the desk, to the middle of the living room.

"Of course, I couldn't get anything from anyone but you. It seems to work just as I thought it might—only if you can see the person you want to contact. But I'll bet two people who were acquainted could use two of these things to communicate with each other at any distance. And it may be possible to work out the problem of single-device communication at distance and through obstacles. But that'll have to come later. Right now, this thing works."

"But Paul. I'm afraid. What will *they* do with something like this? We have so little freedom left now. Why, they won't even let us think privately." She paused, her head turning from side to side as she looked about the apartment.

"You know, Paul, I hardly ever dare go out of this apartment now, they upset me so. And if they're able to read my thoughts, I shan't be safe, even here."

Graham frowned. "True," he admitted. "But somehow, when I had the thing on, I got some funny ideas. I wonder if anyone could really oppress someone he fully understood. I wonder if two people who could fully comprehend each other's point of view could have a really serious disagreement." He picked up the headband, looking at it searchingly.

"And there's another thing," he added. "Unless both parties are wearing the things, vision seems to be essential to any reaction, at least in this model. I tried to get thoughts from the kids and from the Moreno's, upstairs. But there wasn't a thing. And yet, I could get you clear-

ly. Apparently this thing won't work out as a spy device."

"But, are you sure?"

Graham shrugged wryly. "Well . . . no," he admitted. "I'll have to finish wiring the other set and try 'em both out before I'll be sure of anything. And it'll take a lot of tests before I'm sure of very much. Now, I've just got some ideas." He frowned thoughtfully.

"Anyway, I can't stop now. They know about the thing, and I've got to finish it—or furnish definite proof it's impractical." He turned back to the desk. "Should be through with the other band in a few minutes. Just have to put in a couple of filters."

He picked up the completed device and turned around again. "Here, Elaine, put this on, will you? See what you get. Try to catch a thought from outside the room."

Dutifully, Elaine Graham accepted the headband. She eyed it doubtfully for a moment, then adjusted it over her hair, setting the contacts on her skin as she had seen her husband do. For a few seconds, she stared at her husband, wide-eyed. Then, she looked away, her eyes focused on infinity.

Graham busied himself with the soldering iron and another headband.

At last, Elaine took the headband off. "It's weird, Paul," she said. "When I was looking at you, I knew everything you were thinking. But when I looked away, there was nothing. It was almost as though I didn't have it on. Only, I seemed to be able to think so much more clearly."

Graham looked up from his work, squinting thoughtfully. "Yeah," he muttered. "Yeah, I noticed that, too, come to think of it. Feedback effect of some sort, I suppose. Have to experiment with that, too, I expect." He turned back to his work.

Elaine put the headband back on and watched him. She felt a complete familiarity with everything he was working on. For the first time, she felt she fully understood this man with whom she had lived for so many years. And the understanding was pleasant. She could comprehend the mysteries of the circuits he was working on. She had always felt slightly neglected when he worked with his equipment, especially since the bureaucracy, who took his results without recompense. Now, she could feel his interest in his work for its own sake. She could sympathize with it. And, with a little study, she felt she could join with him.

Graham straightened again. "It's done," he said. He picked the second headband from the desk and put it on. Abruptly, both he and his wife were aware of a fuzziness in their thoughts and senses. The walls, the floor, and the furniture seemed to blur and waver, like the fantasy world of delirium. He put his hand up and adjusted the controls. The room returned to normal, and their senses were abruptly sharp and clear again. He dropped his hand.

"Outside. See if it'll work when we can't see each other."

"Almost curfew time."

"Only a couple of minutes. Then lights out and sleep."

Elaine walked to the door. She stepped out into the corridor and walked down the steps.

"All right?"

"Perfect! Try the parking lot. Close the door."

She went out of the quarters, crossed the areaway, and stood under the landing slot. Far overhead, a segment of sky appeared between the open bomb shutters. Stars shone coldly. She was conscious of a movement and looked down, toward a shadow which moved among the parked helicopters.

"What's that?"

She looked more closely at the shadow, then shuddered a little.

"Never mind." The thought was urgent. *"Come inside. I got him, too."*

Quickly, Elaine walked back into the apartment. She closed the door and walked to the desk, removing the headband as she approached. Her husband put his headband beside it.

"We'd better get to bed," he said quietly. "I'll notify them tomorrow."

"No, Paul. It would be harder then. And there would be so many questions. Call the sector leader tonight. We'll have to get it over." Elaine shivered.

"But what *will* they do with it?" She asked the question almost despairingly.

Graham shook his head. "I'm not sure," he admitted. "I started with the idea of simply building a really effective communicator. But this is more than that. To you and I, it meant full understanding. But to that person out there . . . I don't know."

"His thoughts were flat—almost lifeless. And he made my skin crawl. Paul, do you remember how you used to feel when you came close to a snake? There's something wrong with that man."

"I know. I felt it, too. And it made the blood rush into my ears." Graham moved toward the communicator, placing his hand on the switch. "And you're right. I'll have to report immediately. They don't really need telepathy. And certainly, they never required real evidence. A suspicion is sufficient, and they'd be very suspicious if I didn't notify the sector leader tonight."

He depressed the switch deliberately, like a man firing a weapon. Then, he dialed a number, and waited.

The sphere lit, to show the face of Harold Bond.

"Oh, Graham." Bond frowned a little. "It's late. Do you have something to report?"

"Yes, sir." Graham's face was expressionless. "The mental communicator is finished. Do you wish to test it, sir?"

Bond opened his eyes a little more and nodded. "It's really done, then?"

"Yes, sir."

"I'll be there in a few minutes." The sphere darkened.

Graham looked at it. De-energized, the communicator seemed to be merely a large ball of clear material. It stood on its low pedestal, against its black background, reflecting a distorted picture of the chiaroscuro of the room. He leaned toward it, and saw a faint, deformed reflection of his own head and shoulders.

He spread his hands a little, and turned around. Elaine had crossed to the divan, where she sat, looking apathetically at the door, her hands folded in her lap. He smiled apprehensively, coughed, and held up a hand, two fingers crossed.

Elaine glanced at him, nodded, and resumed her watch of the door. Graham shrugged and walked over to his desk, where he stood, aimlessly looking down at the two headbands.

They both jumped convulsively when the buzzer sounded. Graham strode rapidly to the door, opened it, and stood back as the sector leader came in. Elaine had come to her feet, and stood rigidly, facing the door.

Sector Leader Bond closed the door, then looked from one of them to the other. He shook his head a little sadly, and waved a hand gently back and forth.

"Relax, you two," he said. "I'm alone this time." He turned to Graham. "Let's see what we've got."

Graham walked to his desk and picked up the two headbands.

"They're a little rough looking, sir," he apologized. "But they work."

Bond tossed his head back with a little laugh. "They do look a little rugged, don't they?" he chuckled. "Well, we'll worry about appearance later. Right now, I'm curious. I want to see what these things do."

Graham handed over one of the bands and slowly adjusted the other to his head. For a moment, he looked searchingly at the sector leader, then his face relaxed into a relieved expression.

"Hear me?"

Bond had been examining the device in his hands. He looked up, puzzled.

"Of course I hear you," he said. "I'm not deaf."

Graham smiled a little, then placed a hand tightly over his mouth.

"Still get me?"

Bond cocked his head to one side, looked down at the device in his hands, then looked up again. "Well," he commented. "So that's the way they work. I thought you spoke."

Graham shook his head. *"Didn't have to. Try it on."*

Bond shrugged. "Well, here we go." He pulled off his cap, tossed it to a chair, and replaced it with the headband. For a moment, he looked around the apartment, then he glanced at Mrs. Graham. He blinked, ducked his head, and looked more closely at her.

"Ow! Nobody could be as bad as that!" He looked at Graham. *"What do you think?"*

"There's one outside." Graham inclined his head a little.

Elaine Graham sprang to her feet. "I'm terribly sorry," she apologized contritely. "It's just that I—"

Bond took off the headband abruptly. "I'm sorry, too," he said. "I was prying." He looked down at the device. "I'm not too sure about this thing," he added. "It works. I can see that much. But I'm almost afraid it works too well. What's it going to cause?"

Graham pulled off his own headband and extended his hand for the other. "I'm not sure," he admitted. "I'm not sure of anything at all." He frowned. "Wish I hadn't—" He looked at the sector leader quickly.

"I'm sorry, sir," he apologized. "Forgot my training, I guess."

Bond waved a hand. "Look," he said, "there are times, and there are places. Right now, I'm in your home, and I'm just as worried about this as you are. I'm just another person." He looked down at his neat uniform.

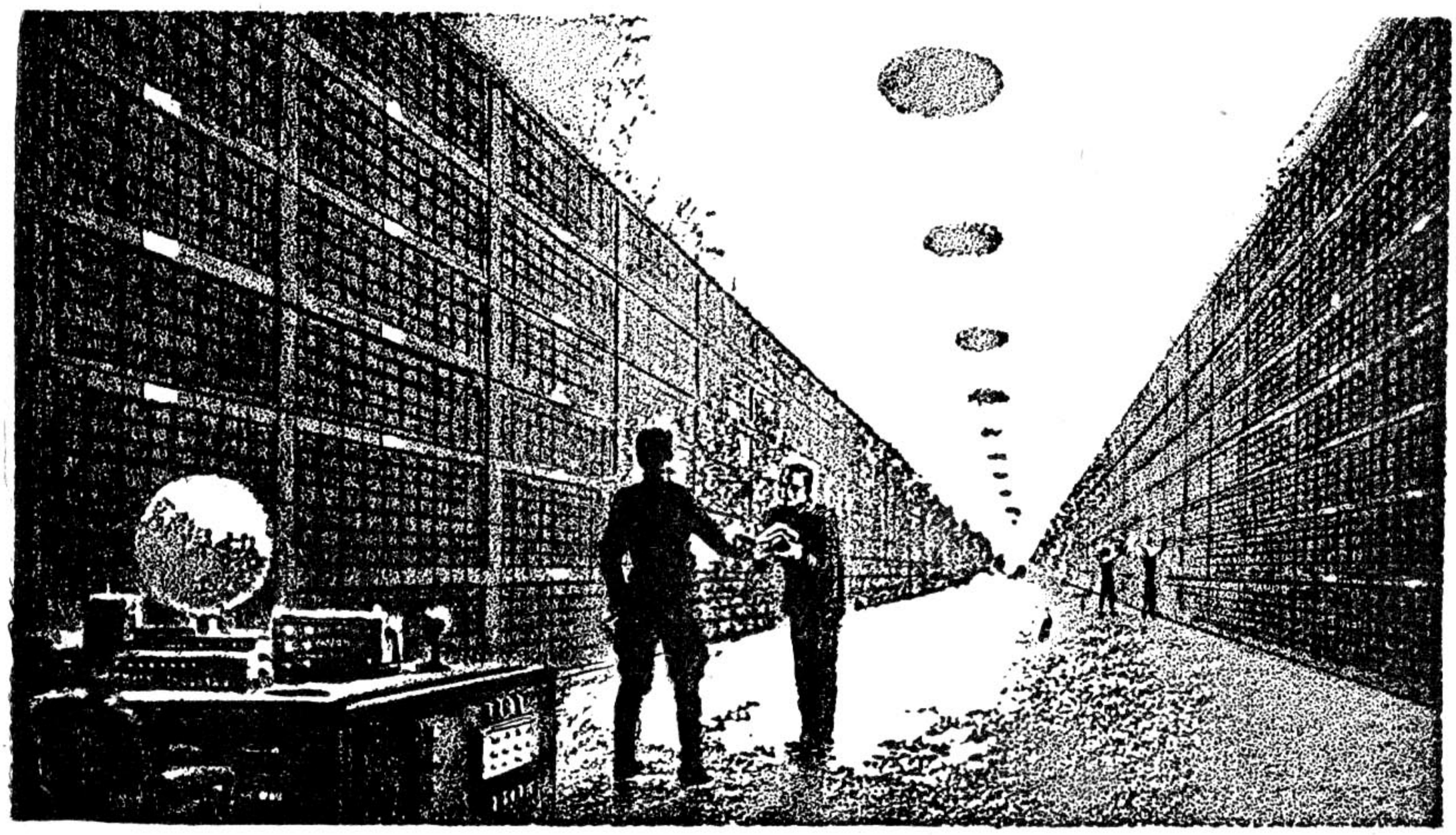
"Once," he mused, "we were all just people. Now—" He shrugged. "And then, these things come along." He looked at the two headbands, then at the man holding them.

"Wonder how many people feel like that?"

Graham held out the headbands. "I know one way to find out."

Bond nodded. "I see what you mean," he admitted. "But it could be pretty bad." He walked over to the chair and picked up his cap.

"Well," he added with a sigh, "I suppose I'd better grab these things and take them over to Research. Have to find out all we can about them. I've still got to report on them." Again, he looked at Graham. "You'd better come along, too. Research people might have a lot of



questions, and I could never answer them."

Graham nodded and went to the hall closet. He took his coat from the hanger, put it on, and reached for his hat, then hesitated.

"You know," he said, "we might try one experiment, right here."

"Oh?" Bond raised his eyebrows.

"There's a man out in the parking lot. I believe he's detailed to keep watch on me. You might try him with one of the headbands. Then, see what he'll do with one on."

"Any special reason?"

Graham twisted his face uneasily. "I can't describe it," he said almost inaudibly. "You'd have to see for yourself."

Bond looked at him speculatively for a moment, then held out his cap and one of the headbands.

"Here, hold these."

He put the other headband on, accepted the first, and walked out of the apartment, followed by Graham, who still carried the cap.

As they came out and started across the parking lot, a man approached them.

Bond looked at him, frowned, then cast a sidelong look at Graham.

"That what you meant?" His thought carried an undercurrent of incredulity.

Graham nodded wordlessly, and Bond looked toward the approaching man again. Once more, his face wrinkled distastefully, then he spoke aloud.

"Oh, Ross. Want you to try something." He held out the headband he was carrying in his left hand.

Ross came up, accepted the device, and looked at it curiously. "You mean this is the thing he's been working on?" He jerked a thumb at Graham. "Saw his wife come out a while ago. Guess she had one of 'em on. She went right back in again."

Bond nodded. "This is it," he said. "Let's see how it works for you."

Ross shrugged. "Try anything once, I guess." He adjusted the band to his head, then stood, looking at the two men.

"Notice anything?" Bond looked at him sharply.

Again, Ross shrugged. "Nothing special," he said with a slight grunt. "Seems as though this guy's pretty nervous."

"You don't have to say anything. Just think it. And see if you can communicate with Graham."

"Huh?" Ross had been looking directly at Bond. He frowned.

"You mean, this thing—" He paused, looking for a moment at Graham, then took the headband off. "Thing doesn't feel good," he complained. He held the device out to Bond, who accepted it.

"But it works? You could communicate both ways with it?"

"Oh, sure." Ross nodded grudgingly. "I got you, all right. But I couldn't get a thing out of this guy." He wagged his head toward Graham. "Except he was jittery about something."

"I see. Thanks." Bond accepted the headband. "We're going to take

these to Research," he added. "Let the technicians there find out how good they are." He turned away and led Graham to his helicopter.

As Graham settled in the seat, he turned to the sector leader. "He just couldn't use it properly," he remarked. "Maybe only certain people *can* use them."

Bond nodded as he started the motor. "Or maybe only certain people can't." He busied himself in getting the machine up through the landing slot, then turned as they climbed into the night sky.

"Maybe you've got to be able to understand and like people before you can establish full contact with them. Maybe . . . Maybe a lot of things." He was silent for a moment. "You know, this thing might become far more valuable than you thought, Graham."

Howard Morely looked up from a memo as the clerk tapped on the door.

"Come in."

The man opened the door and stepped inside.

"Sector Leader Bond is here, sir. He has some gentlemen with him."

"And what does he want?"

"He said it was about that new communicator, sir."

"Oh." Morely turned his attention back to the memo. "Have them wait." He waved a hand in dismissal and went on with his reading.

The beautification program was progressing well. Twenty miles of the old main highway through the valley had been completely cleared and planted. Crews were working on another stretch. The foreman of the wrecking crew down at the point, in Sector Nine, reported that the last bit of scrap had been removed from the old bridge support. Underwater crews had salvaged the cables and almost all of the metal from the fallen bridge itself, and the scrap was on the beach, ready for delivery to the reclamation mills in District One.

Morely smiled sourly. Harwood would have a storage problem on his hands in a day or so. The delay in delivery could be explained and justified. Morely had seen to that. Now, all the material was ready and could be delivered in one lot.

Harwood would have to raise his production quota in his community mills to use up the excess material, and that would slow down the clean-up in District One. The Old Man couldn't help but notice, and he'd see who was efficient in his region. The district leader pushed the memo sheets aside and placed his hands behind his head.

Slowly, he pivoted his chair, to look at the entertainment screen. He started to energize it, then drew his hand back.

So that crackpot, Graham, had finally come up with something definite. Morely smiled again. It had almost seemed as though the man had been stalling for a while. But the pressure and the veiled threats had been productive—again.

To be sure, the agents covering

that project had reported that the device seemed to be merely another fairly good means of communication —nothing of any tremendous importance. But results had been obtained, and a communicator which was reasonably free from interception and which required relatively low power might be of some value to the community. He might be able to get a commendation out of it, at least.

And even if it were unsuitable for defense, there'd be a new product for one of the luxury products plants in the district, and the district would get royalties from the manufacturer. Too, it would keep people busy and make 'em spend more of their credits.

He grimaced at his vague reflection in the screen before him, and spoke aloud.

"That's the way to get things done. Make 'em know who's in charge. And let 'em know that no nonsense will be tolerated. Breathe down their necks a little. They'll produce." He cleared his throat and spun around, to punch the button on his desk.

The door opened and the clerk stood, respectfully awaiting orders.

"Send in Bond and the people with him."

The clerk stepped back, turning his head.

"You may go in now, sir." He disappeared around the door.

Harold Bond stepped through the doorway, followed by two men. Morely looked at them closely. Engineers, he thought.

"What have you got?" he demanded.

One of the men opened a briefcase and removed a large, dully gleaming band. Apparently, it was made of plastic, or some light alloy, for he handled it as though it weighed very little.

As the man laid it on the desk, Morely examined the object closely. It was large enough to go on a man's head, he saw. It had adjustable straps, which could be used to hold it in place, and there were a few spring-loaded contacts, which apparently were meant to rest against a wearer's forehead and temples.

A few tiny knobs protruded from one side of the band, and a short wire, terminated by a miniature plug, depended from the other.

The engineer dipped into his brief case again, to produce a small, flat case with a long wire leading from it. He put this by the headband, and connected the plugs.

"The band, sir," he explained, "is to be worn on the head." He pointed to the flat case. "To save weight in the band, we built a separate power unit. It can be carried in a pocket. We've tested the unit, sir, and it does provide a means of private communication with anyone within sight, or with a group of people. Two people, wearing the headbands, can communicate for considerable distances, regardless of obstacles."

"I see." Morely picked up the

headband. "Do you have more than one of these?"

"Yes, sir. We made four of the prototypes and tested them thoroughly." Bond stepped forward. "I sent a report in on them yesterday."

"Yes, yes. I know." Morely waved impatiently. He examined the headband again. "And you say it provides communication?"

"Yes, sir."

"No chance of interception?"

Bond shook his head. "Well," he admitted, "if two people are in contact, and a third equipped person wishes to contact either one, he can join the conversation."

"So, it's easier to tap than a cable circuit, or even a security type radio circuit." Morely frowned. "Far from a secure means of communication."

"Well, sir, if anyone cuts in on a communication, both parties know it immediately."

Morely grunted and shook his head. "Still not secure," he growled. He looked at the papers on his desk. "Oh, put one on. We'll see how they work." He leaned back in his chair.

Bond turned to the man with the brief case, who held out another headband. The sector leader fitted it to his head, plugged in the power supply and looked around the room. Finally, he glanced at his superior. A shadow of uncertainty crossed his face, followed by a quickly suppressed expression of distaste.

Morely watched him. "Well?" he demanded impatiently, "I don't feel or see anything unusual."

"Of course not, sir," explained Bond smoothly. "You haven't put on the other headband yet."

"Oh? I thought you could establish communication with only one headset, so long as you were in the same room."

Bond smiled ingratiatingly. "Only sometimes, sir. Some people are more susceptible than others."

"I see." Morely looked again at the headband, then set it on his head. One of the engineers hurried forward to help him with the power pack, and he looked around the room, becoming conscious of slight sensations of outside thought. As he glanced at the engineers, he received faint impressions of anxious interest.

"Can you receive me, sir?"

Morely looked at Bond. The younger man was staring at him with an intense expression on his face. The district leader started to speak, then remembered and simply thought the words.

"Of course I can. Didn't you expect results?"

"Oh, certainly, sir. Do you want me to go outside for a further test?"

The headband was bothering Morely a little. Unwanted impressions seemed to be hovering about, uncomfortably outside the range of recognition. He took the device off and looked at it again.

"No," he said aloud. "It won't be necessary. It's obvious to me that this thing will never be any good for

practical application in any community communications problem. It's too vague. But it'll make an interesting toy, I suppose. Some people might like it as a novelty, and it'll give them some incentive to do extra work in order to own one. That's what luxury items are for. And the district can use any royalty funds it may generate."

He laid the headband on his desk. "Go ahead and produce a few samples. Offer the designs to Graham's employer. He can offer them on the luxury market, if he wishes, and we'll see what they do. If people want them, it might be profitable, both for the district and for Consolidated." He shrugged.

"No telling what'll make people spend their credits." He started to nod a dismissal, then hesitated.

"Oh, yes. I think I'll keep this one," he added. "And you might leave a couple more. The regional director might be amused by them."

He accepted the two headbands and their power packs, put them in a desk drawer, and sat back to watch the three men leave the office.

After the door closed, he still sat, idly staring at the headband on his desk. He put it on his head again, then sat, looking about the room. There was no unusual effect, and he took the band off again, looked at it sourly, and laid it down.

Somehow, when Bond and those other two had been in the room, he had sensed a vague feeling of expectancy. Those three had seemed to be enthusiastic and hopeful about something, he was sure. But he failed to see what. This headband certainly showed him nothing.

He stared at the band for a while longer, then put it back on and punched the call button on his desk. As his clerk came into sight, he watched the man closely. There *was* a slight effect. He could sense a vague fear. And a little, gnawing hatred. But nothing was definite, and no details of thought came through. He shrugged.

Of course the man was fearful. He probably was reviewing his recent mistakes, wondering which one he might be called upon to explain. Too bad his mind wasn't clear enough to read. But what could you expect? Possibly, he could drive Research into improving the device later.

"Anyway," he told himself, "everyone has something they're afraid of. It's natural. And everyone has their pet hates, too." For an instant, he thought of Harwood.

He focused his mind on a single thought. *"Get me the quarters file for Sector Nine."*

There was a definite effect this time. There was a sharp radiation of pained surprise. Then, there was acquiescence. The clerk started to say something, then backed toward the door. The impression of fear intensified. Morely smiled sardonically. The thing was an amusing toy, at that. He might find uses for it.

He sat back, thinking. He could use it as a detector. Coupled with shrewd reasoning, well-directed questions, and his own accurate knowledge of human failings, it could tell him a great deal about his people and their activities.

For instance, a question about some suspicious circumstance would cause a twinge of fear from the erring person. And that could be detected and localized. Further questions would produce alternate feelings of relief and intensified fear. He nodded complacently. Very little had ever gotten by him, he thought. But from now on, no error would remain undiscovered or unpunished.

The clerk returned to place the file drawers convenient to his superior's desk. He hesitated a moment, his eyes on the headband, then picked up the completed papers from the desk and went out.

Morely riffled through the cards, idly checked a few against his notes, and leaned back again. The file section seemed to be operating smoothly. He looked at his desk. Everything that had to be done immediately was done. And the morning was hardly more than half over.

He rose to his feet. Surely, somewhere in the headquarters, there must be some sort of trouble spot. Somewhere, someone was not producing to the fullest possible. There must be some loose end. And he'd find it. He went out, jerking a thumb back at his office as he passed his clerk's desk.

"You can pick up those files again, Roberts. And see to it that my office gets cleaned up a little. I won't be back for a while."

He went out, to walk down the corridor to the snack bar.

There were a few girls there. He walked by their table, glancing at their badges. Communications people. He nodded to himself, ordered coffee, and chose a table.

As he glanced at the girls' table, he could detect a current of uneasiness. They'd probably been fooling away more time than they should. Too bad he couldn't get more definite information from their thoughts. Like to know just how long they had been there. He tilted his wrist, taking a long look at his watch. The current of uneasiness increased. No doubt to it, they'd been more than ten minutes already.

The girls hurriedly finished their coffee and left. Morely sipped at his own cup.

At last, he got up and went out. Might be a good idea to visit the Fixed Communications Section. Looked as though there might be a little laxity there.

As he walked down the corridor, he mentally reviewed the operation of communications. There was Fixed Communications, responsible for communicator service to all the offices and quarters in the district, as well as to the various commercial organizations. There were also Mobile Comm, Warning, Long Lines, and Administrative Radio.

Of these, the largest was Fixed

Communications, with its dial equipment, its banks of video amplifiers, the network of cables, and the substation equipment. It would take days to thoroughly check all their activities. But the office was the key to the entire operation. He could check their records, and get a clue to their efficiency. And he could question the section chief.

He took the elevator to the communications level and walked slowly along the hallway, glancing at the heavy steel door leading to Warning as he passed it. That could be checked later, though there would be little point to it.

It had always annoyed him to think of the operators in that section. They simply sat around, doing nothing but watch their screens and keep their few, piddling records. They did nothing productive, but they had to be retained. Actually, he had to admit, they were a necessity under present conditions. War was always a possibility and the enemy was building up his potential. He might strike at any time, and he'd certainly not send advance notification. If he did strike, the warning teams would perform their brief mission, alerting the active, working members of the defense groups. Then, they would be available for defense. And the defense coördinators required warning teams and equipment in prescribed districts. His was one of these.

He grumbled to himself. Even the number of operators and their organization were prescribed. This was a section, right within his own district, where he had little authority. And it was irritating. Drones, that's what they were.

He continued to the Fixed Communications office. Here, at least, he had authority.

He walked through the door, casting a quick glance at the office as he entered. The section chief got up from his chair, and came forward. Morely felt a little glow of satisfaction as he detected the now familiar aura of uneasiness. Again, he wished this device he wore were more effective. He would like to know the details of this man's thoughts.

"Good morning, sir." The Fixed Communication chief saluted.

Morely returned the salute perfunctorily, then examined the man critically.

"Morning," he acknowledged. "Kirk, I want you to get some new uniforms. You look like a rag bag."

A little anger was added to the uneasiness. Kirk looked down at his clothing. It wasn't new, but there was actually little wrong, other than the slight smudge on a trouser leg, and a few, small spots of dullness on his highly polished boots.

"I've been inspecting some cable vaults, sir," he explained. "We had a little trouble, due to ground seepage."

"It makes no difference," the district leader snorted, "what you've been doing. A man in your position should be properly attired at all times." He paused, looking Kirk over

minutely. "If your cable vaults are in such bad condition, get them cleaned up. When I look your installations over, I shall expect them to be clean. Clean, and in order."

He looked beyond Kirk. "And get that desk cleared. A competent man works on one thing at a time and keeps his work in order. A place for everything, and everything in its place, you know. You don't need all that clutter. Is the rest of your office as disorderly as this?"

He looked disparagingly about the small room, then turned toward the door to the main communications office. Kirk moved to open the door.

At one side of the large office was a battery of file cabinets. Four desks were arranged conveniently to them. Morely looked at this arrangement.

"What's this?"

"Billing and Directory, sir. These are the master files of all fixed communication subscribers. From them, we make up the semiannual directory, its corrective supplements, and the monthly bills."

Morely frowned at the desks and files, then looked at the clerks, who were bent over their desks. As one of the girls straightened momentarily, he recognized her. He'd seen her earlier, in the snack bar. He looked more closely at her desk. She had reason, he thought for that radiation of uncertain fear he could sense.

"What's in those files?" he demanded.

"It's a complete index to all subscribers, sir." Kirk looked a little surprised. Morely recognized that the man thought the question a little foolish. He cleared his throat growlingly.

"Let's see one of those cards."

Kirk walked to the file, pulled a small envelope at random, and held it out. The district leader examined it.

"Hah!" he snorted. "I thought so. Duplication of effort. This has nothing on it that isn't in my quarters and locator files."

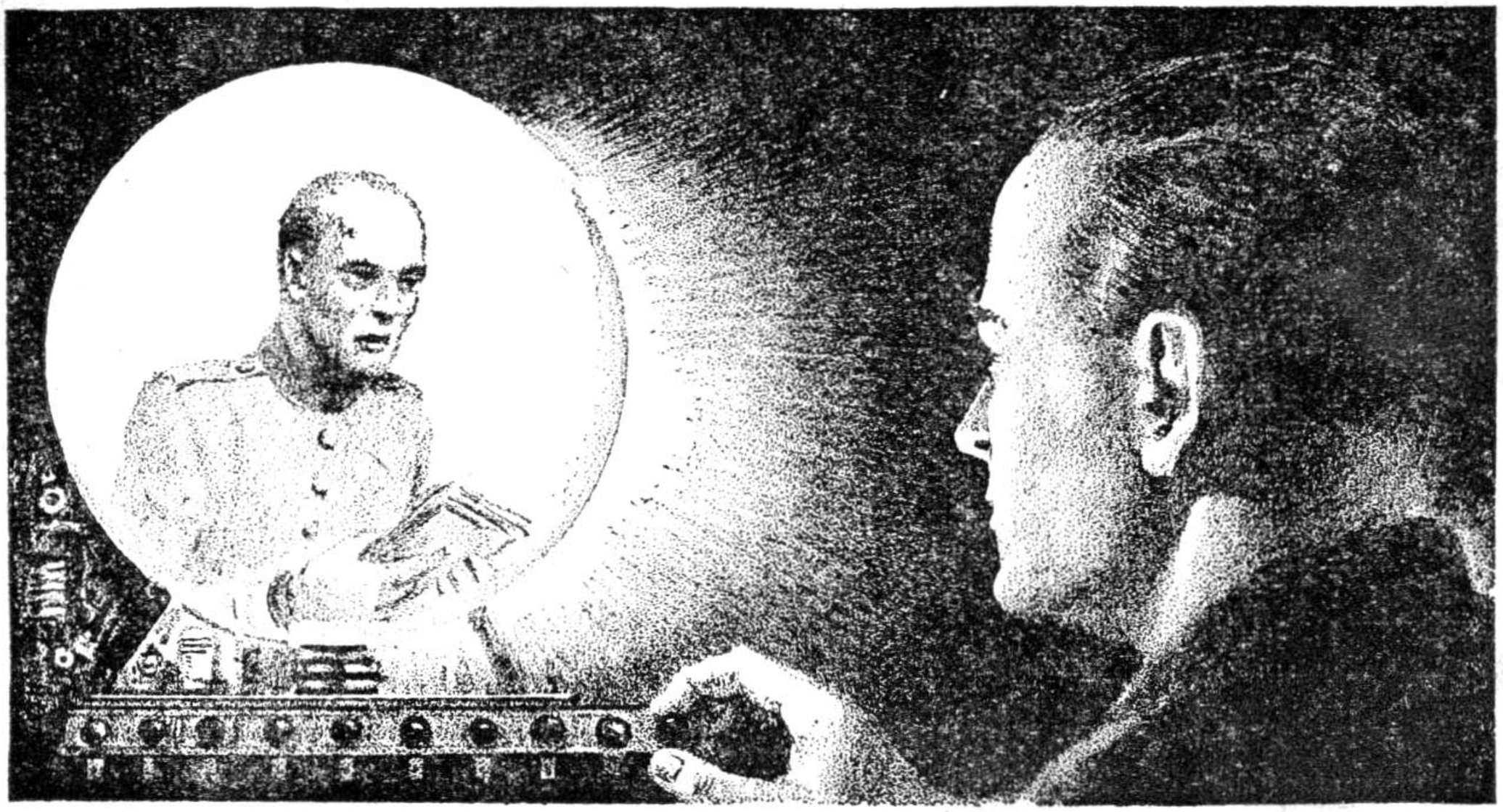
"There's billing information on the back, sir," Kirk pointed out. "And current charge slips are kept in the envelope. We use these to prepare the subscriber bills, as well as to maintain the directory service. It's a convenience file, to speed up our work."

Morely turned the envelope over in his hands. "Oh, yes." He opened the envelope, to look at the slips inside. "How do you get the information for these?"

"The charge slips come from Long Lines, sir." Kirk paused. "We get billing information for basic billing from the counters in the dial machine. The other information comes from installation reports and from the quarters file section and the locator files."

Morely handed the envelope back.

"I can see, Kirk," he said, "that you've built up a whole subsection of unnecessary people here." He stepped over to the file cabinets, examined their indices, then pulled a drawer open. He pulled his notebook out, consulted its entries, and search-



ed out an envelope. For a moment, he compared it with the notebook. Then, he turned, holding out the envelope.

"And you don't even keep your information current," he accused. "This man was transferred yesterday afternoon, to another sector. You still show him at his old quarters, with his old communicator code."

"We haven't that information from Files yet, sir," protested Kirk. "They send us a consolidated list of changes daily, but it generally doesn't come in till thirteen hundred."

Morely dropped the envelope on one of the desks.

"Quarters Files can handle this entire operation," he declared, "with a little help from Fiscal. And they can handle it far better than your people here." He stopped for a moment, thinking, then continued. "Certainly," he decided, "Fiscal can take care of your billing. They handle the funds anyway, in the final analysis. And you can coördinate your directory work with the chief clerk at Files. You've got excess people here, Kirk. We don't need any of them."

He looked at the desks and felt a wave of consternation. Kirk spread his hands.

"But we have the information we need close at hand, sir. Our directory has been coming out on time, and in accurate condition. And our billing is well organized. The directory and billing are my respons—"

Morely waved a hand, then tapped himself on the chest with a long forefinger. "The entire operation of this headquarters is my responsibility, Kirk," he said positively, "and mine alone. And I mean to take care of it. You're responsible to me that Fixed Communications are kept in order, and I don't mean to relieve you of a bit of that responsibility.

But I won't have you making jobs and wasting funds on excess personnel." He snorted. "Convenience files are all right. But they're meant to save work, not make it."

Kirk shook his head. "A decentralization will make it difficult," he began.

Again, Morely cut him off. "Don't start telling me why you can't do something," he snapped. "Work out a way you *can* do it. Make up plans for transferring this filing function to Quarters Files, and work up a plan for transferring your billing to Fiscal. That's their business, and they know how to handle it. Submit your study to me this afternoon." He looked around the office again.

"The people in Files and Fiscal can handle this workload without adding a single person. And they will. You're using four clerks to swing it. Kirk, I want this organization to run efficiently, and excess personnel don't lead to economic operation." He stared at the section chief.

"Give these four people their notices today, and I'll expect some suggestions from you as to further streamlining of your section within the next two days. And be sure they're sound suggestions, which result in personnel savings. Otherwise, I'll be looking for a new section chief up here."

For a few seconds, he stood, enjoying the waves of consternation and futile anger which beat about him. Almost, he could pick up some of the despairing thoughts in detail. The clerks, of course, were second-class citizens. And without employment, they'd soon lose their luxury privileges. Unless they were fortunate enough to find other employment very soon. they'd have to move to subsistence quarters, and learn to do without all but the most meagre of food, clothing, and shelter. When they did get employment again, they'd appreciate it. He looked majestically around the office once more, then turned and strode away.

He went through the corridor to the elevator, and stepped in, smiling contentedly. The morning hadn't been entirely wasted.

As he got out of the elevator on executive level, he glanced at his watch. It wasn't quite time for lunch, but there would be little point in spending the few remaining minutes in his office. He walked slowly toward the executive cafeteria.

After lunch, he returned to his office. A few matters awaited his examination and decision, and he busied himself for a short time, disposing of them. He paused over the last.

It was a request from Kirk for more cable construction. The justification showed figures which indicated an increase in executive type communications during the past few months. This, coupled with new quarters construction, necessitated additions to the cable trunks from the main exchange. There was added a short survey of necessary repair to existing cable facilities.

Morely leaned back. If he approved the request, he would be helping Kirk increase his section. On the other hand, if he disapproved it, and the communicator lines became congested, he might find himself open to criticism later. Some of his satisfaction evaporated. He looked sourly at the paper.

Suddenly, he thought of Bond's new project. The man had claimed this device could serve as a communication means between its wearers, and had demonstrated that his claim had some truth. After noting the slight fatigue the device seemed to cause in this application, and the vagueness of the device's operation, Morely had disregarded the claim. But junior executives could put up with a little fatigue and inconvenience. And he could see that they did. It might even cut down the time they were always wasting, talking with one another. He rubbed his chin with one hand.

"Well," he told himself, "let's see how it works."

From the way Bond had acted in his office, the sector leader might be still wearing his headband. In fact, he probably was. Morely concentrated on the man, then concentrated on a single, peremptory thought.

"Bond! Can you receive me?"

The answer was prompt. *"Yes, sir. You wanted me?"*

"Of course, Idiot. Why do you think I called? Do you really believe these things would be suitable for routine communication? Could they supplement our normal system?"

"Certainly, sir. They should be very effective."

