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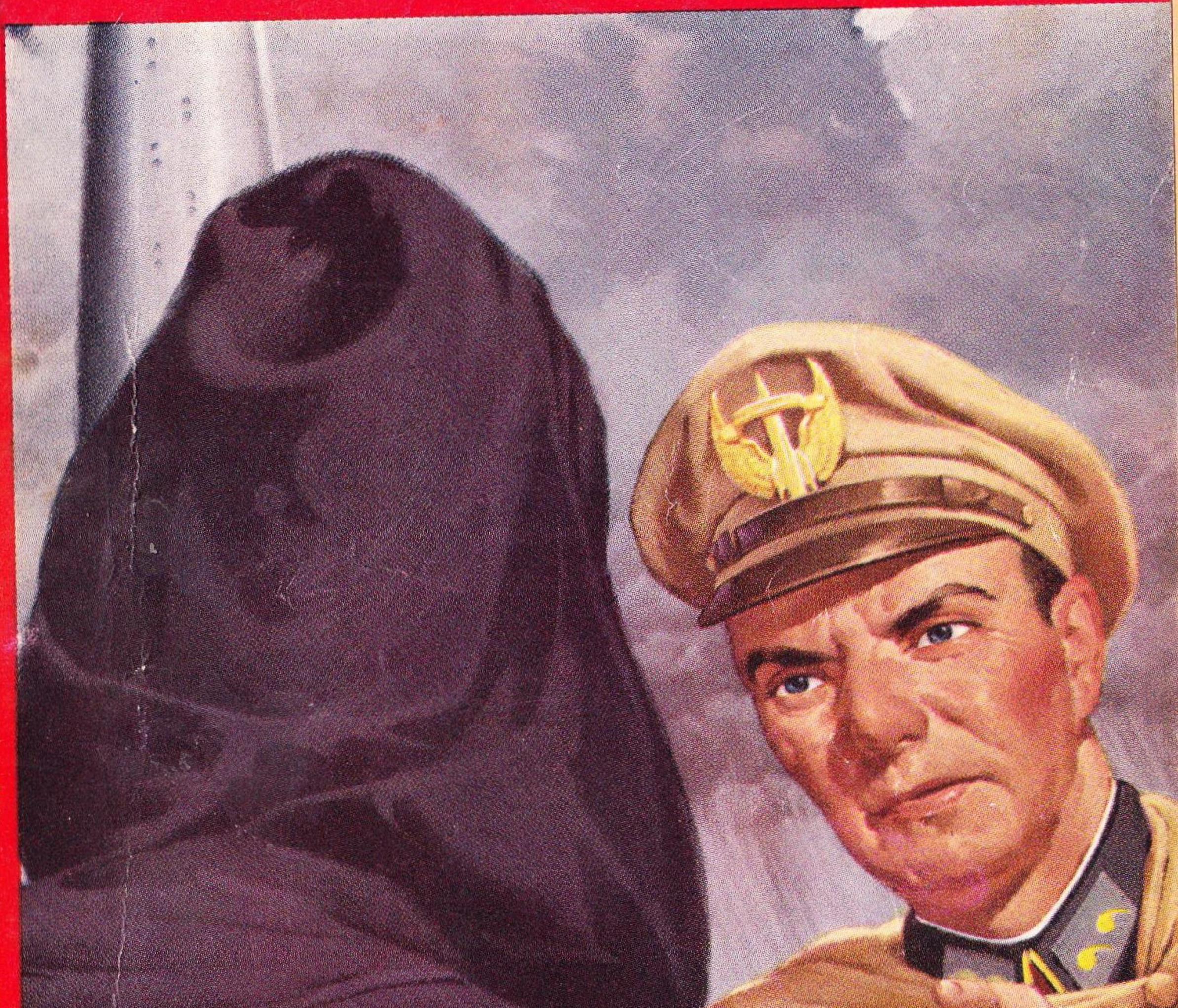
The Face of the Enemy BY THOMAS WILSON



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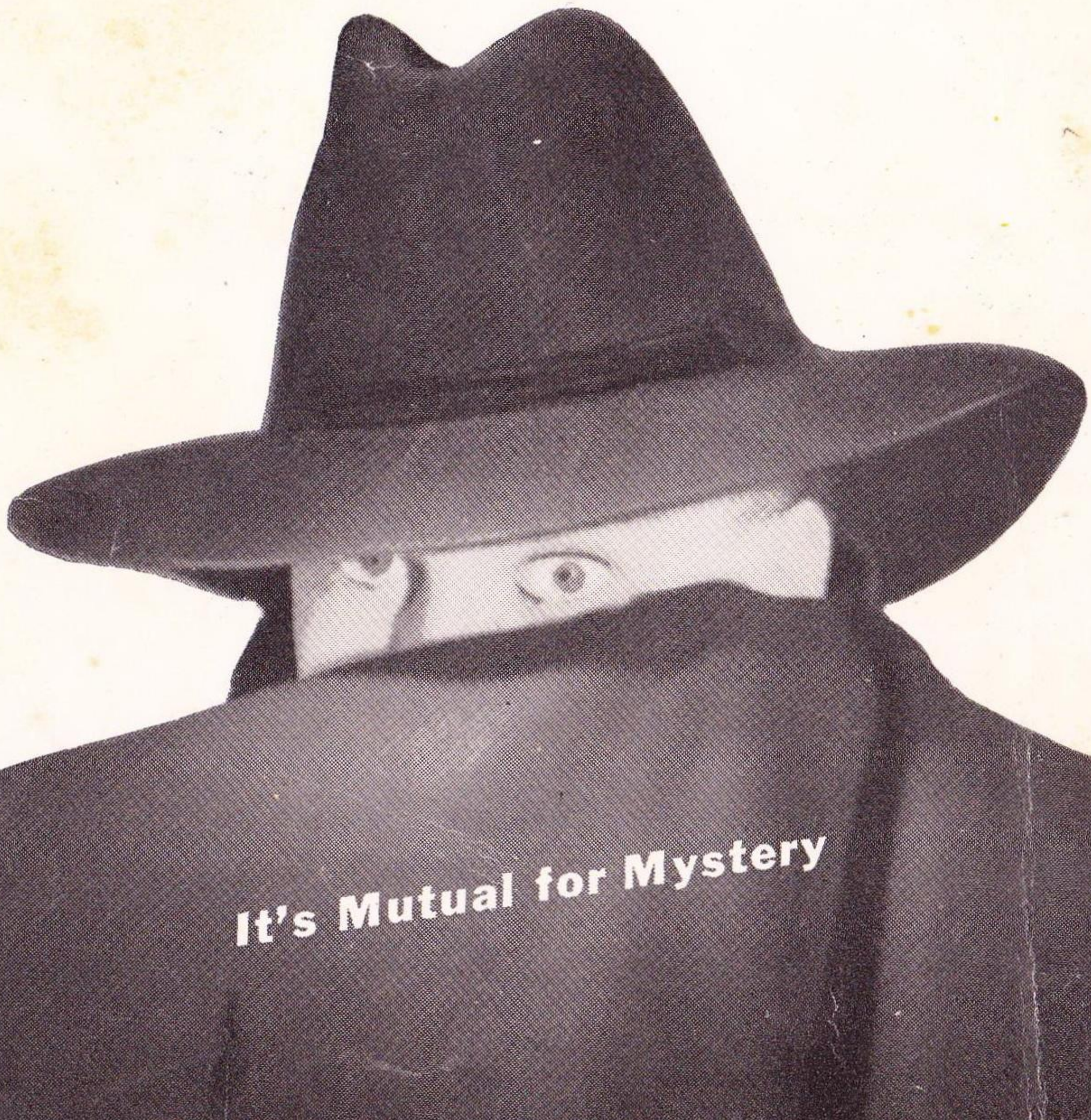

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NOVELETTES

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NEXT ISSUE ON SALE AUGUST 20, 1952

EDITORIAL

IN ALL PROBABILITY . . .

There is a Power in the universe that can be demonstrated to be omniscient, everlasting, capable of all things—and it is *not* mystical, either. It's a Power greater than the power of atomic energy, the law by which the Universe, and all things in it were created. It's the Supreme Law of the Universe of things as we know them.

Most of the above statements become obvious when the Power is named; it's simply Probability. Clearly it has been the controlling force that led to the present universe; it is also the controlling law that determines the behavior of atomic energies. The question of whether or not a nuclear particle will enter or escape from the nucleus of an atom is strictly and solely a probability function. It isn't absolute at all. All chemical reactions are simply probability functions; some of them involve very high orders of probability, some very low, and some have a probability near the mid-range.

If you stop to think of it a moment, all physical science is simply the study of certain Special Cases within the general field of Probability. And the only big, wide, really important generalizations will probably—that word again!—turn out to be *not* laws of matter at all, but laws *controlling* probability.

As an example, I cite gravity. Gravity shows the interesting anomaly in our physical universe of being the *one* natural force that is *concentrative.* Probability generally tends toward dispersion; that is, entropy constantly increases. Matter tends to spread. Random movement of molecules and atoms tends to disperse them.

No structure of purely electric or purely magnetic fields can be stable; they tend to disrupt themselves.

Perhaps gravity applies to a law controlling probability instead of being merely a law of matter-energy?

There's one statement made above that is not directly obvious from simply saying that the power referred to is probability; the statement that it is omniscient. But there's a fairly simple demonstration of that factor, too. Raymond F. Jones originally pointed it out in "Fifty Million Monkeys," but there's an easier way of demonstrating it.

Any information whatever can be

coded into a special sequence of pulses. As examples, we have Morse Code which can transmit English text in that way; the half-tone photograph codes a picture by "pulses" of black and white; the television set codes scenes for transmission and reproduction. Any desired information can be transmitted as a sequence of coded pulses. Speech—voice sounds—have been so coded very successfully.

Any special sequence of pulses must be, by definition, a special case of the general class "Pulses." The general class of purely random pulses, pure noise, has pulses within it having all conceivable and all possible relationships.

Among the possible sequences which necessarily exists within pure noise, is the sequence which forms the sounds "Every body in the universe attracts every other body in the universe . . ." and so on. But equally, there can be found within the totality of all possible pulse-relationships, the relationship "The way to achieve immortality is to . . ." and so on. And "Gravity is . . . and can be nullified by . . ." and so on.

Pure noise—pure probability—contains within it all possible pulse relationships, and thus all possible answers to all possible questions. Unfortunately, while it is omniscient, it is an omniscient moron; it is much more apt to give nonsense answers than to give desired answers. The true, correct answer is there all right; the trouble is, we need a Nonsense Filter to separate out all the wrong answers.

Physical science has been using the physical world as a Nonsense Filter; the basic thesis of science is that whatever happens is the one, correct answer to the forces present.

However, I'd like to suggest another item to consider. Life can, I think, be defined as "A controlled-probability chain-reaction." Life makes a business out of making nonsense out of the laws of probability. Whatever "life" is, it seems to involve some force or power that is *not* directly subject to the laws of probability, and instead *uses* the laws of probability as tools to accomplish its ends. Consider the following situations:

1. What is the normal probability that calcium, in its extreme dilution found in sea water, will precipitate out as the carbonate —and what does a clam do to probability to make that extreme improbability become an inevitable consequence?
2. And there is the marine worm that uses a vanadium compound —vanadium from sea water!— as the oxygen carrier in its blood.
3. What is the probability that U-235 atoms will selectively move away from U-238 atoms, concentrate, and become an explosive mass?

Of all life-forms, Man has shown far and away the greatest ability at

(*Continued on page 170*)

THE FACE OF THE ENEMY

BY THOMAS WILSON

__Somewhere,__ Man had an Ancient Enemy that had smashed the ancient, legendary first human stellar empire. But the Enemy was hidden—and every scout went, always, with caution . . .

Illustrated by van Dongen

The year was 2492—one thousand years after the voyage of Christopher Columbus, fifty thousand years after the Olden War which had snapped the links of Man's former galactic civilization like so much tissue paper.

And once again Man's ships were blowing the bubble of his culture in the Milky Way, thousands of Columbuses wafted on the wings of the space-warp drive.

These twenty-fifth century explorers were ever alert for signs of the hoary foe whom Man had fought in the broken past of fifty thousand years ago. They knew not who had won that Olden War, but they knew that Man had lost. He had been reduced to savagery on his scattered worlds, and the climb back had been long. They knew not the face of the adversary they sought—a bogey called, for want of a better name, the Ancient Enemy—but the fear of the search was a wine in their veins.

And in the vanguard of Man's ships rode the little explorer-scouts of the Interstellar Patrol.

One of these ships, the IPS *Vesta*, XP-S 119, had entered the ultra frontier system of the F type star Ravan two months ago. Six weeks later, its lifeboat had landed on planet IV, an E type world called Kelane. In command of the six-man landing party was Lieutenant Ferd Brazil.

Brazil's boots whispered toward the chaplain's room in the stillness before the dawn. At the door he paused, briefly undecided, then turned the knob. The stench of fried flesh struck him and held him there.

Not again, he prayed. Not the horror on Hela again. Don't let me find Nenone as I did Betty Scone.

But even as the thought formed in his mind, the sight of black-clad legs sprawled beyond the bed told him that Nenone wasn't the one lying there stinking and dead.

Thanksgiving was a sudden weakness in his legs.

When the blaster bolt had awakened him and he had found her gone, he had been afraid that the dark motifs of death which had haunted him on Hela were being repeated here on Kelane.

But Nenone wasn't dead.

He pushed into the room, and the still, sprawled legs grew into the husk of a man. It wasn't pretty. A blaster victim never is.

Alciabiades Smith, IP chaplain, had been a small man in life. In death the charred ruin of his head made him seem a pathetic doll-toy. He hadn't been dead long. The crisp black stump still oozed on the white collar.

"No!" Brazil muttered.

It was the same word of futile protest he had cried on Hela, and it triggered the old nightmare. For a moment he swam in timelessness, helplessly enmeshed, and the body on the floor became Betty Scone, headless and murdered—

The sharp sound of his own voice broke the spell. The thing on the floor was Smith, not the girl with the proud swimmer's body and the brain with the dangerous knowledge.

He forced himself to look down, his knuckles white on the bedpost. The blaster which had scorched away Smith's life lay beside his limp hand, and the usually immaculate uniform was rumpled and stained.

Ironic, those stains. Symbols of shame on the cloth of the Patrol. Ironic, too, that he, Brazil, who had been fed legends of the Patrol with his pap, should regard this death as poetic justice, part payment for the girl on Hela. An eye for an eye—

A slip of paper half concealed beneath the body caught Brazil's glance. He knelt to retrieve it, and the acid of burned flesh corroded his nostrils. He stumbled to an open window, gulping, and the scent of pre-dawn Kelane was a sweet solvent, scrubbing the smell of Smith from his lungs.

The note was brief, typed rather badly.

Forgi ve. O Kord this labm f or stra yingfr om Thy fl ock;

It was obviously intended to be: Forgive, O Lord, this lamb for straying from Thy flock. A suicide note, of course. The sort of thing Smith, with his addiction to the high-flown phrase, might say.

But it shed little light on the chaplain's motive for taking his life. "Straying from Thy flock" could mean almost anything. Or, to a non-Believist, nothing. Brazil considered Believists narrow, bemused by their own brand of mysticism, and he had often wondered why the Patrol tolerated them as ship chaplains.

That was beside the point at the moment. Smith's suicide, not his religious conviction, was the question before the house. But the note did suggest a possible relationship.

Brazil toyed with the slip of paper, vaguely disturbed. The chaplain had visited the Temple of Kel several times to talk with Allain, the Priest. This was an alien world fifteen light-years beyond the frontier, and strange things could happen.

But it didn't fit. Smith was too bigoted. Try to convert Allain—yes; allow himself to be converted—Brazil shook his head.

Nevertheless, the note suggested a religious motive.

Where was Nenone? Why had she left without a word? The speculation sprang to his mind unbidden, and he cursed the unreasoning fear it brought.

Angrily he tucked the thought away. He needed facts, not conjecture.

Something had led him straight to Smith's room when the blaster bolt had awakened him. Something had told him that the trouble lay here. How had he known that it hadn't been Barnes? Or Zebaron? Or one of the crew?

He closed his eyes and tried to return to the night just passed, to rehear the sounds half heard in fitful sleep.

Muttering voices. Arguing? Cajoling? One of them Machek's bass.

Pacing feet, one pair less steady than the rest. Two men supporting another?

The low, persistent moan of an animal outside the house, repeating its call. And repeating—

The high *pip-pip* of static. The unsure, halting rhythm of a typewriter.

His recall seemed unclear. There were too many sounds, more than the normal quota, confused. And there was something else.

The singing.

It had roused him during the night, and he had been irritated at the thoughtlessness of the singer. The song was bawdy and old, and he had dozed off with the half formed thought that one of the crew had come home tight.

But he realized now that the voice hadn't belonged to either Machek or Stein.

The singer had been Smith.

Brazil frowned. The chaplain wouldn't stagger home in his cups, chanting a dirty ditty.

But he had.

It didn't make sense, but there it was.

Could that be what the chaplain referred to in the note? Was he asking forgiveness for singing a bawdy ballad? Had he taken his life for a thing like that?

No. Mystic and fanatic Smith may have been, but he wasn't insane.

Dissatisfied, Brazil sat in the open window. Birds flittered in a nearby tree, their early song muted. Ravan, the sun, was heralding his arrival by scattering rose in his skypath. Diamonds of dew winked on the grass, and mist was a blue morning sea in the valley below. In the distance a child laughed, and the silence following the sound lengthened in pleasant peacefulness.

The mood of the slumbering planet touched Brazil with a soothing hand, and the grisly thing in the room behind retreated to a closet of his mind. This was Kelane. This was peace.

Ravan inched above the horizon, rouged by the long passage of atmosphere. His light etched footprints on the grass below, and the peace was gone.

Brazil muttered a curse and swung himself over the sill. Someone had jumped from Smith's window, the heavy imprint of the landing clear in the film of dew. Tracks swung from the spot in long strides—running tracks. A child's? A woman's?

Torn by doubts, he loped down the hillside following the trail.

Not one of the Kelani—not Nenone.

Who else? Not any member of the Vesta's *party.*

But the Kelani were a laughing race, gay and well adjusted, free of the

fears and neuroses which cocooned the seed of Terra.

Are they? What about the fused tube on the lifeboat?

An accident—

Or sabotage. How much can you learn about an alien race in two short weeks?

Enough to know that you love one of its daughters.

The trail halted at a large tree fifty yards or so from the house. A trampled spot indicated where the runner had stood, peering from the shelter of the bole. The steps circled the tree, moving back toward the house. They were closer together now, shallower, cautious.

A glint of metal caught Brazil's eye. He stooped, reached, and his reaching hand froze.

The bauble glittering in the concealing grass was a bracelet made on Hela, a trinket he had given Nenone.

Stiffly his fingers lifted the thing and his lips moved softly to say, "Nenone—" The lonely word was a requiem.

Heavily he walked back toward the house.

Six had come and now there were five, gathered in the lounge of the house the Kelani had given them, faces solemn with the aftervision of death.

"This note was beside the chaplain's body," Brazil said. "It was evidently typed under great stress—" The note fluttered as he passed it to Barnes, and silently he cursed his trembling fingers.

Barnes read, and enlightenment slid over his smooth pink face. "So Smith was a knight without armor."

Zebaron reached for the note impatiently. "What's that crack supposed to mean?"

The humanics expert took a cigarette from the pocket of his garish plaid shirt and leisurely puffed it to life. "The chaplain came to Kelane with us to protect our souls, didn't he?"

"You're tying to imply that he lost his?" Zebaron's laughter was a mirthless bark. "You're nuts."

He flipped Smith's note toward the two crewmen. Stein made a grab for it, missed, and Machek retrieved it from the floor.

"What else could the note mean?" Barnes shrugged expressively.

"That's the only logical explanation—" Brazil was startled by the eager shrillness of his voice.

"Remember the chaplain's prayer last evening?" Barnes continued. " 'Help us, O Lord, to lift up our eyes to the vision of our destiny; deliver us from the exotic temptations of materialism; safeguard our hearts from straying to alien altars—' "

Zebaron's mobile face was dark with contempt. "And you think that's what Smith referred to in the note? You think 'straying from Thy flock' means that he knelt at alien altars?"

Brazil saw Stein and Machek exchange a significant glance.

Barnes cocked his head judiciously. "It would be an easy thing to do here. Kel is very persuasive. Its science of abundant health, its happy, hedonistic philosophy—"

Zebaron snorted. "The very antithesis of Smith's beliefs."

"Exactly—and very persuasive."

"Bosh," Zebaron exclaimed hotly. "Kel is dangerous as hell. And Smith knew that better than the rest of us."

Machek nodded in silent agreement.

Barnes laughed chidingly. "Oh come now, Zebaron."

The physical sciences expert shook his head doggedly. "Look what it's done to the Kelani. Five hundred years ago their population exceeded five billion. They had conquered their solar system, their cities dotted the semihabitable planets; mining communities, communication stations, outposts were scattered on the remaining worlds. Their civilization was ready to reach for the stars when we on Terra had barely discovered atomics.

"Then came Kel, a blight on a field of rich wheat. Overnight technology stagnated, population has declined to the present billion plus, science has decayed. Their ancient cities hang abandoned like rotten fruit. The planets are pleasure resorts, their glory forgotten. All of their energy and drive are channeled into fields which yield the sterile harvest of sensuality and pleasure. Art, yes; music, yes. They have become a great artistic race, if you can call art without soul great."

"You don't believe in art, do you, Zebby?" Barnes remarked slyly.

"As a part of a balanced culture, yes. But not as an end in itself. No society is healthy when every man and woman is an artist and only an artist, when every other field of endeavor lies fallow. And even their art is cheap."

Zebaron strode to a table and snatched up a vase. "Look at this. Finer than a Ming. On Earth, it would be priceless. Here, just punch a button on one of their duplicators and you get another—it has all the value of a dime store pot." He smashed the fragile porcelain to the floor and ground the fragments beneath his heel.

"You didn't have to do that," Barnes said soberly.

Moodily Zebaron scuffed the rubbish with his toe. "There's something wrong with a race that squats on its haunches for five centuries. And I think the wrongness is Kel."

"Because they are different, you would destroy them as you did their vase?"

Zebaron stared at Barnes, shocked. "Different? No, my friend, not because they are different. Because they are dangerous. And I would not destroy them. I would pull their fangs so they can't destroy me."

Brazil interrupted crisply. "We're getting too far away from Smith's suicide."

"His death," Zebaron corrected significantly.

Brazil's fingers tightened on the bracelet in his pocket. "What are you trying to say, Zebaron?"

The tall man shrugged. "You tried the Berger test?"

"Yes. It was inconclusive, as it often is. The residual radiation left in a human hand by the backlash from a blaster bolt is infinitesimal, almost undetectable under the best of circumstances. Where the weapon is brand new—as Smith's blaster was—the Berger fails to determine positively whether a particular man has fired it about as often as it succeeds."

Zebaron pursed his lips thoughtfully.

Brazil turned to the crewmen. "Didn't you two come in with the chaplain last night? I heard your voice, Machek. And the chaplain—singing."

Machek and Stein exchanged another glance.

"Yes, sir," Stein admitted. "You heard us, I guess."

"Well, what happened?"

"Stein and me, we brought the chaplain home right enough, sir." Reluctance dragged in Machek's voice. "This . . . what we say here . . . won't have to go on the chaplain's record, will it, lieutenant?"

"You'll have to let me decide about that, Machek. Or Commander Alston."

"Yes, sir." The big man regarded the lieutenant stolidly.

"Well?" Brazil barked impatiently. "Don't make me drag it out of you."

"You say you heard the chaplain singin' last night, sir?"

"Yes."

"You recognize the song?"

Brazil nodded, recalling the lilting, pornographic verse.

"It was that kinda stuff, sir." Machek leaned forward, a frown twisting his broad, Mongoloid face. "The chaplain wasn't himself, lieutenant."

Barnes smiled superiorly. "Obviously."

Machek flashed the civilian a reproving glance.

Stein cleared his throat nervously. "We don't want to say nothing disrespectful about the chaplain, sir—"

"I understand that. Just tell me what happened."

"Mr. Smith wasn't himself last night, lieutenant," Machek repeated. "Not like his usual self at all. He was . . . well, he'd had a few too many, sir."

"You mean the chaplain was drunk?" Zebaron asked incredulously.

Stein nodded. "Yes, sir. Singing songs you wouldn't a thought he knew. Laughing and crying, mumbling crazy things."

"What sort of crazy things?" Brazil snapped.

"Said an evil spirit had got into him, sir, and possessed him."

"Do you remember his exact words about this . . . evil spirit, Stein?" Zebaron inquired harshly.

"He did say something about drinking it, sir."

Zebaron frowned thoughtfully.

"He didn't call it the spirit of Bacchus, by any chance?" Barnes asked languidly.

"No, sir."

"This spirit wasn't alcoholic, I'm afraid," Zebaron remarked quietly.

"I think the chaplain meant the devil had got in him, sir," Machek explained. "He wasn't himself."

"He said as much in the note," Barnes agreed.

"How did he act?" Brazil asked.

"Kinda queer, sir. Queer for the chaplain, that is." Machek's big hands moved uncertainly. "You never know how some guys are gonna act when they're on a jag, and this was probably the first time the chaplain —" He paused, glancing at Brazil. "You know how it is, sir."

"He didn't mention suicide? You didn't have any idea he might have been planning to kill himself?"

"No, sir." Machek was emphatic. "Me and Stein woulda never left him if we'd had any notion—"

"You should have called me."

"Well, sir," Machek said reproachfully, "we didn't wanta bust in on you and your girl friend—"

Hot blood rushed to Brazil's face, and he cursed the thin skin which bared the badge of his embarrassment. "I have requested marriage permission from Commander Alston," he said stiffly.

"What?" Zebaron cried. "You want to marry that girl Nenone?"

"I fail to find anything so remarkable or reprehensible in that."

Barnes chuckled. "Quite a ladies' man, aren't you, lieutenant? I was under the impression that you were engaged to some girl on Hela."

"No—" Brazil's voice was thick with the fresh hurt of an old wound. "She was . . . a friend. And she is dead."

"Sorry," Barnes mumbled. "I didn't know."

"By the way, Brazil," Zebaron said softly, "where is Nenone this morning?"

Brazil touched the bracelet, and a lump inside him was colder than the metal. "She went to the village. Early. On a personal errand."

"Oh?"

Brazil turned abruptly to the two crewmen. "Where did you find Smith last night?"

Machek scrubbed at his jowl. "Like I said, sir, we don't wanta put nothing disrespectful on the chaplain's record—"

"Where did you find him?"

"At the Sex Palace, sir," Stein blurted. "With a woman—"

There was a moment of stunned silence.

"I don't believe it," Zebaron said loudly.

"Me and Stein thought a heap of the chaplain," Machek growled ominously. "You tryin' to say we'd

make up that sorta lie about him, Mr. Zebaron?"

"No—" Zebaron shook his head. "I didn't mean it that way, Machek. It's just too incredible."

Machek nodded slowly. "I guess I wouldn't have believed it neither if I hadn't seen it with my own eyes."

"I wish Vaan were here," Zebaron murmured.

Vaan Teneen was the *Vesta*'s medical officer and, technically, he outranked Brazil.

"If you aren't satisfied with my command of this expedition," Brazil flared, "you are free to make a formal complaint to Commander Alston."

"Don't be so touchy," Zebaron snapped. "Vaan's a Capellan, and Capellans are better telepaths than we are. That's what I meant."

Brazil measured the tall man with his eyes, not sure he liked the implications of his remark.

Abruptly he turned away. "Signal the *Vesta*, Stein. I'll make a report to the commander."

"Yes, sir." Stein scrambled up and left the room.

"By the way, lieutenant," Zebaron said casually, "you checked the grounds outside the chaplain's room, I suppose."

"Checked the grounds?" Brazil echoed, stalling.

"For signs of a possible intruder, anything like that."

Brazil hesitated. Had Zebaron seen something? He glanced down, following the other's flicking gaze, and saw that his boots were still discolored from the wet grass.

"Of course I checked the grounds, Zebaron."

"And found—?"

The sun should have erased the prints by now. "Nothing," Brazil lied.