"Have you offered them to Consolidated yet?"

"Yes, sir. They've accepted them. They're beginning to tool up for production."

Morely winced. He had given the order, to be sure—and before creditable witnesses. Bond had been right in taking immediate action, and his speed would have been commendable in most cases. But this time, Morely regretted his subordinate's efficiency. It was possible the devices might have a practical use after all. Possibly he had been hasty in releasing them to the open market. He shrugged away his thoughts. After all, an administrator had to make quick decisions. He returned to his unusual conversation.

"Set up a line in research and make up sufficient of those communicators to outfit the executive personnel of this district."

"Yes, sir."

"And give me delivery as soon as you possibly can. How soon will that be?"

"We can do it in five days, sir."

"Make it three. That's all."

Morely took off his headband. It wasn't as good as a communicator sphere, but it would be good enough. He looked at the request from Communications. Possibly, he would be able to cut Kirk down still more. He scrawled a "disapproved" on the sheet and initialed it. He started to toss the sheet to the corner of his desk, then hesitated.

Drawing the request back to him, he added: "Two subjects on same request. Resubmit as separate requests." He tossed the sheet to the desk corner, for the clerk to pick up. Let Kirk make up new requests, then worry about why his new construction request was still disapproved. He could always be advised to resubmit later, if the headbands didn't work out.

Miles away, Bond turned to an engineer.

"Tool up and start producing these communicators as fast as you can make 'em, Morris. I'll tell you when to stop. The Old Man just ordered a batch of 'em, and this is one order I want to comply with, and fast!"

He walked toward the small production office. Let's see, he had to produce enough for all the exec personnel in the district. Have to start finding out just how many of those guys there were.

"Make delivery as soon as possible, huh? Cut my estimate by two days? I'll have 'em out over night, if I have to start driving people to do it."

Morely looked up as the communicator beeped. He reached to the control panel and touched the switch. The face of his deputy appeared in the sphere.

"The section chiefs and field leaders are in the conference room, sir."

"Very good." Morely pushed back his chair. "I'll be right in."

He stepped through the door and crossed the outer office to the conference room. As he entered, there was a rustle of motion. The section chiefs and field leaders stood at attention around the table, waiting. At each place at the table was a blank notepad. The district leader went immediately to the head of the table and sat down.

"Gentlemen," he began, "I'll make this short. I've called you in to try out a new device which I intend to use to help solve the ever-present problem of communication." He looked toward Ward Kirk, who had glanced up in surprise.

"From time to time," he continued, "requests for more and more communicator lines have been coming in to my office. Since no one else seemed to be able to do anything about it, I decided it was time for me to step in. After all, we can't expand our cables indefinitely. We haven't unlimited funds at our disposal and there are other projects demanding attention. Important projects.

"A new electronic development has come to my attention, and it promises to relieve the load on our communicators. Each of you will be issued one of these devices, which I believe are called 'mental communicators,' or something of the sort. And you will draw sufficient of them to outfit those of your people who have occasion to use communication to any large degree. You will use them for all routine communications." He nodded to his deputy,

who stepped to the door and beckoned.

Two men came in, carrying cartons, which they distributed around the room. Morely waited until one of the cartons was in the hands of each of the men before him, then he reached up to touch the headband he was wearing.

"This is the device I'm speaking of," he said. "Each of you will wear one of these at all times while you are on duty. You will find, after a little practice, that you will be able to call any associate who is similarly equipped. And you will use them in place of the conventional communications whenever possible." He cleared his throat raspingly.

"Sufficient of these devices have been produced to outfit all the key people of this district. I shall leave it to you to distribute them to your subordinates, and to instruct those subordinates in their use. And I shall expect the load on our communicator cables to be appreciably diminished." He looked to one side of the room.

"Bond."

"Yes, sir."

"You will instruct those present in the use of this new communicator." Morely rose and left the room.

As the district leader disappeared through the door, Harold Bond walked to the front of the room. In his hands, he held one of the headbands and a power pack.

"Gentlemen," he said, "this is a form of communicator. I don't pretend to understand precisely how it operates, though I watched its development and set up a production line for it. All I know is that it works. And I know how to use it—to some extent.

"The district leader remarked that one could learn to use it with a little practice, and he's right. Basically, anyone can use it as soon as he puts it on for the first time. But it's like so many other tools. The more you use it, the more proficient you get with it. And I suspect it has capabilities I haven't found yet." He shrugged.

"Operation is simple in the extreme. Since the first model, refinements have been added, and it's unnecessary now for an operator to make any adjustments, other than intensity."

He picked up the power pack.

"This is the power pack, which is plugged into the headband, thus." He paused as he connected the two plugs.

"If you gentlemen will perform the operations as I do, this will take only a short time."

There was a crackling in the room as cartons were opened. Power packs and headbands rattled against the table for a moment, then Bond continued.

"Having plugged in the power pack, you turn this small knob very slightly in a clockwise direction, then place the headband on your head. The knob is the switch and intensity control, and it's quite sensitive. Most people need very little intensity. If you have difficulty with communica-

tion, raise the intensity a little at a time, till thoughts come through clearly." He paused, as the men before him adjusted the headbands to their heads.

"The power pack," he continued, "may be placed in a pocket." He reached down. "Personally, I carry mine in my shirt, since I find that convenient."

He looked around the room. Men were turning to stare at their neighbors. Bond could detect a current of uncertainty, then a sensation of pleased surprise. Snatches of thought drifted to him. He ignored them for the moment. Time enough to become acquainted with people later. He placed a hand over his mouth, so everyone could see he was not speaking.

"Can everyone receive me?"

There was a wave of affirmation, and Bond nodded.

"Simple, isn't it? Are there any questions?"

A jumble of thoughts made him waver. Most of them could have been phrased, "How does this thing work? What does it do? Am I dreaming?" Bond smiled in real amusement. He held up a hand.

"I felt the same way," he thought reassuringly. *"Sometimes. I still do. All I can tell you is what you've already found out for yourselves. It works. I'm told it's a sort of telepathic amplifier and radiator. But as I told you, I don't understand its principles. As to practice? I'm still meeting interesting people. So will you."* He took off the headband.

"If anyone has any further questions on operation, I'll try to answer them," he thought quickly. He glanced around the room. Three men were looking at him blankly. He took careful note of them, and mentally shook hands with himself. They were the ones he'd thought would blank out. He spoke aloud.

"I'm sorry, gentlemen," he apologized. "I forgot I might be out of communication. I'm not completely used to this mentacom, myself." He looked toward the deputy leader.

"Do you have anything to add, sir?"

The deputy shook his head. "No," he said thoughtfully. "I think the demonstration was adequate. He cast a quizzical look at Bond, then looked around the room.

"You gentlemen will find a supply of these devices in the outer office. You may draw one for each person you wish outfitted. If any of you have further questions, I would suggest you get in touch with Community Research. They understand this thing." He waved toward the door. "This meeting is adjourned."

He watched as the men filed from the room, then turned on Bond.

"What was that business after you took off your headband?" he demanded. "I received you perfectly, and so did practically everyone here. Why the apology?"

Bond grimaced. "We found out something peculiar while we were making preliminary tests on this device, sir," he explained. "Some peo-

ple don't seem to be able to pick up clear thoughts with it, unless another person uses the mentacom to drive in to them. Most of us can pick up thoughts from anyone we look at, whether they have a band on or not. Definite, surface thoughts, that is."

"And?" The deputy's expression was still questioning. He reached up to point at the band he was still wearing. "I'm getting some mighty peculiar secondary thoughts right now," he added.

"And the people who can't use the device fully have other peculiarities, sir. I'd rather not go into detail. You can find out the whole story for yourself with a very short bit of experimentation, and you have a subject right at hand. If I simply told you, you probably wouldn't believe me anyway."

The deputy nodded slowly. "For the moment," he said, "I'll take your words—and your thoughts—as true. Now, one more question: Can a person, using one of these things, successfully lie to another person who wears one?"

"No, sir." Bond was positive. "It's impossible."

"I got that impression. Thanks." The deputy turned and walked out of the door. Bond looked after him, a slight smile growing on his lips.

"Old Man wanted 'em," he told himself. "He's got 'em."

The Fiscal chief glanced through the letter in his hands, then canted his head a little and read again. He lowered it to his desk, then sat for a moment, to stare into space. Finally, he looked down once more.

Central Coördination Agency
Office of the Comptroller

CCA 7.338 21 July, 2012

To: District Leader
District Twelve
Region Nine
Attn.: Fiscal Chief
Subject: Mental Communicator

1. It has been brought to the attention of this office that a product known as the "Consolidated Mental Communicator" is being manufactured in District Twelve, Region Nine, and offered for sale as a luxury item.

2. The characteristics of this device have been investigated by the Technical Division, Central Coördination Agency, and it has been found that the device does in fact permit communication between persons by telepathic or some similar means.

3. This device is presently being offered for sale in retail luxury stores throughout the nation. The volume of sales and of potential sales warrants distribution of the manufacturing load to manufacturers other than the Consolidated Electronics Company, who, it is understood, presently hold an exclusive manufacturing agreement with the office of the District Leader, District Twelve, Region Nine. This arrangement is inconsistent with the sales and use potential of the device in question.

4. The agreement between District Twelve, Region Nine, and the Consolidated Electronics Company will be forwarded immediately to this headquarters for consideration. It is contemplated that this agreement will be terminated and replaced by a manufacturing license from the Products Division, Central Coördinating Agency, who will further license other manufacturers to produce this device.

By Command of Chief Coordinator
Gorman

KELLER
Comptroller

MRK/pem

The Fiscal chief shook his head. This one spelled trouble—in capitals. The royalty payments from Consolidated had become one of the major sources of income for the district. And Morely had ordered project after project, using those funds to pay for them. Some of the projects were still outstanding. The Old Man would blow his top.

He looked again at the small scrap of paper which was clipped to the letter. On it was scrawled: "DeVore —See me—HRM."

For a moment, DeVore considered using his own mentacom, then he discarded the idea. To be sure, the leader had insisted that his subordinates use the devices for their own communications, and he'd cut Fixed Communications to the bone. But he still insisted on either communicator calls or personal contact when he wished to talk to any of his people. And he discouraged any but essential use of the communicator system, generally demanding that people come in to see him.

DeVore wrinkled his face disgustedly. It *was* hard to communicate with the district leader by means of a headband. There was a repellent characteristic about the man's mental emanations, and he seemed to fail to comprehend nuances of meaning. Similes, he ignored completely. Thoughts had to be completely and clearly detailed, then phrased into normal, basic wordage before he would acknowledge them. None of the short-cuts used by other members of the administrative staff seemed to work out in his case. He apparently didn't notice visualizations, and he never made one. His transmission was as stiff and labored as the type of communication he required from others—more so, if anything. DeVore scratched his neck.

"How," he asked himself, "does one define a telepathic monotone?"

There were a few others with whom DeVore had experienced similar difficulties, but most people, he had found, picked up meanings and concepts without difficulty—even seemed to anticipate at times. And since the new induction mentacoms had come on the market, with the annoying contacts and headstraps removed, virtually everyone seemed to be either in possession of one of the devices, or about to get one. And, they were worn everywhere.

He smiled as he thought of the young father-to-be, who had bored

through the evening traffic rush yesterday. The youngster had been so intent on getting his wife to the hospital that he'd probably failed to see half the ships that clawed out of his way. And his visualization had been almost painfully clear. He'd probably be apologizing for weeks to everyone he contacted.

DeVore straightened in his chair. What would happen, he wondered, if the leader ever ran into one of those situations?

"Yipe!" he muttered. "What a row that would be."

He shrugged, got out of his chair, and walked out into the corridor.

"Better get it over with," he told himself.

As he approached the leader's door, it opened, and Ward Kirk came out. He closed the door with a careful gentleness, then faced it for an instant. DeVore was conscious of a wave of hopeless fury, and a fleeting glimpse of Morely's face, framed by brilliant flame. Then, Kirk faced around and saw him.

"Careful," DeVore thought. *"You're broadcasting. He'll pick you up."*

Kirk grimaced and DeVore saw a faint image of a tyrannosaur, which reared up, jaws agape. Blood dripped from the human figure gripped in the creature's talons.

"The old . . . wouldn't understand if he did."

DeVore grinned. *"See what you mean. Well, guess I'm the next victim."*

He stepped to the door and tapped.

"Come in."

Morely looked up as his Fiscal Chief entered, then swept some papers aside. "Well, what do *you* want?"

DeVore held out the letter. "You wanted to see me, sir, about this." He placed the paper within the reach of his superior, who snatched at it, held it up for a moment, then dropped it to his desk.

"Yes, I did. What can we do about it?"

"Why," DeVore spread his hands slightly, "we'll have to comply."

"That isn't what I meant, Idiot! How can we continue to receive the payments from Consolidated?"

"I don't think we can, sir. If Central Coördinating wants to put the device on a national basis, we can't do anything about it."

Morely looked down at the letter, then glared searchingly at DeVore. "The way I read this," he declared, "they want to distribute manufacturing rights on the communicator to plants in other regions than this. Right?"

"Yes, sir."

"But they don't say anything about our continuing the Consolidated payments on an overwrite basis, for the sale of devices they may make. Now, do they?"

"No, sir. But that's implied. In cases like this, Central always takes over all rights." DeVore hesitated., "I believe regulations—"

"I don't care what's implied, De-

Vore. And I don't care what you believe. All I see is what's in this letter. They want to distribute the manufacturing load, and I'm quite willing that they should. I want to continue receiving the payments from Consolidated. Now, you arrange it so that they're satisfied and I'm satisfied."

"But that'll mean Consolidated will have to pay double. We can't—"

"Don't say 'can't' to me!" Morely held up a hand angrily. "DeVore, I'm not going to tell you how to do this. I want it done. The details are your affair, and if I have to teach you your business, I'll get someone who can do things without having to have them spelled out to him." He leaned back, to glare at DeVore.

"Now, get on the job. I told you to make arrangements for me so that we will retain our payments from Consolidated. And I'm not interested in what arrangements you make with them, or what arrangements they make with Central. Is that a simple enough order for you to understand?"

"Yes, sir. I understand all right. But—"

"Good! I'm glad I managed to get at least one simple idea into your head." The spring in the chair twanged as Morely came forward, to poke his head at DeVore. "Now, get to work on it."

He jerked his head down for a quick look at the letter on his desk, then looked up again.

"And I'll expect a report from you by tonight that you've got the matter taken care of."

DeVore looked at his superior expressionless for a heartbeat. He had been given peculiar orders before, and he'd always managed to work out the problems involved. But this was the ultimate. This one seemed to be just plain illegal. And there was no point in arguing further. There was just the barest chance that there might be some legitimate way out. If he challenged the Old Man on an illegal order, he just might get his ears pinned back. He'd simply have to go back to his office and try to hunt out a technicality. He nodded.

"Yes, sir. I'll get on it immediately."

He saluted and started to leave the office. But he didn't make it.

"And, DeVore!"

The Fiscal chief halted abruptly, and turned.

"Sir?"

"I'm getting tired of the negative thinking you people seem to have

fallen into lately. I'm sick of going into every routine detail with you. When you got that letter, you should have immediately worked out a method of retaining the royalties. Then, you could have come in and presented it for my approval. That is the kind of work I want. And that's the kind of work I mean to get in the future. Do you understand?"

Sternly, DeVore suppressed a sarcastic thought. He held his mind and face blank and nodded with a semblance of respect.

"Yes, sir."

"Very well." Morely waved a hand. "Now get something done."

As DeVore walked through the corridor, he thought over the situation. Of course, the easy way out would be to force Consolidated to continue the payments in addition to their license fees from Central. That could be done. There were all kinds of methods by which pressure could be brought to bear on any company by the district leader's office. And from Consolidated's point of view, double payments could offer a cheap means of keeping out of difficulties. They would be able to pass most of the cost to the consumer by a slight price increase, justified by a minor modification of the devices.

But they wouldn't be happy about it, and there would come a day when an auditing team from Central would be checking in the district. And that would be the day of days!

DeVore turned in at the door to his own office, crossed the room, and sat down at his desk.

To be sure, he could request a share of the fees from Central, and they'd make an award. But they'd never award more than fifty per cent, and it'd be hard to get that much. That was no good. The Old Man would want the same payments he'd been getting.

Or, he could try to negotiate a new agreement with Consolidated, double the royalties, and then request fifty per cent from Central. He grinned wryly. That would be within legal limits, he was sure, but Central knew the present arrangement, and he knew that they knew. And so would most of the interested manufacturers in other regions. The first-class citizens who owned the plants had their own liaison. They'd all balk. Then, Central would invalidate both old and new agreements and refuse compensation of any kind to district. That would be a suicidal course.

He looked up, thinking of one of the girls out in the legal crew.

"Fiscal regulations, please. And Markowitz on royalties, too."

The girl turned half around, and he could see a faint impression of her view of office details. Then, she went to a book rack. For a few seconds, she glanced over the books, then selected two large volumes.

"Shall I look it up, or do you want the books?"

"I'll take them. Might need quite a bit of research."

Shortly, the girl appeared in his

doorway. Quickly, she laid the two volumes on his desk.

DeVore nodded his thanks and opened regulations. Some of the paragraphs were delightfully vague, and could be subject to more than one interpretation. But one paragraph was clear and explicit. And that was the one he was concerned with.

A royalty agreement with, or manufacturing license from Central Coördination definitely abrogated any agreement with, or payment to, any lesser headquarters. Such an agreement or license barred any further negotiation between any lesser headquarters and a manufacturer, relating to the product concerned. Double royalties were prohibited in any case.

He pushed the books aside. There was no need of looking in Markowitz. That regulation paragraph took care of this exact situation, and disposed of it neatly. For an instant, he thought of taking the volume in to the leader's office. Then, he remembered the threatening note in the authoritative voice and the flat, deadly thoughts he had noted as secondaries.

That wouldn't work either. He thought of the undercurrent in Kirk's thoughts. Kirk had been carrying a regulation book, he remembered. He contacted the Fixed Communications chief.

"Don't," he was told. "I tried it. Know what happened?"

"Go ahead."

"He got the regional director on the communicator. I've been transferred to Outpost. They seem to need a cable maintenance chief up there. And I was lucky at that. I started to protest, and they nearly had me for insubordination." Abruptly, Kirk cut away.

DeVore stared unseeingly across the desk. He'd been at Outpost for a short time once, on an inspection trip, and he still remembered the place. At one time, it had been a well supplied, well organized post. At that time, observational duty had been regarded more highly than now, and the place had been desirable for any single officer, though the married men had objected to being separated from their families by the many miles of frozen waste. But that had changed.

Now, Outpost was the end of the line. The dilapidated surface quarters offered poor protection from the fierce cold. Supply ships were rarely scheduled to the place, and were often held up by storms when they were scheduled. Half rations—even quarter rations—were commonplace. He shook his head. Kirk was in real trouble, and there would be no point in joining him. That would help neither of them.

This, he thought, was a situation. Then, he realized something else. From Morely's point of view, it was a perfectly safe situation, with nothing to lose. The district leader could easily disclaim any responsibility for his Fiscal chief's actions in this matter. After all, he hadn't given any detailed instructions. He had made no direct suggestion of any illegal

course. He'd merely consulted his Fiscal expert on a technical matter, and if DeVore had seen fit to use an illegal method of solving a problem, it was DeVore's responsibility alone.

To be sure, Morely had been a little emphatic in his order, but that was simply because he was well aware of his Fiscal chief's disinclination to make exhaustive technical research.

DeVore pursed his lips and looked thoughtfully at the regulation book. He might be able to use the same tactic Morely was following—if he were so inclined. He could issue verbal instructions to the sector leader concerned, and Bond might fail to see the trap. Then, he could report to the leader that the matter was taken care of, indorse the letter back to Central, with the agreement copy, and let Bond turn in funds under one of the "miscellaneous received" accounts. In fact, he realized, that was just about what the district leader expected him to do.

He smiled and shook his head. A few months ago, it was possible he could have done that, but even then, he wouldn't have. And now, with the mental communicators in use, it would be a flat impossibility. The trap would be as obvious to Bond as it had been to him. He leaned back in his chair and tapped his fingertips against each other.

The mentacoms, he knew, were in common use by this time, in virtually every office of district, regional, and national administration, as well as by most citizens. And he'd served under Marko Keller once—known him fairly well, too. He shrugged.

It would be a little irregular for a district Fiscal chief to make direct contact with the Coördination Agency's comptroller, but there was nothing like getting the most expert and authoritative advice available. He relaxed, trying to recreate his memories of the man who was now National Comptroller.

Marko Keller strode purposefully into the filing section. He could easily get the data he needed by simply contacting one of the clerks, he knew, but he felt an urgent need for personal activity. That conversation with DeVore, way out in Region Nine, had upset him more than he liked to admit, even to himself.

It wouldn't be so bad if it were an isolated incident. Such things could be taken care of by administrative action, and a single instance would cause little disturbance. But there were too many, happening too often. He pulled a file drawer open, violently.

One of the clerks approached. "Can I help, sir?"

Keller turned to look at him. The man, he noted, was wearing one of the late model inductive headbands that had been sold in such quantities lately. Deluxe model, too. Must have cost him at least two months' pay. Like almost everyone else, he was vitally concerned in this latest affair. Keller frowned. He, himself, he realized, was acting childishly. He would

simply be wasting time by trying to do this by himself.

"Yes," he growled. "Get me a brief on a few cases like this one." He made full contact with the man, rapidly summarizing his conversation with DeVore, and including DeVore's short flash of his own conversation with Ward Kirk.

"And get a rundown from personnel. Dig up something on their angle, too. Several representative cases. Get a few people to help you—many as you need. I'm going to take this whole mess in to the Chief tomorrow morning."

Paul Graham swept into the apartment, seized his wife about the waist and swung her into the air, to set her on top of one of his bookcases.

"They've done it, honey," he shouted.

Elaine kicked her heels in a rapid tattoo against the back of the case.

"Paul Graham, you get me down this instant," she ordered indignantly. "Who's done what?"

Graham stepped back and beat on his chest. "Meet the new production manager, Mentacom Division, Consolidated Electronics."

"Production manager? But, Paul, only first-class citizens can hold supervisory positions."

"Not any more. Didn't you have the communicator on for the news? It all came in."

Elaine shook her head and jumped to the floor. "I've a confession to make, Paul. Ever since they stopped the compulsory notices, I haven't had the thing on at all. It bothered me."

Her husband shook his head in mock dismay. "So now, I'm married to an ignoramus." He spread his hands. "She doesn't know what's going on in the great, big world." He shook a finger at her.

"It all busted this afternoon, darling. While you sat around in your splendid isolation, everything turned upside down."

She looked at him indignantly for an instant, then turned toward the kitchen.

"Paul, if you don't stop raving, I'm going to get my mentacom and pry it out of you," she threatened. "Now, you just settle down. Stop talking in circles and tell me what this is all about."

"Oh, all right. If you insist." Graham sank into a chair, looking like a small boy caught in a prank. "First, there are no more first-class citizens —no second-class citizens—not even third-class citizens. Everyone's a citizen again. Period." He threw his hands up.

"You mean—?"

"That's exactly what I mean. No more restrictions. No more compulsory community work. No more quarters inspections. And no more privileges. We've got rights again!

"If you want a dress, you buy it. You don't worry about whether it suits your station. If I can hold a job, I get it. And I did!" He got out of the chair and strode across the room, to sit on the arm of the divan. "And I can do this, if I want to. If

I break this thing down, so help me, George, I'll go out and buy a new one." He bounced up and down a little.

"The administrators are going back to their original jobs. They're responsible for defense, in case of enemy attack, and that's all." He paused. "Of course, until sector and district elections can be held, they'll still take care of some of the community functions—some of them, that is. But the elections'll be set up in a few weeks, and we'll be able to choose our own officials for community government."

He bounced to his feet again, strode around the bookcases, and looked down at his desk. Then, he looked around again.

"Corporations are being set up to take over home construction." He held up a hand. "*Home* construction, I said, not quarters. They're commercializing helicopter manufacture, all kinds of repair work, and a lot of other services. And they're going to restore patent rights. That means plenty to us, darling, believe me."

"But, but why? What happened?"

Graham turned on her. "Elaine," he cried, "haven't you noticed how many people are wearing mentacoms now, all the time? Haven't you noticed the consideration people have been giving each other for the past weeks? Remember what I told you once? If you fully understand a person, you simply can't kick him around. It's too much like taking slaps at yourself. With the exception of a few emphatic cripples, who can't use the mentacom properly anyway, everyone, inside the administrative offices, as well as out, recognized that the beauracracy was simply unworkable as it stood. So, they changed it. Effective immediately."

Elaine stamped her foot. "You know I haven't been out of this apartment," she cried. "And you know why. I simply couldn't stand the treatment I got. I'd have gotten into serious trouble in minutes. So, I've stayed in. I've done my shopping by communicator, and contented myself right here." She paused.

"But how is the new administration going to be supported? What are people going to do? How are they taking it? It's all so sudden, I should think—"

Graham held up a hand.

"Hey," he protested. "One at a time, please! First—remember taxes? Remember how we used to growl about them? They're back. And I love 'em. Second—nobody is going to do anything. Anything drastic or unusual, that is. And finally? Everyone I've seen is taking it in their stride. Seems as though they've been sort of expecting it, ever since they started mind-to-mind communication.

"You'd be surprised how good most people are at it, now that they're used to it. You start into a line of helicopters. All at once, you realize that the guy coming is really in a hurry. He's got to get somewhere, fast. So, you let him go by. The next fellow's not going to be in any tear-

ing rush. He'll let you in, and cheer you on your way.

"You feel like being left alone? Nobody'll even notice you. But if you feel like talking, half a dozen total strangers'll find something in common with you. And they'll discuss it. Honey, you'll be surprised how much you've missed. Get your mentacom. Let's take a little shopping trip."

"And here's one of our more difficult cases. But he's coming along nicely." Dr. Moran pointed through the one-way window.

"Name's Howard Morely. He used to be a district leader, under the bureaucracy. But along in the last few weeks, just before the change, he got into some sort of scrape. They questioned him, and declared him unfit for service. Put him out on a pension." He pulled at an ear.

"Matter of fact, I understand his case had quite a deal to do with the change—sort of triggered it. They tell me it sort of pointed up the fallacies of the bureaucracy." He shrugged.

"But that's unimportant now, I guess. He almost receded into complete paranoia. Had a virtually complete case of emphatic paralysis when he came to us. Simply no conception of any other person's point of view, and a hatred of people that was fantastic. But he's nearly normal now."

The visiting psychiatrist nodded. "I've seen the type, of course. We have a number of them, too. You say this new technique was successfully used in his case?"

"Yes. We had doubts of it, too. Seemed too simple. Sure, we're all familiar with the mentacoms by now. Wouldn't be without my own. But the idea of a field generator so powerful as to force clear impressions into a crippled mind like his, without completely destroying that mind, seemed a little fantastic." He shrugged.

"In this case, though, it was a last resort, so we tried it. He resisted the field for days. Simply sat in his cell and stared at the walls. We were almost ready to give up when one of the operators finally got through to him. Know what his first visualization was?"

The visitor shook his head and laughed. "I could try a guess, I suppose," he said, "but my chances would be something less than one in a thousand million."

Moran grinned. "You're so right. There was a whole bunch of kids standing around. Looked like dozens of 'em. And they were all chanting at the top of their voices. You know that old jingle? 'Howie's got a girrul?' Chanted it over and over." The grin widened. "Operator said his face stung for ten minutes. That girl must have packed one sweet wallop!"

THE END

THE GUARDIANS

BY IRVING COX, JR.

It's not always "The Truth shall set you free!" Sometimes it's "Want of the Truth shall drive you to escape!" And that can be dangerous!

Illustrated by van Dongen

Mryna Brill intended to ride the god-car above the rain mist. For a long time she had not believed in the taboos or the Earth-god. She no longer believed she lived on Earth. This paradise of green-floored forests and running brooks was something called Rythar.

Six years ago, when Mryna was fourteen, she first discovered the truth. She asked a question and the Earth-god ignored it. A simple question, really: What is above the rain mist? God could have told her. Every day he answered technical questions that were far more difficult. Instead, he repeated the familiar taboo about avoiding the Old Village because of the Sickness.

And consequently Mryna, being female, went to the Old Village. There was nothing really unusual about that. All the kids went through the ruins from time to time. They had worked out a sort of charm that made it all right. They ran past the burned out shells of the old houses and they kept their eyes shaded to ward off the Sickness.

But even at fourteen Mryna had outgrown charms and she didn't believe in the Sickness. She had once asked the Earth-god what sickness meant, and the screen in the answer house had given her a very detailed answer. Mryna knew that none of the hundred girls and thirty boys inhabiting Rythar had ever been sick. That, like the taboo of the Old Village, she considered a childish superstition.

The Old Village wasn't large—three parallel roads, a mile long, lined with the charred ruins of prefabs, which were exactly like the cottages where the kids lived. It was nothing to inspire either fear or legend. The village had burned a long time ago; the grass from the forest had grown a green mantle over the skeletal walls.

For weeks Mryna poked through the ruins before she found anything of significance—a few, scorched pages of a printed pamphlet buried deep in the black earth. The paper excited her tremendously. It was different from the film books photographed in the answer house. She had never touched anything like it; and it seemed wonderful stuff.

She read the pamphlet eagerly. It was part of a promotional advertisement of a world called Rythar, "the jewel of the Sirian Solar System."

The description made it obvious that Rythar was the green paradise where Mryna lived—the place she had been taught to call Earth. And the pamphlet had been addressed to "Earthmen everywhere."

Mryna made her second find when she was fifteen, a textbook in astronomy. For the first time in her life she read about the spinning dust of the universe lying beyond the eternal rain mist that hid her world.

The solid, stable Earth of her childhood was solid and stable no longer, but a sphere turning through a black void. Nor was it properly called Earth, but a planet named Rythar. The adjustment Mryna had

to make was shattering; she lost faith in everything she believed.

Yet the clock-work logic of astronomy appealed to her orderly mind. It explained why the rain mist glowed with light during the day and turned dark at night. Mryna had never seen a clear sky. She had no visual data to tie her new concept to.

For six years she kept the secret. She hid the papers and the astronomy text which she found in the Old Village. Later, after the metal men came, she destroyed everything so none of the other women would know the Earth-god was a man.

At first she kept the secret because she was afraid. For some reason the man who played at being god wanted the kids to believe Rythar was Earth, the totality of the universe enveloped in a cloud of mist. She knew that because she once asked god what a planet was. The face on the screen in the answer house became frigid with anger—or was it fear?—and the Earth-god said:

"The word means nothing."

But late that night a very large god-car brought six metal men down through the rain mist. They were huge, jointed things that clanked when they walked. Four of them used weapons to herd the kids together in their small settlement. The two others went to the Old Village and blasted the ruins with high explosives.

Vaguely Mryna remembered that the metal men had been there before, when the kids were still very small. They had built the new settlement and they had brought food. They lived with the children for a long time, she thought—but the memory was hazy.

As the years passed, Mryna's fear retreated and only one thing became important: she knew the Earth-god was a man. On the fertile soil of Rythar there were one hundred women and thirty men. All the boys had taken mates before they reached seventeen. Seventy girls were left unmarried, with no prospect of ever having husbands. A score or more became second wives in polygamous homes, but plural marriage had no appeal for Mryna. She was firmly determined to possess a man of her own. And why shouldn't it be the Earth-god?

As her first step toward escape, Mryna volunteered for duty in the answer house. For as long as she could remember, the answer house had stood on a knoll some distance beyond the new settlement. It was a square, one-room building, housing a speaking box, a glass screen and a console of transmission machinery. Anyone in the settlement could contact god and request information or special equipment.

God went out of his way to deluge them with information. The simplest question produced voluminous data, transmitted over the screen and photographed on reels of film. Someone had to be in the answer house to handle the photography. The work was not hard, but it was monotonous. Most of the kids preferred to farm the fields or dig the sacrificial ore.

A request for equipment was granted just as promptly. Tools, machines, seeds, fertilizers, packaged buildings, games, clothing—everything came in a god-car. It was a large cylinder which hissed down from the rain mist on a pillar of fire. The landing site was a flat, charred field near the answer house. Unless the equipment was unusually heavy, the attendant stationed in the house was expected to unload the god-car and pile aboard the sacrifice ores mined on Rythar.

God asked two things from the settlement: the pieces of unusually heavy metal which they dug from the hills, and tiny vials of soil. In an hour's time they could mine enough ore to fill the compartment of a god-car, and god never complained if they sometimes sent the cylinder back empty. But he fussed mightily over the small vials of Earth. He gave very explicit directions as to where they were to take the samples, and the place was never the same. Sometimes they had to travel miles from the settlement to satisfy that inexplicable whim.

For two weeks Mryna patiently ran off the endless films of new books and unloaded the god-car when it came. She examined the interior of the cylinder carefully and she weighed every possible risk. The compartment was very small, but she concluded that she would be safe.

And so she made her decision. Tense and tight-lipped Mryna Brill slipped aboard the god-car. She sealed the lock door, which automatically fired the launching tubes. After that there was no turning back.

The dark compartment shook in a thunder of sound. The weight of the escape speed tore at her body, pulling her tight against the confining walls. She lost consciousness until the pressure lessened.

The metal walls became hot but the space was too confining for her to avoid contact entirely. Four narrow light tubes came on, with a dull red glow, and suddenly a gelatinous liquid emptied out of ceiling vents. The fluid sprayed every exposed surface in the cubicle, draining through the shipment of sacrifice ores at Mryna's feet. It had a choking, antiseptic odor; it stung Mryna's face and inflamed her eyes.

Worse still, as the liquid soaked into her clothing, it disintegrated the fiber, tearing away the cloth in long strips which slowly dissolved in the liquid on the floor. Before the antiseptic spray ceased, Mryna was helplessly naked. Even her black boots had not survived.

The red lights went out and Mryna was imprisoned again in the crushing darkness. A terror of the taboos she had defied swept her mind. She began to scream, but the sound was lost in the roar of the motors.

Suddenly it was over. The god-car lurched into something hard. Mryna was thrown against the ceiling—and she hung there, weightless. The pieces of sacrifice ore were floating in the darkness just as she was. The

motors cut out and the lock door swung open.

Mryna saw a circular room, brightly lighted with a glaring, blue light. The nature of her fear changed. This was the house of the Earth-god, but she could not let him find her naked.

She tried to run into the circular room. She found that the slightest exertion of her muscles sent her spinning through the air. She could not get her feet on the floor. There was no down and no up in that room. She collided painfully with the metal wall and she snatched at a light bracket to keep herself from bouncing free in the empty air again.

The god-car had landed against what was either the ceiling or the floor of the circular room. Mryna had no way of making a differentiation. Eight brightly lighted corridors opened into the side walls. Mryna heard footsteps moving toward her down one of the corridors; she pulled herself blindly into another. As she went farther from the circular room, a vague sense of gravity returned. At the end of the corridor she was able to stand on her feet again, although she still had to walk very carefully. Any sudden movement sent her soaring in a graceful leap that banged her head against the ceiling.

Cautiously she opened a thick, metal door into another hall—and she stood transfixed, looking through a mica wall at the emptiness of space pinpointed with its billions of stars. This was the reality of the charts she had seen in the astronomy text: that knowledge alone saved her sanity. She had believed it when the proof lay hidden above the rain mist; she must believe it now.

From where she stood, she was able to see the place where the god-car had brought her—like a vast cart-wheel spinning in the void. The god-car was clamped against the hub, from which eight corridors radiated outward like wheel spokes toward the rim. Far below the gigantic wheel Mryna saw the sphere of Rythar, invisible behind its shroud of glowing mist.

She moved along the rim corridor, past the mica wall, until she came to a door that stood open. The room beyond was a sleeping compartment and it was empty. She searched it for clothing, and found nothing. She went through four more dormitory rooms before she came upon anything she could use—brief shorts, clearly made for a man, and a loose, white tunic. It wasn't suitable; it wasn't the way she wanted to be dressed when she faced him. But it had to do.

Mryna was pawing through a footlocker looking for boots when she heard a hesitant step behind her. She whirled and saw a small, stooped, white-haired man, naked except for trunks like the ones she was wearing. The wrinkled skin on his wasted chest was burned brown by the hot glare of the sun. Thick-lensed glasses hung from a chain around his neck.

"My dear young lady," he said in a tired voice, "this is a men's ward!"

"I'm sorry. I didn't know—"

"You must be a new patient." He fumbled for his glasses. Instinctively she knew she shouldn't let him see her clearly enough to identify her as a stranger. She shoved past him, knocking the glasses from his hand.

"I'd better find my own—ward." Mryna didn't know the word, but she supposed it meant some sort of sleeping chamber.

The old man said chattily, "I hadn't heard they were bringing in any new patients today."

She was in the corridor by that time. He reached for her hand. "I'll see you in the sunroom?" It was a timid, hopeful question. "And you'll tell me all the news—everything they're doing back on Earth. I haven't been home for almost a year."

She fled down the hall. When she heard voices ahead of her, she pulled back a door and slid into another room—a storeroom piled with cases of medicines. Behind the cartons she thought she would be safe.