Zebaron raised his eyebrows. "Nothing, eh? Well, something's queer about this whole business. Smith wasn't the sort to go dipping in the fleshpots. And I don't think he killed himself."

Brazil's breath caught crazily in his throat.

Machek was a frozen statue.

"What—" Barnes began.

Stein burst into the room. "Lieutenant," he blurted, "the transmitter's been sabotaged."

Brazil saw the thin butter of fear spread over the others' faces. Machek's big hands flexed and unflexed silently.

"Marooned," Barnes whispered. "The last link—"

Zebaron cried harshly: "The lifeboat and now this."

Within Brazil was grim gladness. Time. Time to help Nenone.

His voice cut above the babble. "Can you fix the transmitter, Stein?"

"I think so, sir. It'll take a while."

"Then get at it man." Zebaron said hoarsely. "We—"

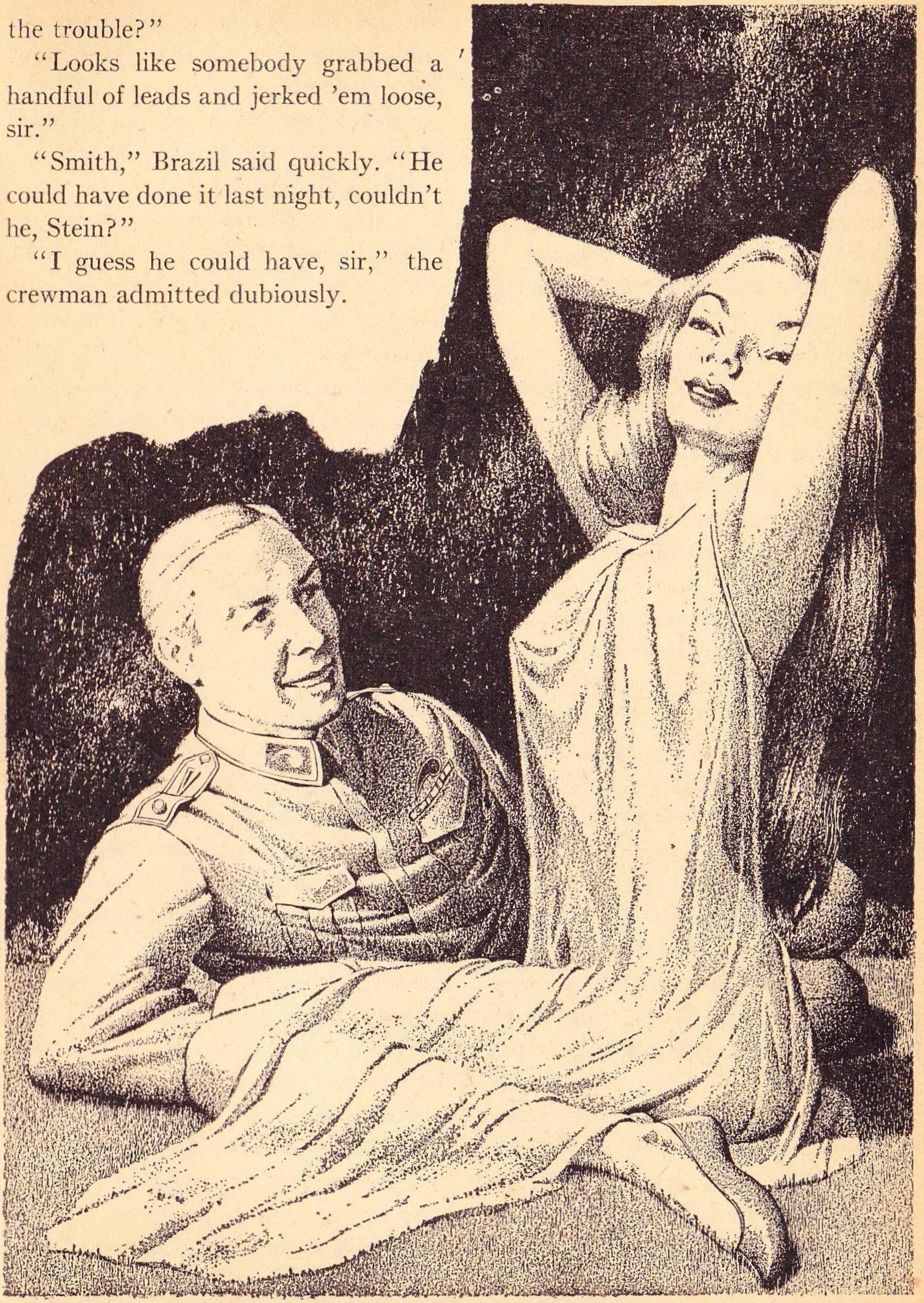
Brazil interrupted savagely. "That's enough out of you, Zebaron." He turned to Stein. "What seems to be

the trouble?"

"Looks like somebody grabbed a handful of leads and jerked 'em loose, sir."

"Smith," Brazil said quickly. "He could have done it last night, couldn't he, Stein?"

"I guess he could have, sir," the crewman admitted dubiously.



Zebaron made a rude noise.

"Get to work on it, Stein."

"Yes, sir."

Brazil faced Zebaron deliberately. "All right," he said crisply. "You've done a lot of talking. Suppose you put some of your insinuations in plain English."

The tall man began to pace the room nervously. "It doesn't make sense. Smith wouldn't take his own life. Something bigger than the chaplain's death is involved here, something I can't quite get my hands on."

"Look," Barnes interrupted, "Zebby's upset. Perhaps I can explain what he seems to have in mind better than he can."

Zebaron paused in his pacing, regarding the chubby man narrowly. "I doubt it," he snapped. "But go ahead."

Barnes inclined his head sardonically. "Zebby and I are supposed to be the experts of this expedition, he in the physical sciences, I in the humanics. We're both dabblers, really. Our function is to make a generalized report which will give the real experts, the specialists, a starting point.

"We've landed in the midst of a culture that appears barren from Zebby's point of view — technology. Actually the reverse is true. All things go from the simple to the complex to the sophisticated. And the state of ultimate sophistication seems extremely simple. And it is. Unnecessary things are eliminated. That's what has happened here. Kelani duplicators have made a complex technology such as ours obsolete."

Barnes paused to grin at his colleague. "And Zebby doesn't like it. Do you, Zebby?"

"Go on," Zebaron said quietly.

"It was the same with the chaplain," Barnes continued. "His religion is based on straight-laced behavior in life, mystic promises in death. It is founded on fear of future punishment for a misstep—and reward in the hereafter for conforming.

"Smith probably didn't think of his religion in those terms. But that's what it was, basically. And his religion was his job, his life's work. And he was a Believist, a sect which is relatively intolerant of other religions. Ride away and convert the infidel."

Barnes spread his hands. "Now, what would happen when a man like Smith ran up against a people like the Kelani? An ultrasophisticated code of conduct, extraordinarily tolerant, almost completely without prejudices. Living together peacefully with few of even the normal restraints of government. A people who have almost achieved the social ultimate—an anarchic society which is cohesive enough to serve basic needs of the group, to preserve unity, and to protect individual freedom and liberty.

"Where is the need for the threat of fear in such a society? They behave rationally without coercion. Where is the need for a mystic system of re-

wards and punishments in a speculative hereafter? They are mature, they don't require a diet of myth to sustain them."

"So," Zebaron said thinly, "Smith saw the Kelani as the living lie to his religious beliefs, and he couldn't take it. That's what you're trying to say, isn't it?"

Barnes nodded. "And, to a lesser degree, you're in the same boat. You see danger in the Kelani because they have outgrown the need for your technology just as they had outgrown the need for Smith's religion."

Zebaron grunted sarcastically.

"And," Barnes continued, "the chaplain's actions last night are proof of his complete repudiation of his former beliefs. Later, remorse set in—"

"Hogwash," Zebaron snorted.

Barnes laughed. "The way you mouth Cassandra-like warnings about the Kelani, you'd almost believe they were the Ancient Enemy."

The tall man's mouth opened, and Brazil thought he detected a sudden fear on his face. The notion obscurely disturbed the lieutenant.

"We're all jumpy," Zebaron said abruptly. "I suppose it's only natural that we should be." He strode to the door. "I'll see if I can help Stein."

"Zebby's got a case of nerves," Barnes remarked easily.

Brazil frowned. He was sure Zebaron hadn't been convinced by Barnes' argument. Briefly he wondered if he himself had been.

The fear and doubt eating his insides answered him.

"Come on, Machek," he barked. "We're going to the village—to find out just what Smith did do last night." And, he added silently, to find out about Nenone.

Brazil and Machek walked down the hillside without haste.

"You know the woman the chaplain was with last night, Machek?"

"I'd know her if I saw her, sir. I don't know her name."

"Any idea where we can find her?"

"No, sir."

"We'll check at the Sex Palace. Someone there may remember."

The village of Shalar drifted down the gentle slope of the hill to the lap of the valley, a part of the land rather than an excrescence upon it. The buildings might have grown in place, nourished by their own taproots.

Shalar was typical of the thousands of Kelani villages scattered over the face of the planet. These villages were the heirs of the huddled cities which had been abandoned centuries ago. They were small in size, spacious in layout, uncluttered and peaceful. A way of life as much as a place to live.

And upon Shalar the cloak of the sun lay bright and warm, but in his mind Brazil was cold.

Barnes' jest about the Ancient Enemy— The feral glint of fear in Zebaron's eyes— Commander Alston,

smug and snug aboard ship in distant space, refusing to land the *Vesta*— Was he, too, afraid? of what? What was this dark fear that radiated from the men of Terra? Couldn't they understand a world welcoming and gay, cleansed of the clinging darkness?

A mote of happiness swept into his brain, a bright ray penetrating a forest of gloom, and he knew that the thought was not his own. A child's thought, golden with laughter—

Children came dancing along the path, ten or fifteen of them, their gay shouts stilling momentarily at sight of the Patrolmen, resuming as glad greetings from smiling lips.

Deliberately Machek spat on the path as the children passed. The laughter in their eyes hid from his sullen face. They peered at him askance, uncomprehending, an uneasy silence billowing upon them.

Then they were by, and their laughter came back, tentative at first as though in remembered fear of the uncomprehended thing behind them, gradually growing in volume and sureness.

Brazil flushed, shamed by the contagion of the crewman's churlish act. "What's the matter with you?" he demanded angrily.

Machek ducked his head sheepishly. "Somethin' about this planet give me the creeps, lieutenant. Everybody's just too happy about everything all the time."

"And you think it's not right to be happy," Brazil said acidly, "so you're rude to a bunch of kids."

"It wasn't the kids, sir. I didn't mean no harm to them—" Machek's broad face puckered earnestly. "And fun's O.K. I like fun as much as the next guy. But you oughta think about things that ain't all fun sometimes, things that's hard to get. You gotta reach for things you can't quite touch, you gotta work so you can—maybe some day—touch 'em. And when you do, it's fun. But not laughin' fun, sir. It's quiet fun that's warm inside."

Machek scratched his head, darting a sidewise glance at Brazil. "Just havin' fun and figurin' out ways to have more fun— Just doin' that and nothin' else— Well, somehow it's wrong, sir. It ain't natural. I guess my feelin's just popped outa me when I saw them kids."

"That's no excuse for rudeness toward these people."

"Like I said, sir, I didn't mean no harm to the kids. I just wouldn't wanta live in a place like this. It'd run me nuts."

The Sex Palace loomed through the trees ahead, a rambling structure beside a small lake. "This place, now," Machek said, pointing. "Think I'd want my wife comin' to a Sex Palace?"

"It's all in what you're used to, Machek. What you're brought up to accept."

"It ain't decent. A red light district, now, I could understand. But this open swappin' about of husbands

and wives— It just ain't right."

"The Kelani have marriages and homes just as we do. Their sexual customs are different, more tolerant. That's all. Morals are relative. We've had cultures on Earth which encouraged—or at least tolerated—polygamy, polyandry, brother and sister marriages, origiastic rituals, even homosexuality. Where a society accepts such things, they become moral and proper."

"Maybe so, sir. You know more about all that than I do. But you put one of these Sex Palaces on Earth and it would be homicide heaven."

Brazil laughed. "You may be right about that."

"Yes, sir. If you was to marry Nenone, how'd you feel about her comin' here?"

A muscle hardened along the lieutenant's jaw. "It's all according to the way you look at it."

Machek suppressed a smile. "Yes, sir."

They entered the Sex Palace, and Machek's face grew somber in the cool dimness. Dressing rooms lined the passageway, offering fresh, filmy robes for those who wanted them. The two Patrolmen strode ahead, retaining their uniforms to indicate that their visit was a nonfunctional one.

"Another thing I don't like about this place," Machek hissed. "What it did to the chaplain—"

Brazil grunted noncommittally.

They found a group of laughing girls in the main lounge.

"Did any of you see the Earthman, Smith, here last night?" Brazil asked.

A plump girl moved forward. "The short one with the eyes of a child?" She puffed her cheeks and goggled her eyes in caricature of the chaplain's cherubic face. "That one?" Laughter bubbled from her lips.

"It ain't funny," Machek growled angrily.

"Yes, that one." Brazil smiled in spite of himself. "Who was his companion?"

"Charla," a tall girl answered.

"Do you know where we can find Charla?"

"Probably on the hillside—painting. Near the brook, perhaps."

Machek's gaze swept the small group busy at their easels.

"That's her, lieutenant," he said stiffly. "The one with the baby."

As they approached, Brazil saw that the girl was absorbed as she worked on the canvas.

"You're Charla?"

"Um-m-m." She didn't look up. "Wait a second—"

Her brush dabbed delicately, its result surveyed by a critically cocked head.

"Do you like it?" Her eyes, sparrow bright and questioning, darted at Brazil.

The painting was impressionistic, a swirling somber thing of blacks and

murky reds, shot with tongues of licking orange. It conveyed a sense of nameless disaster, simultaneously mocking, with slyly sardonic mirth, the futility of the catastrophe it portrayed. Involuntarily Brazil shivered.

Machek spat a curse and moved away.

"You were with Smith last night?" Brazil asked. "The Patrolman in the black uniform?"

"Yes." The baby cooed up at Brazil. She laughed, playfully kissing the infant's nose. "My first. A fine boy, isn't he? The Spirit of Kel will enter this one gladly."

"He's a healthy looking child."