This wasn't what she had expected. Mryna thought there might be one man living in a kind of prefab somehow suspended above the rain mist. But there were obviously others up here; she didn't know how many. And the old man frightened her—more than the dazzling sight of the heavens visible through the mica wall. Mryna had never seen physical age before. No one on Rythar was older than she was herself—a sturdy, healthy, lusty twenty. The old man's infirmity disgusted her; for the first time in her life she was conscious of the slow decay of death.

The door of the supply room slid open. Mryna crouched low behind the cartons, but she was able to see the man and the woman who had entered the room. A woman—here? Mryna hadn't considered that possibility. Perhaps the Earth-god already had a mate.

The newcomers were dressed in crisp, white uniforms; the woman wore a starched, white hat. They carried a tray of small, glass cylinders from which metal needles projected. While the woman held the tray, the man drove the needles through the caps of small bottles and filled the cylinders with a bright-colored liquid.

"When are you leaving, Dick?" the woman asked.

"In about forty minutes. They're sending an auto-pickup."

"Oh, no!"

"Now don't start worrying. They have got the bugs out of it by this time. The auto-pickups are entirely trustworthy."

"Sure, that's what the army says."

"In theory they should be even more reliable than—"

"I wish you'd wait for the hospital shuttle."

"And miss the chance to address Congress this year? We've worked too long for this; I don't want to muff it now. We've all the statistical proof we need, even to convince

those pinchpenny halfwits. During the past eight years we've handled more than a thousand cases up here. On Earth they were pronounced incurable; we've sent better than eighty per cent back in good health after an average stay of fourteen months."

"No medical man has ever questioned the efficiency of cosmic radiation and a reduced atmospheric gravity, Dick."

"It's just our so-called statesmen, always yapping about the budget. But this time we have the cost problem licked, too. For a year and a half the ore they send up from Rythar has paid for our entire operation."

"I didn't know that."

"We've kept it under wraps, so the politicians wouldn't cut our appropriations."

Their glass tubes were full, and they turned toward the door. "It isn't right," the woman persisted, "for them not to send a piloted shuttle after you, Dick. It isn't dignified. You're our assistant medical director and—"

Her words were cut off as the door slid shut behind them. Mryna tried to fit this new information into what she already knew—or thought she knew—about the Earth-god. It didn't add up to a pretty picture. She had once asked for a definition of illness, and it was apparent to her that this place which they called the Guardian Wheel was an expensive hospital for Earthmen. It was paid for by the sacrificial ores mined on Rythar. In a sense, Rythar was being enslaved and exploited by Earth. True, it was not difficult to dig out the ore, but Mryna resented the fact that the kids on Rythar had not been told the truth. She had long ago lost her awe of the man called god; now she lost her respect as well.

Mryna was glad she had not seen him, glad no one knew she was aboard the Guardian Wheel. She would return to Rythar. After she told the others what she knew, Rythar would send up no more sacrifice ores. Let the Earthmen come down and mine it for themselves!

Very cautiously she pulled the door open. The rim corridor was empty. She moved toward one of the intersecting corridors. When she heard footsteps, she hid in another dormitory room.

This was different from the others. It showed more evidence of permanent occupation. She guessed it was a dormitory for the people who took care of the sick. Pictures were fastened to the curved, metal walls. Personal articles cluttered the shelves hung beside the bunks. On a writing desk she saw a number of typed reports. Five freshly laundered uniforms, identical to the one she had lost in the antiseptic wash, hung on a rack behind the door. Mryna stripped off the makeshift she was wearing and put on one of the uniforms; she found boots under the desk. When she was dressed, she stood admiring herself in the polished surface of the metal door.

She was a handsome woman, and

she was very conscious of that. Her face was tanned by the mist-filtered sunlight of Rythar; her lips were red and sensuous; her long, platinum-colored hair fell to her shoulders. She compared herself to the small, hard-faced female she had seen in the supply room. Was that a typical Earthwoman? Mryna's lips curled in a scornful smile. Let the gods come down to Rythar, then, and discover what a real female was like in the lush, green, Rytharian paradise.

Mryna went to the desk and glanced at the typed reports. They had been written by a man who signed himself "Commander in Charge, Guardian Wheel," and they were addressed to the Congress of the world government. One typed document was a supply inventory; a second, still unfinished, was a budget report. (*You won't show a profit next time,* Mryna thought vindictively, *when we stop sending you the sacrifice ore.*) Another report dealt with Rythar, and Mryna read it with more interest.

One paragraph caught her attention,

"We have asked for soil samples to be taken from an area covering ten thousand square miles. Our chemical analysis has been thorough, and we find nothing that could be remotely harmful to human life. Atmospheric samples produce the same negative results. On the other hand, we have direct evidence that no animal life has ever evolved on Rythar; the life cycle is exclusively botanical."

The soil samples, Mryna realized, would be the vials of Earth which the Earth-god had requested so often. Were the Earthmen planning to move their hospital down to Rythar? That idea disturbed her. Mryna did not want her garden world cluttered up with a lot of sick, old men discarded by Earth.

She turned to the second page of the report. "The original colony survived for a year. The Sickness in the Old Village developed only after the first harvest of Rytharian-grown food. It is more and more evident that the botanical cycle of Rythar must be examined before we find the answer. To do that adequately, we shall have to send survey teams to the surface; that requires much larger appropriations for research than we have had in the past. The metal immunization suits, which must, of course, be destroyed after each expedition—"

"And what, may I ask, is the meaning of this?"

Mryna dropped the report and swung toward the door. She saw a woman standing there — another hard-faced Earthwoman, with a starched, white cap perched on her graying hair.

"I must have come to the wrong room," Mryna said in a small voice.

"Indeed! Everyone knows this is command headquarters. Who are you?" The woman put her hand on Mryna's arm, and the fingers bit through the uniform into Mryna's flesh.

Mryna pulled away, drawing her shoulders back proudly. Why should she feel afraid? She stood a head taller than this dried up stranger; she knew the Earthwoman's strength would be no match for hers.

"My name is Mryna Brill," she said quietly. "I came up in a god-car from Rythar."

"Rythar?" The woman's mouth fell open. She whispered the word as if it were profanity. Suddenly she turned and ran down the rim corridor, screaming in terror.

She's afraid of me! Mryna thought. And that made no sense at all.

Mryna knew she had to get back to the god-car quickly. Since the Earthmen had built up the taboos in order to get their sacrifice ores from Rythar, they would do everything they could to prevent her return. She ran toward an intersecting spoke corridor. An alarm bell began to clang, and the sound vibrated against the metal walls. An armed man sprang from a side room and fired his weapon at Mryna. The discharge burned a deep groove in the wall.

So they would even kill her—these men who pretended to be gods!

Before the man could fire again, Mryna swung down a side corridor, and at once the sensation of weightlessness overtook her. She could not move quickly. She saw the armed man at the mouth of the corridor. Frantically she pushed open the door of a room, which was crowded with consoles of transmission machines. Three men were seated in front of the speakers. They jumped and came toward her, clumsily fighting the weightlessness.

Mryna caught at the door jamb and swung herself toward the ceiling. At the same time the armed man fired. The discharge missed her and washed against the transmission machinery. Blue fire exploded from the room. The three men screamed in agony. Concussion threw Mryna helplessly toward the rim again.

And the Guardian Wheel was plunged into darkness. Mryna's head swam; her shoulder seethed with pain where she had banged into the wall. She tried to creep toward the circular room, but she had lost her sense of direction and she found herself back on the rim.

The clanging bell had stopped when the lights went out, but Mryna heard the panic of frightened voices. Far away someone was screaming. Running feet clattered toward her. Mryna flattened herself against the outer wall. An indistinct body of men shot past her.

"From Rythar," one of them was saying. "A woman from Rythar!"

"And we've blasted the communication center. We've no way of sending the warning back to Earth—"

They were gone.

Mryna moved back into the spoke corridor. She felt her way silently toward the circular hub room and the god-car. Suddenly very close she heard voices which she recognized—the man and the woman who had been talking in the supply room.

"You're still all right, Dick," the

woman said. "She hasn't been here long enough to—"

"We don't know that. We don't know how it spreads or how quickly. We can't take the chance."

"Then . . . then we've no choice?" Her voice was a small whisper, choked with terror.

"None. These have been standing emergency orders for twenty years. We always faced the possibility that one of them would escape. If we'd been allowed to use a different policy of education—but the politicians wouldn't permit that. The Wheel has to be destroyed, and we must die with it."

"Couldn't we wait and make sure?"

"It works too fast. None of us would be able to do the job—afterward."

The voices moved away. Mryna floated toward the hub room. She found the air lock and pulled herself into the god-car. The metal lock hissed closed and light came on. Then she knew she had made a mistake. This ship was not the one she had used when she came up from Rythar. The tiny cabin was fitted with a sleeping lounge, a food cabinet and a file of reading films. Above the lounge a mica viewplate gave her a broad view of the sky.

Mryna remembered that the man in the supply room had said he was waiting for an auto-pickup; he was on his way back to Earth. Mryna had taken his ship instead of her own. In panic she tried to open the door again, but she found no way to do it. Machinery beneath her feet began to hum. She felt a slight lurch as the pickup left the hub of the Guardian Wheel.

It swung in a wide arc. Through the viewplate she saw the enormous Wheel growing small behind her, silhouetted against the mist of Rythar. Suddenly the wheel glowed red with a soundless explosion. Its flaming fragments died in the void.

Mryna dropped weakly on the lounge. Nausea spun through her mind. The man had said they would destroy themselves. Because Mryna had come aboard? But why were they afraid of her? What possible harm could she do them? Mryna had left Rythar to discover the truth, and the truth was insanity. Was truth always like this—a bitter disillusionment, an empty horror?

She had something else to say to the people of Rythar now: not that the gods were men, but that men were mad. Believe in the taboos; send up the sacrificial ores. It was a small price to pay to keep that madness away from Rythar.

And Mryna knew she could not go back. With the Wheel gone, she could never return to Rythar; the auto-pickup was carrying her inexorably toward Earth. The scream of the machinery slowly turned shrill, hammering against her eardrums. The stars visible in the viewplate blurred and winked out. Mryna felt a twist of vertigo as the shuttle shifted from conventional speed into a time warp. And then the sound

was gone. The ship was floating in an impenetrable blackness.

Mryna had no idea how much time passed subjectively. When she became hungry, she took food from the cabinet. She slept when she was tired. To pass the time, she turned the reading films through the projector.

Most of the film stored in the shuttle covered material Mryna already knew. The Earthmen, clearly, had not denied any information to Rythar. Only one thing had been restricted—astronomy. And that would have made no difference, if Mryna had not found the text in the ruins of the Old Village. The people on Rythar never saw the stars; they had no way of knowing—or caring—what lay above the rain mist.

Mryna was more interested in the history of Earth, which she had never known before. She studied the pictures of the great industrial centers and the crowded countryside. She was awed by the mobs in the city streets and the towering buildings. Yet she liked her own world more—the forests and the clear-running brooks; the vast, uncrowded, open spaces.

It puzzled her that the people of Earth would give the Rytharian paradise to a handful of children, when their own world was so overcrowded. Was this another form of the madness that had driven the people in the Wheel to destroy themselves? That made a convenient explanation, yet Mryna's mind was too logical to accept it.

One film referred to the founding of the original colony on Rythar, a planet in the Sirian System which had been named for its discoverer. Rythar, according to the film, was one of a score of colonies established by Earth. It was unbelievably rich in deposits of uranium.

That, Mryna surmised, was the name of the sacrificial ore they sent up in the god-cars.

The atmosphere and gravity of Rythar duplicated that of Earth; Rythar should have become the largest colony in the system. The government of Earth had originally planned a migration of ten million persons.

"But after twelve months the survey colony was destroyed by an infection," Mryna read on the projection screen, "which has never been identified. It is called simply the Sickness. The origin of this plague is unknown. No adult in the survey colony survived; children born on Rythar are themselves immune, but are carriers of the Sickness. The first rescue team sent to save them died within eight hours. No human being, aside from these native-born children, has ever survived the Sickness."

Now Mryna had the whole truth. She knew the motivation for their madness of self-destruction. It was not insanity, but the sublime courage of a few human beings sacrificing themselves to save the rest of their civilization. They smashed the Guardian Wheel to keep the Sickness there. And Mryna had already

escaped before that happened! She was being hurled through space toward Earth and she would destroy that, too.

If she killed herself, that would in no way alter the situation. The ship would still move in its appointed course. Her body would be aboard; perhaps the very furnishings in the cabin were now infected with the germ of the Sickness. When the ship touched Earth, the fatal poison would escape.

Dully Mryna turned up another frame on the film, and she read what the Earthmen had done to help Rythar. They built the Guardian Wheel to isolate the Sickness. Sealed in metal immunization suits, volunteers had descended to the plague world and reared the surviving children of the colonists until they were old enough to look out for themselves. The answer house had been set up as an instructional device.

"As nearly as possible, the scientists in charge attempted to create a normal social situation for the plague carriers. They could never be allowed to leave Rythar, but when they matured enough to know the truth, Rythar could be integrated into the colonial system. Rytharian uranium is already a significant trade factor in the colonial market. An incidential by-product of the Guardian Wheel is the hospital facility, where advanced cases of certain cancers and lung diseases have been cured in a reduced gravity or by exposure to cosmic radiation."

Mryna shut off the projection. The words made sense, but the results did not. And she knew precisely why Earth had failed. When they matured —in those three words she had her answer.

And now it didn't matter. There was nothing she could do. Her ship was a poisoned arrow aimed directly at the heart of man's civilization.

Mryna had slept twice when the auto-pickup lurched out of the time drive and she was able to see the stars again. Directly ahead of her she saw an emerald planet, bright in the sun. And she knew instinctively that it was Earth.

A speaker under the viewport throbbed with the sound of a human voice.

"Auto-shuttle SC 539, attention. You are assigned landing slot seven-three-one, Port Chicago. I repeat, seven-three-one. Dial that destination. Do you read me?"

Three times the message was repeated before Mryna concluded that it was meant for her. She found three small knobs close to the speaker and a plastic toggle labeled "voice reply." She snapped it shut and found that she could speak to the Chicago spaceport.

Her problem was easily solved, then. She could say she came from Rythar. Without hesitation, Earth ships would be sent to blast her ship out of the sky before she would be able to land. But she knew she had to accomplish more than that; the same mistake must not be repeated again.

"How much time do I have?" she asked.

"Thirty-four minutes."

"Can you keep this shuttle up here any longer than that?"

"Lady, the auto-pickups are on tape-pilot. Come hell or high water, they land exactly on schedule."

"What happens if I don't dial the slot destination?"

"We bring you in on emergency—and you fork over a thousand buck fine."

Mryna asked to be allowed to speak to someone in authority in the government. The Chicago port manager told her the request was absurd. For nine minutes Mryna argued, with a mounting sense of urgency, before he gave his grudging consent. Her trouble was that she had to skate close to the truth without admitting it directly. She could not —except as a last resort—let them kill her until they knew why the isolation of Rythar had failed.

It was thirteen minutes before landing when Mryna finally heard an older, more dignified voice on the speaker. By then the green globe of Earth filled the sky; Mryna could make out the shapes of the continents turning below her. The older man identified himself as a senator elected to the planetary Congress. She didn't know how much authority he represented, but she couldn't afford to wait any longer.

She told him frankly who she was. She knew she was pronouncing her own death sentence, yet she spoke quietly. She must show the same courage that the Earthmen had when they sacrificed themselves in the Guardian Wheel.

"Listen to me for two minutes more before you blast my ship," she asked. "I rode the god-car up from Rythar—I am coming now to spread the Sickness on Earth—because I wanted to know the truth about something that puzzled me. I had to know what was above the rain mist. In the answer house you would not tell us that. Now I understand why. We were children. You were waiting for us to mature. And that is the mistake you made; that blindness nearly destroyed your civilization.

"You will have to build another Guardian Wheel. This time don't hide anything from us because we're children. The truth makes us mature, not illusions or taboos. Never forget that. It is easier to face a fact than to have to give up a dream we've been taught to believe. Tell your children the truth when they ask for it. Tell us, please. We can adjust to it. We're just as human as you are."

Mryna drew a long breath. Her lips were trembling. Did this man understand what she had tried to say? She would never know. If she failed, Earth—in spite of its generosity and its courage—would one day be destroyed by children bred on too many delusions. "I'm ready," Mryna said steadily. "Send up your warships and destroy me."

She waited. Less than ten minutes were left. Her shuttle began to move

more slowly. She was no more than a mile above Earth. She saw the soaring cities and the white highways twisting through green fields.

Seven minutes left. Where were the warships? She looked anxiously through the viewport and the sky was empty.

Desperately she closed the voice toggle again. "Send them quickly!" she cried. "You must not let me land!"

No reply came from the speaker. Her auto-shuttle began to circle a large city which lay at the southern tip of an inland lake. Three minutes more. The ship nosed toward the spaceport.

"Why don't you do something?" Mryna screamed. "What are you waiting for?"

The shuttle settled into a metal rack. The lock hissed open. Mryna shrank back against the wall, looking out at what she would destroy—what she had already destroyed. A dignified, portly man came panting up the ramp toward her.

"No!" she whispered. "Don't come in here."

"I am Senator Brieson," he said shortly. "For ten years Dr. Jameson has been telling us from the Guardian Wheel that we should adopt a different educational policy toward Rythar. Your scare broadcast was clever, but we're used to Jameson's tricks. He'll be removed from office for this, and if I have anything to say about it—"

"You didn't believe me?" Mryna gasped.

"Of course not. If a plague carrier escaped from Rythar, we would have heard about it long before this. The trouble with you scientists is you don't grant the rest of us any common sense. And Jameson's the worst of the lot. He's always contended that the sociologists should determine our Rytharian policy, not the elected representatives of the people."

Mryna broke down and began to cry hysterically. The senator put his hand under her arm—none too gently. "Let's have no more dramatics, please. You don't know how fortunate you are, young lady. If the politicians were as addle-witted as you scientists claim we are, we might have believed that nonsense and blasted your ship out of the sky. You scientists have to give up the notion that you're our guardians; we're quite able to look out for ourselves."

SHOCK ABSORBER

A man acts on what he believes the facts are, not on the facts. He lives or dies by what the facts are. Now sometimes you don't have time to correct a man's beliefs, yet he must act correctly....

BY E. G. VON WALD

Illustrated by van Dongen

The aging little psychologist looked down at the captain's insignia on his sleeve and scowled.

"I know it's a lousy, fouled-up situation, commander," he said with evident irony. "You speak of discipline. Well, it's bad enough here on Mars, where a junior officer like you feels free to argue with a full captain like me, but out there with the fleet, discipline is now virtually nonexistent."

He looked up again and quickly added, "Oh, of course there is a

discipline of a sort, and in its own way it is quite effective. Strict, too, as you will find. But it has few of the marks of the military academy, of which the regular officers were so fond. Perhaps that was the reason why they let the situation get away from them, and why we are in charge of it now."

"I still think—" the commander started, but he was interrupted again.

"I know what you think, commander. You can forget it. It's wishful thinking and we cannot permit such daydreaming in our precarious condition. Face the facts as they exist in the present. After we kick the aliens out of our solar system, maybe we can go back to the old ideas again. Maybe. I'm not even very sure of that. But as for now, the characteristic of despair is the lowest common denominator among the combat patrols, and we therefore have mutinies, disobedience of orders, defections of every variety. That is a real situation, and it will persist until we can induce the men to accept tactical leadership that can cope with the enemy.

"Actually, it is not very remarkable that this situation developed. Strategy is still a rational computable quantity, but the actual tactics of fighting is something else entirely. The aliens have an intellectual response that is in full truth alien to us. It simply cannot be comprehended rationally by a human being, although they manage to guess pretty well the responses of our own fighters. Naturally, the result has been that in the past our losses were almost ninety per cent whenever a patrol actually engaged in a firefight with the enemy.

"Fortunately, the aliens are much too far from their home to possess anything like the number of personnel and other resources that we have. Otherwise, they would have beaten us long ago. Completely wiped us out. And all because an ordinary, intelligent human being cannot learn any patterns by which the aliens operate, and by which he can fight them successfully."

"I know that," the commander muttered. "I spent plenty of time out there before I got tapped for this new branch of service." He rubbed the moist palms of his hands together nervously.

"Certainly you did," the captain acknowledged absently. Then he continued his explanation. "Fortunately, there was a small body of information on extra-rational mental faculties that had been developed over the past century, and as soon as we expanded it sufficiently, we were able to form this new branch of service you now belong to. But unfortunately, some idiot in the Information Service released a popularization of the data on the new branch. That was ill-advised. The veterans who had survived so far had their own way of accounting for their survival, and that did not include what that silly description alluded to as 'blind guessing' by commanders of 'exceptional psychic gifts.'"

"Like most popularizations, the description was grossly inaccurate, and was promptly withdrawn; but the damage had already been done. The damage was completed by another idiot who named the new branch the Psi Corps, merely because the basic capacity for extra-rational mental faculties is technically signified by the Greek letter 'psi.' The name was slightly mispronounced by the men, and that automatically produced that nasty little nickname, which has stuck, and which expresses very well the attitude of the men toward the new service.

"As I say, fleet discipline is very bad, and the men simply would not accept orders from such officers. There are numerous cases on record where they killed them when there was no other way out.

"Now, as far as discipline itself is concerned, the best procedure would be to pull an entire fleet out of the defense perimeter and retrain them, because the newly trained recruits can be made to accept Psi Corps officers as commanders. But our situation is far too desperate to permit anything like that. Therefore, we must use whatever devices we can think of to do the job.

"The ship you are going to is staffed by veterans. They were incredibly lucky. From the outset, they had a CO who was a man highly gifted in psi without he or anyone else knowing about it until a few months ago when we ran a quiet little survey. But he got killed in a recent encounter, along with their executive officer, so we are now sending them a new captain and a new exec as well. But those men simply will not accept orders from a Psi Corps officer. Furthermore, they have heard the rumors—soundly based—that the Psi Corps, as a result of its opposition, has gone underground, so to speak. They know that its personnel has been largely disguised by giving them special commissions in the regular Space Combat Service. As a result, they will most certainly suspect any new commanding officer no matter what insignia he wears.

"Of course, now and then you will find one of the old hands who will accept the Psi Corps, so long as it isn't jammed down his throat. Just pray that you have somebody like that aboard your new ship, although I must admit, it isn't very likely."

"All right, all right," the commander growled with irritation. "But —with your permission, sir—I still think my particular method of assignment is a lousy approach and I don't like it. I still think it will make for very bad discipline."

"Whether you like it or not, commander, that is the way it will have to be accomplished. We are simply recognizing a real situation for what it is, and compromising with it."

"But couldn't this change in command personnel be postponed until—"

"If it could be postponed," the captain replied acidly, "you may rest assured we would not be employing disagreeable—and somewhat

questionable—devices to speed it up. Unfortunately, our outlying detectors have identified the approach of a fleet of starships. They can only be reinforcements for the aliens, about equal to what they already have here, and they will arrive in two years. If those two forces can join each other, there will be no need to worry further about discipline among the humans. There will shortly be no humans left. So we are preparing a full-scale assault against those aliens now within our system in the very near future. And we simply must have all tactical combat devices commanded by men with extra-rational mental abilities in order to deal with them effectively."

"Effectively?" the commander snorted. "Thirty-two per cent effective, according to the figures they gave us in the Psi school."

"That is considerably better than twelve per cent, which is the statistical likelihood of survival in combat without it," the captain retorted.

Nervously, the commander scratched the back of his thin neck, grimmaced and nodded.

"The first and most important problem for you is to gain the confidence of your crew. They will be worse than useless to you without it, and it will be a very difficult job, even with all the advice and help our men can give you. And you will have to be careful—don't forget what I said about assassinations. The way we are going about it, that you find so disagreeable, should minimize that danger, but you can't ever tell what will happen."

He held up his hand to forestall a comment from the other and continued on. "There are conditions for everything, commander. Men react according to certain patterns, given the proper circumstances. It is characteristic of the sort of men you will encounter on your new ship that they are unlikely to take the initiative in such matters, partly from their early training and partly from their association with a CO who pretty well dominated them. However, they will readily condone it if somebody else does take the initiative in their behalf. Particularly, if that man has some official authority over them, and there is always somebody like that. They will not only condone the action, they will positively be happy about it, because it will tend to bolster their sense of security—such as it is. You know the sort of thing—father hunger. Somebody to take care of them the way their old CO did."

The captain sighed. "So you see, commander, you are going into a double-edged situation. Everything in it that can accrue to your advantage, could also get you promptly killed."

"I see. First I fight with my men," the commander said bitterly. "And if I win that battle, I will be permitted to fight the aliens with a thirty-two per cent possibility of living through the first encounter of that."

"It's always been that way to some

extent," the captain replied sympathetically, "in every command situation since the world began. Only right now is a little worse than anyone can remember."

The commander departed. But about a month later, ensuing circumstances brought one Lieutenant Maise to the same office building. He was not, of course, ushered into the august presence of the captain, who was seeing more important people than lieutenants that day.

Maise had been there for several hours every day for the previous three, and he went immediately to the desk of the Special Reports Officer. The SR Officer was a lieutenant also, a combination of psychologist and writer, whose business it was to make sure that Special Reports on morale matters were presented in the properly dramatic fashion so that that indefinable aura of reality, customarily omitted from official historical documents, could be included. The Evaluation Division, back on Earth, was very fussy about that "aura."

"Ah, good afternoon sir," the SR Officer greeted him. "Glad to see you again."

Maise nodded curtly and took a seat beside the desk.

"I think we are pretty well finished now—"

"We better be," Maise interrupted. "My ship is pulling out in four hours."

"Right on the button, eh?" said the SR Officer. He fumbled in a desk drawer and withdrew a bulky folder, from which he extracted a smaller manuscript, and handed it to Maise. "I think you will find it complete and suitably expressive, now, sir."

Maise scowled as he accepted the document. "It makes no difference to me. I didn't want to get involved with the report in the first place."

"I know," the SR Officer nodded agreeably. "But don't worry. Nobody is going to prefer any charges against anybody in any case. What they want back on Earth is all the information they can get on morale problems, so that they can more effectively implement their planning. You know how it is."

"How would *I* know?"

The SR Officer snapped, "I can understand your sentiments, but don't blame me. Remember, I'm just a lieutenant, and I just work here in Morale."

"Sure," Maise said, cracking a grin on his stiff lips. "Sorry. I know it isn't your fault."

He opened the report, and commenced reading.

* * *

TITLE:

SPECIAL CONFIDENTIAL PSYCHOLOGICAL REPORT, prepared in collaboration with Lieutenant E. G. von Wald, Special Reports Officer, Mars XLV Base.

TO:

COMMANDING OFFICER
Psychological Study and Evaluation District

Central Command Authority
Unified Human Defense Forces
FROM:
LIEUTENANT ALTON A. B. MAISE
Executive Officer
Space Combat Device LMB-43534
Seventh Space Fleet
SUBJECT:
ATTEMPTED BACTERIOLOGICAL POISONING OF COMMANDER THOMAS L. FRENDON, recently assigned captain of above-mentioned Combat Device. As per Special Order PSIC334349, dated 23 July 2013.

On 17 October 2015, Space Combat Device LMB-43534 was detached from the Seventh Fleet and returned to the Martian XLV Docks for general overhauling and refitting with new equipment. This period extended for two months, and was followed by a seven-day course of rechecking by the crew.

I was assigned to the ship as Executive Officer on 21 November following detachment, and was in command of the ship during most of the above-mentioned operations. The men were extremely hostile toward me, owing to their fear that I was a Psi Corps officer acting under a special commission in the SCS, but no overt signs of mutiny took place, perhaps because we were still in port. Needless to say, I was very glad when the message arrived informing us of the assignment of Commander Frendon as captain, inasmuch as the situation made clearly evident that I could not expect to be able to assume tactical command of the ship myself when it was returned to combat, the attitude of the crew being what it was.

Almost immediately upon receipt of the message, some of the animosity toward me lifted, but hardly enough for me to consider myself accepted as a member of the crew, although there was a good deal more work done after that.

Six days before our scheduled departure date, Commander Frendon arrived. I was in the control cabin with Lieutenant Spender, Third Officer, when Lieutenant Harding, the Astrogator entered. He limped around the little room a couple of times and then slumped dejectedly into a chair. "Well," he said, "we've had it, boys."

Spender looked around at him quickly, saying, "What's that?"

"I said we've had it. I just saw the new CO, walking over from the Operations office."

"What about it?" I asked sharply.

Harding shook his heavy, balding head, staring at the floor. "It's written all over him," he said bitterly.

"No!" muttered Spender.

"Yep," Harding growled. "Just wait until you lay eyes on him."

He stood up and faced me, his expression bleak and cold. "A sick-man, Mr. Exec," he snarled. "Just as sure as death."

As previously noted, discipline was very lax, but I had been trying to restore it as much as possible. So I said, "I don't know whether the

new CO is a member of the Psi Corps or not, Harding, but cut out this nickname of 'sick.' "

Harding mumbled: "That's what everybody calls them. I didn't invent the name. But I think it is plenty appropriate."

"Well cut it out."

Harding glared at me. "I suppose you're glad to have one of the guess-kids running this ship."

"Nobody wants to be involved in any guessing games, but we're not running the war here, so stow it."

Spender broke in then with his customary cold, quiet speech. "A sickman, eh? Then we have approximately one chance in three of living through our first encounter with the enemy when we leave here. That is according to the statistics, I believe. But to the best of my recollection, our previous captain brought us through eighty-eight skirmishes before anyone got hurt." He shook his head and thoughtfully contemplated the big, raw knuckles of his hand.

As is perfectly obvious from the above, the situation was ill-suited for a new officer to take command of the ship. I would have liked to settle the matter a little more before he got there, but there was nothing I could do about it then. Besides, it wasn't my worry any more, I realized gratefully. The problem of loyalty and confidence was now the business of the new CO. I did not envy him his job, but it had to be done.

At the very first glance, you could see what Harding had been talking about. Commander Frendon was the absolute epitome of every popular physiological cliché associated with people of unusual psi endowment for the past century that it has been known. At least ten years younger than any of the rest of us, he was of medium height, extremely skinny and nervous, his eyes glancing about with a restless uncertainty. It seemed almost too obvious on him, I thought, and wondered who had been responsible for assigning him to anything at all in the armed forces.

He grinned slightly at us when he came in, clearly unsure of himself, and made a valiant but artificial-sounding effort. "Hello men," he said. "My name is Frendon. I'm the new CO."

"Yeah," muttered Harding, "we see that you are."

"What's that lieutenant?" Frendon's voice was suddenly sharp, and the wavering grin had vanished.

"I said, yes sir," Harding replied sullenly. "Welcome aboard."

Frendon nodded curtly, and glanced around at the rest of us, at no time looking anyone directly in the eyes. I stood up and held out my hand. "Maise, here," I said. "Your Exec." And naturally I added the traditional welcome.

Spender introduced himself, and as he was speaking, the remaining crew man walked in to find out what was up. He took one look at Frendon, understood, and turned to leave again.

"And the man in the lead-lined

tunic is Lieutenant Korsakov," I said quickly. "He's your engineer."

Korsakov sullenly said hello and waited. And Frendon also waited, all the time standing stiff and sensitive. One got the impression that he was in a nervous agony, but unable to help himself or to receive help from anybody else. When the introductions were long since completed, Frendon still stood uncertainly, and an unpleasant silence developed.

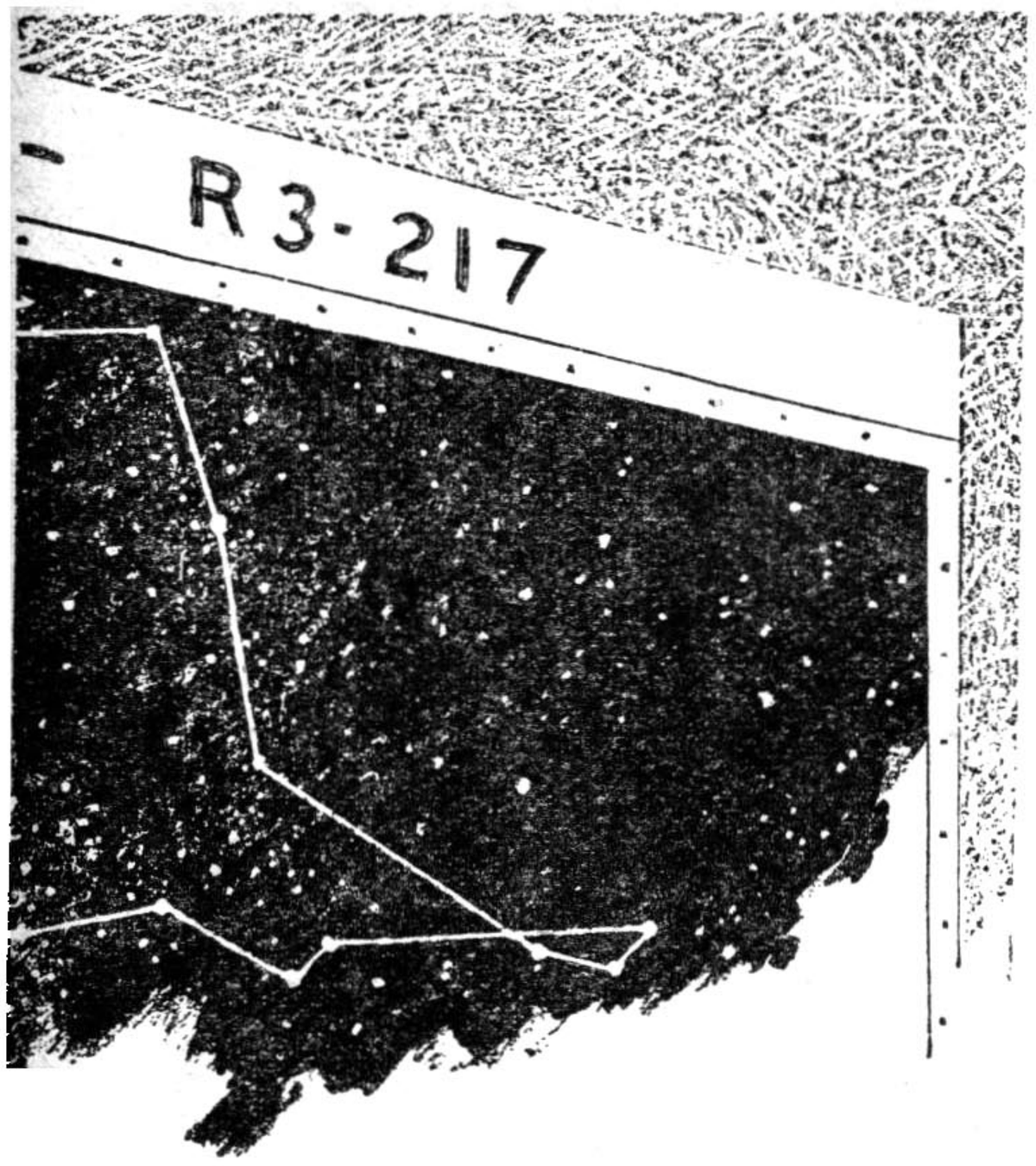
"Sit down, captain," I suggested. "How about some coffee?"

Frendon nodded and jerkily moved to the seat I had vacated. The eyes of the other men followed him, studying his uniform. Although it was clear by now that he was wearing the ordinary insignia of the SCS, nobody was particularly reassured, because we had all heard of the new arrangement under which the Psi Corps operated.

So Frendon sat. The silence continued. Everybody stared at him, and he looked helplessly around. I worked up what I felt was a friendly grin, and his gaze finally found itself on me and stayed there, almost pleading.

"You'll have to forgive us, captain," I told him. "We're an old bunch of mangy veterans, and it's going to be a little strange for a while having a bright new captain."

"Certainly," Frendon said, his voice hardly above a whisper. "I understand." He hesitated and then added in a quick defensive rush of words, "But, of course, you must



understand that this isn't the first ship I've commanded, and I've been in combat before too, and so I don't see why I should be so doggone strange."

That's what he said. Doggone.

"Well," I murmured and cleared my throat. "Of course, captain."

Harding broke off his steady, hostile glare, and fumbled in his pocket for a cigarette.

"Captain," he started, a little uncertainly, which was unusual for Harding, "can I ask you a frank question?"

"Huh?" Frendon looked at the Astrogator blankly. "Why . . . why, er, certainly, lieutenant. Harding you say your name is? Certainly, Harding, go right ahead."

Lieutenant Harding carefully lighted his cigarette. Then he said, "Captain, will you tell us whether or not you are a sickman—I mean a Psi Corps officer?"

"Why?" Frendon leaned forward tensely, then relaxed self-consciously. "Why do you ask that, Harding? Aren't you familiar with the insignia of your own branch of service?"

"Yes, sir," Harding replied blandly, "but there have been a number of reports that they were going to assign a sick . . . I mean a Psi Corps officer to the command of all new Combat Devices, only they would be wearing SCS insignia. Since we have been outfitted fresh and all, we probably come under the heading of new Devices."

"What if I were a Psi Corps officer?" Frendon demanded truculently, his long, skinny frame taut with excitement.

Harding considered that question, or rather statement, and puffed thoughtfully on his cigarette. Finally he shrugged. He reached over and meticulously crushed out the cigarette in an ash tray.

"For the benefit of you, lieutenant"—Frendon's bitter gaze swept the entire room—"and the rest of you, I am not now nor have I ever been a member of the Psi Corps. Does that satisfy you?"

"Yes, sir," I said quickly. Nobody else said anything.

Frendon stood up and stalked tensely to the door. There he spun around and said, "But there is a branch of the military service desig-

nated as the Psi Corps, and if you wish to discuss it in the future, kindly refer to it by its official title or abbreviation, and not by that atrocious nickname of 'sick.' I am sure the Central Command Authority knows what it is doing, and if they did intend to assign such personnel they must have very good reasons for it. Understand?"

There was a general nodding of heads and a scattered, sullen, "Yes, sir."

"Now then, you may call out the ship's company, Mr. Maise," Frendon said to me.

"Well, captain," I replied, "we're all here." Then sure enough, Frendon made us all stand at attention while he read his orders to us, just like it says in the book at the academy. After which, happily, he went to his cabin, and let us go back to our work.

That was the introduction of Commander Frendon to the crew. He made a distinct impression. Entirely bad. Veteran small-ship personnel in this war have shown themselves to be extremely clannish, at best, deriving their principal sense of security not from the strength of the fleet which they never see and rarely contact, but from their familiarity with and confidence in each other's capabilities. Now these men had a new CO who was not only a stranger, but one who they felt sure was a member of the feared and mistrusted Psi Corps, a sickman, a man whose battle tactics were reputedly nothing but a bunch of blind, wild guesses. Previously, I had been the unwanted and suspected stranger, so I knew how Frendon would feel.

The situation developed rapidly, probably because we had only six days before our scheduled departure into the combat zone. That afternoon, Korsakov and Harding were supposed to be checking the wiring of fire-control circuits. Base mechanics had installed the gear and tested it, but it is standard operating procedure for the ship's crew to do their own checking afterwards, the quality of the work by electronics mechanics on planetary assignment being what it is these days.

I found them sitting on the deck, engaged in a desultory, low-voiced conversation. They had stripped the conduit ducts of plating, but there was no sign that they had done anything further.

"All right, you guys," I said. "Get up and finish that check. We may have to use those missiles one day soon, and I'd like to be sure they go where they are sent."

Korsakov looked up at me, his broad, thick mouth spread in an unpleasant toothy grin and his bushy eyebrows raised. "What difference will it make, my friend?"

"None," supplied Harding. Then he added, "As a matter of fact, it might even be better to leave them scrambled. If we strike an alien, our new captain is going to close his eyes and punch buttons at random, probably. Why shouldn't we

leave the fire controls at random, too?"

"They might," Korsakov said, still grinning inanely, "even cancel out his error."

"Cut it out," I said. "You know better than that."

"Maybe you do, Maise." Harding replied, "but we don't."

My face must have telegraphed my mood, because he lurched to his feet and quickly added, "Now wait a minute, Maise. Don't get excited. You're not in command any more, so you don't have to stick to that authority line now. Oh sure, I know you're the Exec, but what the hell, Maise."

I stared at him for a moment, then said quietly, "Come on Kors. On your feet, too. Get that work done."

"Ha," said Korsakov, but he stood up.

Harding moved closer to me. "Confidentially, Maise," he said, "what do you really think?"

"About what?"

"You know—Frendon."

I shrugged. "What am I supposed to think?"

"You know as well as I do that he's a sickman."

"I told you not to use that nickname around me," I replied with annoyance. "Naturally you're going to mistrust them if you tie them up in your mind with a name like that."

"Do you trust them?"

I suddenly wasn't sure myself, so I evaded by saying, "Frendon told us he wasn't one, anyway."

"Did you expect him to tell the truth?" Korsakov sneered. "After going to the trouble of getting an auxiliary commission in the SCS? He knows what we think."

"Sickman," Harding repeated, watching me carefully. "And I'm plenty sick of having the brass hats handing us junk like that. It used to be that the worst we'd get would be fouled up equipment that we'd have to check and rewire ourselves, like these fire controls. Now they give us a fouled-up captain."

"Look," I said. "I want you to cut that talk out, Harding. That's an order. And if you think I can't pour it on you guys, just try me once."

Korsakov, who had been staring morosely into the wiring duct, turned around to face me. He had that nasty grin on his face again.

The best thing I could think of to do at that moment was to pretend I assumed that they would obey and go on back to the control room. I knew they wouldn't pay much attention to the order, but the stand had to be taken. I was still pretty much a stranger myself, but I wasn't going to let them think they could sell me their friendship at the cost of the captain's authority.

One thing I did accomplish, however, was the completion of the fire-control checkout. There was a lot of rewiring to do, but they had it finished in two hours, and everything was perfect.

Frendon went off to the city that evening, and didn't show up the

next day except for about an hour. Apparently, he had been talking to a Psychological Advice officer or somebody like that, and now proceeded to interview each of us in private, quite obviously trying to gain some kind of rapport with us. It didn't work. Even if it hadn't been so obviously what it was, it wouldn't have worked. The men couldn't stand simply having him around, and their conviction that he was a Psi Corps officer merely grew stronger.

When he left for the day, it was a relief. You couldn't like the guy, but you couldn't help but feel sorry for him—at least, I couldn't.

That evening, since we were still docked on Mars, I went to the Base service club for dinner. Sitting in a booth there I found the three of them—Harding, Spender and Korsakov. For the first time, they actually seemed happy to see me, and the usual animosity I had experienced from them had almost vanished. Of course, I knew what the reason was. They could now hate somebody else, and since I was in the same dismal situation that they were in, they generously permitted me to share their gloom.

I ordered some good Earthside bourbon, and sat down with them. Harding had apparently been making a little speech, which I had interrupted, and which he now concluded to me.

"So what do you think we can do?"

"About what?" I said.

"You know about what."

I shrugged and reached for my drink off the servidore.

"I know you don't like to talk about it, Maise," Harding said, "but we have to. Something has to be done."

I started to say something, but he raised a hand and hurried on. "I know, I know," he growled, "command authority, dignity of rank and all that sort of nonsense and tradition. Sure, I'd like to see some of it, too. But this is a hopeless case, Maise. Frendon is a sickman. Or a Psi Corps man if you prefer. Undoubtedly they have some awfully clever fellows back on Earth to do our thinking for us, but as far as I am concerned, they might as well have sent us an idiot child to run the ship in combat. Don't you understand?"

He was looking at me earnestly, the deep concern he felt plain on his face. I already knew that Harding could be depended upon to reflect the sentiments of the group, and to say exactly what he felt. It was a useful bit of knowledge.

"I know what you mean, Harding," I said, "but—"

"Well, think about it then, man," he interrupted sharply. "You're in the same ship, you know. When we blow up, you do, too. And it isn't just that we'll all be killed with this incompetent guess-kid in command—we probably would anyway, sooner or later. But it's the waste of a good ship. You know as well as I do

that it stands to reason combat can't be run as a game of blind man's bluff. And that's just what Frendon will make it. If you're going to make proper use of your military potential it takes brains, like our old skipper had."

"They say the Psi Corps training brings out the most sensitive intellectual capacities of a man," I replied, quoting from the old publicity releases on it and keeping my voice level and dispassionate. "The Central Command Authority believes that it will raise the possibility of survival from twelve to thirty-two per cent in actual combat."

Korsakov giggled, belched, hiccupped and finished his drink. "Thirty-two per cent," he said. "That is one chance in three."

"You don't understand," Harding insisted. "Maybe the guessing games and tests they run back on Earth do give the sickmen one chance in three of being right by blind guessing. I'm not talking about that. I'm talking about us—on our ship in combat and not in a laboratory back on Earth. We had a captain who ran the ship well, ran it in eighty-seven separate forays with the aliens and brought us back each time. He got killed himself on the eighty-eighth. That's the sort of captain we want, Maise. A man who can use his head and who can bring the ship through eighty-odd runs safely. And that is going to take something besides guesswork. Don't forget—if you like to believe in mathematical probability statistics—our chances should be getting slender after all our combat experience. Yours, too, for that matter."

"Maybe," I hedged, "your previous captain was a Psi Corps man in disguise."

"No, he wasn't," Spender cut in calmly. "I knew him for years. We went through the same service training and served together every minute of the war. And they didn't start this sick-business until three years or so ago."

"Well, they say there are natural Psi men who don't need the training so much."

"Fairy tales," snorted Harding. "That stuff doesn't go. I don't believe it."

That was clear. And no argument would convince him otherwise, even if I had felt inclined to give him one, which I didn't.

Korsakov, the silent Russian, thoughtfully rubbed his thick hands together, and then punched the button calling for another drink. "Once in three times," he said. "It's all been proved. Out of the next three missions we go out on, we come back only once." His homely face broke into a tired grin.

I laughed with him, but Harding did not like the joke. "It isn't funny," he growled. "If they can't find a decent captain to send us, why can't they move up one of us that has at least served with a good commander in combat, and maybe learned some of his tricks from him. Not that I would want the job. But

it would be better than Frendon. Anything would."

I raised my eyebrows at him skeptically. He got the idea and swore. "You know I didn't mean that I want the job, so don't go goggling your rigneteous eyes at me, Maise. I know my limitations, but I also know a good captain when I see one. And what do they send us? A kid who not only is a nut, but he's already so scared he—"

"Once in three times," Korsakov said loudly. He was apparently getting pretty drunk. "Their computing machines would need an aspirin to handle that situation. We go out three times but we only come back once." He turned and peered intently at me, his heavy bushy eyebrows drawn severely down and wiggling. "Puzzle: complete the figure without retracing any lines or lifting the pencil from the paper. How do we manage to go out there the third time when we haven't yet come back from the second mission, huh?"

"Shut up, Kors," Spender said without emotion. "You're getting a fixation."

"I'm not the astrogator," Korsakov muttered, laying his head down on the table. "If you want a fix on our position, you will have to call on Mr. Harding."

My bourbon was probably good, but I couldn't taste it. There was too much else to think about. I said, "Well, what are you going to do if he really is a Psi Corps man?"

"That," Harding said thoughtfully, "is the question."

"Maise, you're the Exec," Spender commented. "It's up to you to work us a replacement."

"Didn't you see his orders?" I snapped. "They're dated from Central Command Authority itself. Even if I did know somebody here in Mars Command—which I don't—it wouldn't do any good."

"He's right," Harding grumbled. Everybody knows that once they've assigned a sickman, the only people who can get him reassigned are the sickmen themselves. Maise couldn't do anything about it unless he was a member of the Corps himself. But that settles it, though—his orders being from Central, I mean. Nobody but a sickman would have his orders cut at Central for a puny little ship like ours. It proves what we thought about him, anyway."

"I don't think it proves anything," I retorted angrily. "I don't think the question is whether or not Frendon is a sick—now you've got me saying it—a Psi Corps man. The question is whether we're going to settle down and stop whining just because we got a new CO we don't like, and that we can't do anything about. We're not running this war. They're running it back on Earth."

"We're fighting it," Spender commented, chewing on a big, raw knuckle.

Harding looked at me skeptically. "How much space-combat have you seen, Maise?"

"Six years, more or less," I told him. "I've seen plenty of the stuff. I'd just as soon let somebody else

do it from now on in, but nobody asked me."

Harding grunted: "Well, tell me, have you ever served under a sick skipper?"

"No."

"Do you want to?"

"Why not? Besides—what can I do about it?"

Harding leaned back and sipped away on the straight whiskey he was drinking, watching me over the top of the glass and talking directly into it, making his voice sound muffled and sinister. "You know, Maise, sometimes you make me tired. Frankly, when they first sent us you, I didn't like it. None of us did. You were CO then, and we thought maybe you were a sickman even if you didn't look like it, and you kept sort of sticking up for the sick corps whenever it was mentioned. Well, that's all right. New officer in charge, trying to stiffen up discipline, et cetera and so forth. But now we've got Frendon for CO. You're in the same boat as the rest of us, and you still keep insisting that the sickmen are O.K. But you're a liar and you know it."

"Well, what do you want me to do?" I shouted angrily. "Poison the guy?"

There was a sudden sharp hush. Even Korsakov lifted his head from the table, and looked around with bleary, bloodshot eyes. "Poison?" he said. Then, as if the effort of thinking was too much, he lay down again and muttered. "Once in three times. It's a puzzle question, men. Figure it out."

"Of course, entirely aside from the present argument," Spender stated in his cold, emotionless voice, staring into his empty glass, "but

I do seem to recall an incident like that. Seems there was a ship just about like ours. About three months ago. A mechanic told me about it. Seems they got a new CO assigned to it who was obviously a sickman, just like us. Somebody managed to sneak a few of the dormant spores lying around outside the dome into him. Then the sickman really was sick."

I licked my lips. "I didn't mean that," I said. "Besides, they could always tell if you did anything like that."

"How?" asked Spender.

Harding was listening intently, watching both of us, but he didn't say anything.

"They can identify the organisms," I pointed out.

"Sure. Easy. But how do they know where he picked them up? They're laying all around outside the domes here on Mars ever since the first assault by the aliens twelve years ago. Nobody's had time to decontaminate this whole planet like they did Earth. Easiest thing in the world for a new officer on Mars to take a little sight-seeing excursion outside the domes and to be a little careless."

"There would be an epidemic if he brought back a lot of spores," I suggested. "Besides, it's out of bounds to leave the dome."

Spender shook his head. "You can get around that out-of-bounds business without any trouble," he said. "And there are decontamination chambers in the air locks, which would clean up anything he brought in; so there would be no epidemic. The exposure would take place outside of the domes—say if he opened his helmet to smell the perfume of the famous hypnotic marspoppy, or something like that. Then he would be infected, and after that it's noncontagious. All we need is somebody to buddy up to him, and take him out there. Nature and the poppy will do the rest."

"Look," I said angrily, "cut that stuff out, Spender. If you're looking to me to disable the guy, forget about it. I won't. And I'm telling you right now that if I find anybody else does, I'll report it."

For once Spender laughed. He turned to face me, and his blue eyes were dancing in his scarred, old face. He was laughing at me and my belligerent righteousness, but the real joke, of course, was that unless somebody actually caught him talking Frendon into going out there, there wouldn't be the slightest chance of proving he had done it. It was the simplest thing in the world to sneak out and back without being observed, and we both knew it.

"All right," I said then. "Have your laugh, Spender. And you, too, Harding. I don't like the nut we've got any more than you do, but what you're talking about is mutiny and murder—"

"Oh, he wouldn't necessarily die," Harding commented thoughtfully. "If he gets the serum within a few hours of the first symptoms, he probably would be just a very sick

man for about a month. Too long to take the ship out with us when we go." He grinned at me. "And as for mutiny, nobody would be using any physical force on him. Nor—when you come right down to the specific matter of his commanding his ship—would there be any moral force employed either."

"Have it any way you like," I said, standing up. "I don't care for the tone of this discussion, and I'm getting out of it."

Harding laughed again at that. "O.K., Maise," he said in a friendly tone of voice. "Sorry. I guess you're right at that." I stood glaring at him. "Come on, sit down," he continued. "I know there isn't anything else for you to say about it. Being Exec and all, you pretty well have to stick up for him, and we don't hold it against you. And don't worry about us doing anything to your precious Frendon."

His face darkened as he said it, though, and he swore. "Not right now, anyway. Still, that spore business isn't such a bad—"

"Let it go," Spender cut him off with a mixture of irritation and affection. "Somebody told me about it, and so I just passed it on. It isn't as easy as it sounds, because that stuff can kill, and you stand a pretty good chance of making a mistake and catching it yourself." Then he looked up at me and smiled again. "You might as well stick around with us tonight and get drunk, Maise. No place else to go."

I hesitated. It was a genuine offer of comradeship, and God knows I wanted it. I had been an outcast among these men too long. So I grinned back at him and slid down into the booth again, pressing the button for another drink. "I'll have one more, but then I think I have some work to do. Got to see a man about something."

Korsakov stirred himself. He wasn't as drunk as he seemed, I think. He raised his head and looked at me carefully for a moment, but then he mumbled, "Once in three times. How do you figure it?"

I left them soon after, located and spoke to Frendon, and then returned to the ship. The following morning at nine thirty Commander Frendon suddenly complained of a fever, and said he was going to the hospital.

A couple of hours later, we received notification of his condition from the hospital, and at the same time orders from CINCMARS.

Korsakov, eyes still bloodshot from his hangover, took the message out of the scanner and stared at it. Then he wordlessly handed it over to me.

I read it. It said that Commander Frendon had contracted the spore disease, but that his condition was satisfactory due to the speedy treatment. He would, however, be confined to the hospital for one month.

There was an empty space of three lines, and the orders followed, addressed to Frendon, to prepare to lift off planet in three days and rejoin the Seventh Fleet.

Harding, Spender and Korsakov stared at me with awe when I read them the information. Nobody said anything for a full minute.

"All right," I snapped finally. "Kors, ship out a quickie to CINCMARS and notify him that we can't join the fleet, because we don't have a captain, and the orders are to him, personally, and not the ship. Something has to be changed."

Korsakov thoughtfully pulled on his shaggy, graying eyebrows with his thick fingers. "Why don't we wait until just before lift time," he suggested. "Then they won't have time to fish us out another sickman, and you'll be the skipper, Maise. What do you think of that?"

"Lousy," I said. "A delay like that when they already must have that information kicking around somewhere might just be the thing to foul up the deal. This has to be played straight. Besides, I don't think they are likely to have any unassigned sick—I mean Psi Corps men around on Mars. Go chop out that report."

He was reluctant, but he didn't waste any time about it. And almost immediately the reply came back ordering me to report to the Base Morale Officer and account for Frendon's sudden illness, or accident, or whatever it was. In the old days, that might not have meant so much; but now, of course, the Morale Officer is the whole works.

"Well," I said then, "looks like the soup is hot. They're suspicious." Nobody said anything. They were all waiting, looking at me. "Who," I continued slowly and carefully, "do you suppose slipped Frendon the spore? They'll want to know, maybe."

"Why, Maise," Harding said garrulously, "just like Spender told us. He went outside the dome on a sight-seeing trip and made the mistake of looking at a marspoppy without an antihypnotic color filter. He just accidentally happened to expose himself."

"He might not have gone alone," I suggested. "They'll want to know who went with him, since he probably didn't know anybody else on the Base."

Korsakov grinned hugely. "We all did, skipper," he said. "They can't court-martial the whole crew for going out of bounds with him, can they? It would take a valuable ship out of action."

"They might." I stood up, frowning. "Well, it all depends upon what Frendon told them, but, of course, he might have been drunk himself at the time, and a man like him would hesitate to admit something like that. That shouldn't be too hard to demonstrate. In which case," I added, letting them see a grin on my face, "he might have gone by himself after all, and then none of us would have to be even slightly implicated. Like for instance, if he spent some time with us drinking, and then went off by himself, how would we know where he was going?"

They all laughed with evident relief. It would be a good story.

They all knew that none of them had induced Frendon to disable himself, and for them that settled the question of who did it. Their willingness to take a full share of the blame off me settled the only other question I myself was concerned about.

And this morning, when CINCMARS confirmed my acting captain status, and sent us a raw recruit for third officer replacement after moving Harding up to acting Exec, everybody was satisfied and happy.

As happy as any small group of reluctant soldiers about to go into battle is ever likely to get, anyway.

* * *

Lieutenant Maise dropped the report back on the SR Officer's desk when he had finished reading it.

"How did you like it?" the SR wanted to know.

"All right," Maise murmured. "It covers it. I just hope they can make some use of it, so that in the future the assignment of a Psi Corps officer won't be a general signal for a small-time mutiny."

"That's the whole point of making these reports. They'll work out something."

Maise nodded. "Where's Frendon now?"

"He was transferred to XXX Base three days ago, right after he left your ship. Couldn't let him run around here for a while. Not after the trouble with your crew—somebody might recognize him. Besides, he already has another assignment there."

"I think it was a pretty stupid thing," Maise grumbled. "He was so obvious. And suppose I hadn't warned him about it that night, or that I hadn't been there when the spore-poisoning idea came to a head among the crew? They might really have tried to get him outside the dome, or to get a spore culture inside. And then we'd all be sick or dead."

"Not likely, sir," the SR Officer said with a polite, knowing smile. "You see, the aliens are presumably susceptible to their own bacteriological weapons. At least we think so from the way they went about it. They want our planets, and they didn't want to have to decontaminate them when they took them over. Besides, it's practically impossible to decontaminate an entire planet, anyway."

"But we did it with Earth."

"For morale purposes, Central Authority let it be known that they were able to decontaminate it, but what actually happened was that the spores lost their effectiveness within a few years of their original seeding. I'm surprised they didn't tell you that in the beginning—" He caught himself suddenly, then shrugged and smiled again.

"Maybe you aren't supposed to be told," he continued without embarrassment. "It's sometimes hard for me to know about such things. You have no idea how confused the directives can get in an organization

this large. Anyway, as you can see, your men couldn't have poisoned Frendon or themselves or anybody else with those spores. That's why we have been using that particular form of suggested violence in this unpleasant business. If, as you pointed out, something unexpected did happen, it would be absolutely harmless. Naturally," he added, "we wouldn't like to risk unnecessarily a professional actor with such a remarkably suitable physical appearance as Commander Frendon—even if the poor fellow doesn't have the slightest trace of psi ability."

Maise gaped at him for a moment as he comprehended the careful, knowledgeable planning behind the ruse, much of which had not been explained to him before in his briefings. He said, "And I guess there is still a lot more about it that I don't know."

The SR Officer nodded agreement. "Neither you nor I," he replied in bald understatement. "After all, there are some pretty intelligent men in charge of this last-ditch defense of our species, and they do keep a few of the more important things to themselves. For your own safety among your crew, I suggest that you keep this spore business equally secret."

"I don't need your advice for that," Maise said with a low voice and a wry grin on his face. But the grin vanished as he stood up to go. He hesitated and shook his head uncertainly.

"So that takes care of that," the SR concluded. "Now you're all set, aren't you?"

"All set?" Maise murmured, half to himself. "Hell, I'm just starting, and I'm scared. When the boys asked me if I trusted the intuition of the Psi Corps men, I suddenly realized that I really wasn't quite sure myself. I've studied and worked for two solid years under extraordinary teachers, and back on Earth they said I was unusually good. But now that men's lives will depend on it, it almost seems like something out of a joke book." He stopped talking and sighed. "Well, that's the way it has to be, I guess."

He turned to go, but the SR Officer called him back. "Just a minute, sir," he said. "You forgot to sign this report. You are the originating officer, you know."

"Oh, yes." Maise went back to the desk. He picked up a pen and riffled through the pages to the last one. There he signed his name, scribbling rapidly,

"Alton A. B. Maise, Acting Lieutenant SCS Commander, Psi Corps."

"There you are, lieutenant," he muttered, and started walking on back to the field where his ship was waiting.

THE END

CRIMINAL NEGLIGENCE

Somebody was going to have to be left behind ...and who it would be was perfectly obvious....

BY J. FRANCIS MC COMAS

Illustrated by Freas

Warden Halloran smiled slightly.

"You expect to have criminals on Mars, then?" he asked. "Is that why you want me?"

"Of course we don't, sir!" snapped the lieutenant general. His name was Knox. "We need men of your administrative ability—"

"Pardon me, general," Lansing interposed smoothly, "I rather think we'd better give the warden a . . . a more detailed picture, shall we say? We have been rather abrupt, you know."

"I'd be grateful if you would," Halloran said.

He watched the lanky civilian as Lansing puffed jerkily on his cigar.

A long man, with a shock of black hair tumbling over a high, narrow forehead, Lansing had introduced himself as chairman of the project's coördinating committee . . . whatever that was.

"Go ahead," grunted Knox. "But make it fast, doctor."

Lansing smiled at the warden, carefully placed his cigar in the ash tray before him and said, "We've been working on the ships night and day. Both the dust itself and its secondary effects are getter closer to us all the time. We've been so intent on the job—it's *really* been a race against time!—that only yesterday one of my young men remembered the Mountain State Penitentiary was well within our sphere of control."

"The country—what's left of it—has been split up into regions," the general said. "So many ships to each region."

"So," Lansing went on, "learning about you meant there was another batch of passengers to round up. And when I was told the warden was yourself—I know something of your career, Mr. Halloran—I was delighted. Frankly," he grinned at Knox, "we're long on military and scientific brass and short on people who can manage other people."

"I see." Halloran pressed a buzzer on his desk. "I think some of my associates ough: to be in on this discussion."

"Discussion?" barked Knox. "Is there anything to discuss? We simply want you out of here in an hour—"

"Please, general!" the warden said quietly.

If the gray-clad man who entered the office at that moment heard the general's outburst, he gave no sign. He stood stiffly in front of the warden's big desk, a little to one side of the two visitors, and said, "Yes sir, Mr. Halloran?"

"Hello, Joe. Know where the captain is?"

"First afternoon inspection, sir." He cocked an eye at the clock on the wall behind Halloran. "Ought to be in the laundry about now."

The warden scribbled a few words on a small square of paper. "Ask him to come here at once, please. On your way, please stop in at the hospital and ask Dr. Slade to come along, too." He pushed the paper across the desk to the inmate. "There's your pass."

"Yes sir. Anything else, warden?" He stood, a small, square figure in neat gray shirt and pants, seemingly oblivious to the ill-concealed stares of the two visitors.

Halloran thought a moment, then said, "Yes . . . I'd like to see Father Nelson and Rabbi Goldsmid, too."

"Uh, Father Nelson's up on the Row, sir. With Bert Doyle."

"Then we'll not bother him, of course. Just the others."

"Yes, sir. On the double."

Lansing slouched around in his chair and openly watched Joe Mario walk out. Then he turned back to Halloran and said, "That chap a . . . a trusty, warden?"

"To a degree. Although we no longer use the term. We classify the inmates according to the amount of responsibility they can handle."

"I see. Ah—" he laughed embarrassedly, "this is the first time I've been in a prison. Mind telling me what his crime was?"

Halloran smiled gently. "We try to remember the man, Dr. Lansing, and not his crime." Then he relented. "Joe Mario was just a small-time crook who got mixed up in a bad murder."

Lansing whistled.

"Aren't we wasting time?" growled the general. "Seems to me, warden, you could be ordering your people to pack up without any conference. You're in charge here, aren't you?"

Halloran raised his eyebrows. "In charge? Why, yes . . . in the sense that I shape the final decisions. But all of my assistants contribute to such decisions. Further, we have an inmate's council that voices its opinion on certain of our problems here. And we—my associates and I—listen to them. Always."

Knox scowled and angrily shifted his big body. Lansing picked up his cigar, relit it, using the action to unobtrusively study the warden. Hardly a presence to cow hardened criminals, Lansing thought. Halloran was just below middle height, with gray hair getting a bit thin, eyes that twinkled warmly behind rimless glasses. Yet Lansing had read somewhere that a critic of Halloran's policies had said the penologist's thinking was far ahead of his time —too far, the critic had added.

As Joe Mario closed the warden's door behind him, two inmates slowed their typing but did not look up as he neared their desks. A guard left his post at the outer door and walked toward Mario. The two of them stopped beside the desks.

"What's the word, Joe?" the guard asked.

Mario held out his pass.

"Gotta round up the captain, Doc Slade and the Jew preacher," he said.

"All right. Get going."

"What do those guys want?" asked a typist as he pulled the paper from his machine.

Mario looked quickly at the guard and as quickly away from him.

"Dunno," he shrugged.

"Somethin' about the war, I bet," grunted the typist.

"War's over, dope," said the other. "Nothin' behind the curtain now but a nice assortment of bomb craters. All sizes."

"Go on, Joe," ordered the guard. "You heard something. Give."

"Well . . . I heard that fat general say something about wanting the warden outa here in a hour."

The typewriters stopped their clacking for a bare instant, then started up again, more slowly. The guard frowned, then said, "On your way, Joe." He hesitated, then, "No use to tell you to button your lip, I guess."

"I'm not causing any trouble," Mario said, as the guard opened the

door and stood aside for him to pass into the corridor.

O.K.'d for entrance into the hospital wing, Joe Mario stood outside the railing that cut Dr. Slade's reception area off from the corridor that led to the wards. An inmate orderly sat behind the railing, writing a prescription for a slight, intelligent-looking man.

Mario heard the orderly say, "All right, Vukich, get that filled at the dispensary. Take one after each meal and come back to see us when the bottle's empty. Unless the pain gets worse, of course. But I don't think it will."

"Thanks, doc," the patient drawled

Both men looked up then and saw Mario.

"Hi, Joe," the orderly smiled. "What's wrong with you? You don't look sick!"

"Nothin' wrong with me that a day outside couldn't cure."

"Or a *night,*" laughed Vukich.

Mario ran a hand over his sleek, black hair. "Better a night, sure," he grinned back. Then he sobered and said to the orderly, "Warden wants to see the doc. Right away."

"Mr. Halloran sick?"

"Naw . . . it's business. Urgent business."

"Real urgent, Joe? The doc's doing a pretty serious exam right now."

Mario paused, then said, "You guys might as well know about it. There's a general and a civilian in the warden's office. They're talkin' about something outside. Warden wants the doc in on it."

Sudden tension flowed out between the three men. Down the hall, a patient screamed suddenly in the psycho ward. The three of them jerked, then grinned feebly at each other.

Vukich said slowly, "Well, you don't start playing catch with atom bombs without dropping a few. Wonder what it's like . . . out there?"

"We haven't *heard* that it's any different," the orderly's voice lacked conviction.

"Don't be silly," Vukich said flatly. "Ever since they moved the dames from Tehama into C block we've known *something* happened."

"Get the doc," Mario said. "I've got to be on my way."

"Me, too." Vukich's thin, clever face looked thoughtful.

The others stared blankly at him and said nothing.

As Alfred Court, captain of the prison, strode down the flower-bordered path that led from the shops unit past A block to the administration building, a side door in A block clanged open and a sergeant came out. The sergeant turned without seeing his superior and walked hurriedly toward the administration wing.

"Hey, sarge!" Court called. "What's the hurry?"

The sergeant whirled, recognized the captain and quickly saluted.

"Glad to see you, sir," he said. "Just the man I was looking for!"

"Good enough. What's on your mind? Better tell me as we go for the warden's in a hurry to see me."

The two men walked abreast, both big, although Court lacked any trace of the sergeant's paunch. As they walked and talked, their eyes darted continually about, unconsciously checking the appearance of the buildings, the position of the guard in the gun tower, the attitude of a very old inmate who was meticulously weeding a flower bed.

"Captain, you going to let the men out for their yard time?"

Court's pace slowed. "Why not?"

"No real reason . . . *now.* But there's trouble in the air, sir. I can smell it. The whole place is buzzing . . . with *something.*"

"With what?"

"I can't put my finger on it. But all the men know there's some pretty big shots—at least one general, they say—in the warden's office, right now. There's a hot rumor that there's trouble outside—some sort of disaster."

Court laughed shortly. "That Mario! He's going to lose a nice job if he doesn't keep his mouth shut!"

"None of them keep their mouths shut, captain."

"Yes . . . well, I don't know what's up, myself. I'm heading for that conference right now. I'll ask the warden about letting the men out of their cells. What's their attitude?"

The sergeant's broad, red face grew more troubled.

"Uh . . . the men aren't hostile, captain. They seem worried, nervous . . . kind of scared. If somebody at the top—the warden or yourself—could convince them things were as usual outside. . . . they'd quiet down, I'm sure."

They were now thirty feet from the door to the administration building, a door that opened for but one man at a time. The officers stopped.

"Things are *not* normal outside," Court growled, "and you know it. I've been wondering how long this prison could go on—as if there were still a state's capital, with its Adult Authority, its governor, its Supreme Court. D'you think every man jack here doesn't know a visit from the Authority's long overdue!"

"Yeah—"

"Well, I'll go in, sarge, and see what's what. If you *don't* hear from me, stick to routine."

"Right, captain."

He remained where he was while Captain Court walked slowly toward the door, both hands well in sight. A pace from the door he stopped and exchanged a few words with someone watching him through a barred peephole. After a moment, the door slid open and he walked into the building.

He was the last to arrive at the warden's office. Lansing gazed at him in fascination. Goldsmid had been a Golden Gloves champion middleweight before he had heeded the call of the Law, and he looked it. Dr. Slade was the prototype of all overworked doctors. But Court was a type by himself. Lansing

thought he'd never seen a colder eye. Yet, the captain's lean face—so unlike the warden's mild, scholarly one—was quiet, composed, unmarked by any weakness of feature or line of self-indulgence. A big, tough man, Lansing mused, a very tough man. But a just one.

"I've a problem, warden," Court said when the introductions were over. "Something we should decide right away."

"Can't it wait?" Knox said irritably.

Lansing almost choked with stifled laughter when Court just glanced briefly at Knox, then said quietly to the warden, "Sergeant Haines has just advised me that the inmates know about these gentlemen and they're—restless. I wonder if we shouldn't keep the men in their cells this afternoon."

"Blast it!" roared Knox. "Can't you people keep a secret?"

"There are no secrets in prison, general," Halloran said mildly. "I learned that my first week as a guard, twenty years ago." To Court he said, "Sit down, Alfred. Unless you disagree strongly, I think we'll let the men out as usual. It's a risk, yes, but right now, the closer we stick to normal routine, the better."

"You're probably right, sir."

Court sat down and Halloran turned to his two visitors.

"Now, gentlemen," he smiled, "we're at your disposal. As I told you, my two associate wardens aren't here. Mr. Briggs is in town and Mr. Tate is home ill. Dr. McCall, our Protestant clergyman, is also home, recovering from a siege with one of those pesky viruses. But we here represent various phases of our administration and can certainly answer all of your questions."

"Questions!" Knox snorted. "We're here to tell you the facts—not ask."

"General," soothed Lansing. He looked across the desk at Halloran and shrugged slightly. The warden twinkled. "General Knox is a trifle . . . ah, overblunt, but he's telling you the essential truth of the situation. We've come to take you away from here. Just as soon as you can leave."

"Hey?" cried Slade. "Leave here? The devil, man, I've got to take out a gall bladder this afternoon!"

"I'm afraid I don't understand," murmured Goldsmid. "I thought the war was over—"

"This is all nonsense!" There was an ominous note in Knox's hoarse voice. "Do you people realize you're now under the authority of the Fifth Defense Command?"

Lansing cried: "Let's be sensible about all this!" He pointed his cigar at the fuming soldier. "General, these gentlemen have every right to know the situation and we'll save time if you'll permit me to give them a quick briefing."

"All right! All right!"

"Well, then." Lansing crossed his long legs, glanced nervously about the room, and said, "The world as we know it is done with. Finished.

In another week it will be completely uninhabitable."

"Hey," grunted Slade. "You Lansing, the physicist?"

"That's right, doctor."

"Didn't place you at first. Well, what's going to end this lousy old world of ours?"

"Well," Lansing answered, "we wiped out our late antagonists with skill and dispatch. But, in the end, they outsmarted us. Left behind some sort of radioactive dust which . . . *spreads*. It's rolling down on us from Chicago and up from Texas. God knows what other parts of the country are like—we haven't had time to discuss it with them on the radio."

Goldsmid muttered something in Hebrew.

"Isn't that lack of communication rather odd?" asked the warden.

"Not so very. We've been too busy building rocket ships."

"Rocket ships!" Court was jarred out of his icy calm.

"You mean spaceships?" cried the doctor.

"Yes, Slade, they do," murmured the warden.

"Precisely," Lansing said. "When it looked as if the cold war would get rather warm, the allied governments faced up to the fact that our venerable planet might become a . . . ah, a battle casualty. So, in carefully selected regions, rather extensive preparations were made for a hurried departure from this sector of the universe."

"Oh, come to the point!" Knox

exploded. "All you people need to know is that one of those regions is this area of the Rocky Mountains, that the ships are built and ready to go, and that you're to get aboard. Fast!"

"That," nodded Lansing, "is it."

The four prison officials looked at each other. Halloran and Court sat quiet; Goldsmid slowly dropped his eyes to the ground and his lips moved. Slade scratched his chin.

"Going to Mars, hey?" he asked abruptly.

"That's our destination."

The doctor chuckled. "Comic-book stuff," he chortled.

"No, it isn't," Halloran said. "We've been expecting something like this for a long time. Haven't we?"

"Indeed we have," Goldsmid said. "Expecting, but not quite believing."

Halloran looked thoughtfully at the physicist. "Dr. Lansing, these ships of yours . . . they're pretty big, I take it?"

"Not as big as we like. They never are. But they'll do. Why?"

"I should remind you that we have well over two thousand inmates here."

"Inmates!" barked the general. "Who the devil said anything about your inmates? Think we'll take a lot of convicts to Mars! Populate it with killers, thieves—"

"Who does go, then?" Halloran did not raise his voice but Knox looked suddenly uneasy.

"Why . . . uh, your operating personnel," he replied gruffly. "Your guards, clerks . . . hell, man, it's obvious, isn't it?"

"I'm afraid that is out," Goldsmid said. "For me, that is." He stood up, a heavy-shouldered middleweight running a little to fat. "Excuse me, warden, my counseling period's coming up."

"Sit down, Pete," Halloran said quietly. "We haven't finished this conference."

"I admire your sentiments, Rabbi," Lansing said hurriedly, "but surely you realize that we can't take any criminal elements to . . . ah, what will be our new world. And we do have a special need for you. We've plenty of your co-religionists among our various personnel, but we don't have an ordained minister for them. They're your responsibility."

"Afraid my first responsibility is here." Goldsmid's voice was quite matter-of-fact.