"He will be my last as well as my first, I think," she remarked pensively. "One is worth it, but two—"

"Where did you meet Smith last night?"

"At the Sex Palace. He was drinking wine—much wine—and laughing with the girls."

Her slow smile purred as though recollection were a saucer of milk. "It was my first outing since the little one came."

"How long was Smith with you?"

"Two hours, perhaps three." Charla shrugged. "The wine began to best him. That one"—she indicated Machek's broad back—"and another took him away."

"Do you know where Smith had been before he went to the Sex Palace?"

Reflectively she lifted the brush and touched a spot on the canvas. "He said he had attended the concert with Luine."

"Thank you." Brazil began to move away.

Her voice brought him back. "Why are you so interested in the doings of that one?" The dark head was bent intently over the palette. "Surely he is not worth doing a personality dissection."

"He is dead. He killed himself this morning."

"Oh? Why did he do that?" Charla's voice was bland as the still surface of a dark lake. She might have been inquiring about the weather.

Suddenly, without consciously willing it to be so, Brazil's mind touched hers and linked. It was one of those freakish things which sometimes occur between partial telepaths.

He caught a thought about Smith, and the thought was a knowing and a relief—and an outside blameless-necessary agency. And something else.

Something else he instinctively did not want to know, but was driven to pin down.

He dove into the depths of her mind, clutching for the Smith thought. It eluded him. For a kaleidoscopic moment he spun in a maelstrom of irrelevancy. He felt the pangs of childbirth, he was spellbound at a magnificent symphony, he was a young girl entering the Temple of Kel. He was Charla, and a part of all she had known.

Then he was himself again, dizzied

by confused memories of unexperienced things.

Charla knew—

Desperately he reached for her mind. It was hard and smooth as a marble, and he could not enter.

"Nenone—" Brazil muttered thickly.

Charla's gaze left him, deliberately returning to her canvas.

His hands clenched at his sides. *Nenone had been involved in the thought that had eluded him.*

"You know," he cried hoarsely. Savagely he reached for her shoulders and shook her. "You know—"

The baby whimpered, and Brazil stepped back uncertainly.

Calmly Charla soothed the child. "I am bored with this," she said coolly. "Please leave."

"But Nenone—"

She turned away from him, holding the infant up in her arms, laughing to make it echo her laughter.

The sound was a tinkling bell following Brazil as he stumbled blindly away.

Machek's voice broke upon his numbness. "What?" he asked blankly.

"You notice that picture, lieutenant?" Fury trembled in the big man's words.

Brazil nodded absently.

"You know what it was?"

"An abstraction of some sort."

Machek's face was grim alabaster. "She was paintin' the chaplain's death. She had it all down there. The things he couldn't square with himself afterward—things that made him die. She was paintin' that picture outa the chaplain's blood and laughin' at him while she painted."

They found Luine at the spaceport, one of a gay group preparing to board the community's yacht. Brazil drew her aside.

"You went to the concert with Smith last night, Luine?"

"Yes." She was fair, and pleasure danced in her eyes. "Are you going to Fain with us?"

Fain was planet III, a young world of steaming jungle and teeming life. "No," Brazil said.

The Patrolmen had landed on V—a smallish, dessicated, dying world—before coming to Kelane. Brazil remembered the great bubble cities haunted by the thin whisperings of a senile wind; the gossamer buildings blooming like fairy growths in the light gravity. And the desertion. The cities were like boarded seashore cottages patiently awaiting the return of their season and their owners.

And that was just what they were. The Kelani visited the other children of Ravan to mine—not minerals nor treasure—but adventure and fun. Weekends on the planets— House-parties on alien worlds—

"You aren't going?" Disappointment flickered transiently in Luine's eyes. "We have extra girls. You could be my companion." She smiled, cuddly and playful as a kitten. "Groups from

other villages are joining us to go big game hunting. It will be fun."

"Sorry," Brazil said. "I can't make it."

One, perhaps several, of the gay party would die on Fain, victim to the savage planet. But they would die in their great crusade—the cause of fun. They would die with laughing lips—Others would be injured, lose limbs and be forced to spend months in the regenerative tanks regrowing damaged members.

But this was one of the ways the Kelani sublimated their impulses toward violence, this pitting of their weapons and their wits against the raw dangers of primeval beasts. To them, these hunting expeditions were challenge—

"Where did you meet Smith last night?"

"Outside the Temple of Kel. He was shy at first—" Her green gaze speculated on Brazil openly. "Are all Earthmen shy? Is that why you won't go to Fain?"

Brazil felt himself blush. "No," he snapped, irritated. "About Smith—"

"We went to the concert and stayed on the hillside with the others. You know how it is."

Brazil knew. His second night on Kelane he had found Nenone at the concert. She had sat beside him in the darkness, a stranger then, possessed as was he by the tantalizing, sensual magnificence of the music and the swirling solidographs of the imagicon. Unconsciously she had leaned against him, short gasps of passioned breath breaking her parted lips as she was welded into unity with the emotion of the composition. Instinctively he had put his arm around her, holding her close because it was natural and expected.

"Have you seen Nenone today?" he asked, trying to make his question casual and knowing that he had not.

"No, I haven't." Luine pouted prettily. "So that's why you won't go to Fain with me."

Wearily Brazil ignored this gambit. "Did anything unusual happen last night? Did Smith seem upset—disturbed—when you first met him?"

"Now that you mention it," Luine said slowly, "he didn't seem—right. He staggered from the Temple like a blind man and bumped into me. We fell. For a moment he seemed dazed. Then he helped me up. I laughed, and we stood there laughing together."

She paused, plainly pleased by memory. "His laughter died, and he looked at me as though I were the first woman he had ever seen. Then he did a funny thing. He had a book in his hand, an old black book. He stared at this book in a strange way for many seconds, then he cursed it and flung it from him into the night."

"Thank God," Brazil whispered.

Smith had cast away his Bible. Perhaps Barnes had been right.

One of the prime rules of the IP:

Do not interfere with native religions.

Brazil had no intention of interfering, although he wasn't at all sure that Kel was a religion. He was rather inclined to think it was not. But it was the closest thing to one possessed by the Kelani.

In some respects Kel resembled the clutter of religio-health cults which had abounded on Earth in the twentieth century. It was medicine and faith healing, psychology and physical science. It smacked of the Indian medicine man and the cure-all peddler.

But, apparently, it worked. There was little illness or disease among the Kelani. Their control of the involuntary muscles was remarkable. They claimed they could regulate many physiological processes at will, thus enormously increasing the self-curative powers inherent in the human organism.

Kel was also an attitude toward life. It was the spirit of fun and pleasure. Eat, drink, and be merry so that tomorrow we may live to be merry again.

Kel claimed no gods, but had it possessed one, he would have been no deity of vengeance and wrath, of thunder and lightning. Rather, he would have been a laughing, jesting fellow, the sort one would accompany in roaring song and slap familiarly on the shoulder.

There was a Temple of Kel in every village, and each Temple had its Priest. Brazil found it difficult to de-

fine just what the Priest of Kel was. Certainly he was no priest in the Terrestrial sense of the word. He seemed to be the head of the local Chamber of Commerce, the village doctor, and the mayor all rolled into one. And he was something more.

The Kelani word for the House of Kel was not strictly translatable as "temple." It meant Fountain of Fun, Health Center, Home of Awakening, and, in a rather obscure way, Font of Spiritual Guidance. Whatever the Temple was, Brazil felt instinctively that there lay the core of yarn whose threads had led to the chaplain's death.

Machek halted at the Temple's entrance, solidly planting his blocky body. "If you don't mind, sir, I'll wait out here."

"Afraid the bogey man will get you, Machek?"

"Or you, sir." The big man hitched his blaster suggestively. "I'd like to stay out here just in case. Sort of available you know, sir."

The crewman's remark irritated Brazil. "There's no danger here. These people are peaceful and harmless."

"Maybe so, sir."

"If you get trigger happy, Machek, I'll have your hide."

"I won't, sir. Unless it's necessary."

"It won't be," Brazil said sharply. "Remember that."

He stomped into the building.

Allain was in his study. He rose as Brazil entered, the silvery robe of priestly office flowing about his rotund figure like molten metal.

"Glad you dropped in, Brazil." The Priest came forward with outstretched hand, the jovial salesman. "Always pleased to have you Earthmen come."

"It's about Smith."

"Of course. A pity. A great pity." Allain spoke with businesslike sympathy. "I rather liked your chaplain—"

"You know about his death, then."

The Priest nodded. "When I first learned of the unfortunate affair, I'm afraid I didn't understand. Taking one's own life is a thing we don't comprehend easily. There has not been such an occurrence on Kelane for centuries." He waved Brazil to a chair and returned to his desk. "Smith was not at peace with himself, of course. Tremendous inner conflict." He smiled sadly. "Kel might have done much for him—under the proper circumstances."

"He was here last night?"

"Yes. Smith came often to discuss religion." Allain smiled quizzically. "I think your chaplain wished to convert me to his faith. He wanted to—save my soul."

"The Patrol has a strict rule against proselytizing," Brazil said slowly. "And Smith was a Patrolman as well as a chaplain."

"Perhaps I should not have put it so bluntly." The Priest's hands moved deprecatingly. "Smith himself did not

state his purpose in so many words, but it was easy to read between the lines—"

Yes, Brazil thought, he could accept that. Smith might have proselytized without consciously realizing that he was doing so.

"What happened here last night?"

"We talked. Smith read to me from the Bible he always carried. After a time, he requested permission to make a tour of the Temple." He paused, regarding Brazil keenly. "Before, I had always hesitated to take him to the Cup Room. Last night he insisted."

"Why had you hesitated to take him there?" Brazil barked.

Allain frowned reproachfully. "I realize that you are anxious about the death of your companion. However, I had been led to believe that you respected the laws of courtesy."

Brazil flushed. "I did not intend to be impolite, sir."

"Nor do I intend to withhold information from you," the Priest replied calmly. "If you will permit me to proceed in my own way, I believe I can shed some light on Smith's unfortunate action."

Brazil accepted the rebuke. "Go ahead, sir."

"As I stated, Smith had strong, ah, missionary tendencies. And he was obsessed by what he termed incompatibilities between the Believist doctrine and Kel. In my opinion, these so-called incompatibilities were either non-existent or trifling in the extreme. But Smith thought otherwise.

"For instance, he believed in strict adherence to a rather narrow code of black and white, right and wrong, personal and social behavior. We are too tolerant, too easygoing, perhaps, to conform to such a code as his. Not to drink alcoholic beverages, not to be free to pursue normal relationships between the sexes, to feel that certain innocuous forms of pleasure are sinful — To us, such a pattern of conduct would be silly and intolerable. We are a mature race and have outgrown childish taboos. We have no need for such a stern doctrine."

"Smith probably exaggerated that aspect of his religion," Brazil remarked dryly. "He believed in—and advocated—many things which are not widely practiced."

"Smith's fervor on the subject tended to border on the fanatic," Allain said dubiously.

"The Believists are inclined to be that way. However, they are but one sect among many."

"Do not all of your sects believe in the same set of principles?"

"In a general way, perhaps. But they differ widely in their interpretation of those principles."

"Here we are all united in Kel," Allain said slowly. "Perhaps that makes a difference. Perhaps I have misjudged—"

"Our peoples have freedom to worship or not as they choose," Brazil

said. "No one is required to belong to a particular faith. We only require that a religion not be detrimental to society as a whole."

"I see." The Priest's fingers drummed thoughtfully on his desk. "Be that as it may. The Believists—and your other sects, too, I believe—build the greater part of their doctrine on a belief in life after death. A system of rewards and punishments for the, ah, soul in some hereafter." He smiled at Brazil, sharing a jest. "Kel is not concerned with the soul. We know nothing of it and do not pretend to. Kel does not deal with prophecy nor mysticism. It promises health, happiness, and pleasure here and now. Cash on the barrelhead. Satisfaction or your money back."

The Priest chuckled softly. "That's not the sort of talk you're accustomed to hear from your religious men, is it, Brazil?"

"No, sir, not quite."

"Exactly." Brazil refused and Allain deliberately lit one of the long native cigars. "Frankly, I doubt if Kel is actually a religion at all in your sense of the word. Our ethic agrees with yours in a broad, if not in a narrow, sense. But we are concerned only with life, not with what happens after death. Certainly Kel could never be in competition with a religion such as Smith's."

Brown smoke wreathed the Priest's face. "I am telling you this so that you will understand the background of Smith's—lapse."

Brazil leaned forward tensely. "What lapse?"

"I have tried to point out that there is no basic conflict between Kel and your religion. They are concerned with different things. Kel does not—and would not—compete for the dubious privilege of saving men's souls. It is a promise of life, not a covenant whose provisions become valid only after death." Allain sighed gently. "Smith refused to accept this fact. He believed Kel to be ungodly. Yet, he was strongly attracted by it—"

"Are you trying to tell me that Smith became a convert?"

"Not exactly. But he was driven to—experiment." The Priest studied the ash of his cigar, frowning. "If I visited another planet with a variant culture, I might do the same. I might sample the practices of its religion for comparative purposes. The temptation would be present to do so."

"Barnes suggested something like that," Brazil mused. He wanted to believe, and Smith's actions of the night before encouraged belief. And yet—"It doesn't make sense," he said harshly. "Smith's faith was too strong."

"Perhaps I can convince you," Allain interrupted quietly. "Come with me."

"Where?"

"To the Cup Room."

The heavy door swung back, and it was like entering a cathedral in the

moonlight. A stained glass window sifted muted silver upon an altar which held a cup of shining green, and Brazil's step slowed in awe. His gaze sought the looming shadows, but a brightening at the window brought it back.

The window was no window, but a screen, flickering with black and gold and promise. It was a flower shedding petals of emotion, weaving him within a warm cloak of benediction. This was the shrine of peace; here the garments of care could be sloughed.

The Cup was calling him. He had come afar in his search, and now the Grail was at hand.

There was another reason for his coming— Something about Smith— Puzzled, he frowned.

The screen danced, flickering, dizzying.

No, he had come for the Cup, and the Cup alone. He smiled, satisfied, and the screen told him that his satisfaction was good. Beads of benevolence coursed in his blood.

He waited expectant, expecting he knew not what, but knowing it was right and the Cup would be his. His body was warm with blissful lassitude, and soon he would be called.