"So's mine," grunted Slade. "Warden, even if the world ends tomorrow, I've got to get Squeaker Hanley's gall bladder out today. No point in my hanging around any longer is there?"

"Of course there is," Halloran answered. He took a package of cigarettes from his pocket, selected one, and lit it. He exhaled smoke and looked speculatively at Lansing. The scientist felt himself blushing and looked away.

Halloran turned to Court.

"Quite a problem, isn't it, Alfred," he said. "I suppose these gentlemen are right in keeping the inmates off

their ships. At any rate, *we* can't argue the matter—so let's do what we're asked. I think you'd better plan to get the guards out of here tonight, at shift change. Might pass the word to their wives now, so they can start packing a few essentials. Doc," he turned to Slade, "before you get your greedy hands on Squeaker's gall bladder, you'd better round up your staff and have them make the proper arrangements."

"O.K., I'll put it up to them."

"You'll *not* put it up to them," the warden said sharply. "You'll *order* them to be ready when the general, here, wants them."

"I'll give no orders," Slade said grimly.

"Just a minute," interposed Court. "Sir, aren't you going?"

"Of course not. But that's neither here nor there—"

The loud clangor of a bell pealed through the room. The two visitors jumped.

"What's that?" cried Knox.

"Yard time," Halloran smiled. "The men are allowed two hours out in the yard, now. They exercise, play games, or just sit around and talk."

"Oh."

"Did I understand you correctly, Warden Halloran?" Lansing's bony face was pale now. "Do you refuse to come with us?"

When the bell rang, Joe Mario had been standing near the door to the warden's office, ostensibly filing reports. Now, he closed the drawer with a bang, stretched, and started toward the outside door.

"Where are you going?" the guard asked suspiciously.

"The yard. Where else?"

"Not a word," Mario added virtuously. "I was too busy doin' my work. Anyway, you gotta let me out. My team's got a ball game set for this afternoon."

"Oh . . . all right." He looked at the typists. "How about you two? Want out?"

The two men glanced quickly at each other, then shoved back their chairs and got up from their desks.

"Sure," one of them grinned, "I guess we'll take a little air."

Lansing had the feeling he used to have occasionally, back in his university days when he lectured on freshman physics—as if he were talking to a class of deaf students. For, like the hapless freshmen, Warden Halloran was quite obviously not listening to him. But the scientist plunged on. "Sir," he said hoarsely, "we need you. We *will* need you! I'm a scientist—I know nothing of the problems of . . . ah, community living. Neither does Knox. He's accustomed to major crises—and solving them by giving orders. But both of us know there'll come a time when people won't take orders—"

"Absolutely correct," Knox said unexpectedly. "Once we get settled on Mars, the military takes a back seat. And—I mean this, Lansing—*I'll* be damn' glad of it. When the

people get their towns built they'll need some gents with the right kind know-how to help them, show them—"

"That's all very interesting, general, but it's not for me."

"Why not?"

Halloran snubbed out his cigarette, looked up at the general and at the scientist. He smiled briefly. "It's just my job, gentlemen—let's not discuss the matter any further. You can't make me go."

"We will!" barked Knox. "I told you you were under the jurisdiction of the Fifth Defense Command and you are. If I want to, I can send a tank company over here and drag you to those ships!"

"He's right, you know," Lansing said.

Court stood up and took one step toward the general.

"Alfred!" the warden did not lift his voice, but Court stopped. "General Knox," Halloran went on in a conversational tone, "you're being a bit of bully, you know, and in this prison we've all been . . . ah, conditioned against bullies." He looked down at his desk and frowned. "However, I'll admit that your position requires that I elaborate my reasons for staying here. Well, then. As I see it, your people, your . . . ah, colonists, can help themselves. Most of *my* people, the inmates here, can't. A long time ago, gentlemen, I decided I'd spend my life helping the one man in our society who seemingly can't help himself, the so-called criminal. I've always felt that society owes a debt to the criminal . . . instead of the other way around."

He hesitated, grinned apologetically at Captain Court. "I'm sermonizing again, eh, Alfred? But," he shrugged, "if I must get dramatic about it I can only say that my life's work ends only with my—death."

"It's quite a rough job, you know," Goldsmid remarked. "This is a maximum security institution. Too many of the inmates have disappointed the warden. But he keeps trying and we've learned to follow his example."

"Our psychiatric bunch have done some mighty interesting things," beamed Slade, "even with cases that looked absolutely hopeless."

"None of them can be saved now," muttered Lansing.

"That is in the hands of God," Goldsmid replied.

"Well," Halloran said gently, "still going to send those tanks after me, general?"

"Uh . . . no . . . I won't interfere with a man doing his duty."

Lansing cleared his throat, looked slowly from the somber-faced clergyman, to the fidgeting medico, to the burly captain, still staring impassively at the general, to, finally, the quiet, smiling warden. "Gentlemen," he said slowly, "it occurs to me that the situation hasn't actually registered on you. The earth is really doomed, you know. This dust simply won't tolerate organic life. In some way—we have not had time to discover how—it's self-multiplying, so, as I said, it spreads. Right now, not a tenth of

this entire continent—from the pole down to the Panama Canal—is capable of supporting any kind of life as we know it. And that area is diminishing hourly."

"No way of checking it?" Slade asked. His tone was one of idle curiosity, nothing else.

"No. It's death, gentlemen. As deadly as your . . . ah, gallows."

"We use the gas chamber," Halloran corrected him. His mouth twisted. "More humane, you know."

There was brief quiet, then the warden said, "Well . . . now that we've finished philosophizing, let's get back to the matter at hand. We can have everyone that's going ready to leave by seven tonight. Will that be satisfactory?"

"It'll have to be," Knox grunted.

"Thank you." Halloran reached for his phone, then dropped his hands on his desk. "I'd like to ask you a question," he said. "Perhaps it's presumptuous, but I'm rather curious about the . . . er, last workings of our government. Tell me, don't you really have room for our inmates? You haven't told us how many ships you've built. Or how big they are."

Lansing looked at Knox. The general flushed, then stared at the floor. Lansing shrugged tiredly.

"Oh, we've plenty of room," he sighed. "But . . . our orders are to take only those completely fit to build a new world. We've . . . well, we have practiced a lot of euthanasia lately."

"Judges," murmured Goldsmid.

"If you had come sooner," there was no anger in Halloran's voice, "couldn't you have selected some of our people, those that I . . . all of us know are ready for rehabilitation —even on another planet?"

"Perhaps. But no one remembered there was a prison nearby."

The warden looked at the rabbi. Goldsmid raised his heavy shoulders in an ancient Hebraic gesture.

"That was always the trouble, wasn't it, Pete?" Halloran murmured. "People never remembered the prisons!"

The telephone beside him shrilled loudly, urgently.

The inmate mopping the floor of Condemned Row's single corridor slowed in front of Bert Doyle's cell. Doyle was slated for a ride down the elevator that night to the death cell behind the gas chamber. At the moment, he was stretched out on his bunk, listening to the soft voice of Father Nelson.

"Sorry to interrupt," the inmate said, "but I thought you'd like to know that all hell's busting loose down in the yard."

Father Nelson looked up.

Doyle, too, looked interested. "A riot?" he asked.

"Yessiree, bob!"

"Nonsense!" snapped the priest. "This prison doesn't have riots!"

"Well, it's sure got one, now. 'Scuse me, Father, but it's the truth. The men grabbed four or five yard guards and the screws in the towers don't dare shoot!"

He gave up all pretense of work and stood, leaning on his mop-handle, his rheumy old eyes glowing with a feverish excitement.

Nelson stood up.

"Will you excuse me, Bert?" he asked. "I'd better see if I can help the warden."

Doyle, too, sat up, swung his feet to the steel floor, stood up and stretched. "Sure," he said. His hard face was pale but otherwise he seemed quite calm. "You've been a great help, Father." He looked quizzically at the old inmate. "You lying, Danny? Seems to me the boys have got nothing to beef about here."

"Heh, they sure have now."

"What?"

"Well, I got this from a guy who got it from Vukich who heard it from Joe Mario. Seems there's a big-shot general and some kinda scientist in Mr. Halloran's office." He shifted his grip on the mop-handle. "You gents maybe won't believe this, but it's what Joe heard 'em say to the warden. Outside is all covered with radium and this general and this here scientist are goin' to Mars an' they want the warden to go along. Leavin' us behind, of course. That's what the boys are riotin' about."

Bert Doyle burst into harsh laughter.

"Danny! Danny!" he cried. "I've been predicting this! You've gone stir-bugs!"

"Ain't neither!"

"Just a moment, Bert," Nelson whispered. Aloud he said, "Dan, go call the guard for me, please." When the old man had shuffled out of earshot the priest said to the condemned man, "It could be true, Bert. By radium, he means radioactive material. And there's no reason spaceships can't get to Mars. We'd reached the Moon before the war started, you know."

Doyle sank back on his bunk.

"Well, I'll be damned!" he breathed.

"Bert!"

Doyle grinned sheepishly. "Force of habit." Then, more soberly, "So they're off to Mars, eh? Father, you better get down there and pick up your reservations!"

"Don't be ridiculous!" The priest's voice softened and he patted the killer's shoulder. "I will go down and see what's what, Bert. And I'll be back just as soon as the men have quieted down. That is, if they *are* creating a disturbance."

The footsteps of the approaching guard sounded loud in the corridor. Doyle frowned a little.

"When you come back, Father, you'll tell me the truth? No kidding, now!"

The guard stood in front of the door of heavy steel bars. Father Nelson looked down at the man on the bunk.

"I'll tell you everything, Bert. I swear it."

"Uh, Father?" the guard's voice was nervous—and embarrassed.

"Yes, Perkins?"

"I . . . I can't let you out right now. Orders from the warden. Not

a cell door opens till I hear from him direct."

Doyle chuckled.

"Might as well sit down, Father," he said, "and make yourself comfortable—"

"What will you do?" cried Lansing.

"Go out and talk to them, of course," replied Halloran. He arose from his desk, a calm, unhurried man.

"Look," growled Knox, "you get me through to the town. Some of our people are still there. I'll order out as many soldiers as you want. I'll see to it that they get here—on the double!"

Halloran flushed. "Would it ease your conscience, general," he grated, "if you killed off my men instead of leaving them—behind! Now, you will please keep quiet. You'll be perfectly safe!"

"What will we do with them, sir?" Court gestured at Lansing and Knox.

Halloran strode from behind his desk to the opposite end of the room. As he twirled the dials of a wall safe he said, "They'll have to remain here, for now. The men have got between this building and the gate office." The safe swung open and he reached far inside and took out a submachine gun. "Here," he held the weapon out to Court. "If I don't come back, use this to get them to the gate office."

"Didn't know you had an arsenal in here!" cried Slade.

"No one else did, either, except Alfred. Now Doc, think you and Pete had better stay here."

Slade and Goldsmid pulled themselves out of their chairs as one man. Their timing was perfect.

"No, you don't, hero!" growled Slade.

"Warden," Goldsmid said, "perhaps *I* could talk to the men—"

The warden smiled and walked toward the door. There he stopped and said to Court, "Switch on the speaker system, Alfred. I'll take the portable mike from the next office. While I'm out there, get word to all custodial and operating personnel that they will be permitted to leave tonight. Meantime, I hope they will stay on their jobs. Better phone Mr. Tate, have someone try to locate Mr. Briggs, be sure and call Dr. Slade's staff."

"Right, sir."

The three men left the office. Court, the gun cradled under one arm, picked up the phone and spoke into it. His voice was a low, crisp monotone. After a while, he replaced the receiver and stood quiet, staring impassively at the others.

"You might say the warden's career has been twenty years of futility," he muttered. Lansing and Knox felt he wasn't actually speaking to them. "Now me, I'm a screw of the old school. Hardboiled, they say. *I* never expected a thing from a con . . . and cons have lied to him, politicians have broken their promises . . . but the liars have loved him and the dumbest dope in the legislature has respected him."

"Will he . . . be all right?" Lansing asked.

Court shrugged. "Who knows? You handled this very badly," he said dispassionately. "Five minutes after you stepped through the main gate every inmate in the place knew you were here and started wondering. Why didn't you write—make arrangements to see the warden outside?"

"I'm sorry," Lansing said. "We know very little about prisons."

Court laughed shortly. "You'd better learn," he said grimly.

"Anyway we can see what's going on?" rumbled Knox. "And how about that speaker business?"

"There's a window in the next office. Come along."

They crouched at the window, the fat Knox whizzing a little, because Court had ordered them to keep out of sight of the rioters. They saw Halloran, Slade and Goldsmid at his heels, walking out into the small courtyard that lay between them and safety. Over the wall speaker came a sullen roar, something very like the ragged blast of a rocket whose timing is off. A few gray-clad men in the courtyard saw the approaching warden, surged toward him, screaming at their fellows in the big yard behind them.

Halloran ignored the clutching hands. He held the mike up and they heard him say, "There's no

point in my talking with you unless you will be quiet and listen." He paused. The roar slowly subsided into an angry mutter. "Thanks. That's better."

Now, they could see Slade's head but both Halloran and the rabbi were hidden by the swirl of gray figures that swept around the three prison officials.

"Now," the warden went on, "it seems that you have something to say to me. Good enough. But why didn't you send word through your council, instead of roughing up guards, damaging property, yelling your heads off and generally behaving like a bunch of spoiled brats. Go on, tell me! Why?"

Someone's scream came clearly over the mike. "The world's coming to an end! They're leaving us here to die!"

"Yeah!" the mike picked up another voice. "How about that?"

Before the wordless, mindless roar could rise again, the warden barked, "Oh, hush up!" And they were quiet.

"My God," breathed Lansing.

"Now," Halloran's voice was easy, assured, "I want to make sure that all of you hear me. So, I'm coming out in the center of the yard. Rabbi Pete Goldsmid and Doc Slade insist on coming with me although," he chuckled, "I understand Squeaker Hanley's screaming for the doc to cut out his gall bladder." A few of the men laughed. "All right, here I come. And you fellows behind me, keep off the wire. I don't want this mike to go dead and have to yell my lungs out."

They saw the eddy of men around him move slowly through the broken gate and out of their sight.

"What will he tell them," muttered Knox.

"Whatever—they'll believe it," Court said. The courtyard before them was now empty. He stared thoughtfully out the barred window, then said, "Think you could get to the gate office pretty soon, now—"

"No!" snarled Knox. "I want to see what happens to that gutty so-and-so!"

Lansing grinned nervously. "Somehow, captain, I feel it won't be necessary for us to sneak out of here."

They listened again while assorted thieves, murderers, rapists, men—save for an innocent few—whose hands were consistently raised against their fellows' peace and property, heard their jailor tell them that the end of their world, a world that many of them remembered but dimly, was coming to an end. The screaming broke out again when Halloran spoke of the Mars-bound ships, and, for a moment, the three in the office thought he had lost control. But the amplifiers prevailed and Halloran laughed and said, "Anyway, we're not going to Mars—"

"*You* can go!"

The man who yelled that was apparently very close to the warden within his view, for they heard him

say: "Chrisman, you're a fool—as usual! Would I bother to come out here and talk to you if I could go?"

That got them. That, they understood. If a guy didn't scram from a hot spot when he could . . . well, then, he couldn't scram in the first place. So, the warden was stuck, just like they were.

Later, perhaps, a few of them might figure out why.

"Now, let's have no more interruptions," Halloran said. "*I* don't think there's any need to go. Neither does the doc, here, or the rabbi. We're all staying—because the desert to the south of us has stopped the spread of this dust and it seems it can't cross the rivers, either. So, we're safe enough."

"But that's not true," groaned Lansing.

Court glanced at him. "Would you tell them different?" he said coldly.

"No—"

Halloran said, "Well, that's that. Life is a little difficult outside and so the people out there want to try to get to Mars. Believe me, that's a trip I want someone else to make first. But if they think life will be easier on those deserts—why, let them go. But God help them—they'll need it."

He paused. Knox tried to catch Lansing's eye, but the scientist's face was blank, unseeing.

"What do *we* do?" This voice was not hysterical, just seriously questioning.

"*You* should do darned well. Life should be easy enough for *you*. You've got your own farms, your livestock, laundry, hospital, shops—everything a man can need. So, take over and run things to suit yourselves."

A unanimous gasp whistled over the speaker. Then, they all cried just one word.

"Us?"

"Why not? Don't you think you can?"

Silence, broken by strange, wistful mutterings.

"I'd suggest this," Halloran said. "Let's follow our normal routine tonight—no lock-ups, of course—and tomorrow, you fellows take over. I'll help you in any way I can. But it will be *your* job. Perhaps after breakfast tomorrow, you ought to have a mass meeting. Under the supervision of your council, I'd say. You can't keep going without some kind of order, you know."

Again silence.

"My God," whispered Lansing, "he makes it all sound so *real*."

"Any questions?" Halloran asked.

"Hey, warden! How about the dames?"

"The ladies will join you tomorrow morning." He chuckled. "I imagine they'll be able to handle you all right!"

A joyous roar.

"However," Halloran raised his voice, "I'd like to remind you fellows that a successful community needs . . . *families!*"

There was a long quiet, then, broken finally by an inmate who

asked, "Warden, how about the guys up on the Row?"

"Well," Halloran's voice lost all humor, "you can start ripping out the gas chamber whenever you're ready to. I'll see that you get the tools."

The swell of applause was so loud in the office that Court hastily turned down the speaker's volume.

"All right," Halloran said when they had quieted down, "that's about it. You're free now, till supper-time. I'd suggest all of you start right now, thinking about your future—"

Outside the main gate, first Knox, then Lansing shook hands with the gray-faced warden.

"Trucks'll be in town at seven for your people," Knox muttered. He gave a windy sigh. "It's all fouled up. As usual. Damn it, we need people like you, sir!"

Lansing looked at Halloran for a long time, trying to see behind the mask of exhaustion. "I'm a mannerless fool," he said at last. "But Mr. Halloran, would you tell me what you're thinking? I mean, really thinking? Even if it's rough on us!"

Halloran laughed softly. "I wasn't thinking about you at all, Dr. Lansing. I was—and am—regretting that what I told the men couldn't be the truth. It's too bad they'll have so short a time. It would be very interesting to see what they would do with—*life*."

Knox scowled. "Seems like they haven't done much with it so far."

"Come along, general," Lansing said quietly. "You don't understand. None of us do. We never did."

THE END

THE ANALYTICAL LABORATORY

We didn't work the An Lab in last time; I think it works out better this way on this occasion. "Time Crime," by H. Beam Piper, ran into a difficulty. The scores went like this:

FEBRUARY ISSUE

Place	Story	Author	Points
1.	Time Crime (Pt. 1)	H. Beam Piper	1.92
2.	Citadel	Algis Budrys	2.57
3.	Grandpa	James H. Schmitz	2.78
4.	Design Flaw	Lee Correy	3.64
5.	Tight Squeeze	Dean C. Ing	3.85

(*Continued on page* 118)

THE SOUND OF PANTING

BY ISAAC ASIMOV

Dr. Asimov teaches biochemistry; he also writes textbooks. He also tries to keep up with what's being done in biochemistry. And . . . it can't be done. There must come a point where information that's physically available, but can't be scanned as fast as it appears, becomes non-useful information!

Back in September of 1950, Dr. William C. Boyd, Professor of Immunochemistry at Boston University School of Medicine—where I work—having just come back from several months in Egypt, and feeling full of spirit, lured me to one side and suggested that we write a textbook on biochemistry for medical students. This struck me as a terrific idea. Dr. Boyd had already written textbooks on blood-grouping, on immunology and on anthropology, so there was no doubt in my mind that he could supply the experience.* As for myself, although a science-fiction writer, I am not too proud to write textbooks, so I felt I could supply enthusiasm. We then rung in Dr. Burnham S. Walker, who is the head of our department of biochemistry and who has an encyclopedic knowledge of the subject. He went along not only with the notion but also with alacrity.

There followed a hectic interval in which we laid our plans, corralled a publisher and had a lot of fun. But there came a time when all the preliminaries were over and we came face to face with a typewriter and a clean sheet of paper.

It took us a year and a half before the first edition was done and I learned a lot about textbooks.

A textbook, after all, is an orderly presentation of what is known in a given branch of science and is in-

*In the last couple of years, Dr. Boyd, in collaboration with his wife, Lyle G. Boyd, has written and had published a round dozen science-fiction stories under the pseudonym of Boyd Ellanby.

tended to be used for the instruction of students. Note the word "orderly." It implies that a textbook must begin at the beginning, proceed through the various stages of the middle, and end at the end. Unfortunately, unless the science concerned is a deductive one such as mathematics or logic, this neat procedure is hampered by the fact that there is no beginning, no middle and no end.

An inductive science such as biochemistry consists, essentially, of a vast agglomeration of data out of which a number of thinkers have abstracted certain tentative conclusions. It resembles a three-dimensional lacework all knotted together. To expound any portion of biochemistry properly, a certain knowledge of other areas of the science must be assumed. It is, therefore, the task of the writer to decide what one-dimensional order of presentation is least confusing. What subjects can he discuss in the earlier chapters with the best chance of being understood despite the absence of information contained in the later chapters? How often must an author stop to explain at a given point and how often can he get away with a simple reference to a page halfway up the book, or even with a curt "See Appendix"? (I, by the way, was a devotee of the "stop and explain" philosophy and I was consequently periodically crushed by the democratic procedure of being outvoted two to one.)

Note also that a textbook is intended to instruct students. This cannot be done by lulling him gently to sleep or by confusing him with a display of incomprehensible brilliance. As far as is consistent with a respect for the facts and for accurate exposition, one must not scorn to write entertainingly. In short, there is the question of style.

This raises the point that three collaborators have three different styles. True! Fortunately, by dint of revising each other's work and then beating out the results in triple conference, a reasonably uniform style was achieved with elimination of extremes. Dr. Walker, for instance, whose natural style is extremely condensed, was forced to include occasional conjunctions and to allow the existence of a few subordinate clauses. I, on the other hand, found that my more passionate outbursts of lyricism were ruthlessly pruned. Many was the gallant rearguard fight by one or another of us in favor of inserting a comma or of deleting it; many the anguished search through the Unabridged in defense of a maligned word.

However, back to my definition of textbook. It is an orderly presentation of *what is known*. The implication is that it deals with what is known up to the very moment of writing.

That's easy, isn't it?

And how does one find out what is known?

First off, there are other textbooks, and one naturally turns to them for another man's panoramic

view of a field. But there are limitations to the textbook.

For instance, textbooks must be selective, rather than inclusive, as that is the only chance of staying below ten thousand pages. This means that the author of the textbook you read has already winnowed the facts and, his winnowing may not be your notion of winnowing at all. Secondly, every textbook writer imposes his own interpretation on the data, either by actually stating his interpretation, or by implying it through his choice of what facts to place in the book.

(Occasionally, we three co-authors didn't agree on interpretations among ourselves. For instance, there are two major theories concerning the cause of cancer. One is the "mutation theory" and one is the "virus theory." I'm a mutation fan and Dr. Boyd is a virus supporter. Since I had the cancer chapter in my charge in editions one and two, I pitched mutation into a page or two of eloquent prose and dismissed viruses in a cool, unimpassioned paragraph. Such arguments! Scarcely a lunch hour passed in which Dr. Boyd didn't advance determinedly to the fight, armed with a new article on the virus theory. He has managed to win me over somewhat and in the next edition of the book, I think he will be in charge of the cancer chapter.)

Probing more deeply than the textbook, we come to the monograph. The monograph is no attempt at instructing beginners at all. It is a presentation of *all* the available facts—within human limitations—for the benefit of the expert in the field. The subject of the monograph is, of necessity, narrower—and usually much narrower—than the subject of the textbook.

The one-man monograph is vanishing. That is the result, in part, of the growing ocean of known fact and the consequent narrowing of focus of the human mind. The "universal genius" is gone forever. Nowadays, it is almost impossible to find a man who considers himself qualified to write all about some small subdivision of biochemistry, which is itself a subdivision of biology and chemistry, which are themselves subdivisions of the field of the physical sciences which are themselves subdivisions—

Take an example. Over the past year or so, an extensive monograph on proteins has been coming out. It is in four volumes—total pages, 2,526; total price $54.00.) It is edited by two men, but it contains a series of articles to which a total of thirty-one authors have contributed, one of them being Dr. Boyd, incidentally. Each chapter is a "review article" concerning some subdivision of the biochemistry of proteins.

Scientists are very grateful for review articles. They summarize the "literature" (I'll explain what that means in a little while) in one finely-focused facet of the science.

Whole systems of volumes are devoted to nothing but review articles. For instance, every year for the last twenty-odd, a book called *Annual Reviews of Biochemistry* has come

out. It is divided into chapters, each dealing with a subdivision of biochemistry and each written by an appropriate expert. Each chapter summarizes the work that has been done in that subdivision over the past year as concisely as possible. Despite the fact that the book is concise almost to the point of obscurity it ends by being a good-sized volume.

Then there are periodicals like *Chemical Reviews* and *Physiological Reviews,* which don't try to cover the whole field every issue. They appear at monthly intervals with selected reviews on this subject or that. The July, 1954 issue of *Physiological Reviews,* for instance, has eight reviews, including a twenty-five page article on the single substance, serotonin, a blood compound of importance to clotting which was first identified in 1949. The August, 1954 issue of *Chemical Reviews* contains four review articles, including twenty-four pages on the microheterogeneity of proteins—a neat little subject somewhat related to the material I took up in my article "Hemoglobin and the Universe" which appeared some months ago in Astounding Science Fiction.

Annual volumes are also put out containing review articles of more restricted subject matter. For instance "Advances in Enzymology" was first put out in 1940 and has been appearing annually since. Volume 15 is the latest. It contains review articles dealing only with enzymes and related subjects. This sort of specialized review volume proved so useful and desirable that other subdivisions of biochemistry demanded similar service.

A single publishing house now puts out "Advances in Protein Chemistry," "Advances in Carbohydrate Chemistry," "Advances in Cancer Research," "Advances in Genetics," "Advances in Virus Research," "Advances in Food Research," "Advances in Agronomy," "Vitamins and Hormones," "Recent Progress in Hormone Research," "International Review of Cytology," "Progress in Biophysics and Biophysical Interactions," "Progress in Organic Chemistry," "The Alkaloids." Each appears once a year or so, and there are many others to keep these company.

But all these, textbooks, monographs, reviews, are only secondary sources. Where do they get their information?

Well, the primary source of knowledge is derived from all the work done in all the laboratories, libraries, offices and thinking places, of all the colleges, universities, research institutions, industrial establishments, hospitals and similar places by all the scientists, engineers, physicians and technicians.

Whenever any of these has completed a series of experiments or arrived at a certain set of thoughts which seem to yield a small nugget of useful information which does not completely coincide with any of the other nuggets of useful information

of which he is aware, it is his bounden duty to make known this nugget to the scientific world.

This is done by writing a "paper"; that is, by preparing a description of his experiments and their results, preceded by a very brief summary of previous work in the field and succeeded by a cautious interpretation of the significance of his own work. The paper is then submitted for publication in a periodical devoted to such things. Such periodicals are referred to, in rather cavalier fashion, as "journals" and the sum total of all the papers written is referred to, still more cavalierly, as the "literature." (I told you we'd get around to that word.)

There are literally thousands of journals printed. I'll confine myself to journals of biochemistry and we'll run through a couple, just to get the taste of things. The aristocrat of biochemical journals is the *Journal of Biological Chemistry.* It comes out once a month and the individual issues have been thickening with the years. When it first appeared some fifty years ago, the entire year's output could be bound into a moderately sized volume. The year's output is now bound into six somewhat larger volumes. The September, 1954 issue contains four hundred and eighty pages and forty-five articles. Just three times the pages ASF has!

The British analogue is the *Biochemical Journal,* which has fewer but larger pages. The October, 1954 issue has one hundred and forty-eight pages containing thirty-four articles and twenty-two "notes," or short articles taking up a page or less.

There is the *Journal of the American Chemical Society,* which specializes in physical chemistry and organic chemistry, although the biochemical papers it contains are first rate. It comes out twice a month now—the monthly issue became too unwieldy—and the November 20, 1954 issue contains three hundred and seventeen pages and one hundred and twenty articles and notes. The British analogue is the *Journal of the Chemical Society.* (The British find no need to identify which chemical society is concerned. Which else but the British, sir? Egad!)

There is *Science,* which appears weekly and specializes in short papers covering the entire field of the sciences, with biochemistry well represented. The British analogue is *Nature.*

We haven't even scraped the surface, though. There are journals devoted to specific diseases, with titles like *Cancer, Cancer Research, Diabetes* and so on. There are journals devoted to particular parts of the body or particular aspects of its mechanism, like *Blood, Circulation, Brain, Metabolism.* There are journals put out by various scientific institutes or organizations, such as: *Proceedings of the Society for Experimental Biology and Medicine, Proceedings of the National Academy of Sciences of the United States, Journal of the National Cancer Institute, Annals of the New York Academy of Science, Bulletin of the*

New York Academy of Medicine. There are journals devoted to certain branches of biochemistry or to allied subjects: *Journal of Immunology, Journal of Bacteriology, Journal of Nutrition, Journal of Clinical Nutrition, Journal of Clinical Investigation, American Journal of Clinical Pathology, Journal of Clinical Endocrinology.* (I'm just pulling them out of the air at random.) Various schools and hospitals put out journals devoted to their own work: There is the *Quarterly Bulletin of Northwestern University Medical School, Yale Journal of Biology and Medicine,* and many more.

Furthermore, new journals are continually being brought into existence. Just this week, I received the announcement of a new journal, *Virology,* to come out approximately bimonthly and to be devoted to the various aspects of virus research.

And then, you know, science is international. There are whole clusters of foreign-language journals. The Germans have *Zeitschrift für Physiologische Chemie* as their chief biochemical journal. The French have *Comptes rendus des séances de la societé de biologie et de ses filiales* as theirs. The Russians, of course, have moved up in journal production in recent years, and if you want to see what the title of a Russian journal looks like—transliterated from the Cyrillic alphabet—try this on for size: *Doklady Akademii Nauk Soyuza Sovetskikh Sotsialisticheskikh Respublik*—which means "Proceedings of the Academy of Sciences of the Union of Soviet Socialist Republics. There are Japanese journals, Swedish journals, Swiss journals, Dutch journals, Spanish and various Latin-American journals. There's the *Journal of the Pharmaceutical Association of Siam, Journal of the Philippine Medical Association, The Irish Journal of Medical Science* and so on and so on and so on—

(Special note: I am not making up a thing. Every journal listed in this article is a real, honest for true, gosh-darn genuine journal.)

Now, then, the number of papers of biochemical interest which appear in these journals amounts to some twenty-five hundred *each month.* How does any biochemist keep up with them? Reading them all is out of the question—even if you could get all the journals—until someone invents an indefatigable eye, a Mnemonic Service brain like my friend Mark Annuncio, and a hundred-twenty-four-hour day. Yet unless we get acquainted somehow with all of them, how can we tell but what some extremely vital nugget of information is escaping us?

(You think such escape isn't possible? When Mendel discovered the basic laws of genetics, he duly published his results in the *Proceedings of the Natural History Society of Brünn,* where it lay quietly undisturbed and unnoticed for thirty-four years. Count 'em. Thirty-four.)

And biochemists make an effort to "keep up with the literature." Every paper lists a dozen or so other

papers in the field. Every review article lists a hundred to a thousand. For instance, the article on serotonin which I mentioned earlier in the paper includes a listing of one hundred and fifty-seven papers, or "references" as they are called. The one on microheterogeneity of proteins includes one hundred and sixty-four references. (Even my thiotimoline articles included references, if you remember—fake ones, I admit, but references nevertheless.)

But where do writers of papers and, particularly, of review articles get their lists of references? Fortunately, there are journals which devote themselves to nothing more than preparing "abstracts" of scientific papers. That is, with the aid of an army of technically trained people willing to work for the good of science and a nominal sum, the journal will try to keep track of every paper appearing in every journal related to their field. They will list for every paper all over the world, the title, author or authors, name, volume, month or page of the journal, and a short summary of the paper's contents. The most important such journal for our purposes is *Chemical Abstracts*, which abstracts all foreign papers in the very best English.

Chemical Abstracts comes out twice a month. An individual issue has up to four hundred large pages in double columns and microscopic print. Each column is numbered separately beginning with the first issue of a year and ending with the last. The total number of columns per year—of the listing of papers only—used to reach eight thousand ten years ago. It now reaches fourteen thousand.

Every year *Chemical Abstracts* publishes an extensive and exhaustive author index and subject index. They come out in three volumes, totaling more than a thousand pages. When I first became interested in such things, the index came out three months after the year ended. As it has grown larger, longer, and more complicated, it comes out now nearly a year after the year ended. This means that there is always a minimum of say twenty issues and a maximum of forty issues of *Chemical Abstracts* unindexed. These unindexed issues are the latest ones which contain the latest papers.

This means that if you're trying to read up on the work done in a given field, you first exhaust the indices for the last ten years, say, then get grimly to work on the individual issues of the last year or two.

And when you've got the entire field of biochemistry to keep up with for the sake of a textbook—ouch, each aching vertebra.

Review articles are a boon and a gift from the gods, but even one which is freshly printed and which contains the latest poop, can't include all the papers in the field or do more than refer very cursorily to most of those it does include. It never hurts to do a little browsing through *Chemical Abstracts* on your own, which, by the way, lists all review

articles. Furthermore, the number of review articles being published now is so great, that you can't read all you should of those either.

In preparing future editions of the text, the one great problem is "bringing it up to date" and for that *Chemical Abstracts* is absolutely necessary. With the second edition done and the third edition a gleam in our eyes, my own method is to grab Dr. Walker's issue of *Chemical Abstracts* (he subscribes!) as soon as it comes in, preferably before Dr. Walker gets his hooks on them. Fortunately, *Chemical Abstracts* segregates its paper listings into over twenty subdivisions of chemistry and I can ignore sections dealing with industrial chemicals, paper and paper-making chemicals, electrochemistry, photography and so on. Unfortunately, the listings under Biochemistry—itself subdivided into ten sub-subdivisions—is the longest in the periodical.

I cuddle up with one hundred to one hundred and fifty large pages containing one thousand to one thousand five hundred articles twice a month, in other words, and read dizzily through the titles. Sometimes a title is short, like "Iron Metabolism" which usually indicates a review. (All reviews are automatically noted down by me provided they are in a journal I can obtain. In one place or another in Boston I can obtain almost all the unimportant journals and all the important ones. I can obtain almost all the important ones by going to the school library two floors below my lab.)

Sometimes the title is long, like for instance: "Use of Ion Exchangers for the Separation of some of the Amino Acids formed during the Enzymic Degradation of Cysteinesulfinic Acid. Application to the Isolation of Hypotaurine (2-Aminoethanesulfinic Acid)," which is the real title of a real paper. Long titles like this are fashionable not because scientists are queer, but because a good title is one which will give you a complete idea of the contents of the paper, without your having to read anything further. That's not laziness on our part, friend, that's one of our barriers against insanity.

If a title of a paper is interesting, I read the abstract itself. If the abstract looks interesting, I note the volume of *Chemical Abstracts,* the number of its column and its position in that column in a special volume of the second edition of our textbook, which has a blank page between every two printed pages. I make the entry opposite the place in the book where I think it belongs.

The results? Well, they can be harrowing. Take the case of the function of the metal, molybdenum, in the human body. In the first edition of our book, it wasn't even worth mentioning and we didn't mention it. By the time we wrote the second edition, some workers had showed it to be a constituent of an important enzyme known as xanthine dehydrogenase. We stuck in molybdenum, therefore, and gave it seven lines. In

the not quite a year since we finished reading proof on the second edition, I have come across ten papers which seem to me to be worth reading in connection with this seven-line passage. Comes time for the third edition—which we hope to start in September, 1956—there will probably be thirty papers which will have to be read or, at the very least, glanced through, if we are to increase the space devoted to molybdenum from seven lines to, say, two paragraphs, and do it intelligently. And this despite pruning the number ruthlessly by first picking only those with interesting titles and, of those, only the ones with interesting-sounding abstracts.

And this isn't really enough, you know. Even *Chemical Abstracts* isn't up to date. They're anywhere from six months to a year behind the journals. One ought, therefore, to glance at the titles in the most important journals as they come out. But then, the journals aren't up to datè, either. A paper which is accepted for publication by the *Journal of Biological Chemistry* may have to wait six months to a year before seeing the light. The journal has that great a backlog of accepted papers. Besides that, a paper deals with work that is completed. There is other, newer work in progress.

And so there are all sorts of conventions. The American Chemical Society holds annual conventions in various parts of the country. The Federation of American Societies for Experimental Biology—which includes six subsidiary societies—holds annual conventions. So does the American Association for the Advancement of Science. So do innumerable smaller groups. At each one of these, papers are presented. Hundreds of papers are presented at the largest gatherings, where several subgroups are usually giving series of papers simultaneously in different rooms of the hotel—sometimes in different hotels and sometimes even in different cities. It is imposible for one man to hear more than a fraction of these and he must choose his spots with care and hope for the best.

Of the three of us, Dr. Boyd is the most indefatigable attender of conventions. In recent months, he has been to New York, Philadelphia, French Lick (Indiana) and Paris (France) in order to get together with others, give papers, listen to papers and—most important of all—get together over a glass of beer and find out what's doing in the other guy's lab right at that moment.