Called?

Yes, the screen would call. IT would call—

IT began to shape, flowing from the screen—a shifting, shining, shimmering figure.

A part of Brazil's brain stood back and remarked coldly, "Unreal. A solidographic phantasy representing a personification."

Gently, soothingly, the being gestured, stilling the voice. IT was father and mother, sister and brother, warm and comforting. IT was Pan, beckoning, gaily laughing, promising the pleasures of the gods.

"Come, my son."

Brazil's feet moved.

The god of the screen was extending the Cup, offering him drink and he was athirst; hinting of hope for his disillusion; fitting his hand with a tool for shaping things right.

The altar bench was hard beneath his knees, and his hands were supplicant. An ancient craving was about to be sated. 'Twas the night before Christmas, and he saw Santa's sleigh.

Something grasped his arm and pulled it back.

Impatiently he tried to shake it off and could not. Helpless, he felt himself led away, and the protest he would make he could not. Sorrowfully he watched as the massive door closed and his signature dried on the deed to paradise.

He was bereft of the vision. From a child, his eyes had been blinded by the stardust of the Patrol, then those magic motes had changed to cinders. Now, when the cinders were about to dissolve so he could see—really see—this—

Fists tight, he faced the Priest.

"Why did you drag me away?" The gale of his anger blew in his voice.

Allain smiled enigmatically. "A demonstration—remember? I was convincing you about Smith."

Brazil brushed the Priest aside and moved toward the door. The glowing promise of the laughing god was an ember now, but lure still lay in its spark. He hesitated, and his reaching hand fell to his side.

Shakily he puffed a cigarette to life. "Smith—drank from the Cup?"

Allain nodded. "As we reached the Cup Room last night, I was called away to attend to a routine matter. I cautioned Smith against entering before my return. I was away longer than I expected. When I came back, he was gone. I did not suspect what had happened until much later. Then I hurried to the Cup Room and my forebodings were realized. The Cup was empty."

"What is in the Cup?"

"The Spirit of Kel, we call it. Actually, it is a medicine, a powerful neural stimulant. Without proper preparation beforehand, its effects are unpredictable, aberrant—sometimes dangerous. That is why it is entrusted to the Priests alone to administer."

"And your entire religion is built around this Spirit of Kel?"

"As I said before, I do not think that Kel can properly be called a religion as you understand the term. However, our manner of life, our philosophy, perhaps, are founded on the Kel Spirit's effect upon us."

"And this preparation for receiving the Spirit?"

"Perhaps you could call it a psychic soothing, a minimization of inner conflicts to avoid a psychological wrench." Allain's face grew somber. "In Smith's case, the Spirit evidently released, perhaps reversed, his inhibitions. Later, he was apparently unable to reconcile his behavior with his religious convictions."

The Priest paused. "I blame myself for his death," he said gravely.

The temptation of the Cup had been too strong for the chaplain. And, Brazil thought nostalgically, he could understand that.

"It fits," he murmured. "The note he left—" Feverishly he took Nenone's bracelet from his pocket. "Then Nenone— When I found this under the window, I was afraid."

"I know, my boy." Allain touched his shoulder sympathetically. "I know of your love for Nenone. You may set your mind at rest."

"Where is she, Allain?"

"She came to me this morning. I tried to give her peace in some small measure."

"She saw Smith use the blaster?"

"More than that, my friend. Much more." His upraised hand silenced Brazil's question. "It will be better for you both if you hear the story from her own lips. You will find her at your domicile when you return."

Nenone was there.

She was in his room sharing the window with the sunlight, a jewel in a golden setting.

"Oh, Brazil—" Hands outstretched, she was love.

She was first love, last love, all love —blowing petals of a rose and piney smell of mountain and slow sad music at dusk—shyness and lust and the sweetness of laughter—thunder and lightning and erupting volcano. She was love.

And she was footprints in the grass and a glittering bracelet under a window where a dead man lay and a tantalizing thought in Charla's mind. She was an elusive quality of race, hidden, hovering on recognition's threshold without quite crossing. She was ache and anguish and doubt, fusing now into anger because she was love.

The anger was in his savage stride, in the twisted mask of his face. "Where have you been?"

The jewel broke from its setting. "You've come, Brazil—" Her cry held the weary gladness of homecoming.

His fingers dug into her quaking shoulders.

"Brazil . . . don't." She was hurt and bewildered.

Impatiently he shook her, and her waving tresses were canary wings caught in sunlight.

"Where have you been?"

"I needed you so—" She melted against him in softness and sobbing.

His anger fled on sudden wings. "Nenone— You saw it." Words flooded from him. "You saw him. I know how it was. Shock and terror, horror and flight. It happened to me— on Hela. A girl there. I was sick, wanting to hide from a reality which did such things, permitted such things. I was blind with fury and my hands thirsted for the rotten men and the rotten schemes that did it. And the girl lying there."

Memory cast his face in sympathy and sternness. "I know how it was. But now it's gone. You hear me, Nenone? It can't touch you now."

She clung to him, her head heavy and helpless on his shoulder.

"It's all right, my love. It's gone, done with."

"Yes. It was all those things you said it was, Brazil." Tear trails streaked her cheeks and sunlight struck a coin of her head. "I was sick and afraid, and I needed you so. This morning hiding behind the tree, hearing the clack of his typewriter and coming back not knowing— Then, through the window, the bright flash from his hand stripping his head, blackening it. And he stood there, his skull grinning. Finally he fell." She shuddered. "Oh Brazil, I can see it still."

His arms were a cradle, holding her, rocking her, and he crooned, "It's all right."

A sudden wrongness pricked him. The typewriter clacking?

"It's all right, Nenone." Uneasily memory wriggled and a wrongness twined about the clacking.

"Allain . . . he told you?" The question was still and small.

He remembered Allain's words: "More than that, my friend. Much more. Better you hear the story from her own lips."

Coldness crept upon him. "Told me what?"

"The thing before—why I fled through the window."

"No." Again the clacking nagged him. Forget it.

"It was worse than seeing him fire the blaster—much worse. My flesh still crawls—" She shivered.

"You don't have to talk about it, baby. Rest and try to forget."

"No. I want to get it out of me. I can't rest until I do. Such things don't happen here on Kelane. Even now, I'm not sure I understand—"

The coldness jelled in his loins. "What are you talking about?"

"This morning. I got up early. He found me in the lounge. Something in his room to show me, he said. I didn't understand."

"Smith . . . took you to his room?" His tone was brittle with the crystals of suspicion.

"Yes." Her face was averted. "Then he turned on me—"

He stood trembling in the furnace of his fury, and in his jaw a muscle began to jump.

She watched him with anxious, questioning eyes. "You understand, don't you, Brazil? I needed you so and I was afraid."

He held her in tenderness, his body a shelter nursing the blackness of his thoughts.

In the open doorway stood Stein.

Brazil looked at him over Nenone's head, the muscle in his jaw still quivering.

Stein ducked, half turned, embarrassed. "Excuse me, sir. I—"

"That's all right. You want something?"

"I thought I heard you come in, sir. I thought you'd want to know the transmitter's fixed."

Alston's face was grave on the tri-di as he listened to the news of Smith's death.

"I think I can tell you how and why it happened, commander," Brazil said.

Alston nodded. "Hold it a minute. I want Vaan to hear this."

His face vanished, and Brazil stared idly at the familiar control room of the *Vesta*. Beyond the open dome shutters, diamonds lay on the jeweler's velvet of space.

The commander reappeared. "The mask slipped off, eh, lieutenant?" he said soberly.

Brazil frowned, dark anger residual in his face. "What do you mean by that, sir?"

"I'm not sure myself, Brazil." He regarded the lieutenant keenly, and a

flicker of something that might have been caution—or fear—fleeted on his face. He shrugged. "Perhaps it didn't —" His head turned. "Come in, Vaan."

The Capellan entered the tri-di image. Variant coloring of a variant race, Brazil thought. Blue skinned—Human, of course—iodoblasts instead of melanoblasts.

Alston nodded curtly. "Go ahead, lieutenant."

Brazil weaved the story. The little chaplain's body and the note, the Sex Palace and Charla, Luine and the Temple of Kel. And Nenone— "He tried to kill her, sir." The monstrous thing was a somber roll in his voice.

"And you believe her story?"

"Yes, sir. Of course."

Alston frowned. "You have requested permission to marry this girl. Do you think that perhaps your feelings might have colored your judgment?"

Brazil flushed. "No, sir," he snapped. "All of the evidence I have gathered backs Nenone's explanation. I should think that would be obvious, sir."

Vaan touched Alston's shoulder, shaking his head almost imperceptibly.

"This Cup Room in the Temple, lieutenant," the Capellan said mildly, "can you describe it?"

"There's the Cup, of course—and the glowing screen. I don't think the room itself is as important as the feeling you get there. It must be flooded with parasympathetics and hypnotics—" Brazil smiled softly. "Remember the Pied Piper?

'For he led us, he said, to a joyous land,
Joining the town and just at hand,
Where waters gushed and fruit trees grew,
And flowers put forth a fairer hue,
And everything was strange and new—'

It was like that. Promising more than the Piper's reed—"

Vaan pulled at his chin. "And you believe that this . . . feeling, this flood of emotion, persuaded Smith to drink from the Cup of Kel?"

"Yes, sir. I certainly think it had a lot to do with it. And the Priest told me that the effects of Kel could lead to aberrant—even dangerous—behavior by those who took it without proper psychic preparation."

"Are the repairs to the lifeboat's damaged tube completed?" Alston asked abruptly.

"Not quite, sir."

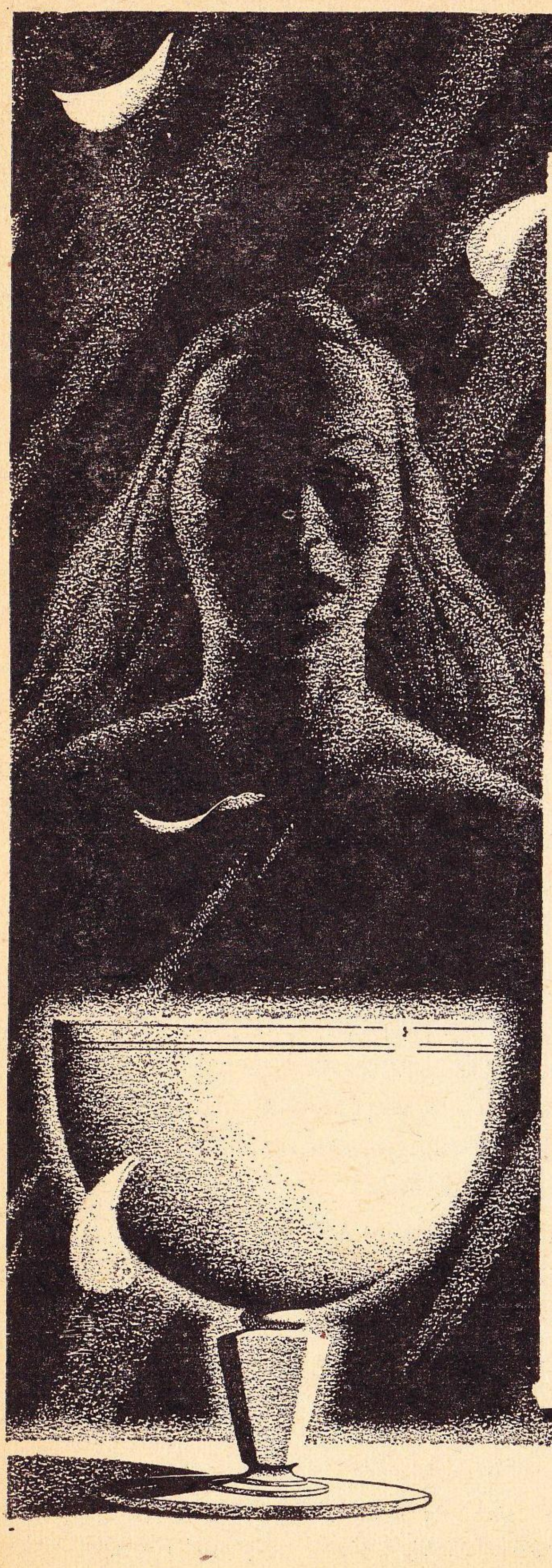
"How soon if you push it?"

"Perhaps tomorrow noon. Certainly by nightfall."

"All right. Push it. Your party will blast off for the *Vesta* not later than eighteen hundred tomorrow. That's an order."

Icy fingers squeezed Brazil. "But, sir, we've barely started here, scarcely scratched the surface."

"Perhaps we've scratched deeper than you think," Alston interrupted



cryptically. "Vaan has been working on the records we took from V—" His words broke off as the Capellan's hand touched him in warning. "You blast off tomorrow, Brazil. Understand?"

"Yes, sir."

"And Brazil . . . I wouldn't go back to that Temple if I were you. Keep your eyes open and be careful."

"There's absolutely no danger here, sir. My reports show—"

"Just watch your step."

"Yes, sir. Commander, about my request for marriage permission—If I'm to leave tomorrow—"

"Permission denied," Alston said curtly. "That's all, Brazil."

They sat on the hillside in the cool darkness of evening—Brazil and Nenone. The concert was about to begin, and the presence of the villagers about them was a soft rustling in the stillness.

His arm held her close, a frightened, feverish closeness. It was a strong arm, and its tight curve was rebellious and determined.

A flash of fire, a bursting chord, and a green globe floated before them in the soft, hopeful notes of dawn. It was shining and peaceful, a thing of beauty and stillness—a quiet virgin awaiting a celestial lover.

The conception was told but unseen, a mystery suggested, and the birth was a sweeping rippling, a deep sigh in the green depths. And lo, there was life—quiescent and formless now, but a living spark whose ultimate triumph was prophesied by a paean of swelling hymn.

Brownish creatures, hesitantly multiplying, then gloriously increasing. Their brashness grew and they came to know fire and the wheel, farming and weapons. Brown clusters speckled the globe.

And flaring pyrotechnics scattered from their weapons, rainbows of death on the peaceful green bewept by the moan of saddened strings.