And so it goes.

There is now a whole branch of human effort devoted to attempts to coördinate the accumulating data of the physical sciences at a rate roughly equivalent to that at which it is accumulating. This includes the formulation of special types of indices and codes, the use of screening programs, the preparation of special punched cards, micro-card files and so on.

In connection with this, I would like to quote a passage from a letter

written by Karl F. Heumann, Director of the Chemical-Biological Coördination Center of the National Research Council to Mr. Ken Deveney, Jr., of Millington, New Jersey. A carbon copy was sent to John Campbell, who forwarded it to me.

The passage reads:

Dear Mr. Deveney:

In answer to your question recently in ASF about data-handling, I would like to give you a short bibliography but it is not possible. There has been a great increase in work in this field which has resulted in a scattering of documentation references among various abstracting services . . .

In other words, the literature relating to efforts to handle the literature is too great to be handled easily.

Get it?

There's no way out and each year it's getting worse.

—And so, if you are ever up Boston way and enter the Boston University School of Medicine and pass my lab and hear the sound of panting, you may think it is the result of my chasing some female around and around some desk—but you'd be wrong.

It's just I. Asimov trying to keep up with the literature, a task which is much more futile and far less likely to reach a satisfactory conclusion.

THE END

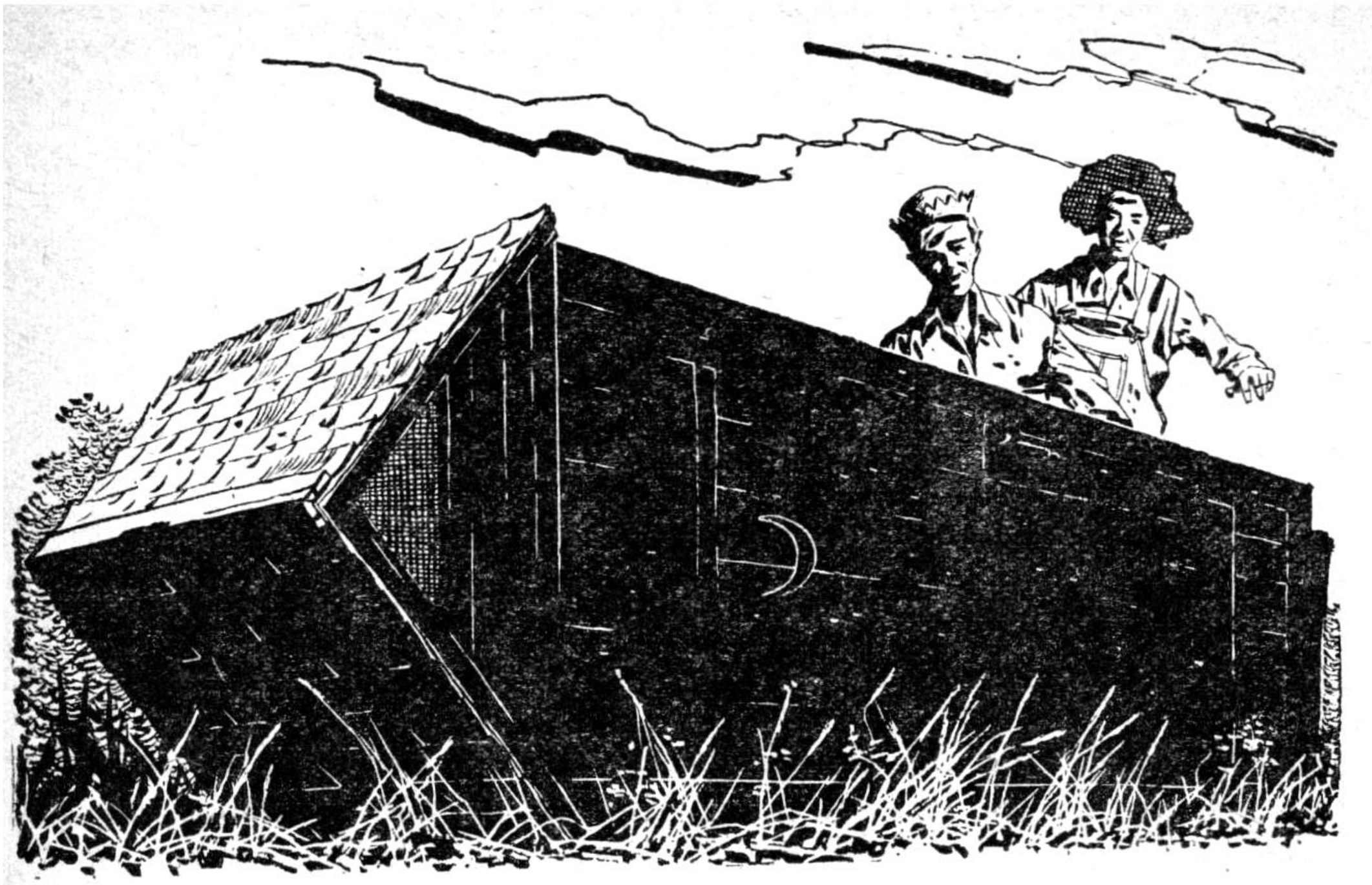
IN TIMES TO COME

Algis Budrys leads off next issue with "In Clouds of Glory." It's a fine thing to be able to hire a guaranteed, one hundred per cent sure-shot hero when you need one . . . or it *seems* like a fine thing. But the rough part of this set-up was that the heroes were strictly "made, not born," and that led to a certain uncertainty as to just who—or, for that matter, *what*— the national hero actually was . . .

It having been a long time since Eric Frank Russell turned out a full-scale novel, we'll give it a little long-term advance notice. "My Brother's Keeper," coming up. Starts off right well, too, with a detective who, desperately trying to find a needed defense witness, instantly shoots the witness dead on first sight, then goes roaring off to the FBI so the police won't have a chance to arrest him.

It doesn't slow down appreciably from that point on!

THE EDITOR.



AS LONG AS YOU WISH

If, somehow, you get trapped in a circular time system... how long is the circumference of an infinitely retraced circle?

BY JOHN O'KEEFE

Illustrated by van Dongen

The patient sat stiffly in the leather chair on the other side of the desk. Nervously he pressed a coin into the palm of one hand.

"Just start anywhere," I said, "and tell me all about it."

"As before?" Without waiting for an answer, he continued, the coin clutched tightly in one hand. "I'm Charles J. Fisher, professor of Philosophy at Reiser College."

He looked at me quickly. "Or at least I was until recently." For a second his face was boyish. "Professor of Philosophy, that is."

I smiled and found that I was staring at the coin in his hand. He gave it to me. On one side I read

the words: THE STATEMENT ON THE OTHER SIDE OF THIS COIN IS FALSE. The patient watched me with an expressionless face; I turned over the coin. It was engraved with the words: THE STATEMENT ON THE OTHER SIDE OF THIS COIN IS FALSE.

"That's not the problem," he said, "not *my* problem. I had the coin made when I was an undergraduate. I enjoyed reading one side, turning it over, reading the other side, and so on. A fiendish enjoyment like boys planning where to put the tipped-over outhouse."

I looked at the patient. He was thirty-eight, single, medium build, had an M.A. and Ph.D. from an eastern university. I knew this and more from the folder on my desk.

"Eight months ago," he continued, "I read about the sphere found on Paney Island." He stopped, looking at me questioningly.

"Yes, I know," I said. I opened my desk drawer, took out a clipping from the newspaper, and handed it to him.

"That's it."

I read the clipping before putting it back in the drawer.

Manila, Sept. 24 (INS) Archeologists from University of California have discovered in earth fault of recent quake a sphere two feet in diameter of an unidentifiable material.

Dr. Karl Schwartz, head of the group, said the sphere was returned to the University for study. He declined to answer questions on the cultural origin of the sphere.

"There wasn't any more in the newspapers about it," he said. "I have a friend in California who got me the photographs."

He looked at me intently. "You won't believe any of this." He pressed the coin into the palm of his head. "You won't be able to."

"The photographs," he continued, as if lecturing, "were of characters projected by the sphere when placed before a focused light. The sphere was transparent, you see, imbedded with dark microscopic specks. By moving the sphere a certain distance each time, there was a total projection of three hundred and sixty different characters in eighteen different orderings. Or nineteen different orderings if you count one which was a list of all the characters."

I made a mental note of the numbers. I felt they were significant.

"As I said," he continued, "I obtained the photographs of the characters. Very strange shapes, totally unlike the characters of Oriental languages, but yet that is the closest way to describe them." He jerked forward in his chair. "Except, of course, ostensively."

"Later," I said. I wanted to get through the preliminaries first. There would be time later to see the photographs.

"The characters projected by the sphere," he said, "weren't like the characters of any known language." He paused dramatically. "There was reason to believe they had origin in an unknown culture. A culture more

scientifically advanced than our own."

"And the reasons for this supposition?" I asked.

"The material . . . the material of the sphere. It could only be roughly classified as *ferro-plastic.* Totally unknown, amazing imperviousness. A synthetic material, hardly the product of a former culture."

"From Mars?" I said, smiling.

"There were all kinds of conjectures, but, of course, the important thing was to see if the projection of characters was a message. The message, if any, would mean more than any conjecture."

"You translated it?"

He polished the coin on his jacket. "You won't dare believe it," he said sharply.

He cleared his throat and stiffened into a more rigid posture. "It wasn't exactly translation. You see, *to us* none of the characters had designation. They were just characters."

"So it was a problem of decoding?" I asked.

"As it turned out, no. Decoding is dependent on knowledge of language characteristics—characteristics of known languages. Decoding was tried, but without success. No, what we had to find was a key to the language."

"You mean like the Rune Stone?"

"More or less. In principle, we needed a picture of a cow, and a sign of meaning indicating one of the characters.

"For me, there was no possibility of finding similarities between the characters and characters of other languages—that would require tremendous linguistic knowledge and library facilities. Nor could I use a decoding approach—that would require special knowledge of techniques and access to electronic computers and other mechanical aids. No, I had to work on the assumption that the key to the sphere was implicit in the sphere."

"You hoped to find the key to the language in the language itself?"

"Exactly. You know, of course, some languages do have an implicity key? For example hieroglyphics or picture language. The word for *cow* is a picture of a cow."

He looked at the toes of his shoes. "You won't be able to believe it. It's impossible to believe. I use the word impossible *in its logical sense.*

"In most languages," he continued, looking up from his shoes, "the sound of some words themselves indicate the meaning of the word. Onomatopoetic words like *bowwow, buzz."*

"And the key to the unknown language?" I asked. "How did you find it?"

I watched him push the coin against the back of his arm, then lift it to read the backward letters pressed into his skin. He looked up at me and smiled.

"I built models of the characters. Big material ones, exactly proportionate to the ones projected. Then —quite by accident—I viewed one of them through a glass globe the

size of the original sphere. What do you think I saw?"

"What?" I noticed he had the boyish look again.

"A distortion of the model. But that's not what's important. The distortions, on study, gave specific visual entities. Like when looking at one of those trick pictures and suddenly seeing the lion in the grass. The lines outlining the lion are there all the time, only the observer has to view them as the outline of a lion. It was the same with the models of the characters, except the shapes that appeared were not of lions or other recognizable things. But they did suggest."

He pressed the coin against his forehead, closed his eyes and appeared to be thinking deeply. "Yes, impossible to believe. No one can believe it."

"In addition to the visual response, the distortions gave me definite feelings. Not mixtures of feelings, but one definite emotional experience."

"How do you mean?"

"One character when viewed through the globe gave me a visual image and, at the same time, a strong feeling of light hilarity."

"I take it then that these distortions seemed to connote meanings, rather than denote them. You might say that their meaning was conveyed through a Gestalt experience on the part of the observer."

"Yes, each character gave a definite Gestalt. But, the Gestalt was the same for each observer. Or at least for thirty-five observers there was an eighty per cent correlation."

I whistled softly. "And the translation?"

"Doctor, what would you say if I told you the translation was unbelievable; that it couldn't be seriously entertained by any man? What if I said that it would take the sanity of any man who believed it?"

"I would say that it might well be incorrect."

He took some papers from his pocket and laughed excitedly, slumping down in the chair. "This is the complete translation in idiomatic English. I'm going to let you read it, but first I want you to consider a few things."

He hid the papers behind the back of his chair; his face became even more boyish, almost as if he were deciding on where to put the tipped-over outhouse.

"Consider first, doctor, that there was a total projection of three hundred and sixty different characters. The same number as the number of degrees in a circle. Consider also that there were eighteen different orderings of the characters, or nineteen counting the alphabetical list. The square root of three hundred and sixty would lie between eighteen and nineteen."

"Yes," I said. I remembered there was something significant about the numbers, but I wasn't at all sure that it was this.

"Consider also," he continued, "that the communication was through the medium of a sphere. Moreover, keep in mind that physics accepts the

path of a beam of light as its definition of a straight line. Yet, the path is a curve; if extended sufficiently it would be a circle, the section of a sphere."

"All right," I said. By now the patient was pounding the coin against the sole of one shoe.

"And," he said, "keep in mind that in some sense time can be thought of as another dimension." He suddenly thrust the papers at me and sat back in the chair.

I picked up the translation and began reading. The patient sat stiffly in the leather chair on the other side of the desk. Nervously he pressed a coin into the palm of one hand.

"Just start anywhere," I said, "and tell me all about it."

"As before?" Without waiting for an answer, he continued, the coin clutched tightly in one hand. "I'm Charles J. Fisher, professor of philosophy at Reiser College."

He looked at me quickly. "Or at least I was until recently." For a second his face was boyish. "Professor of philosophy, that is."

I smiled and found that I was staring at the coin in his hand. He gave it to me. On one side I read the words: THE STATEMENT ON THE OTHER SIDE OF THIS COIN IS FALSE. The patient watched . . .

THE END

THE ANALYTICAL LABORATORY

(*Continued from page* 103)

MARCH ISSUE

Place	Story	Author	Points
1.	Diabologic	Eric Frank Russell	1.69
2.	Sense from Thought Divide	Mark Clifton	2.14
3.	Time Crime (Pt. 2)	H. Beam Piper	3.25
4.	Test Stand	Lee Correy	3.61
5.	A Fine Fix	R. C. Noll	4.23

Now aside from the question of hotter competition in one issue or the other, the readers' votes indicated that "Time Crime" used too many hard-to-remember names. My error; I should have spotted that. Piper, who's in the detective business himself, knows from experience that that is the reality of the detection game—names of strangers you'll meet once, but have to keep track of. But the sharp drop in placement indicates the month-long gap hurts, when there are too many names!

THE EDITOR.

THE LONG WAY HOME

Part III of IV. It's almost impossible for a man with one life-long orientation to understand someone whose thinking is all oriented in a widely different culture. And that makes for unpredictability. But it is, also, always a two-edged sword!

BY POUL ANDERSON

Illustrated by Freas

SYNOPSIS

In the Twenty-first Century, a physical effect was discovered which seemed to transport matter instantaneously from place to place and thus to permit interstellar travel. Unfortunately, the positioning control was very poor; therefore the United

States Department of Astronautics outfitted a spaceship, the Explorer, *with the new "superdrive" and a small crew of scientists who were to get the bugs out of the system. Their method was to jump across light-years to test each change in the circuits, and in the course of a year they had completed the task and returned to Earth. The crew consisted of: Captain Edward Langley, pilot and engineer; electronician Robert Matsumoto; and physicist James Blaustein. A fourth man had died, but his place was taken by Saris Hronma of Holat.*

Holat, a thousand light-years from Sol, had seemed a backward planet whose race—big otterlike creatures—were peaceful neolithic herders in spite of being carnivorous. But its world-wide civilization was highly developed along nonhuman lines, especially in the fields of psychology and philosophy. The Holatans were sensitive to neural currents, though not mind readers, and enjoyed a stabilizing emotional communion. They had been of considerable help in improving the superdrive, and Saris Hronma went along to Earth as their representative.

When the Explorer *returned, Earth was far off its expected position. Nevertheless Langley brought the ship in, noting that his world was strangely altered; the polar ice-caps were gone, the coastlines changed, cities he knew had disappeared and others arisen, the radio carried a wholly foreign language. Antigravity warships forced him down to a landing field in the New Mexico area, and the crew was arrested by uniformed men carrying unknown weapons. Saris nullified these and escaped into the agricultural countryside; the humans remained prisoners.*

Under hypnosis they revealed what they knew and learned the present language. Awakening, Langley was interviewed by Chanthavar Tang vo Lurin, chief field operative of Solar military intelligence, who explained the facts to him. The superdrive was only light-speed, a projection and recreation of de Broglie waves rather than a jump through "hyperspace," and in crossing five thousand light-years the Explorer *went five thousand years into the future. No better drive had been discovered, and only the nearer stars were normally visited; lost colonies were known to be scattered through the galaxy, but they lay beyond contact and by now had undoubtedly developed a wide variety of civilizations.*

For the past two thousand years, the Solar System had been unified under the Technate, a petrified society in which basic decisions were made by the Technon, a giant, hidden sociomathematical computer. Administration was in the hands of the Ministers, a class of genetically selected aristocrats; the army, like the police and most servants, were slaves, specially bred and trained; the Commoners lived relatively unsupervised lives in the lower-city levels, working for hire or as small entrepreneurs,

but powerless, uneducated, and impoverished.

Sol's deadly rivals were the Centaurians, descendants of early colonists on the habitable planets Thor and Freyja of the Alpha Centaurian System. They were mechanized semi-barbarians, divided into nobles, yeomen, and technicians, warlike and greedy for more land. They had fought an unsuccessful war with the natives of Thrym, a poisonous giant planet of Proxima, and later allied themselves with the wholly unhuman Thrymans. At present, sheer distance prevented war with Sol, but both sides were maneuvering for advantage and any upset in the balance of power could lead to space fleets bombarding the planets with ruinous effect.

Lord Brannoch dhu Crombar of Thor was not only the Centaurian ambassador to Sol, but the head of a spy ring. Through a Solar officer in his pay, he learned of the Explorer *and at once realized the significance of Saris' hitherto unknown powers. He had four Thrymans in a tank with him—or one, since they could hook up telepathically into a single unit—whose ability to read human minds was a closely guarded secret of immense value. But he got the idea for a campaign to catch Saris for himself: he would work through Langley, of whose personal effects he had obtained photographs. These included pictures of the spaceman's long-dead wife.*

Chanthavar was also anxious to get Saris, and asked Langley's help; the spaceman, stunned and heartsick, stalled till he could learn more by claiming he had no idea where Saris would go. Chanthavar took the Explorer *crew to a party, where they were a minor sensation and Langley got a further impression of Solar decadence and Centaurian ruthlessness. There he met Brannoch, as well as Goltam Valti, chief Solar factor of the Commercial Society. This was a nomad group, a civilization in its own right composed of many races, trading with all known planets and becoming ever more important as these used up their own resources. Both Brannoch and Valti hinted strongly that they would pay well to be told Saris' whereabouts: obviously both had agents in the Solar government.*

Meanwhile the Holatan, pursued by Technate police, was trying to hide till he could evaluate the new situation for himself. He was afraid his own planet, though far off, might become the prey of some chance conquistador; to aid it, he planned to play the various human factions off against each other. He used his brain's power of electromagnetic induction, which enabled him to control any electronic apparatus, to help him capture a police aircraft, and in this he went looking for a hiding place.

Chanthavar, endeavoring to make friends with them, took Langley, Blaustein, and Matsumoto on a tour of the capital city, Lora—meanwhile arguing that they should help the Technate, which stood for a peace-

ful status quo, *and not the ambitious warlords of Centauri. While they were in a pleasure house, a party of men assaulted them and kidnaped Blaustein and Matsumoto. Langley joined the pursuit, but still dazed by the pleasure-house drugs, wandered off by himself into the low-level slums. Near Etie Town, the section reserved for nonhuman visitors, he was captured by another group of men. But a third band, this one from the Society, took him away from these and brought him to Valti's headquarters.*

Valti explained that Blaustein and Matsumoto were probably kidnaped by Centaurian agents, who hoped they would know where Saris was. He also pointed out the importance of the Holatan—not for himself but for scientific study of his powers, to find a means of artificially nullifying all electronic devices and, therefore, an irresistible weapon. He urged Langley to find Saris for the Society, the only humane and neutral power; but when the spaceman demurred, let him go, giving him a secret communicator with which to call if he decided to coöperate.

Bramnoch had, indeed, engineered the raid, only to learn that his prisoners could not help; under mental probing, they had merely indicated that Langley would know Saris' whereabouts if anyone did. The Thrymans, actually Bramnoch's superiors rather than his advisors, ordered him to have the prisoners killed. Langley visited the embassy in the hope of getting his friends released. Chanthavar had him too heavily guarded for another kidnaping, so Bramnoch blandly denied any part in the affair and argued that Sol was not as peaceful as claimed. He also said he was having a gift sent to Langley's apartment. When the spaceman was gone, the Thrymans complained that they could not read his mind, his thoughts came through as gibberish. Bramnoch had hopes for his own scheme.

The gift was a slave girl, Marin, who had been surgically made into a replica of Langley's wife. He did not have the heart to send her back, but neither was he so grateful as to be ready to help Bramnoch. Chanthavar appeared, all but ordering Langley to find Saris under severe penalties; as a last resort, he would use mental probing, though it would be worse than useless if Langley really did not know. Seeing Marin, Chanthavar formed another plan instead.

PART 3

XI

The rain stopped near sunset, but there were still clouds and blackness overlay the city. Langley and Marin ate a lonely supper in their apartment. With the sedative worn off, the man had to focus his mind on impersonalities, he dared not think of her as a fully human being yet. He flung questions at her, and she answered. What he learned tended to confirm Valti's account of the Society: it really was a nomad culture,

patriarchal and polygamous, owning warships but behaving peacefully; its rulers really were unknown, its early history obscure. She gave a less favorable account of Centaurian culture and intentions than Brannoch's, but, of course, that was only to be expected.

"Two interstellar imperialisms, moving on a collision course," said Langley. "Thor really does seem better to me than Earth, but— Maybe I'm prejudiced."

"You can't help it," said Marin seriously. "Thorian society has an archaic basis, it's closer to what you knew in your period than modern Earth. Still, it's hard to imagine them making much progress, if they should win out. They've been frozen too, nothing really new happening, for a good five hundred years now."

"What price progress?" shrugged Langley. "I've gotten pessimistic about change for the sake of change; a petrified civilization may be the only final answer for man, provided it's reasonably humane. I don't see much to choose between either of the great powers today."

Unquestionably, the conversation was being recorded, but he no longer gave a damn.

"It would be nice to find a little mousehole and crawl into it and forget all this fighting," said Marin wistfully.

"That's what ninety-nine per cent of the human race has always wanted to do, I think," said Langley. "The fact that they try to bring on their own punishment for being lazy and cowardly—rulers who flog them into action. There will never be peace and freedom till every individual man out of a majority, at least, is prepared to think for himself and act accordingly; and I'm becoming afraid that day will never come."

"They say there are thousands of lost colonies," answered Marin softly, with a dream in her eyes. "Thousands of little groups who went off to find their own particular kind of utopia. Surely one of them, somewhere, has become something different."

"Perhaps. But we're here, not there." Langley got up. "Let's turn in. Good night, Marin."

"Good night," she said. Her smile was shy, as if she were still unsure how he looked at her.

Alone in his room, Langley donned pajamas, crawled into bed, and got out a cigarette. It was time for him to decide. Chanthavar had given him a couple of days; he couldn't bluff any longer, because he was reasonably sure he did have the answer about Saris. There'd be no use in undergoing the personality-wrecking degradation of a mental probe.

More and more, it seemed that the only logical action was to tell Chanthavar. From the standpoint of personal safety: he was, after all, on Earth; in spite of the nets woven by Brannoch and Valti, the dominating power here was Chanthavar's. Going to someone else would involve all the risks of contact and escape.

From the standpoint of humani-

tarianism: Sol was defending the *status quo;* she was not openly aggressive like Centauri, but would be content to have the upper hand. If it came to war in spite of everything, the Solar System held more people than the Centaurian. It would take Brannoch almost nine years to get a message to his home and get the fleet back here; in nine years, the Saris effect could probably be turned into a standardized weapon. (And, be it noted, a relatively gentle weapon, which did not in itself harm any living creature.)

From the standpoint of history: Sol and Centauri had both reached a dead end, no choice there. The Society was too unknown, too unpredictable. Furthermore, Centauri was under the influence of Thrym, whose nature and ultimate intentions were a mystery. Sol was at least fairly straightforward.

From the standpoint of Saris Hronna, who had been Langley's friend: well, Saris was just one individual. It was better that he be vivisected, if necessary, than that a billion humans have their skin burned off and their eyes melted in a single flash of nuclear disintegration.

The safe, the obvious, the conforming course was open before Langley. Turn his deductions over to Chanthavar, find a niche for himself on Earth, and settle down to drag out his days. It would get dull after a few years, of course, but it would be safe; he'd be spared the necessity of thinking.

Well— He struck another cigarette. Sleep on it, at least, if he could sleep.

Where were Bob and Jim? In what darkness did they lie, full of fear? Or had they already gone down into the final night? He didn't think he'd see them again. If he knew who their murderers were, be sure that he'd kill himself before helping that side; but he would most likely spend his life in puzzled impotence.

Closing his eyes, he tried to call up the image of Peggy. She was gone, she had died so long ago that the very blood of her was thinned through the entire race. Quite possibly everyone he had met, Chanthavar and Brannoch and Valti and Marin and Yulien and the faceless Commoners huddled on low-level, stemmed from one unforgotten night with her. It was a strange thought. He wondered if she had married again; he hoped so, hoped that it had been a good man and that her life had been happy, but it wasn't likely.

He tried to see her before him, but it was hard to get a clear vision. Marin overlay it, they were like two pictures one on the other and not quite in line, the edges blurred. Peggy's smile had never been just like what he saw now—or had it?

He swore in a dull tone, snubbed out the cigarette, and turned off the light which glowed from walls and ceiling. Sleep would not come, he lay restlessly with a rusty chain of thought dragging through his skull.

It might have been hours later when he heard the explosion.

He sat up in bed, staring blindly before him. That had been a blaster going off! What the devil—?

Another crash sounded, and boots slammed on the floor. Langley jumped to his feet. Armed force—a real kidnap try this time, in spite of all guards! Another energy bolt flamed somewhere outside the room, and he heard a deep-voiced oath.

He crouched against the farther wall, doubling his fists. No lights. If they were after him, let them find and haul him out.

The tumult rolled somewhere in the living room. Then he heard Marin scream.

He sprang for the door. "Open, damn you!" It sensed him and dilated. A metal-clad arm slapped him back, down to the floor.

"Stay where you are, sir." It was a hoarse gasp out of the masklike combat helmet. "They've broken in—"

"Let me *go!*" Langley shoved against the gigantic form of the Solar cop. He was no match, the slave stood like a rock.

"Sorry, sir, my orders—"

A blue-white beam snapped across the field of view. Langley had a glimpse of a spacesuited figure hurtling out the smashed window, and Marin writhing in its arms. Other police were charging after it, firing wildly.

Then, slowly, there was silence.

The guard bowed. "They're gone now, sir. Come on out if you wish."

Langley stepped into the shambles of his living room. There was a haze of smoke, burned plastic, the thin bitter reek of ozone. Furniture was trampled wreckage between the bulky, armored shapes which filled the chamber.

"What happened?" he yelled.

"Easy, sir." The squad commander threw back his helmet; the shaven head looked tiny, poking out of the metal and fabric that incased its body. "You're all right. Would you like a sedative?"

"I asked you what happened!" Langley wanted to smash the impassive face. "Go on, tell me, I order you."

"Very good, sir. Two small, armed spaceships attacked us just outside." The commander pointed to the sharded window. "While one engaged our boats, the other discharged several men in space armor with antigravity flying units, who broke into the suite. Some of them stood off our reinforcements coming through the door—one of them grabbed your slave—then we rallied, more men came, and they retreated. No casualties on either side, I believe; it was a very brief action. Luckily they failed to get you, sir."

"Who were they?"

"I don't know, sir. Their equipment was not standard for any known military or police force. I think one of our aircraft has slapped a tracer beam on them, but it can't follow them outside the atmosphere and that's doubtless where they'll go. But relax, sir. You're safe."

Yeah. Safe. Langley choked and turned away. He felt drained of strength.

Chanthavar showed up within an hour. His face was carefully immobile as he surveyed the ruin. "They got away, all right," he said. "But it doesn't matter too much, since they failed."

"Who were they, do you know?" asked Langley dully.

"No, I couldn't say. Probably Centaurian, possibly Society. It'll be investigated, of course." Chanthavar struck a cigarette. "In a way, it's a hopeful sign. When a spy resorts to strongarm methods, he's usually getting desperate."

"Look here." Langley grabbed his arm. "You've got to find them. You've got to get that girl back. Do you understand?"

Chanthavar drew hard on his cigarette, sucking in his cheeks till the high bones stood out. His eyes were speculative on the American. "So she means that much to you already?" he asked.

"No— Well— It's plain decency! You can't let her be torn apart by them, looking for something she doesn't know."

"She's only a slave," shrugged Chanthavar. "Apparently, she was snatched impulsively when they were repelled from your quarters. It doesn't mean a thing. I'll give you a duplicate of her if it's that important to you."

"No!"

"All right, have it your way. But if you try to trade information for her—"

"I won't," said Langley. His lie had become a mechanical reflex. "I haven't anything to trade—not yet, anyway."

"I'll do everything in my power," said Chanthavar. He clapped Langley's shoulder with a brief, surprising friendliness. "Now back to bed for you. I prescribe twelve hours' worth of sleep-drug."

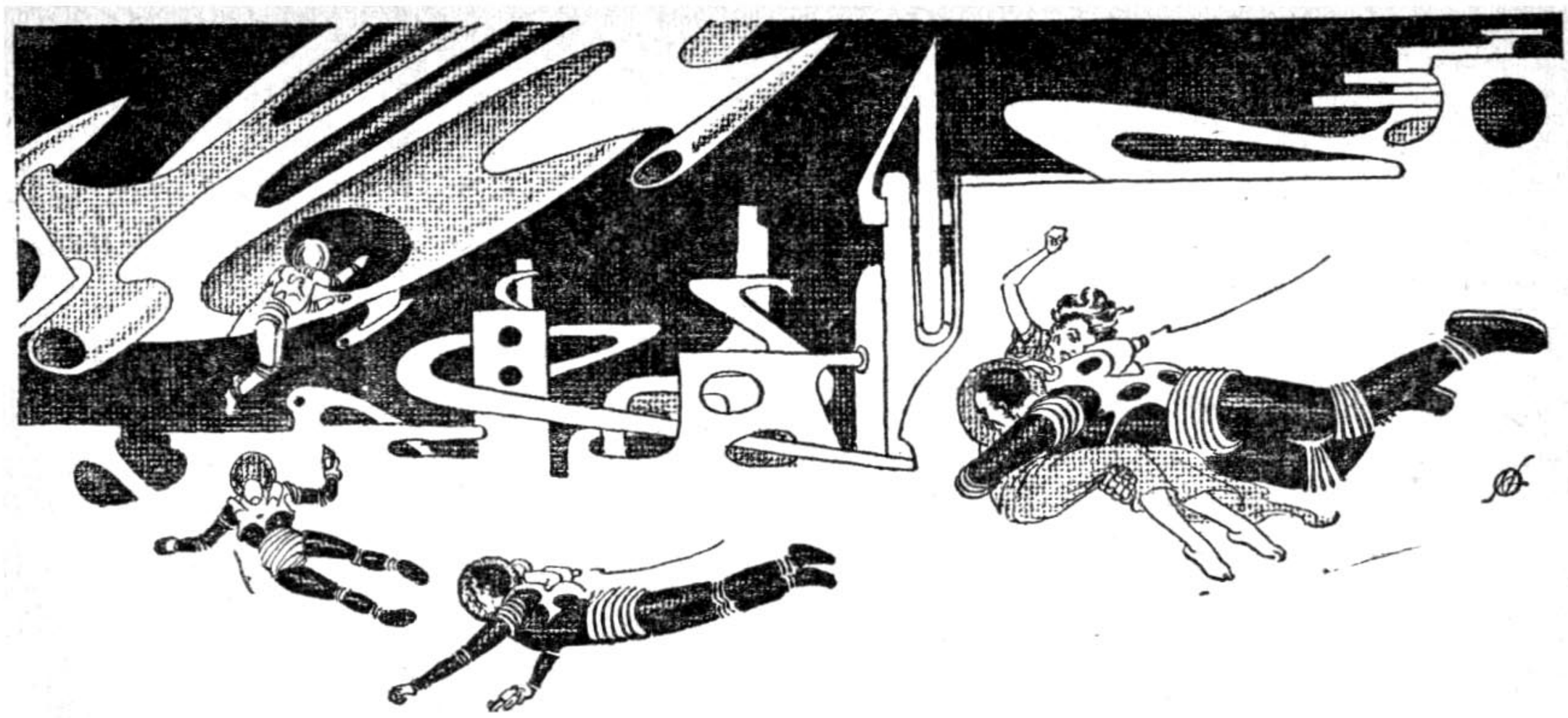
Langley took it without protest. It would be something to escape the sense of his own utter helplessness. He fell into an abyss without dreams, without memory.

Waking, he found that repairs had been made while he slept; the fight last night might never have happened. Afternoon sunlight gleamed off the ships patrolling beyond his window. A doubled guard. Locking the barn door—no, the horse hadn't been stolen after all, had it?

His mind gnawed the problem like a starving dog with an old bone from which all nourishment has gone. Marin . . . because she had come near him, she was gone into darkness; because she had been kind to him, she was given over to fear and captivity and torment. So this was how it felt to be a Jonah.

Was it only that she looked like Peggy? Was it herself? Was it the principle of the thing? Whatever the anguish in him derived from, it was there.

He thought of calling Brannoch, calling Valti, throwing his accusa-



tion into their faces and— And what? They would deny it. He would surely not be allowed to go see them any more. Several times he called Chanthavar's office, to be informed by a maddeningly polite secretary that he was out on business. He smoked endlessly, paced the floor, threw himself into a chair and got up again. Now and then he ran through his whole stock of curses and obscenities. None of it helped.

Night came, and he drugged himself into another long sleep. Drugs might be the way he ended up—or suicide, quicker and cleaner. He thought of stepping out on his balcony and over the side. That would finish the whole mess. A well-designed robot would mop up his spattered remnants and for him this universe would no longer exist.

In the afternoon, a call came. He sprang for the phone, stumbled, fell to the floor, and got up swearing. The hand that switched it on shook uncontrollably.

Chanthavar's face smiled with an unusual warmth. "I've got good news for you, captain," he said, "we've found the girl."

Briefly, his mind would not accept it. The weary groove of futility was worn so deep that he could not climb out. He stared, open-mouthed, hearing the words as if from far away:

". . . She was sitting on a bridgeway, rather dazed, when picked up. Post-anesthetic reaction, she's coming out of it already. There was no deep mental probing done, I'm sure, perhaps only a mild narcosynthesis—no harm done at all that I can see. She's been unconscious all the time, doesn't know a thing. I'm sending her over now." Chanthavar grinned.

The impact trickled slowly through the barriers of craziness. Langley knelt, wanting to cry or pray or both, but nothing would come out. Then he began to laugh.

The hysteria had faded by the time she entered. But it was the most natural thing in the world to em-

brace her. She held him close, shaking with reaction.

Finally they sat together on a couch, holding hands. She told him what she could. "I was seized, carried into the ship, someone pointed a stun gun at me and then there's nothing more. The next thing I remember is sitting on the bridgeway bench, being carried along. I must have been put onto it, led there in a sleep-walking state, and left. I felt dizzy. Then a policeman came and took me to Minister Chanthavar's office. He asked me questions, had me given a medical checkup, and said nothing seemed wrong. So he sent me back here."

"I don't get it," said Langley. "I don't understand it at all."

"Minister Chanthavar said apparently I was taken on the chance I might be of value . . . when they failed to get you. I was kept unconscious so I wouldn't be able to identify anybody, asked a few simple questions under narcosynthesis, and released when it was clear I could be of no help." She sighed, smiling a little tremulously at him. "I'm glad they let me go." He knew she didn't mean it only for herself.

He swallowed the drink he had prepared and sat without speaking for a while. His mind felt oddly clarified, but the past hours of nightmare underlay it.

So this was what it meant. This was what Sol and Centauri stood for, a heartless power game, where no one counted, no act was too vile. A stiffened robot of a civilization which should have been long in its grave but walked with corruption under its armor; a brawling, killing barbarism, stagnant and sterile even as it boasted of virility; a few ambitious men, and a billion harmless humans turned into radioactive gas. The moment one side felt it had an advantage, it would be on the other's back, and the struggle would lay planets waste. This was what he was supposed to sanction.

He still knew little about the Society; they were surely no collection of pure-minded altruists. But it did seem that they were neutral, that they had no lunacies about empire. Surely they knew more of the galaxy, had a better chance of finding him some young world where he could again be a man.

His choice was clear. It would run him through a gamut of death, but there are worse things than extinction.

He looked at the clean profile of the girl beside him. He wanted to ask her what she thought, what she desired. He hardly knew her at all. But he couldn't, with the listening mechanical ears. He would have to decide for her.

She met his gaze with calm green eyes. "I wish you'd tell me what's going on, Edwy," she said. "I seem to be as exposed as you in any case, and I'd like to know."

He gave in and told her of Saris Hronna and the hunt for him. She grasped the idea at once, nodded without excitement, and refrained from asking him if he knew an an-

swer or what he intended to do. "It is a very large thing," she said.

"Yeah," said Langley. "And it's going to get a lot bigger before long."

XII

There might be eyes as well as ears in the walls. Langley went to bed shortly after sunset. Spy-beams went right through the communicator, Valti had said, but he wore his pajamas anyway; blankets were no longer in use. He lay for an hour, threshing about as if unable to get to sleep. Then he commanded loud music. The recorded caterwauling should drown out a low-pitched conversation.

He hoped the stomach-knotting tension in him didn't show on his face.

Scratching, as if after an itch, he pressed the stud. Then he struck a cigarette and lay waiting.

The tiny voice was a vibration inside him, he thought about sonic beams heterodyned and focused on his skull-bones. It was distorted, but he'd know Valti's phrasing anywhere:

"Ah, Captain Langley. You do me an unprecedented honor. It is a pleasure even to be routed out of a snug bed to hear you. May I advise that you speak with your lips closed? The transmission will be clear enough."

"All right." There was one hopeless question which had to be asked. "I'm prepared to bargain with you —but do you have Blaustein and Matsumoto?"

"I do not, captain. Will you take my word for that?"

"I . . . reckon so. O. K. I'll tell you where I think Saris is—mind you, it's only an informed guess—and I'll help you find him if possible. In return, I want your best efforts to rescue my friends, together with the money, protection, and transportation you offered, both for myself and one other person, a slave girl who's in this apartment with me."

It was hard to make out whether the exultation which must be leaping through that gross form had entered the voice: "Very good, captain. I assure you you will not regret this. Now as to practical considerations, you must be removed without trace."

"I'm not sure just how that little thing's going to be done, Valti. I think I'm more or less under house arrest."

"Nevertheless, you shall get out tonight. Let me think— In two hours, you and the girl will stroll out onto the balcony. For Father's sake, make it look natural! Remain there, in plain sight from above, no matter what happens."

"O. K. Two hours—2347 by my clock, right? See you!"

Now it was to wait. Langley got out another cigarette and lay as if listening to the music. *Two hours! I'll be one gray-haired wreck before then.*

So much could go wrong. The

variable-frequency radiation of the communicator was supposedly undetectable, but maybe not. The rescue attempt might go sour. Chanthavar might suddenly get fed up and haul him off for inquisition. Valti might be betrayed by spies within his own ranks. Might, might, might! Animals are luckier than man, they don't worry.

Time crawled, it took forever to get by a minute. Langley swore, went into the living room, and dialed for a book. Basic modern physics—at the rate time was going, two hours would be enough to get a Ph. D. He grew suddenly aware that he had been staring at the same scanned page for fifteen minutes. Hastily he dialed the next. Even if it wasn't registering, he ought to look as if it were.

The text mentioned a name, Ynsen, credited with first giving Riemannian space—they called it "Sarlennian" now—a physical meaning. After a minute, he guessed the original form. Einstein! So something had survived of his own age, however corrupted. He smiled, feeling a sadness within himself, and wondered what a historical novel laid in the Twenty-first Century would read like. Probably concern the struggle between Lincoln and Stalin for control of the Lunar rocket bases —the hero would scoot around on his trusty bicycle— No, there wasn't any such novel. His age was all but forgotten, its details long eaten away by time. A few archeologists might be interested, no one else. Imagine a first-dynasty Egyptian brought to New Washington, 2047 A.D. He'd be a nine days' wonder, but how many people would *care?*

He looked at the clock, and felt his belly muscles tighten. Twenty minutes to go.

He had to get Marin outside, he couldn't leave her in this hellhole, and he had to do it in a way that the observers would consider unremarkable. For a while he sat thinking. The only way was one he didn't like, a far New England ancestor compressed angry lips and tried to stop him. But—

He walked over to the door of her room. It opened for him, and he stood looking down on her. She was asleep. The coppery hair spilled softly around a face which held peace. He tried not to remember Peggy, and touched her arm.

She sat up. "Oh . . . Edwy." Blinking her eyes open: "What is it?"

"Sorry to wake you," he said awkwardly. "I couldn't sleep. Come talk to me, will you?"

She regarded him with something like compassion. "Yes," she said at last. "Yes, of course." Throwing a cloak over her thin nightgown, she followed him onto the balcony.

There were stars overhead. Against the remote blaze of city lights swam the black shark-form of a patrol ship. A small wind ruffled his hair. He wondered just where Lora stood—not far from the ancient site of Winnipeg, wasn't it?

Marin leaned against his side, and he put an arm about her waist. The vague light showed a wistful, uncertain curve to her mouth.

"It's nice out," he said banally.

"Yes—" She was waiting for something. He knew what it was, and so did Chanthavar's observers sitting at their screens.

He stooped and made himself kiss her. She responded gently, a little clumsily as yet. Then he looked at her for a long while, and couldn't say anything.

"I'm sorry," he mumbled at last.

How long to go—five minutes? Ten?

"What for?" she asked.

"I've no right—"

"You have every right. I'm yours, you know. This is what I'm for."

"Shut up!" he croaked. "I mean a moral right. Slavery is wrong no matter how you set it up. I've ancestors who died at Gettysburg, in Germany, in the Ukraine, because there was slavery."

"You mean you don't want to force yourself on me," she said. "It's good of you, but don't worry. I've been conditioned—I like the idea, it's my function."

"Exactly. It's still enslavement—a worse one, I think, than just putting chains on you. No!"

She laid her hands on his shoulders, and the gaze that met his was calm and serious. "Forget that," she said. "Everybody's conditioned—you, I, everybody, life does that one way or another. It doesn't count. But you need me, and I . . . I'm very fond of you, Edwy. Every woman wants a man. Isn't that enough?"

There was a hammering in his temples.

"Come," she said, taking his hand, "come on back inside."

"No . . . not yet," he stammered.

She waited. And because there seemed nothing else to do, he found himself kissing her again.

Five minutes? Three? Two? One?

"Come," she breathed, "come with me now."

He hung back. "Wait . . . wait—"

"You aren't afraid of me. What is it? There's something strange—"

"Shut up!" he gasped.

Fire blossomed in the air. A moment later Langley felt a fist of concussion. He lurched back, and saw a spaceship streak by, blazing at the patrol craft. Wind roared behind it.

"Get out of the way, Edwy—" Marin darted for the shelter of the living room. He grabbed her by the hair, snatched her back, and stood in the open. The attacking ship fled, gone in a blur.

And something took hold of Langley and whirled him upward.

Tractor beam, he thought crazily, *a controlled gravity beam—* Then something black yawned before him, a portal gaped, he went through and it clanged shut behind him.

There was a pulsing of great engines as he picked himself up. Marin huddled at his feet, he raised her and she shuddered in his arms. "It's all right," he mumbled shakily. "It's all right. We got away. Maybe."

A man in gray coveralls entered

the little steel lock chamber. "Well done, sir!" he said. "I think we're pulling clear. Will you follow me?"

"What is it?" asked Marin wildly. "Where are we going?"

"I made a deal with the Society," said Langley. "They'll get us out of the Solar System—we're going to be free, both of us."

Inwardly, he wondered.

They went down a narrow hall. The ship thrummed around them. It must be accelerating furiously, but there was no sense of pressure: a countering gravity field generated within the hull, or perhaps the drive acting equally on all masses aboard. At the end of the passage, they came into a small room studded and glittering with instruments. One screen held a complete view of the hard stars of space.

Goltam Valti surged from his chair to pound Langley's back and pump his hand and roar a greeting. "Marvelous, captain! Excellent! A lovely job, if you pardon my immodesty."

Langley felt weak. He sat down, pulling Marin to his lap without thinking about it. "Just exactly what did happen?" he asked.

"I and a few others slipped out of the Society tower," said Valti. "We took an air speedster to the estate of a . . . sympathetic . . . Minister, where we maintain a little bastion. Two spaceships were required: one to create a brief diversion, and this one to pull you up and escape in the confusion."

"How about the other boat? Won't they catch that?"

"It has been arranged for. There will be a lucky shot which brings it down—bomb planted aboard, you know. It's robot manned, carefully cleaned of all traces of ownership except one or two small indications which may suggest Centaurian origin to Chanthavar." Valti winced. "A pity to lose so fine a vessel. It cost a good half-million solars. Profits are hard to come by these days, believe me, sir."

"As soon as Chanthavar checks on you, finds you missing—"

"My good captain!" Valti looked hurt. "I am not *quite* an amateur. You see, my double is already peacefully and lawfully asleep in my own quarters.

"Of course," he added thoughtfully, "if we can find Saris, it may well be necessary for me to leave Sol altogether. If so, I do hope my successor can handle the Venusian trade. It's a difficult one, it can so easily go into the red."

"All right," said Langley. "It's done. I'm committed. What's your plan of action?"

"That depends on where he is and what methods will be required to establish contact. But this flitter is fast, silent, screened against radiation; it has weapons, and there are thirty armed men aboard. Do you think it will suffice?"

"I . . . believe so. Bring me some maps of the Mesko area."

Valti nodded at the little green-furred creature Thakt, which had

been sitting in a corner. It tittered and scuttled out.

"Charming young lady," bowed Valti. "May I ask her name?"

"Marin," she said in a thin voice. She got off Langley's lap and stood backed against the wall.

"It's all right," said the spaceman. "Don't be afraid."

"I'm not afraid," she said, trying to smile. "But bewildered."

Thakt returned with a sheaf of papers. Langley frowned over them, attempting to find his way through an altered geography. "It was one time on Holat," he said. "Saris and I had taken the day off to go fishing, and he showed me some caves. I told him about Carlsbad Caverns in New Mexico, and he was very interested. Later, shortly before we left for Earth, he mentioned them again, and I promised to take him there; and as we were going over some maps of Earth, for the benefit of several Holatan philosophers, I showed him their location. So if he could get maps of the modern world Carlsbad wouldn't be far away, and he'd know it was an unexplored warren. Of course, it may be colonized or something by now, or have gone out of existence, for all I know, but—"

Valti followed his pointing finger. "Yes . . . I believe I've heard of the spot," he said with a touch of excitement. "Corrad Caverns . . . yes, here. Is that the location?"

Langley used a large-scale map to orient himself. "I think so."

"Ah, then I do know. It's part of the estate of Minister Ranull, who keeps a good deal of his property in a wild desert condition as a park. Sometimes his guests are shown Corrad Caverns, but I'm sure that nobody ever goes very far into them, and they must be quite deserted the rest of the time. A brilliant suggestion, captain! My compliments."

"If it doesn't pan out," said Langley, "then I'm just as much in the dark as you."

"We'll try. You shall have your reward regardless." Valti spoke into a communicator. "We'll go there at once. No time to lose. Would you like a stimulant drug? . . , Here. It will give you alertness and energy for the next several hours, and you may need them. Excuse me, I have some details to arrange." He left, and Langley was alone with Marin. She watched him for a while without speaking.

"All right," he said. "All right, I made my choice. I figured the Society would make better use of this power than anybody else. But of course, you're a citizen of Sol. If you don't approve, I'm sorry."

"I don't know. It is a very great burden to take on yourself." She shook her head. "I can see what led you to it—maybe you are right, maybe not, I can't say. But I'm with you, Edwy."

"Thank you," he said, shakenly, and wondered if, in spite of himself, he might not be falling in love with her. He had a sudden image of the two of them, starting again somewhere beyond the sky.

If they got away from Sol, of course!

XIII

It had felt good to shed his over-colorful pajamas for a spaceman's coverall, boots, helmet, a gun—Langley had never quite realized how much clothes make the man. But walking through a hollow immensity of darkness, feeling the underground chill and hearing a mockery of echoes, he knew again the helplessness and self-doubt which had been strangling him.

There were light-tubes strung throughout miles of the caverns, but a sneak expedition could not turn them on; they served only to indicate regions where Saris would surely not be. Half a dozen men walked beside Langley, the reflected glow of flashbeams limning their faces ghostly against shadow. They were all crewmen, strangers to him; Valti had declared himself too old and cowardly to enter the tunnels, Marin had wanted to come but been refused permission.

A tumbled fantasy of limestone, great rough pillars and snags, leaped from the gloom as beams flashed around. This place couldn't have changed much, thought Langley. In five thousand years, the slow drip and evaporation of cold water would have added a bit here and there, but Earth was old and patient. He felt that time itself lay buried somewhere in these reaching leagues.

The man who carried the neural tracker looked up. "Not a flicker

yet," he said. Unconsciously, his voice was hushed, as if the stillness lay heavy on it. "How far down have we come? A long ways—and there are so many branches— Even if he is here, we may never find him."

Langley went on. There was nothing else he could do. He didn't think Saris would have gone farther underground than necessary; the Holatans weren't exactly claustrophobic, but they were creatures of open land and sky, it went against their instincts to remain long enclosed. The alien would be after an easily defensible site with at least a couple of emergency boltholes: say a small cave having two or three tunnels out from it to the surface. But that could be any of a hundred places down here, and no map of the system was available.

Logic helped somewhat. Saris hadn't had a map of the caves either. He'd have slipped in through the main entrance, like his present followers, because he wouldn't have known where any other approach was. Then he would look for a room to live in, with exits and a water supply. Langley turned to the man with the dowsing unit. "Isn't there a pool or river somewhere near?"

"Yes—water over in that direction. Shall we try?"

"Uh-huh." Langley groped toward the nearest tunnel. A ridge of stone clubbed his ankles. Beyond, the passage narrowed rapidly until he had to crawl.

"This may be it," he said. Echoes shivered around his words. "Saris could easily slip through, he can go four-footed anytime he wants, but it's a hard approach for a man."

"Wait . . . here, you take the tracker, captain," said someone behind him. "I think it kicked over, but all these people ahead of me make too much interference."

Langley squirmed around to grasp the box. Focusing it, he squinted at the green-glowing dial. It was responsive to the short-range impulses emitted by a nervous system and—yes, the needle was quivering more than it should!

Excited, he crawled farther, the harsh damp wall scraping his back. His flashbeam was a single white lance thrust into blindness. His breathing was a loud rasp in his throat.

He came suddenly to the end and almost went over. The tunnel must open several feet or yards above the floor. "Saris!" he called. The echoes flew about, this was a good-sized room. Somewhere he heard running water. "Saris Hronna! Are you there?"

A blaster bolt smashed after him. He saw the dazzle of it, there were spots dancing before his eyes for minutes afterward, and the radiation stung his face. He snapped off the light and jumped, hoping wildly that it wasn't too far to the ground. Something raked his leg, the jolting impact rattled his teeth, and he fell to an invisible floor.

Another beam flamed toward the tunnel mouth. Langley felt blood

hot and sticky on his calf. The Holatan knew just where the opening was, he could ricochet his bolts and fry the men within. "Saris! It's me— Edward Langley— I'm your friend!"

The echoes laughed at him, dancing through an enormous night. *Friend, friend, friend, friend.* The underground stream talked with a cold frantic voice. If the outlaw had gone mad with fear and loneliness, or if he had decided in bleak sanity to kill any human who ventured here, Langley was done. The incandescent sword of an energy beam, or the sudden closing of jaws in his throat, would be the last thing he ever felt. It had to be tried. Langley dug himself flat against the rock. "Saris! I've come to get you out of here! I've come to take you home!"

The answer rumbled out of blackness, impossible to locate through the echoes: "Iss you? What do you want?"

"I've made arrangements . . . you can get back to Holat—" Langley was shouting in English, their only common language; the Holatan dialects were too unlike man's for him to have learned more than a few phrases. "We're your friends, the only friends you've got."

"Sso." He could not read any expression into the tone. He thought he could feel the vibrations of a heavy body, flitting through the dark on padded feet. "I can not be sure. Pleasse to the present situation wit' honesty describe."

Langley put it into a few words. The stone under his belly was wet and chill. He sneezed, snuffled, and reflected on the old definition of adventure as somebody else having a tough time a thousand miles away. "It's the only chance for all of us," he finished. "If you don't agree, you'll stay here till you die or are dragged out."

There was a silence, then: "You I trust, I know you. But iss it not that thesse otherss you hawe deceiwed possible?"

"I . . . what? Oh. You mean maybe the Society is playing me for a sucker, too? Yes. It could be. But I don't think so."

"I hawe no dessire for dissection," said the one who waited.

"You won't be. They want to study you, see how you do what you do. You told me your thinkers back home have a pretty good idea of how it works."

"Yes. Not'ing could from the gross anatomy of my brain be learned. I t'ink such a machine ass your . . . friendss . . . wish could eassily be built." Saris hesitated, then: "Wery well, I musst take chancess, no matter what happenss. Let it be sso. You may all enter."

When the lights picked him out, he stood tall and proud, waiting with the dignity of his race among the boxes of supplies which had been his only reliance. He took Langley's hands between his and nuzzled the man's cheek. "Iss good to see you again," he said.

"I'm . . . sorry for what happened," said Langley. "I didn't know—"

"No. The uniwerse full of surprisses iss. No matter, if I can go home again."

The spacemen accepted him almost casually, they were used to nonhuman intelligence. After binding Langley's injury, they formed a cordon and returned. Valti raised ship as soon as all were aboard, and then conferred with them. "Is there anything you require, Saris Hronna?" he asked through the American.

"Yess. Two witaminss which seem to be lacking in Eart' chemistry." Saris drew diagrams on a sheet of paper. "Thesse iss the structural formulass in Langley'ss symbology."

The spaceman re-drew them in modern terms, and Valti nodded. "They should be easy to synthesize. I have a molecule maker in my hideaway." He tugged at his beard. "We must go there first, to make preparations for departure. I have a light-speed cruiser in a secret orbit. You'll be put aboard that and sent to our base in the 61 Cygni system. That's well outside the Solar and Centaurian spheres of influence. Then your abilities can be studied at leisure, sir, and your own payment rendered, Captain Langley."

Saris spoke up. He had his own bargain to make. He would coöperate if he was afterward returned to Holat with a crew of technicians and ample supplies. His world lay too far off to be in direct danger from the stars of this region, but some party of wandering conquistadors might happen on it—and Holat had no defenses against bombardment from space. That situation must be rectified. Armed robot satellites would not stop a full-dress invasion fleet—nothing would do that except possibly another fleet—but would be able to dispose of the small marauding groups which were all that Holat really had to worry about.

Valti winced. "Captain, does he realize what the bonuses for a trip of that length are? Does he know how much it would cost to set up those stations? Has he no sympathy for a poor old man who must face an audit of his books?"

"'Fraid not," said Langley with a grin.

"Ah . . . what assurances does he want that we will keep our end of such an agreement?"

"He'll have control over your development of the nullifier—you can't make it without him, both his empirical evidence and his theoretical knowledge—so that part's taken care of. When he sees the project nearing the end, he'll want your ships prepared for him, ready to go. And he'll want a bomb planted on the one carrying him, under his control; women and children will stay aboard while the work is being done for Holat, and at the first sign of treachery he'll blow the whole thing up."

"Dear me!" Valti shook a doleful head. "What a nasty suspicious mind he has, to be sure. I should think one look at my honest face— Well, well, so be it. But I shudder to think what the expense is going to do to our cost accounting."

"Man, you can amortize that debt over two thousand years. Forget it. Now, where are we going first?"

"We maintain a small hideaway in the Himalayas: nothing palatial, our tastes are humble, but securely hidden. I must render a report to my chiefs on Earth, get their approval of the plan, and prepare documents for the Cygni office. It will only take a little while."

Langley went off to the ship's sick bay. He'd taken a nasty gash in his leg, but treatment was routine these days: a clamp to hold the edges of the wound together, a shot of artificial enzymes to stimulate regeneration. In a few hours, the most radical surgery could be completely and scarlessly healed.

He remarked on that to Valti as they sat over dinner. The ship was taking a wide ellipse through space before returning to Earth, to avoid possible detection. "I'm a little at sea about the notion of progress," he confessed. "Offhand, it looks as if man hasn't improved a bit; and then I see advances like you have in medicine, and think what a tremendous change for the better was made by innovations like agriculture and the machine. Maybe it's just that I'm too impatient; maybe, given a few more millennia, man will do something about himself, change his own mind from animal to human."

Valti took a noisy slurp of beer. "I cannot share your optimism, my friend," he answered. "I was born more than six hundred years ago, by skipping across space and time I have seen much history, and it seems to me that civilization—any civilization, on any planet—is subject to a law of mortality. No matter how clever we get, we will never create mass-energy, grow nothing, never make heat flow of itself from a colder to a warmer body. There are limitations set by natural law. As ships and buildings are made bigger, more of their volume must go into passageways, until you reach a limit. You could not have an immortal man; even if biochemistry permitted, he has only so much brain space, so many cells which can record his experiences. Why, then, an immortal civilization, or a civilization embracing the entire universe?"

"And so there'll always be rise, and decay, and fall—always war and suffering?"

"Either that, or the sort of thing the Technon wants: death disguised by a mechanical semblance of life. I think you look at it from the wrong angle. Is not this very change, this anguished toppling into doom, the stuff of life? There is a unity in the cosmos which is more important than any one world, any one race. I think life arose because the universe needs it, needs just those characteristics which hurt the living individual. No . . . I don't believe in Father. There is no consciousness except in organic life. And yet an inanimate universe brought forth life and all its variety, because that was a necessary step in the evolution from a great cloud of gas to the final clin-

kered vacuum." Valti wiped his nose and chuckled. "Pardon me. I maunder in my old age. But if you had traveled across light-years all your days, you'd know that there is something operating which can't be reduced to physical theory. I think the Society will last because of being divorced from space and time; but only it, and even its span is not eternal."

He got up. "Excuse me. We'll be landing soon."

Langley found Marin in the amidships saloon. He sat down beside her and took her hand. "It won't be long now," he said. "I think we've done what's best—removed Saris' power from the place where it could only cause destruction. Best thing for Sol, too. And now we're bound on our own way."

"Yes." She didn't look at him. Her face was white, and there was a strained expression on it.

"What's the matter?" he asked anxiously. "Aren't you feeling well?"

"I . . . I don't know, Edwy. Everything seems so odd, somehow, as if this were a dream." She stared cloudily before her. "Is it? Am I sleeping somewhere and—"

"No. What is the trouble? Can't you describe it?"

She shook her head. "It's as if someone else were sharing my brain, sitting there and waiting. It came on me all of a sudden. The strain, I suppose. I'll be all right."

Langley scowled. Worry gnawed at him. If she took sick—

Just why was she so important to him? Was he falling for her? It would be very easy to do. Quite apart from her looks, she was brave and intelligent and witty; he could see himself spending a contented lifetime with her.

Peggy, Jim, Bob— *No, not her, too. Not again!*

There was a small jarring shock, and the engine drone died. Saris Hronna stuck his whiskered snout through the door. "We iss landed," he announced. "Come out."

The ship lay cradled in a brightly-lit cave; behind her was a huge concrete door which must lead to the mountain slope. It would be a high, wild land, there were probably snowfields and glaciers left here on the roof of the world—cold, windy, empty, a place where men could hide for years.

"Have you any defenses?" asked Langley as Valti led the way past the hull.

"No. Why should we? They would only add more metal to be detected from above. As it is, every possible thing here is made of plastic or stone. I am a peaceful man, captain. I rely more on my cerebral cortex than my guns. In five decades, this lair has been unsuspected."

They entered a hall off which several doors opened. Langley saw what must be a radio room, presumably for emergency use only. Valti's men wandered off toward their own quarters; they spoke little, the Society people seemed to frown on idle chatter between themselves, but they

seemed quite relaxed. Why not? They were safe now. The fight was over.

Marin jerked, and her eyes widened. "What's the matter?" asked Langley. His voice sounded hoarse and cracked.

"I . . . I don't know." She was trying not to cry. "I feel so strange." Her eyes were unfocused, he saw, and she moved like a sleepwalker.

"Valti! What's wrong with her?"

"I'm afraid I don't know, captain. Probably just reaction; it's been a trying time for a person not used to conflict and suspense. Let's put her to bed and I'll get the ship's doctor to take a look at her."

That officer admitted to puzzlement. "Psychology is out of my field," he explained. "Society personnel rarely have trouble with their minds, so we have no good psychiatrists among us. I gave her a sedative. If she isn't better tomorrow, we can get a specialist." He smiled sourly. "Too much knowledge. Too damn much knowledge. One head can't hold it all. I can set a broken bone or cure a germ-caused disease, but when the mind goes out of kilter all I can do is mutter a few half-forgotten technical terms."

Langley's victory crumbled in his hands.

"Come, captain," said Valti, taking his arm, "let's go make up Saris Hronna's vitamin pills, and after that you could probably use some sleep yourself. In twenty-four hours you'll be out of the Solar System. Think of that."

They were working in the laboratory when Saris stiffened. "She goess by," he said. "She iss walking been around and her mind feelss wery strange."

Langley ran out into the corridor. Marin stood looking at him with clearing eyes. "Where am I?" she said weakly.

"Come on," he answered. "Back to bed with you."

"I feel better," she told him. "There was a pressing in my brain, everything went dark, and now I am standing here—but I feel like myself again."

The drugged glass stood untouched by her bunk. "Get that down," said Langley. She obeyed, smiled at him, and went to sleep. He resisted a desire to kiss her.

Returning, he found Saris putting a flask of pills into a pouch hung about his neck. Valti had gone to do his paperwork, they were alone among the machines.

"I feeled her mind clearing ewen ass I . . . listened," said Saris. "Hass your race often such failingss?"

"Now and then," said Langley. "Gears slip. I'm afraid we aren't as carefully designed as your people."

"You could be so. We kill the weaklingss young."

"It's been done by my race, now and then, but the custom never lasted long. Something in our nature seems to forbid it."

"And yet you can desstroy a world for your own ambitions. I shall newer understand you."

"I doubt we'll ever understand

ourselves." Langley rubbed his neck, thinking. "Could it be that because we're nontelepaths, each of us isolated from all the others, every individual develops in his own way? Your people have their emotional empathy; the Thrymans, I've read, share thoughts directly. In cases like that, the individual is, in a way, under the control of the whole race. But in man, each of us is always alone, we have to find our own separate ways and we grow apart."

"It may be. I am astonished at what I hawe learned of your diwersity. I sometimess t'ink your folk iss the despair and the hope of the uniwerse."

Langley yawned. He ached with weariness, now that the stimulant had worn off. "To hell with it. I'm for some sack time."

He was wakened hours later by the crash of an explosion. As he sat up, he heard blasters going off.

XIV

Another blowup shivered through walls and into Langley's bones. Somebody screamed, somebody else cursed, and there were running feet in the corridors. As he tumbled into his clothes and snatched his energy gun out, he wanted to vomit. Somehow they had failed, somehow the rebellion of pawns was broken and the game went on.

He flattened himself against the archaic manual door of the room given him and opened it a crack. There was a stink of burned flesh

outside. Two gray-clad corpses sprawled in the passage, but the fight had swept past. Langley stepped out.

There was noise up ahead of him, toward the assembly chamber. He ran in that direction with some blind idea of opening up on the attackers from behind. A bitter wind was clearing smoke away and he gasped for breath. A remote part of him realized that the entry port had been blown open and the thin mountain air was rushing in.

Now—the doorway! He burst through, squeezing the trigger of his blaster. There was no recoil, but the beam hissed wide of the back he wanted. He didn't know how to aim a modern gun, how to outwit a modern mind, how to do anything. Understanding of the technique came just as someone spun around on a heel and kicked expertly with the other foot. Langley's blaster was torn loose, clattered to the floor, and he stared into a dozen waiting muzzles.

Valti's crew was gathered around Saris Hronna. Their hands were lifted sullenly, they had been overpowered in the assault and were giving up. The Holatan crouched on all fours, his eyes a yellow blaze.

Brannoch dhu Crombar let out a shout of Homeric laughter. "So there you are!" he cried. "Greetings, Captain Langley!" He towered over the tight-packed fifty of his men. The scarred face was alight with boisterous good humor. "Come join the fun."

"Saris—" groaned the American.

"Please." Brannoch elbowed a way over to him. "Credit me with some brains. I had purely mechanical weapons made for half my party, several days ago—percussion caps of mercury fulminate setting off a chemical explosion—thunderish hard to shoot straight with 'em, but at close quarters we can fill you with lead and he's powerless to stop it."

"I see." Langley felt surrender in himself, the buckling of all hope. "But how did you find us?"

Marin entered. She stood in the doorway looking at them with her face congealed to a mask, the face of a slave.

Brannoch jerked a thumb at her. "The girl, of course," he said. "She told us."

Her inhuman composure ripped. "No!" she stammered. "I never—"

"Not consciously, my dear," said Brannoch. "But while you were under your final surgery, a posthypnotic command was planted by a conditioning machine. Very powerful, such an order—impossible to break it. If Saris was found, you were to notify me of the circumstances at the first opportunity. Which, I see, you did."

She watched him with a mute horror. Langley heard a thundering in his head.

Very distantly, he made out the Centaurian's rumble: "You might as well know, captain. It was I who took your friends. They couldn't tell me anything, and against my wishes they . . . died. I'm sorry."

Langley turned away from him. Marin began to weep.

Valti cleared his throat. "A nice maneuver, my lord. Very well executed. But there is the matter of several casualties among my own people. I'm afraid the Society can't permit that sort of thing. There will have to be restitution."

"Including Saris Hronna, no doubt?" Brannoch grinned without humor.

"Of course. And reparations according to the weregild schedule set by treaty. Otherwise the Society will have to apply sanctions to your system."

"Withdrawal of trade?" snorted Brannoch. "We can do without your cargoes. And just try to use military force!"

"Oh, no, my lord," said Valti mildly. "We are a humane people. But we do have a large share in the economic life of every planet where we have offices. Investments, local companies owned by us . . . if necessary, we could do deplorable things to your economy. It isn't as rigid as Sol's, you know. I doubt if your people would take kindly to . . . say . . . catastrophic inflation when we released several tons of the praseodymium which is your standard, followed by depression and unemployment when a number of key corporations retired from business."

"I see," said Brannoch, unmoved. "I didn't intend to use more force on you than necessary, but you drive me to it. If your entire personnel here disappeared without trace— I'll have to think about it. I'd miss our gambling games."

"I've already filed a report to my chiefs, my lord; I was only waiting for their final orders. They know where I am."

"But do they know who raided you? It could be fixed to throw the blame on Chanthavar. Yes. An excellent idea."

Brannoch turned back to Langley. He had to grip the spaceman's shoulder hard to attract his attention. "Look here," he asked, "does this beast of yours speak any modern language?"

"No," said Langley, "and if you think I'm going to be your interpreter, you've got another think coming."

The heavy face looked pained. "I wish you'd stop considering me a fiend, captain. I have my duty. I don't hold any grudge against you for trying to get away from me; if you coöperate, my offer still stands. If not, I'll have to execute you, and nothing will be gained. We'll teach Saris the language and make him work anyhow. All you could do is slow us up a little." He paused. "I'd better warn you, though. If you try to sabotage the project once it's under way, the punishment will be stiff."

"Go ahead, then," said Langley. He didn't care, not any more. "What do you want to say to him?"

"We want to take him to Thor,, where he'll aid us in building a nullifier. If anything goes wrong through his doing, he'll die, and robot ships will be sent to bombard

his planet. They'll take a thousand years to get there, but they'll be sent. If, on the other hand he helps us, he'll be returned home." Brannoch shrugged. "Why should he care which party wins out? It's not his species."

Langley translated into English, almost word for word. Saris stood quiet for a minute, then:

"Iss grief in you, my friend."

"Yeah," said Langley. "Reckon so. What do you want to do?"

The Holatan looked thoughtful. "Iss hard to say. I hawe little choice at pressent. Yet from what I know of today'ss uniwerse, iss not best to aid Sol or Centauri."

"Brannoch has a point," said Langley. "We're just another race. Except for the Society offering you a little better deal, it doesn't affect your people."

"But it doess. Wrongness in life, anywhere in all space, iss wrongness. Iss, for instance, chance that some day someone findss out a for traweling faster than light met'od. Then one race on the wrong pat' iss a general menace. Also to itself, since other outraged planetss' might unite to exterminate it."

"Well . . . is there anything we can do, now, except get ourselves killed in a fit of messy heroism?"

"No. I see no out-way. That doess not mean none exists. Best to follow the scent ass laid, while snuffing after a new track."

Langley nodded indifferently. He was too sick of the whole slimy business to care much as yet. Let the Centaurians win. They were no worse than anybody else. "O. K., Brannoch," he said. "We'll string along."

"Excellent!" The giant shivered, as if with a nearly uncontrollable exuberance.

"You realize, of course," said Valti, "that this means war."

"What else?" asked Brannoch, honestly surprised.

"A war which, with or without nullifiers, could wreck civilization in both systems. How would you like, say, the Procyonites to come take over the radioactive ruins of Thor?"

"All life is a gamble," said Brannoch. "If you didn't load your dice and mark your cards—I know blazing well you do, too!—you'd see that. So far the balance of power has been pretty even. Now we will have the nullifier; it may tip the scales very far indeed, if we use it right. It's not a final weapon, but it's potent." He threw back his head and shook with silent laughter.

Recovering himself: "All right. I've got a little den of my own, in Africa. We'll go there first to make preliminary arrangements — among other things, a nice convincing synthetic dummy, Saris' corpse, for Chanthavar to find. I can't leave Earth right away, or he'd suspect too much. The thing to do is tip my hand just enough to get declared *persona non grata,* leave in disgrace—and come back with a fleet behind me!"

Langley found himself hustled outside, onto a slope where snow

crackled underfoot and the sky was a dark vault of stars. His breath smoked white from his mouth, breathing was keen and cold, his body shuddered. Marin crept near him, as if for warmth, and he stepped aside from her. *Tool!*

No . . . no, he wasn't being fair to her, was he? She had been under a geas when she betrayed him, with less will of her own than if someone had held a gun at her back. But he couldn't look at her now without feeling unclean.

A spaceship hovered just off the ground. Langley walked up the ladder, found himself a chair in the saloon, and tried not to think. Marin gave him a glance full of pain and then took a seat away from the others. A couple of armed guards, arrogant blond men who must be Thorians themselves, lounged at the doors. Saris had been taken elsewhere. He was not yet helpless, but his only possible action would be the suicidal one of crashing the ship, and Brannoch seemed willing to chance that.

The mountains fell away under their keel. There was a brief booming of sundered air, and then they were over the atmosphere, curving around the planet toward central Africa.

Langley wondered what he was going to do with himself, all the remaining days of his life. Quite possibly Brannoch would establish him on some Earth-type world as promised—but it would be inside the range of his own and Solar culture, marked for eventual conquest, it would not be what he had imagined. Well—

He wouldn't see the war, but all his life there would be nightmares in which the sky tore open and a billion human creatures were burned, flayed, gutted, and baked into the ground. And yet what else could he have done? He had tried, and failed . . . wasn't it enough?

No, said the New England ancestor.

But I didn't ask for the burden.

No man asks to be born, and nevertheless he must bear his own life.

I tried, I tell you!

Did you try hard enough? You will always wonder.

What can I do?

You can refuse to surrender.

Time slipped by; so many minutes closer to his death, he thought wearily. Africa was on the dayside now, but Brannoch's ship went down regardless: Langley supposed that something had been flanged up, fake recognition signals maybe, to get it by the sky patrols. There was a viewscreen, and he watched a broad river which must be the Congo. Neat plantations stretched in orderly squares as far as he could see, and scattered over the continent were medium-sized cities. The ship ignored them, flying low until it reached a small cluster of dome-shaped buildings.

"Ah," said Valti. "A plantation administrative center—perfectly genuine too, I have no doubt. But down underground, hm-m-m."

A section of dusty earth opened metal lips and the ship descended into a hangar. Langley followed the rest out and into the austere rooms beyond. At the end of the walk there was a very large chamber; it held some office equipment and a tank.

Langley studied the tank with a glimmer of interest. It was a big thing, a steel box twenty feet square by fifty long, mounted on its own antigravity sled. There were auxiliary bottles for gas, pumps, engines, meters, a dial reading an internal pressure which he translated as over a thousand atmospheres. Nice trick, that . . . was it done by force-fields, or simply today's metallurgy? The whole device was a great, self-moving machine, crouched there as if it were a living thing.

Brannoch stepped ahead of the party and waved gaily at it. His triumph had given him an almost boyish swagger. "Here they are, you Thrymkas," he said. "We bagged every one of them!"

XV

The flat microphonic voice answered bleakly: "Yes. Now, are you certain that no traps have been laid, that you have not been traced, that everything is in order?"

"Of course!" Brannoch's glee seemed to nose-dive; all at once, he looked sullen. "Unless you were seen flying your tank here."

"We were not. But after arrival, we made an inspection. The laxity of the plantation superintendent—which means yours—has been deplorable. In the past week he has bought two new farm hands and neglected to condition them against remembering whatever they see of us and our activities."

"Oh, well—plantation slaves! They'll never see the compound anyway."

"The probability is small, but it exists and it can be guarded against. The error has been rectified, but you will order the superintendent put under five minutes of neural shock."