Settlements spread, and the flames spread with them, leasing the globe, hungrily growing. Greedy flames. One brilliant flash—one blast of white—sated the greed, leaving the once proud green a sickly olive, its brownies blasted back to their beginnings—few, struggling, and alone. Wisps of flame flickered, dying and guttering in the ash of their fuel, keening the slow, sad dirge of twilight.

A commanding chord, rising unquenchable, bugled the call to the climb. Martial marches, brownies marching back along the blasted way. Hun, two, three— You came this way before— The tempo increased, sweeping them along, and the brightening flames were fungi making mushrooms.

The green globe receded, swimming among thousands of green fellows in the liquid darkness. Brownies leaped outward, dizzily jumping, spinning their net over the shining green school.

The flames went with them. Brilliant streamers thundering through the liquid darkness lit it with the lightnings of wrath. Greedy white tongues lapped the green globes, gulping them in gouts of anguished glory. "Needless, heedless," sorrowed the wind horns.

Fires flared brighter, spent their fury, sputtered to candles dimly flickering on darkened globes, some cleansed of their brown, some still infected. The flutes whispered of midnight and funeral and cold, and goblins of darkness laughed in the bass.

The night was long, and monsters were abroad. But dawn, though delayed, would not be denied. The ladder was there, and its rungs were old.

Brasses blared the old familiar saga, a catchy, worthless tune of brownies rising and spreading, of fireworks blazing, of violent glory and lasting death. "But wait," a deeper organ note insisted, pointing out a tiny blaze of blue, a pinpoint hazing on a distant sphere.

The blue grew, its voice swelling, singing of love and peace and hope, of hearth and homestead and plowshare.

"I am a good tool," it sang. "Use me, use me, use me—"

And the flames halted to listen, and listening lapped lower. Brownies sprang across gulfs to embrace the blue, carrying its gentle torch to other globes. And as it spread, the fires whimpered and died.

Pouring from the thankful throats of brownies came the music, the swelling hymn of triumph promised at their birth. Bluish green spheres with brownish patches soared and sang, triumphant, at peace; bathed in the rose of dawn and release.

Silence and darkness on the hillside.

Brazil stirred, a shuddering sigh, a catch in his throat. "Wonderful, wasn't it? A dream— A hope— Beautiful." His whispering words were awed, agape on a threshold.

"Beautiful," Nenone echoed softly. "A promise—"

Later . . .

The larger moon was a baleful orange on the horizon, dotting the hillside with Hallowe'en shadows. Brazil's flesh was drowsy with lassitude, and Nenone was warm against his shoulder. This night had been cut from dream stuff and the maddening, tormenting thoughts had been banished—for a while.

Nenone's lips brushed his cheek. "I wish it could be like this always, Brazil," she murmured. "It doesn't seem fair—"

"No—" The dream couldn't last. He had known that.

"Brazil—" She sat apart, her face half turned away. "There's something I want to tell you—" Her tone was timid and small.

Brazil looked at her, his fury ebbing to wonder. She seemed changed. Familiar laughter had fallen from her like a loosened cloak, and her usually gay face was somber, brooding in the eerie light.

A darkling thought chilled Brazil. This was not Nenone. Black alchemy had worked some awful magic, and this was a stranger and a witch.

A wisp of cloud touched the moon, and Nenone's features were hidden in darkness. Brazil shivered. Nonsense, he told himself angrily. A trick of the light and the sadness—

"What do you want to tell me?"

"I should have asked your permission. I should have told you. I'm going to have your child."

"What?" Brazil's voice jumped with gladness, then he remembered. Tenderly he held her, gently caressing, his lips against her hair. "My darling little love . . . that you should give me such pride in a time of despair—" Sudden doubt chilling. "But how—"

"Kel gives us the ability to conceive when we wish," she said softly. "I wished . . . I wanted something of you after you were gone."

"This makes me even surer that my decision is right," he said slowly. "Knowing that you cared so much—"

Nenone lifted her head from his

shoulder. "What do you mean?"

"I had decided before you told me about . . . the baby. I want you to know that and understand—"

She looked at him anxiously. "Decided what?"

"It goes back and back," Brazil mused. "Perhaps to a time before I was born. Who can say where is beginning or end?" He puffed a cigarette to spark, absorbed in his thoughts, and the slow smoke plumed in the moonlight.

Nenone waited, frowning and still.

"My father was a captain in the Patrol. I never knew him." His lips twisted. "Not in the flesh, at least. He died in the Alpheratz Rebellion . . . a hero. My mother idolized him . . . his memory. He was a glittering starman, a gentle, just knight—a shining man, impossibly perfect.

"And he was my pattern. From early childhood mother molded me. Do this, Ferd; your father would have wished it. Do that, Ferd; your father would have expected it. I was raised for the Patrol, to follow in his footsteps. Legends, traditions, ideals—my skin was tight with them. I entered Space Academy. I worked hard."

Brazil shrugged with self-mocking. "It didn't take long for me to find out I wasn't the stuff heroes are made of. It didn't hurt too much. I was good enough to make the grade, to get by. And I still worshiped the Patrol. It was my life and I loved it.

"They sent me to Hela. My first assignment, a lieutenant fresh from the Academy—wet behind the ears and stars in my eyes. I met a girl there. Her name was Betty Scone. She was a grav bubble swimmer in a club. We saw a lot of each other. One of the owners of the club was a politician named Masgar. Betty stumbled onto information linking Masgar with gambling graft. It was all there, in black and white. An election was coming up. Her information would have meant defeat and prison. They killed her. I found her body—"

"My poor sweet one—" Nenone's voice was soft with compassion, her touch tender.

"My testimony was recorded and sworn to. The following day my unit was ordered spaceside unexpectedly. I was gone a little over a month. When I returned, Betty's death had been adjudged suicide, and Masgar was free as the air."

"But how could such a thing be, Brazil?"

"Bribery," he said bitterly. "Masgar had the local authorities in his pocket, and he had managed to get to the Patrol. The whole thing was plastered with whitewash. I tried to see the Base Commandant. 'So sorry, lieutenant, the commandant is busy.' I tried to get others to take action, use their influence. I met a stone wall. I didn't have much time to try. I was ordered aboard the *Vesta* and sent here."

"Yes . . . I can understand your bitterness."

"The things I had been brought up to believe in—the high ideals of the Patrol—were a sham. It was rotten, grafting, petty. My anchors were lost."

"It must have caused you much unhappiness," Nenone said pensively.

"Here on Kelane you have learned how to live. Such a thing could never happen here. Your people are peaceful, happy, free of the dark disease of corruption. And gradually I have sensed a thing here on Kelane which has begun to restore my faith, give me something to tie to. A dream, a hope— Perhaps a tool for making men clean."

"I am so glad, my Brazil," Nenone murmured. "I realized that you were troubled. I had hoped that you would find here the peace you sought."

"The peace, the hope of fulfillment, of a better world, a society free of bickering and fear. Those are a part of the thing I have found on Kelane. And you, Nenone— I have found you. And now the baby will make another—"

A tinge of alarm touched Nenone's face. "You talk as though—"

"I'm going to stay here, Nenone. I'm not returning with the lifeboat tomorrow."

"No," Nenone cried. "You can't—"
"But I thought you—"
"To desert the Patrol—"
"To be here with you—"
"To be hunted—"
"To have peace—"
"No, no, you haven't thought—"

"Haven't I? Do you think I want to be a deserter, to wear the brand of the outcast?"

"You can't—"

"There's no other way."

"Think of my people. What would the Patrol do to them if they sheltered you, hid you?"

"Yes—" Brazil's face grew bleak. "I guess I was a fool . . . to think you would love me enough . . . take me in . . . let me become one of you—"

She sensed his hurt. "That isn't what I meant—"

"What else could you mean?" His voice was cold.

"Oh, Brazil—" She flung her arms about him and he was wood.

He rose, freeing himself of her. "Good-by, Nenone."

"No, not like this—" Sobs shook her. "I love you, Brazil. Love you—"

For a moment he hesitated, and longing was naked in his eyes. He choked back the lump in his throat and muttered, "No, not like this—"

Awkwardly he knelt and touched her back. She sprang into his arms, a wild thing shedding all shyness, sobbing and laughing against him, holding him tight.

He responded with the savage joy of reclaiming a precious thing thought lost. "Nenone—" The word was a prayer and a thanksgiving.

"There has to be another way," she breathed. "There must be—"

He sighed. "No."

"Brazil—" Her stare was starry with tears. "Your commander Alston refused to allow our marriage, but isn't there some way to appeal, some higher authority?"

His face twisted. "Nothing would come of it."

"But there's a chance—"

"Slim. Too slim."

"I don't want you to desert, Brazil, cut yourself off from your own. I won't have the cloud of that over us, constantly reproaching myself, having you grow to hate me for what you had done."

His shell gathered about him. "So you said before."

"Goose," she laughed, trying to infect him with the hope of merriment, "there is another way."

"What?"

"We can be wed here in the Temple, according to our custom. You can go back with the *Vesta*, make an appeal for reversal of Alston's decision. If successful, you can return—"

"I won't take that chance."

"Our ceremony would not be binding under your laws. If your appeal were denied, you could be free of me—"

"No."

"Or you could return, knowing that you had tried the honorable way first. They could not prevent that. And I would be waiting."

He frowned. "It wouldn't be as simple as you think."

"It will work. I'm sure of it." She leaped to her feet, laughing with childish contagion. "What are we waiting for?"

"It might—" His face crinkled dubiously. "We could try—"

He took her hand and allowed himself to be led toward the Temple.

Allain was puffing one of the long cigars, his eyes twinkling with quiet merriment. Something in the Priest's face, half glimpsed through the curtain of smoke, aroused disquiet in Brazil. He was expecting us to come, he thought uncomfortably; waiting—

"I hope you enjoyed this evening's concert," Allain remarked blandly.

Memory of the spellbound thralldom on the hillside fetched enthusiasm to Brazil's voice. "Wonderful—A beautiful dream promised and made into vision—"

Allain smiled. "Thank you."

"It was yours?"

"The solidographs, yes. Not the music. I performed at the imagicon."

Nenone's laughter tinkled brittlely. "Allain is very talented. Unexpectedly so—"

Uneasily Brazil felt that the words were intended to convey a double meaning. The Priest glanced at Nenone, and hidden warning seemed to fleck his eyes. "Thank you, my dear," he said smoothly.

Suddenly Brazil felt like a child who listens to adult talk without understanding. "Nenone and I—we wish to be wed," he blurted awkwardly.

The Priest's enigmatic eyes searched their faces in turn. "You are sure?"

"Yes," Nenone answered softly.

Brazil swallowed. "I am sure."

Allain nodded. "I had hoped it would be so. Come."

They followed a few steps behind the Priest. Brazil touched Nenone's arm. "Where?"

"To the Cup Room," she murmured.

Something pricked at Brazil's brain, making his step falter. Impatiently he shook the feeling off and strode ahead.

The glory of the glowing screen burst upon Brazil. The misty, anthropomorphic figure began to emerge, beckoning, calling his name. Peace and well-being were a warm sea wafting him high—

Dimly he realized that Nenone was grasping his hand, that they were walking toward the silvery rail and the shining promise.

He knelt, and the Priest's voice was a soothing murmur in his ear. The laughing god danced joyously, a host greeting a favored guest. A father welcoming the prodigal son—

"Abandon yourself—"

Gladly Brazil surrendered, drifting lazily in peace and warmth and sunshine.

"Drink—"

He drank.

The figure before him seemed to emerge from the screen, solidifying, taking on life and substance. Without curiosity or fear Brazil watched the strangely unhuman being advance. It smiled and spoke. The words were alien but understandable. Brazil listened, contented, and the high singsong voice droned on.

His brain was a liquid stirred by a powerful spoon. That part of him which consciously saw and heard spun ever more rapidly around the rainbow whirlpool of the stirring, sliding imperceptibly down.

"Surrender yourself. Abandon your fears—"

He reached the bottom of the funnel of pleasure and happily plunged beneath.

Vaan Teneen bent over the bunk, expertly rolled up Brazil's eyelid, then turned to Commander Alston.

"He'll be around in a minute."

"Do you think he'll be . . . all right?"

Vaan shrugged. "Don't know yet. I think it will help if you put him straight on the Hela affair."

"Why? You don't think that could possibly have anything to do with—"

"But I do think so."

"Nonsense. The rawest recruit wouldn't believe the Patrol would countenance—"

"Wouldn't he? Even when the evidence smacked him in the face? You don't believe that yourself, Alston."

"Well— He shouldn't have been sent back to Hela until the thing was

over. I admit that. Someone slipped up there."

"Tell him. He should have been told before."

"Um-m-m—" Alston's eyes squinted into unseen distance. "I knew his father. Idealistic, impulsive—not too long on logic. A great jumper to conclusions. Perhaps you're right, Vaan."

"His father wasn't Captain Jedro Brazil? Not the hero of the Alpheratz Rebellion?"

"Yes—the hero." Alston grimaced. "Actually, his famous raid was foolhardy bravado, executed against the express orders of his commanding officer. A thousand-to-one shot that endangered the strategy of the whole campaign." He sighed softly. "If he hadn't died with his ship, the hero would have been courtmartialed."

"Oh—?" Vaan frowned thoughtfully. He leaned toward the man on the bunk. "Brazil—"

The faraway murmur pulled him up through the dark waters. He burst the surface, and harsh brightness was a sun of pain, searing—Pain about him, pain within him— Chaotic, disorganizing—

"Brazil—" The voice pulling him. Desperately he tried to plunge back into the oblivion of the dark waters. His buoyance was corklike, and he failed. Gradually the sharpness of pain dulled with familiarity; but sickness had made its home within him, to dwell there forever.

Orientation grew. A pillow was beneath his head, the rough nap of a blanket against his hand. Blanket—bunk. He remembered—

"Can you hear me, Brazil?"

"Yes," he screamed silently. "I hear you all right—"

Vaan had tricked him, had made him a cripple again just as he was learning to walk. A fellow cripple.

But Vaan didn't understand. And explaining to Vaan and the others was a part of his job.

"Is he awake?" Alston's voice.

He made his muscles still. Think. He had to think before he talked to them, and it was hard to think now that he was alone.

For the first time, full realization exploded upon him. *Alone*—

He twisted on the bunk, whimpering with fright as the desperate sense of desolation swept him. He reached for *it* like a child for a mother's hand, and found stillness and cold.

They had killed it.

No, not quite. A wave of thankfulness washed him. *It* was torpid and helpless, stunned by pain, and *its* pain was his pain. But still *it* lived, revivable—

Savagely he lashed his shrinking will. Think. Review. Go back to seek the answer.

Brazil was at his station in the *Vesta*'s control room. Ravan was hard and bright beyond the dome, and Kelane was a distant greenish disk.

Alston's hand touched the hyper-

spatial control, and Ravan vanished in a featureless sea of grayness and vertigo. Brazil choked as a giant hand sought to turn him inside out. Then with a silent, wrenching snap, the grayness was gone.

So was Ravan. The star was light-years behind them, camouflaged among the myriad pinpoints glittering on the infinite velvet. The *Vesta* was on her way home.

Brazil smiled, and his smile was a purr. The first jump was behind him, the first leg on the lap of destiny.

Behind locked door in the privacy of his cabin, his laughter rang free, exulting in his aloneness with the glowing promise within him.

Alone? He laughed anew at the jest. Never would he be alone again. *It* was with him now. Now and forever—

Deliciously he gloried in *its* warmth within him, stretching like a basking cat in the cozy glow of hearth. It was good to be alive—to be reborn. Colors were brighter and cleaner; sunlight bathed his mind; sounds sang with music—The muted hum of the *Vesta*'s activity was the anticipatory note of a symphony whose thundering climax he, Brazil, would write.

His body was a delicate instrument, keen and controlled—responsive. Experimentally he slowed the beating of his heart, explored the secretions of his glands. He strode about the tiny cabin reveling in the pure pleasure of movement, conscious of the play and interplay of every muscle, filled with the sensuous joy of life.

Mankind had been denied his heritage too long.

Lovingly he opened the package Allain had given him. He lifted the silvery robe, and folds flowed from it like heavy liquid. It swirled in his hands, a shining shield, to fall draped about his shoulders.

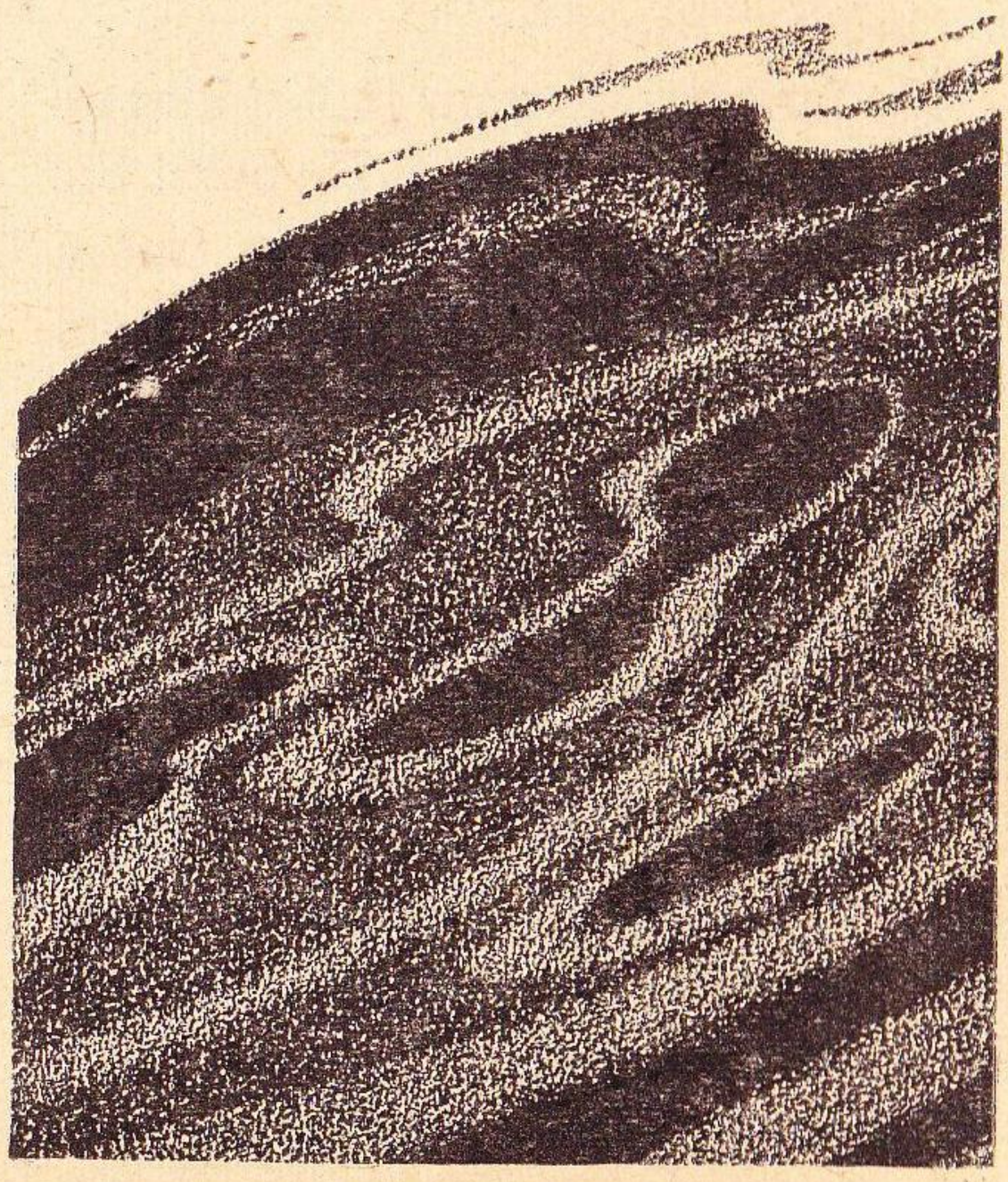
Reverently he touched the luminous jade chalice—the Cup; then raised it aloft in toast, its beauty good against his palms.

"To Kel," he murmured.

Kelane, invisible now in the velvet vastness, had sent an ambassador into the void. She was proffering a gift to Man, the gift of a son transformed—

A missionary. With the galaxy for his parish.

The new Priest of Kel smiled.



A knock on the door.

Moving quickly—"Who's there?" The robe and the Cup into their box—

"Vaan."

The box in the locker, a spin of the dial— "Coming."

The Capellan was smiling, hypodermic in hand. "A new virus," he said. "Precautionary shot—"

Brazil rolled his sleeve, laughing as the needle pricked.

He wasn't laughing now. The sunlight was clouded from his mind by shadowy fears of half forgotten yesterdays hovering above him on darkling wings. The wonderfully responsive muscles were sluggish and chill.

And a craving cried within him. The empty vessel clamored to be refilled.

He opened his eyes. Vaan was sitting near the bunk. Alston stood beside the door.

"How do you feel, Brazil?"

"Awful," he mumbled. "*What have you done to me?*"

"Take it easy," Vaan said. "You've got the granddaddy of all hangovers right now."

He stirred on the bunk, gritted his teeth, and sat. His head was a coconut bursting with milk. Absently he rubbed the empty spot on his thigh where the familiar weight of the blaster should be. His weapon belt hung on the wall behind his shoulder.

"About that business on Hela, Brazil," Alston said slowly. "We knew Masgar was responsible for the girl's murder. But more was involved than the life or temporary freedom of one petty politician. A planetwide crime ring was almost in our net. We had to play it the way we did. But Masgar will be punished."

Brazil stared at him silently. If Alson were telling the truth, it might have mattered two months ago—or even two weeks. It didn't matter now.

The commander's jaw tightened. "Vaan thought I should tell you. Perhaps I should have done so sooner."

"Thank you," Brazil replied coldly.

"Lieutenant," Vaan said abruptly, "we've lost one man. We don't want to lose another. I'd like to fill you in on a bit of the historical background of Kel."

Fool, what can you in your crippled darkness know of Kel?

"Kel—the substance itself, the thing the Kelani call the Spirit—is a drug. Originally it was used to alleviate excessive nervousness, mental strain, undue worry—ulcer thoughts. It was a medically induced rest cure. It worked—too well. It cured the tired business man's ulcers, all right. And it also cured him of wanting to go back to the old grind again."

It's the beckoning doorway of life—the loaf, the jug, and thou— And its craving cried within him.

"Kel's primary effect is on neural paths. Anxiety synapses—worry paths—are destroyed or short-circuited. Pleasure patterns are intensified. It's like being slightly intoxicated. An incidental secondary effect permits conscious control of many of the involuntary muscles."

The keen mind, the vibrant body—To live, to be free—Glorious freedom— The ache and the wanting.

"Also, Kel apparently creates the illusion of a separate pseudo-life within the body, of—company." Casually Vaan asked, "Is that right, Brazil?"

The warm touch of a loved one, the reassurance of a mother's presence, the joy of a playfellow— "Yes," Brazil said softly, missing it, needing it.

Vaan nodded. "Kel became a fad, a cult. It spread like wildfire, and its devotees wanted fun. More and more of them refused to return to their jobs. After all, they said, the duplicators could turn out everything that was needed. Some tried to pass laws against Kel. There were scattered riots, civil disorders. But Kel won. The old social structure—economics—government—collapsed like a house of cards. Some of the Kelani weren't converted to Kel immediately, of course. But their children were—or their children's chil-

dren."

"You see it, don't you, Vaan?" Brazil said eagerly. "Gracious living. Peace. Security."

Vaan smiled grimly. "The stilling of Man's olden restlessness— The end of his urge to sniff the elusive scent of high destiny, following its virgin trail to unknown horizons, damning the obstacles in his path."

"An end to crime and war, to the bungling corruption of government," Brazil breathed. "Peace and plenty and happiness, the gossamer wonder of Man's ultimate dream."

"Man needs a dream," the Capellan said slowly. "A vision. But his eyes must be uplifted to behold it. When his gaze drops to the muck at his feet, the vision fades to a search for sensual satisfaction. Then Man loses his drives —the iron and nerve he needs for survival—and becomes a pig. That's what Kel has made of the Kelani—swine rooting in the mudhole of pleasure."

"No," Brazil protested. "You don't understand—"

"You're the one who doesn't understand," Alston said gravely. "Smith understood. That's why they killed him."

"Killed him?" Brazil echoed incredulously. "But he—"

"Smith had exposed his beliefs to the Priest," Vaan interrupted. "Allain regarded him as a menace to Kel's existence. And quite rightly so. The chaplain knew that Kel destroyed Man's ambition, his higher moral values—his soul, if you prefer."

"It required great courage for Smith to take the Cup of Kel," Alston rumbled. "Knowing the risk, he made that sacrifice so he himself could face the danger he sensed and strip the guiling mask from its countenance. He wanted positive proof of the validity of his fears—and he got it."

Vaan took up the thread. "Allain didn't intend to allow Smith to take Kel, of course. You were the calf he was fattening. He slipped up badly when he left Smith alone in the Temple. He realized that he had to rectify that mistake. Others would follow the path the *Vesta* had blazed to Kelane, and their opinions must not be colored by Smith's warnings. That might mean Kel's destruction."

"But the Priest didn't act quickly enough," Alston said grimly. "Smith overcame the drug's effects sufficiently to call me. The information he got to us, together with Vaan's findings from the historical records we took from V, were more than enough to give us the true picture. While Smith was talking to me, he heard her coming. He sabotaged the transmitter to keep Nenone from suspecting that he had warned us."

"Nenone?" Brazil shouted. "No, she couldn't—"

"Nenone killed the chaplain."

"No—" Brazil repeated. But he knew that it was so. The clack of the

typewriter, the sound that had nagged him with its wrongness. The clacking had been hesitant, unsure, the note riddled with mistakes— And Smith had been an excellent typist. Yes, he had really known all along. But it didn't matter.

"I tried to warn you as best I could without tipping our hand, Brazil," Alston said sternly. "I cautioned you against returning to the Temple."

"They took you, lieutenant." Pity marched in Vaan's voice. "They took you good."

"No," Brazil said desperately. "They might have shot the chaplain to protect themselves, but wouldn't we have done the same? You can't condemn them for—"

"They murdered a Patrolman," Alston said grimly. "Are you trying to defend them?"

"But the great gift they have to give to Man, to the galaxy—"

"The gift of death," Vaan said somberly. "You yourself once compared Kel to the lure of the Pied Piper's reed. Did you forget that the Piper was a professional killer?" He shook his head slowly. "The Kelani are a dying race. They rose, in a bungling way, to meet the challenge Smith presented. But that effort was a dying gasp. Another five hundred years, and they would have been gone. Perhaps, now, we can do something for them—"

"A system full of addicts to a vicious, habit forming drug," Alston growled. "We've slapped on a quarantine, of course. If another ship blundered in there and Kel were allowed to spread—"

"It would make Man a withering moss on the stones of the cosmos," Vaan said softly. "But, there is a cure. Long and painful, perhaps, but a cure—"

"A cure?" Brazil screamed. "Cure Kel? You would 'cure' the flower whose seeds will grow a better and saner civilization for Man? You can't. I won't let you destroy it. I know how to spread—" His voice stopped abruptly as he realized that he had said too much.

Vaan's purple eyes narrowed. "They did send you out as a missionary, didn't they? We found the robe and the cup—"

Brazil bit his lip. Careful.

The Capellan's face hardened. "You're one missionary who won't get a chance to spread his deadly gospel, Brazil. We'll see to that. We'll rip Kel out of you like the poisonous plant that it is."

Brazil's eyes darkened with rage. They were crazy— Vaan and Alston both. Blind to the vision and the dream. He would never make them understand, never convince them. There was only one way. Bide his time, wait for the chance—

"You know," Vaan continued thoughtfully, "Kel isn't only a drug and a religion—it's a weapon. An insidious weapon which drains the will

to fight, to battle for survival, to attain the far horizon. A weapon Man would use willingly—even gladly—against himself. A weapon the Ancient Enemy could be proud of."

The words were an electric shock to Brazil. Convulsively he jerked toward the Capellan. "That's rubbish," he roared. "A lie. You can't think—" Abruptly he checked the flow of fuming protest. Steady. Wait for the chance. He sat back on the bunk.

"Who was the Ancient Enemy, Brazil?" Vaan said harshly. "Who gutted Man's galactic civilization of fifty thousand years ago? You don't know? Perhaps I can tell you who kicked us back to savagery. Or have you guessed?"