"Look here—" Brannoch's lips drew back from his teeth. "Mujara has been in my pay for five years, and served faithfully. A reprimand is enough. I won't have—"

"You will."

For a moment longer the big man stood defiantly, as if before an enemy. Then something seemed to bend inside him, and he shrugged and smiled with a certain bitterness. "Very well. Just as you say. No use making an issue of it; there's enough else to do."

Langley's mind seemed to pick itself up and start moving again. He still felt hollow, drained of emotion, but he could think and his reflections were not pleasant. *Valti was hinting at this. Those gazabos in that glorified ashcan aren't just Brannoch's little helpers. They're the boss. In their own quiet way, they're running this show.*

But what do they want out of it? Why are they bothering? How can they gain by brewing up a war? The Thorians could use more land, but

an Earth-type planet's no good to a hydrogen breather.

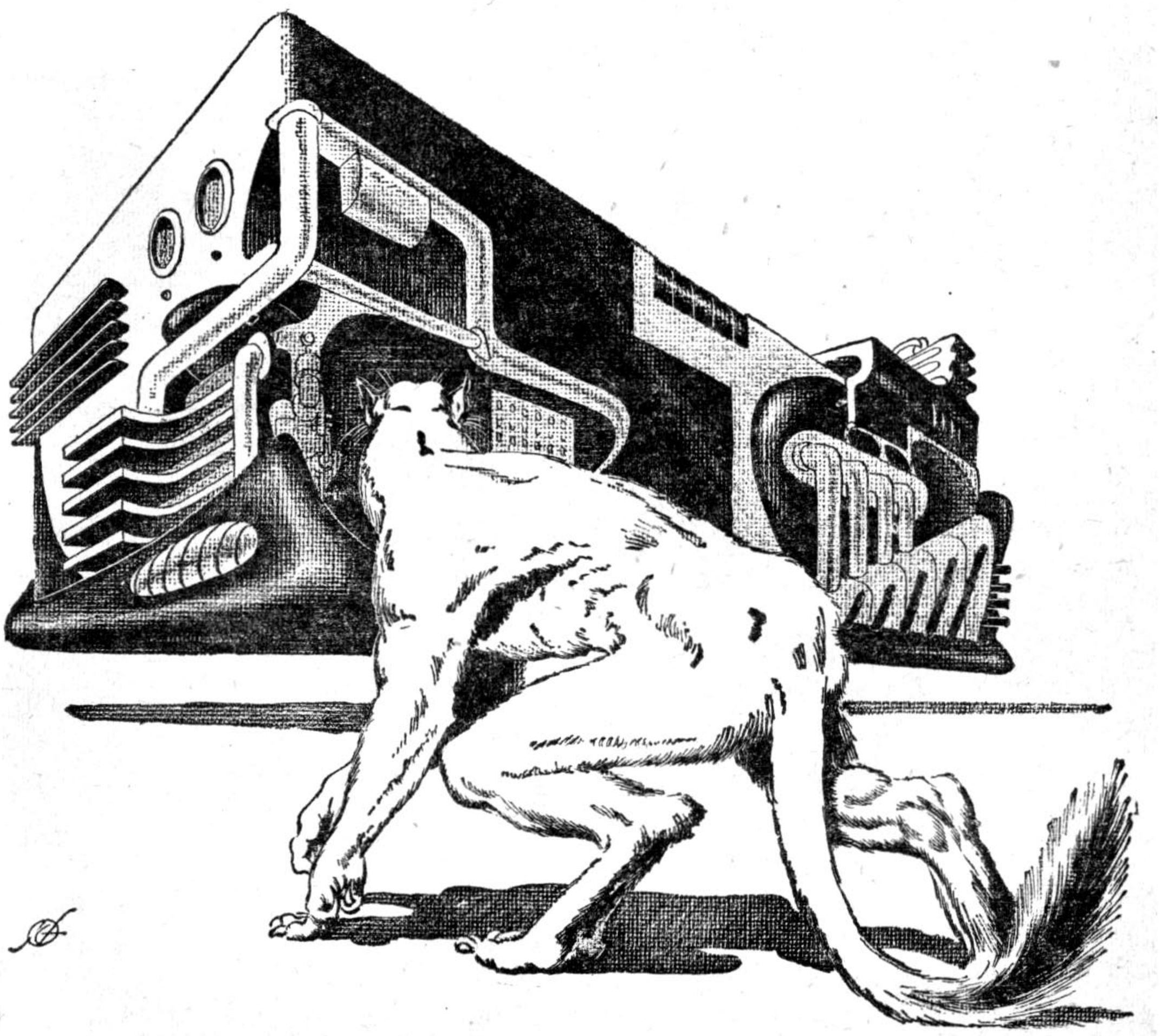
"Stand forth, alien," said the machine voice. "Let us get a better look at you."

Saris glided forward, under the muzzles of guns. His lean brown form was crouched low, unmoving save that the very end of his tail twitched hungrily. He watched the tank with cold eyes.

"Yes," said the Thrymans after a long interval. "Yes, there is something about him— We have never felt those particular life-currents before, in any of a hundred races. He may well be dangerous."

"He'll be useful," said Brannoch.

"If that effect *can* be duplicated mechanically, my lord," interrupted Valti in his most oleaginous tone. "Are you so sure of the possibility? Could it not be that *only* a living nervous system of his type can generate that field . . . or control it? Control is a most complex problem, you know; it may require something as good as a genuine brain, which no known science has ever made artificially."



"That is a matter for study," mumbled Brannoch. "It's up to the scientists."

"And if your scientists fail? Has that eventuality occurred to you? Then you have precipitated a war without the advantage you were hoping for. Sol's forces *are* larger and better coördinated than yours, my lord. They might win an all-out victory."

Langley had to admire the resolute way Brannoch faced an idea which had not existed for him before. He stood a while, looking down at his feet, clenching and unclenching his hands. "I don't know," he said at last, quietly. "I'm not a scientist myself. What of it, Thrymka? Do you think it can be done?"

"The chance of the task being an impossible one has been considered by us," answered the tank. "It has a finite probability."

"Well . . . maybe the best thing to do is disintegrate him, then. We may be taking too much of a gamble —because I won't be able to fool Chanthavar very long. Perhaps we should stall, build up our conventional armaments for a few more years—"

"No," said the monsters. "The factors have been weighed. The optimum date for war is very near now, with or without the nullifier."

"Are you sure?"

"Do not ask needless questions. You would lose weeks trying to understand the details of our analysis. Proceed as planned."

"Well . . . all right!" The decision made for him, Brannoch plunged into action as if eager to escape thought. He rapped out his orders, and the prisoners were marched off to a block of cells. Langley had a glimpse of Marin as she went by, then he and Saris were thrust together into one small room. A barred door clanged shut behind them, and two Thorians stood by their guns just outside.

The room was small and bare and windowless: sanitary facilities, a pair of bunks, nothing else. Langley sat down and gave Saris, who curled by his feet, a weary grin. "This reminds me of the way the cops back in my time used to shift a suspect from one jail to another, keeping him a jump ahead of his lawyer and a habeas corpus writ."

The Holatan did not ask for explanations; it was strange how relaxed he lay. After a while, Langley went on: "I wonder why they stuck us in the same room."

"Becausse we can together talk," said Saris.

"Oh . . . you sense recorders, microphones, in the wall? But we're talking English."

"Doubtless they iss . . . they hawe translation facilitiess. Our discussion iss recorded and iss translated tomorrow, maybe."

"Hm-m-m, yeah, Well, there isn't anything important we can talk about anyway. Let's just think up remarks on Centaurian ancestry, appearance, and morals."

"Oh, but we hawe much to discuss, my friend," said Saris. "I shall

stop the recorder when we come to such topics."

Langley laughed, a short hard bark. "Good enough! And those birds outside don't savvy English."

"I wish my t'oughtss to order," said the Holatan. "Meanwhile, see if you can draw them out in conwersation. Iss especially important to learn T'ryman motiwes."

"So? I should think you'd be more interested to know what's going to become of you. They were talking about killing you back there, just in case you don't know."

"Iss not so wital ass you t'ink." Saris closed his eyes.

Langley gave him a puzzled stare. *I'll never figure that critter out.* The flicker of hope was faintly astonishing; he suppressed it and strolled over to the door.

One of the guards swung up his gun, nervously. It had a nonstandard look about it: probably a smoothbore, designed and built for this one job, but no less dangerous. "Take it easy, son," said Langley. "I don't bite . . . often."

"We have strict orders," said the Thorian. He was young, a little frightened, and it thickened the rough accent. "If anything at all goes wrong, whether it seems to be your fault or not, you're both to be shot. Remember that."

"Taking no chances, huh? Well, suit yourselves." Langley leaned on the bars. It wasn't hard to act relaxed and companionable—not any more, now when nothing mattered. "I was just wondering what you boys were getting out of it."

"What do you mean?"

"Well, I suppose you came here along with the diplomatic mission, or maybe in a later consignment. When did you hit Earth?"

"Three years ago," said the other guard. "Outplanet service is normally for four."

"But that don't include transportation time," pointed out Langley. "Makes about thirteen years you're gone. Your parents have gotten old, maybe died; your girl friend has married someone else . . . Back where I come from, we'd consider that a long term."

"Shut up!" The answer was a bit too stiff and prompt.

"I'm not talking sedition," said Langley mildly. "Just wondering. Suppose you get paid pretty well, eh, to compensate?"

"There are bonuses for outplanet service," said the first guard.

"Big ones?"

"Well—"

"I kind of thought so. Not enough to matter. The boys go off for a couple of decades; the old folks have to mortgage the farm to keep going; the boys come back without money to get out of hock, and spend the rest of their lives working for somebody else—some banker who was smart enough to stay at home. The rich get richer and the poor get poorer. Happened on Earth seven thousand years ago. Place called Rome."

The heavy, bunt faces—faces of

stolid, slow-thinking, stubborn yeomen—screwed up trying to find a suitably devastating retort; but nothing came out.

"I'm sorry," said Langley. "Didn't mean to needle you. I'm just curious, you see. Looks as if Centauri's going to be top dog, so I ought to learn about you, eh? I suppose you personally figure on getting a nice piece of land in the Solar System. But why is Thrym backing you?"

"Thrym is part of the League," said one of the men. Langley didn't miss the reluctance in his tone. "They go along with us . . . they simply have to."

"But they have a vote, don't they? They could have argued against this adventure. Or have they been promised Jupiter to colonize?"

"They couldn't," said the guard. "Some difference in the air, not enough ammonia I think. They can't use any planet in this system."

"Then why are they interested in conquering Sol? Why are they backing you? Sol never hurt them any, but Thor fought a war with them not so long ago."

"They were beaten," said the guard.

"Like hell they were, son. You can't beat a unified planet larger than all the others put together. The war was a draw, and you know it. The most Earth and Thor together could do, I'll bet, is mount guard on Thrym, keep the natives down there where they belong. Thor alone could only compromise, and take the short end of the stick at that. The Thrymans did win their point, you know; there aren't any human colonies on the Proximan planets.

"So I still wonder what Thrym's getting out of this deal."

"I don't want to talk about it any longer!" said the guard angrily. "Go on back."

Langley stood for a moment, considering the situation. There were no soldiers in the cell block except these two. The door was held by an electronic lock, Saris could open it with a mere effort of will. But the two young men were keyed to an almost hysterical pitch; at the first sign of anything unforeseen, they'd open up on their prisoners. There didn't seem to be any way out of here.

He turned back to Saris. "Got your thoughts uncoiled?" he asked.

"Somewhat." The Holatan gave him a sleepy look. "You may be astonished at certain t'ingss I hawe to say."

"Go ahead."

"I cannot read the human mind —not its actual t'oughtss, only its pressence and its emotional state. Giwen time, I could learn to do more, but there iss not been time yet, ewen wit' you. But the T'rymanss hawe a wery long time had to study your race."

"So they can read our thoughts, eh? Hm-m-m—bet Chanthavar doesn't know that! Then that inspection here they mentioned would have been via the superintendent's mind, I suppose— But are you sure?"

"Yess. It iss a certainly. Let me explain."

The exposition was short and to the point. Every living nervous system radiates energy of several kinds. There are the electrical impulses, which encephalography had discovered in man even before Langley's time; there is a little heat; there is the subtler and more penetrating emission in the gyromagnetic spectrum. But the pattern varies: each race has its own norms. An encephalographer from Earth would not find the alpha rhythm of the human brain in a Holatan; he would have to learn a whole new "language."

On most planets, including Earth, there is little or no sensitivity to such emissions. The evolving life develops reactions to such vibrations as light and sound and, these being sufficient for survival purposes, does not go on to an ability to "listen in" on nervous impulses. Except for a few dubious freaks—to this day, the subject of ESP in man was one for debate and bafflement—humanity is telepathically deaf. But on some planets, through a statistically improbable series of mutations, ESP organs do develop and most animals have them: including the intelligent animals, if any. In the case of Holat, the development was unique—the animal could not only receive the nervous impulses of others, but could at short range induce them. This was the basis of Holatan emotional empathy; it was also the reason Saris could control a vacuum tube. As if following some law of compensation, the perceptive faculty was poor on the verbal level; the Holatans used sonic speech because they could not get clear ideas across telepathically.

Thryman telepathy was of the "normal" sort—the monsters could listen in, but could not influence, except via the specialized nerve endings in their joined feelers.

But a telepathic listener does not perceive pure thought. "Thought" does not exist as part of the real world; there is only the process of *thinking,* the flow of pulses across synapses. The Thryman did not read a man's mind as such, but read the patterns of subvocalization. A man thinking on the conscious level "talks to himself": the motor impulses go from brain to throat as if he were speaking aloud, but are suppressed en route. It was these impulses that the Thryman sensed and interpreted.

So to read the thoughts of another being, they had to know that being's language first. And Saris and Langley habitually thought in languages unknown to them. What they detected was gibberish.

"I . . . see." The man nodded. "It makes sense. I read about a case once which happened some hundred years before my time. An alleged telepath was demonstrating before the Pope—that was a religious person back then. He got confused, said he couldn't understand, and the Pope answered he'd been thinking in Latin. Yes, that may have been the same

thing." He smiled, grimly. "Keeping our mental privacy is one consolation, at least."

"There iss otherss," replied the Holatan. "I hawe a warning to giwe you. There iss soon to be an attack."

"Huh?"

"Act not so alarmed. But the female you hawe—Marin iss her name? In her I hawe detected an electronic circuit."

"What?" Langley sucked in his breath. There was an eerie tingle along his nerves. "But . . . that's impossible . . . she—"

"In her iss been planted surgically a t'ing which I t'ink iss a wariable-frequency emitter. She can be traced. I would hawe told Walti, but wass not then familiar wit' the human nerwous system. I t'ought it a normal pattern for your femaless, ewen ass ours iss different from the maless. But now that I hawe seen more of you, I realize the trut'."

Langley felt himself shivering. Marin— Marin again! But how—?

Then he understood. The time she had been seized, and returned. It had been for a purpose, after all; he, Langley, had not been the goal of that raid. An automatic communicator similar to Valti's, planted in her body by today's surgery—yes.

And such a device would be short-range, which meant that only a system of detectors spotted around the planet could hope to follow her. And only Chanthavar could have such a system.

Langley groaned: "How many people's Judas goat is she, anyway?"

"We must be prepared," said the Holatan calmly. "Our guardss will try to kill us in case of such, no? Forewarned, we may be able to—"

"Or to warn Brannoch?" Langley played with the idea a minute but discarded it. No. Even if the Centaurians got clean away, Sol's battle fleet would be on their heels; the war, the empty useless crazy war, would be started like an avalanche.

Let Chanthavar win, then. It didn't matter.

Langley buried his face in his hands. Why keep on fighting? Let him take his lead like a gentleman when the raid came.

No. Somehow, he felt he must go on living. He had been given a voice, however feeble, in today's history; it was up to him to keep talking as long as possible.

It might have been an hour later that Saris' muzzle nosed him to alertness. "Grawity wibrationss. I t'ink the time iss now."

TO BE CONCLUDED

THE REFERENCE LIBRARY

BY P. SCHUYLER MILLER

EVOLUTION'S END

The Pittsburgh bookseller who finds me most of my books has raised a fundamental—if valid—objection to the science fiction he has read. Our stories of the future, he complains, show no psychological evolution in Man—the people of the stories are merely projections of ourselves, acting as we would act in the bizarre surroundings of the author's imagining (and within the limits of his ability to depict character).

This is no superficial objection: the man who makes it has a broad background in philosophy and psychology. On the level at which he raises the question, it is a criticism of the maturity and ability of science-fiction writers, and on that level it may be justified. It's another facet of the old question of how to write about extraterrestrials who are *really* alien. Yet we are not writing about aliens, but about our own kind, and it should be possible to reason about the changes of the future and to project our ideas in pictures and actions. Theodore Sturgeon and Alfred Bester seem to be working in this direction in their best stories.

But on another, deeper level there are good grounds for doubting that there will be any change. Mankind's physical evolution may have come to a natural end.

You'll find this point of view sup-

ported in a long article by Professor Harold H. Smith of Cornell University in the January 8th *Saturday Review*: "Education and the Control of Evolution." You'll find the biological factors expounded at greater length and with beautiful simplicity in "The Story of Man," by Professor Carleton S. Coon of the University of Pennsylvania, a book which I've praised here before and will again.

"The present theory of organic evolution," Professor Smith points out, states "that populations change in their characteristics only under the influence of one or more of four forces: mutation, selection, migration, or chance." *Mutation*—the sudden appearance of new characteristics in a race as a result of sudden changes in the structure of its genes—has been elevated to the position of a stereotype in science fiction. *Selection* is the process which screens out individuals with characteristics which help them cope with the conditions they encounter—and which eliminates those who can't adapt. *Migration* is the process which mixes the genes of one stock or race with another, sharing the characteristics of both. I suppose the handsome, intelligent and altogether admirable mixtures of European, Polynesian, Japanese, Chinese, *et al* in the Hawaiian Islands are our best example of what can come of this—though more of that presently.

Chance is the element neglected in most extrapolations of the evolutionary process, for in an entire population only identical twins—or other single-egg multiple births—have identical heredities. As Dr. Smith points out, the fact that sons and daughters are born to the same parents is the best evidence of this chance element, which uses the same genes to produce utterly different individuals.

These four forces, as Coon's book will show you, have worked in two directions throughout the history of Mankind. If there were originally men of several different species, they worked through thousands of years to draw all together into one species, *Homo sapiens*. Then the process of differentiation began. Small family and tribal groups became isolated, adapted to local conditions, inbred, allowed mutations to survive—until at last we had our present racial and subracial divisions, whose probable history can be read in their bodies.

This differentiation began because for generation after generation Man was a rare animal, living precariously off the land, a predator on wild game, a grubber of roots and muncher of bugs. Until he learned to sew skin clothing and to make fire, Carleton Coon points out, he was restricted to those parts of the planet where he could run naked and find enough wild food to stay alive and propagate.

Dr. Smith spells out the biological truth about Man as he now is: "If a population were abundant, not divided into different localized groups, had unchanging mutation rates, and was free from strong selection ac-

tion, *it would evolve little, if any, through time.*"

The present species, *Homo sapiens,* has been in existence now for between 75,000 and 150,000 years, if not longer, he points out. It has changed little in any fundamental biological way in the last 25,000 years—and from the radiocarbon dates, I'd say longer. If Man's active brain and agile fingers have not set him out on the conquest of the planet when it did—perhaps if the great Ice Age hadn't come to force him to take on his environment and change it for his own comfort and survival —the scattered populations of the early Pleistocene might have developed into different *species* of man; as different, let's say, as robins, bluebirds, thrushes and catbirds. But they didn't: we're one kind, all of us.

We're a numerous kind, too. Julian Huxley has estimated that between 850 B.C. and 1650 A.D. (2500 years) the population of the Earth increased from 100,000,000—less than half the present population of North America—to 545,000,000. By 1930, in only 280 years, it had gone up roughly fourfold to 2,000,000,000. What's more, the rate of increase is itself increasing: we're leaning on the accelerator. In that first 2500-year period it was only 0.07 per cent per year. Between 1937 and 1947, it had become 0.82 per cent per year—and it's still going up.

Chance is of little importance in changing so large—and so mobile—a population. Modern medicine and social legislation are doing their best to rule out the more brutal aspects of selection: epidemic and starvation. Migration is changing Yankees and Tar Heels and Crackers and Hoosiers and even Texans into Californians.

Mutation, science-fiction formulas to the contrary, is unlikely to make any startling changes in Man's physical makeup. In fact, some of the best of science fiction has been devoted to illustrating just this fact —that mutations in a stable, adapted physical or social organism are usually dangerous and are promptly bred out of the species. It takes a rare juxtaposition of a mutation with a change in environment which makes the new form more successful than the old, before a mutation "takes" in a race like Mankind.

In other words, *we are Man of the future,* right now. No telepaths and teleports (Dr. Rhine suggests that ESP is being bred *out* of the race, remember). No toothless, toeless, hairless wonders. Just us.

But Man is the animal with a culture.

Animals teach their young how to get along in the world. The more highly evolved, the more elaborate the process. But Man, and Man alone, has learned not only to teach by example but to issue verbal instructions, passed down through the generations, and finally to write down this compendium of past wisdom for the benefit of generations to come. He educates his young. He perpetuates his culture.

And if Man has stopped evolving physically—unless he takes to the stars and begins spreading isolated populations through the galaxy as he once did over the Earth—there is no foreseeable limit to how far he can evolve culturally. We're near the end of the half million years or so in which Earth shaped Man. We're just at the beginning of the millions of years during which Man must shape the Earth—and one day, perhaps, other earths of other suns.

We didn't have much control over the first kind of evolution. It was always possible to control our own breeding as rigorously as we did our dogs' and our horses' but it's not very practical, even buttressed around with tribal laws and taboos.

We do have potential control over our culture. We can think about it, whittle off the barnacles that have accumulated through the centuries, patch it here and put in a new engine there. We may blow the whole thing up, or we may come out with a sweeter, smoother-running mechanism than anything we've ever seen. What's more, it *can* be that pillar of science fiction, the machine that improves itself.

WORLDS IN SPACE, by Martin Caidin. Henry Holt & Co., New York. 1954. 212 pp. Ill. $4.95.

Publishers and writers are still discovering—each, it would seem, for the very first time in history—that there are such things as rockets, and that they may be made to go to the planets. Only a few of them come my way, and it may be I'm missing some very good ones, but this handsomely illustrated survey is the best I saw in 1954.

The author begins by scanning the past and summing up the present situation, as of about a year ago, as clearly as I've seen it done. He then goes on to describe and appraise various proposals for putting an orbital station in space, then getting on to the Moon and Mars. There are one or two scientific points on which I might argue with his interpretation, but they are on the whole insignificant.

If you are well stocked with the basic rocket books, I don't think you need this, but if you want to recommend a good, very clear, very sound survey of the situation as it now appears, this looks like the book. Fred L. Wolff's forty-eight full-page plates are by no means Bonestell visualizations, but they're very good, and they are rounded out by sixteen photographs. If librarians read this department, and haven't already had the same recommendation from Virginia Kirkus and the library tip-sheets, they'll need "Worlds in Space."

EDITOR'S CHOICE IN SCIENCE FICTION, edited by Samuel Moskowitz. McBride Co., New York. 1954. 285 pp. $3.50.

Here's an odd and somewhat old-fashioned selection of twelve tales nominated as good—not as "best"—by the editors of as many magazines. They're as old as 1895 (Robert W. Chambers' "The Demoiselle d'Ys" from *Famous Fantastic Mysteries* and "The King in Yellow") and as new as 1953 (your own editor's choice of the Mark Clifton—Alex Apostolides poltergeist story, "What Thin Partitions," and Sam Moskowitz's nomination of "Death of a Sensitive," by Harry Bates, one of the top stories in *Science Fiction Plus*). Two, the *Bluebook* selection of "Wall of Fire," by Jack Kirkland (of "Tobacco Road" fame) and the Chambers story are really fantasy, as the *Weird Tales* nomination; "Far Below," by Robert Barbour Johnson may also be (it ties into the Lovecraft mythos).

The ones you'll remember, I'd say, are the Chambers tale, Arthur C. Clarke's poetic and paradoxical "Wall of Darkness" (from *Super Science Stories*), the Harry Bates story of a man haunted by his extrasensory powers (*why* won't some other editor pry more stories out of him?) . . . also, I guess, the borderline fantasy from *Unknown,* Mona Farnsworth's "All Roads" that led a lost motorist on a strange track. Only the ASF representative is really modern: the rest, as I've said, have an old-fashioned tone.

For the record, these others are: Eando Binder's "I, Robot" (the first Adam Link story) from *Amazing*; Frank Belknap Long's "And Some-day to Mars" chosen by Samuel Mines from *Thrilling Wonder* and Chester D. Cuthbert's bathetic "Sublime Vigil" from the old *Wonder,* nominated by Hugo Gernsback; Wilson Tucker's "Exit" from *Astonishing* (it's rewritten for his new book, "Science-Fiction Sub-Treasury"); and Otis Adelbert Kline's "Stolen Centuries" from *Fantastic Story Magazine.*

STAR SCIENCE FICTION STORIES No. 3, edited by Frederik Pohl. Ballantine Books, New York. 1955. 186 pp. $2.00; paper 35¢.

The first anthology of 1955 is another of Ballantine's "Star" series of new stories, written for these annual collections. I'm not sure it's quite up to its predecessors.

Maybe it's a reflection of the times that the two most memorable stories are the two most disturbing: Richard Matheson's "Dance of the Dead," a galling picture of youth of tomorrow which is in the mood of some of Fritz Leiber's soul-shaking little gems, and Philip K. Dick's "Foster, You're Dead," a tragedy of childhood in a world where nonconformity has become a social crime. Isaac Asimov gives us a happier picture of a boy aided in his revolt against social rigidity, "It's Such a Beautiful Day," and we have average Bradbury—another Martian chronicle—in "The Strawberry Window."

My third favorite among the ten stories, I think, is Arthur C. Clarke's unassuming and quiet "The Deep Range," where men in midget submarines patrol the great whale herds of the Atlantic. Jack Williamson is out of retirement with the wry "Guinevere for Everybody," and Gerald Kersh makes one of his occasional ventures into the field in "Whatever Happened to Corporal Cuckoo?", a discursive ramble into the immortality theme, which might have turned up in *The Saturday Evening Post* or *Collier's*.

Two stories deal in different ways with the problem of the alien versus humanity. In Lester del Rey's "Alien," both are castaways, trying to save themselves and kill each other; in Chad Oliver's "Any More At Home Like You?" a humanoid from the stars is trying to break through the barrier of our suspicion. And in the tenth story, Jack Vance's "The Devil on Salvation Bluff," we watch human colonists reacting in very different ways to the environment of a strange planet.

YEAR OF CONSENT, by Kendell Foster Crossen. Dell Publishing Co., New York. 1954. 224 pp. 25¢.

Apparently the success of "The Space Merchants" set publishers off in a wild hunt for similar or at least parallel themes, two more of which have been described here. "Year of Consent" gives us the United States of 1990, in which the public relations experts have taken over government smoothly and callously. Communists have half the world and a walled-in enclave in South Dakota, where domestic Reds are immolated under strict mechanical surveillance. The United States encompasses all of North and South America. And, but for a few scattered states, this is all—except for the remnants of the United Nations, who have sought refuge in Australia and whose followers comprise an active underground in both giant empires.

Our hero is Gerald Leeds, expediter in the Department of Security and Consent, who wakes up on DI day when every SAC employee goes into a twenty-four-hour session of questioning and testing, his every act watched and scrutinized by the great mechanical brain in Washington. His problem is that he is also "Paul Revere," a top man in the UN underground—and presently he is sent to New York to trap this very Paul Revere. From there on it's a good, fast-moving chase story with Jerry tripped at every turn.

THE BROKEN SWORD, by Poul Anderson. Abelard-Schuman, New York. 1954. 274 pp. $2.75.

It is hinted that in a sequel Poul Anderson is going to tie this faerie world into the prehistory of our own times: for now, take it as straight red-blooded fantasy in the vein of Fletcher Pratt's "Well of the Unicorn," the Pratt-de Camp "Harold Shea" tales, and a few others. Its world comes out of the old Norse and Anglo-Saxon sagas; its hero, Skafloc, is stolen by the elf-earl Imric and brought up in Faerie, sharing in its magic and its battles and warring against his changeling counterpart, the elf-troll Valgard. All the ruthless, amoral drive of the sagas is in it and it has the ring of authenticity which Robert E. Howard never succeeded into getting into his Conan yarns.

It's not a reprint, and would have graced *Unknown* were that great journal of the uncertainties of this universe still alive.

EARTHLIGHT, by Arthur C. Clarke. Ballantine Books, New York. 1955. 155 pp. $2.00; paper 35¢.

Here is a story of the Twenty-second Century on the Moon, with a melodramatic plot which is exasperatingly never allowed to come to a boil. The result is one of Arthur Clarke's typically undertoned documentaries of life among the planets, like "Prelude to Space" and "Sands of Mars."

Sadler is sent to the Observatory in the black oval of Plato as a counter-espionage agent, to track down a suspected leak. A critical situation is blowing up between Earth and the Federation of colonial planets: Earth has kept the colonies dependent on her for many supplies, especially heavy metals, then gradually pared down the ration in the name of short supply while, to colonial eyes at least, these scarce materials are squandered on luxuries. Now there is evidence that rich deposits can be found on the Moon, where they can be seized by the Federation to assure its independence or gobbled up by Earth to strengthen its whip-hand. Meanwhile, over the mountains from the Observatory, something peculiar—and occasionally moon-shaking—is going on . . .

The minutely worked out details of life and conditions on the Moon are really the book, for although the tension finally blows up in a battle worthy of Doc Smith and Ed Hamiltn at their most untrammeled, there is absolutely no spy-chasing suspense, no daggers in the dark, no Mata Haris, no lunar jewels or mysterious monsters. Like all Clarke's books, it is charming but it hasn't the poetry of something like "Childhood's End" or the immediacy of "Prelude to Space." I could have taken a bit more hokum with the humdrum realism of interplanetary war.

MORE ADVENTURES IN TIME AND SPACE, edited by Raymond J. Healy and J. Francis McComas. Bantam Books, New York. 1955. 142 pp. 25¢.

Here are seven more top-notch short stories from this magazine, lifted out of that classic anthology of 1946, "Adventures in Time and Space." It's surprising to see Alfred Bester, whom most of us consider a newcomer, doing very nicely in 1942 with "Adam and No Eve." Isaac Asimov is represented by what is probably his most remembered story, "Nightfall;" Heinlein by "Roads Must Roll;" Lewis Padgett by "The Proud Robot." Rounding out the sample are Lee Gregor's "Heavy Planet," Cleve Cartmill's "The Link," and • R. DeWitt Miller's "Within the Pyramid."

Since the original Healy-McComas collection was a very big book, and most of the stories in it came from Astounding—they had to, in those days!—it looks as if we can expect a long series of these pocket-book snatches.

(*Continued from page* 7)

capable of judging adult values, he constitutes an effectively nonjudicious source of information.

So. Evidently the human race has a deep conviction that the other fellow's judgment is sure to be inimical. Emotion, on the other hand is a fine, and noble thing; emotional reactions alone can be depended on to be The Truth.

But somehow that seems sort of peculiar, in a culture that so insists that emotion is an exceedingly unreliable guide. "Don't make emotional judgments," they say, and "Don't let your emotions get the better of your thinking." But every possible effort to make emotional "thinking" show up is made when those same people want to "detect the truth."

Something seems a little involved, involuted, or just plain fouled up here. Oh . . . wait! *Your* emotions are *your* worst enemy; therefore if *I* can force your emotions into sight, they will betray you. That's it! Or . . . now wait a minute. If I do something that makes your emotional reaction one of an urgent desire to knock my block off, at this point I'll start appealing to your "better judgment."

Hm-m-m. Maybe we'd better skip that and go on to something else. That's too fouled up to bother with. I can't seem to find any sense in that confusion of ideas.

Let's get back to a discussion of facts, which are so much easier to deal with. (Wonder what my friend would have told the Bushman chief if the Bushman had questioned him under a truth serum? "The truth?" But what truth? That the Bushman was incompetent to understand the standing he actually had in Western culture?)

Let's consider this system of situations between two individuals A and B. We'll let A stand for "A's proposition with respect to the matter under discussion is objectively valid," and —A stand for "A's position is objectively invalid." Of course, on purely objective things, such as "This line carries one hundred seventeen volts RMS at sixty cycles," the problem's pretty simple, so we aren't really concerned with that level of statement. But it helps to indicate what we're talking about.

Similarly B means "B is objectively correct" and —B means "B is objectively incorrect." For the purposes of this discussion, when we have —A and —B, we'll have to make the quite arbitrary assumption that they're not only both wrong, but we'll specify they're both wrong to the same extent in the same direction.

So we can make up a static truth-table:

A's position	B's position	A claims B is:
A	B	Truthful
—A	—B	Truthful
A	—B	Liar
—A	B	Liar

From which we deduce "A man will never call you a liar if you agree with him."

But now consider a dynamic modification of this. Let's say we have the situation "—A . . . —B . . . Truthful" to start with. And now B learns something that makes him aware that he is, in fact, mistaken. He changes his position, and consequently his relationship of agreement with A. We now have the situation "—A . . . B . . . Liar." But it's worse than that in the dynamic system; A now not only calls B a liar, but he goes on with, "He's a traitor! He's inconsistent! He knew better, the rat; he's sold out his principles!"

A is apt to have a very tough time making B "confess" that he sold out, too. It's extremely difficult to convince a man that he's wrong when he happens to be right and you're the one who's wrong.

Note, by the way, that this phenomenon of "You're a traitor! You're disloyal!" rests on the previously-existent state of agreement. The unfortunate consequence of this is that it is exceedingly dangerous to *try out* the other fellow's idea, even temporarily. If you never do agree with him, if you remain too stupid to understand, or too lazy to follow his argument, or divert his discussion somehow so that he never does get his idea over to you, you're much safer. Never having agreed with him, he can't feel you're a traitor—though he can and probably will feel you're a fool. He may be irked by your stupidity, but he won't get furious at your disloyalty.

But if you have once accepted his idea, even for a trial run—he'll blow his top if he finds you've abandoned it. Now if you say his idea is wrong, he knows you're a deliberate liar, because he knows you know better. You're deliberately lying! You're inconsistent and untrustworthy!

Of course, if the situation of "—A . . . —B—Truthful" is changed by A learning something to "A . . . —B . . ." he won't call you a liar now. He'll realize that you are misguided, mistaken, a little slow to learn, but will realize that, after all, anybody can make a mistake. The only thing is, a man must be willing to face his mistakes and learn better, and that's B's failure. One shouldn't, A will explain, allow one's emotional values to conceal the truth.

Or . . . wait now. We agreed to drop that problem, didn't we.

THE EDITOR.

—Continued from Back Cover

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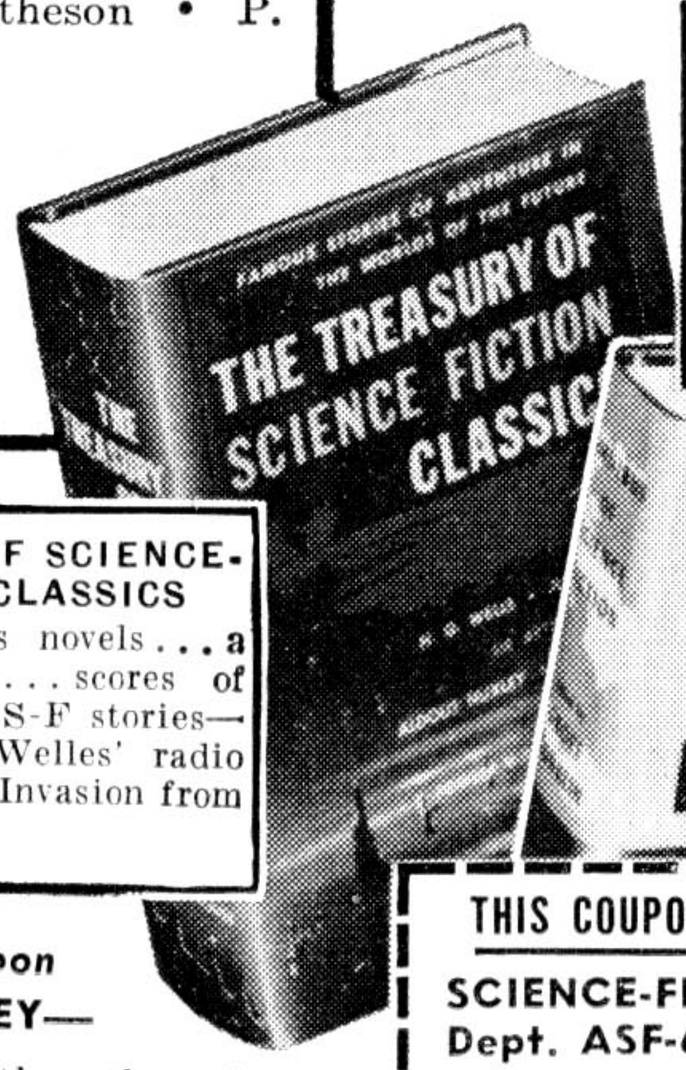

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