Brazil glared at him silently.

"Who produces seed which become drunk on the champagne of misguided idealism. Seed which would bend all other seed to their twisted ideas of salvation and right, destroying those who stand in their way, pulling down society itself if thwarted—never realizing that their prescription for salvation is itself destruction?

"Who but Man? I think Man himself is the Ancient Enemy, Brazil. A certain sort of man. And as I look at you, I am seeing the face of the enemy. Your face, Brazil."

Hate was a hot fountain bubbling in Brazil. They had blasted his faith in the Patrol—had denied him Nenone—and now they would tear away Kel—The craving screamed inside him, mindless and hungry as a beast. He tried to muzzle its cry. Wait.

He felt it then, and knew there was no waiting. Vaan was in his mind, mocking—reading his thoughts—

They would destroy him. It was now or never.

A snarl twisted his lips as he clawed for the blaster behind him. Its butt was smooth against his palm, and the eye of its muzzle lifted.

He saw he wouldn't make it, and he screamed.

The scream was drowned in the authoritative clap of Vaan's bolt.

Somberly the Capellan holstered his weapon. "It's better this way," he said softly. "He knew the Kel formula, knew how to administer it to the—chosen. No matter what we did, we could never have been absolutely sure that he wouldn't revert to . . . the missionary."

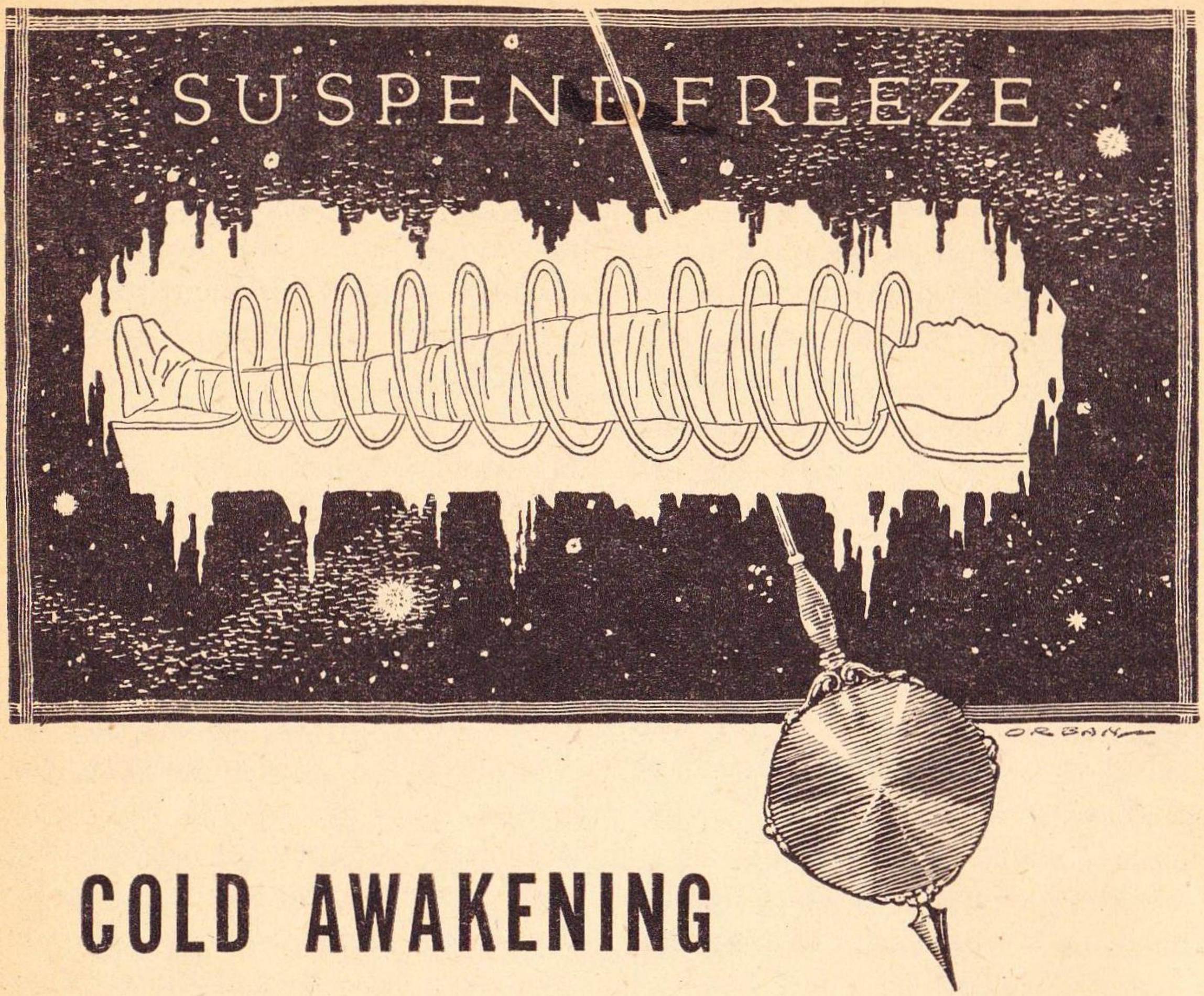
"Killed in line of duty," Alston said slowly. "In a way, he was like his father. Too bad he got religion—the wrong kind."

"Yeah. Let's get out of here. It stinks."

The door clicked behind them, and the thing on the bunk lay stinking in solitude, an obscene grin twisting its blackened face. The face of the enemy, leering and alone.

Alone—for how long?

THE END



COLD AWAKENING

BY WALTER M. MILLER, JR.

There was *little chance that the suspendfreeze techniques or apparatus would go wrong. But that didn't mean they couldn't be sent wrong . . .*

"You've got a pretty nasty job, haven't you, Mr. Joley?" purred the bland-faced scientist with an engaging smile.

"I'm not complaining," grunted the lanky lieutenant who sat across the desk from him and gazed at him curiously, as if wondering what this interview was all about.

From beneath the deck came the surly growl of the rockets. Behind the desk, a viewing port displayed the glittering jewelry of the galaxy, hung in the black emptiness. They had been in space for several months.

After a few moments of waiting for the scientist to come to his purpose, the lieutenant glanced restlessly aside

to stare through the hatchway into the adjoining compartment, where a gleaming maze of electro-surgical apparatus lurked in gloomy half-light.

"Is that stuff part of your suspend-freeze gadgetry?" he asked.

The physicist-surgeon stiffened slightly, then smiled pompously. "'*Stuff*'—'*gadgetry*'," he echoed in the tones of a professor plucking bad words out of a freshman English theme.

"I didn't mean to belittle it, Doc!" Joley said hastily, remembering that the man was unreasonably touchy about his inventions.

"That's all right, Joley," said Doc Fraylin like a martyr. "I guess I should have known that people—all people—would be instinctively suspicious of it. They seem to feel it smacks of death—or of tampering with the sacred perhaps."

"I didn't mean to imply—"

"Never mind," Fraylin sighed. He glanced lovingly through the hatchway. "De Galbin invented the alpha drive and gave men the planets. De Galbin is now a multimillionaire. I invented the suspendfreeze and gave men the stars. And I am still—" He shrugged and smiled benignly, as if his presence as a technician aboard the ship were self-explanatory.

Lieutenant Joley said nothing to contradict. But he knew Fraylin was warping the truth a little. De Galbin had been a millionaire to begin with. He had hired dozens of engineers to help him perfect the drive; it had been De Galbin's money, but not altogether his brain-child. Fraylin, on the other hand, had been hired by the government to tackle a specific project: that of quick-freezing and thawing a human body without killing the subject.

"Ah well!" said Fraylin. "I suppose I can't complain. We all get bad breaks. Like you for instance, Mr. Joley."

"How do you mean?" the engineer asked stiffly.

"Why—you wanted to come on this trip as a colonist, I believe. Applied five years ago, didn't you? And here you are as an emergency-technician."

Eric Joley frowned. "I'll be permitted to join the colonists when we get to Sigma Seven," he growled.

"I know, I know. If you're still alive. But you must remember: you're the ship's main fuse, Joley. If trouble comes while the ship sleeps, the emergency-circuits are set to thaw you out of your suspendfreeze unit, to handle the difficulty. And you can't put yourself back in. You'll be all alone, Joley—in a shipful of frozen corpses—maybe two hundred years before arrival-time."

Eric glared at the scientist irritably. Was he being sounded-out? What did Fraylin want?

"As I say: bad breaks," Fraylin continued. "It's not your fault the psychologists thought your personality fitted the task. They think your ethical standards are high enough so

that you would endure a lifetime of solitude in space rather than awaken someone to be your companion—and share your fate. Therefore, you were condemned to the task because of your ethics."

Eric snorted angrily. "'Ethics' wasn't the word they used. They said 'emotional stability during prolonged deprivation of social contacts.' Furthermore, I volunteered for the job—when they wouldn't take me as a colonist. Did you call me in here to tell me what a sucker I am?"

Fraylin laughed. "Not at all. Roagan called me. Asked me to make a last-minute check on your attitude. I understand we're approaching final velocity, and that the jets will be shut off in about forty hours. We'll begin freezing colonists before then. When the jets are off, we freeze the crew. Then you and the other two, uh . . . fuses. When everybody's tucked in, of course, my staff and I will get aboard the tug and go back to Earth. Then—you're all alone. Roagan naturally wants to make certain of everything before then."

"I see."

"You have any last minute qualms?"

Eric grinned. "Slight case of the jitters. I don't relish the idea of thawing out in mid-space."

Fraylin nodded sympathetically and glanced toward the pharmaceutical lockers. "If you're very nervous, I can give you something."

"No thanks."

The physicist-surgeon shrugged. "You'll observe your pledge then? To disturb none of the 'sleepers' in case you're awakened?" He paused. "Not even the girl who's listed with you on the genetic recommendations?"

"I haven't even seen her. I haven't looked at the bio-recs. I don't even know her name. I don't want to know."

Fraylin made a surprised mouth. "You're either remarkably self-restrained—or else you're remarkably feelingless."

"Neither. I don't want to be tempted."

"If you thawed yourself a companion, you wouldn't be punished, you know. You couldn't be."

"Don't put the idea in my mind," he growled.

Fraylin mused in silence for a moment. "I wonder what *I* would do—if I were in your place."

Eric watched the man's speculative eyes. He wondered, too.

"If you're brought to consciousness," Fraylin murmured, "you'll be in a position of complete control over more than two hundred sleepers. They'll be helpless in your hands, Joley."

"So?"

"You'll be unwatched, unjudged, a law unto yourself. A king aboard the ship."

"A hermit, you mean."

"If you wish it so."

"Still not convinced about those ethics, are you?" Eric snapped, brushing back the lock of red hair that fell on his forehead whenever anger threatened.

"I didn't say—"

"Listen, Fraylin! Are you through? I want to get out of here. I don't like inquisitions, I don't like your talk, and—as of now—I don't like *you*."

Fraylin glanced at him with lofty pity. "I'm not so sure you're as stable as they think, Joley."

"I didn't know you were a psych," he snapped.

"I'm not." Fraylin slid a filing folder onto his desk top and studied its contents briefly. "Psychologists are fallible," he muttered.

"You're not?"

The scientist ignored it. "Only child," he breathed, reading half-aloud. "No early-implanted need for social contact . . . mechanical extrovert, social introvert . . . motivation derives from self-approval in task-accomplishment . . . endures prolonged solitude without distress—"

"Such inferences are guesswork," he grunted, looking up.

"I spent six months in solitary confinement to prove—"

Fraylin softened. "Nobody's satisfied, Joley—not with anything—not until the ship's safely in Sigma Seven. This whole deal is a gamble from beginning to end. Nearly three hundred lives are the stakes."

"For a man who's going back to Earth, Doc, you're worrying a lot."

"Not worrying, just checking."

"Are you through with me?"

"Yes—thank you. You may go."

Eric's exit was carefully jaunty, but when he reached a turning in the corridor, he paused to mop his forehead and to glance back to see if Fraylin was watching from the doorway. But the surgeon had remained at his desk. Eric caught the faint mutter of his voice speaking on the private interphone—to Commander Roagan, he guessed. He strode on toward the colonists' quarters, his face wearing a gloomier expression than he cared to show to the medics or to Skipper Roagan. It was not pleasant to think about the cold and utter aloneness of a lifetime spent in a silent ship of frigid corpses. A living death in a tomb of suspended life. Why did they keep reminding him of that possibility?

The call-system suddenly blared: *Hear this, hear this. Mr. Jessel report to Space-Surgeon's office. Jessel to surgeon's office. This is all.*

Eric made a wry mouth. Jessel was the second link in the emergency fusing. He would be awakened if the first link was already dead and if a second emergency threatened the ship. Eric felt better. At least he alone had not been singled out for Roagan's doubts.

He liked to wander about in that area of the ship assigned to the two

hundred colonists. They were a tough but gregarious lot, and he enjoyed hovering on the outskirts of their laughter and companionship, even though he was less than welcome there. The presence of the gawky guardian of their big sleep sent the voices wavering into lower tones, and he sometimes felt their eyes watching his back with uneasy curiosity. The crew and the colonists both gave him the restless respect men reserve for those whose duty involves their own death. He saw their feelings toward him: they knew they owed him gratitude, yet friendly overtures were always damped by the thought—*what if* I *were in his boots?*

And sometimes he detected a note of suspicion. *What if his mind goes haywire? What if he wakes us all a couple of centuries too soon? What will the lonely prowler do while we are asleep and helpless? How could a man spend fifty years in complete aloneness—in a lifeless sepulcher. How will he deal with the temptation to awaken a comrade?*

They were afraid of him. *If I become his friend, he might thaw me out of loneliness.*

Eric stopped to lounge in the doorway of the ship's dayroom where a game of poker progressed in an atmosphere of boredom—boredom, because the chips, whatever they represented were necessarily worthless. Money would mean nothing on the new world they sought. There would be no values save survival values. He listened to their talk for a time, and learned that the chips were acres of land, but that, too, was meaningless. Farming would have to be communal for a long time, until the colony grew.

They were all young, the two-hundred—young and hardy. A staff of government scientists had spent two years selecting them from many thousands of volunteers. Five additional years were given to their indoctrination, education, and conditioning—a year of which had left them stranded in the Amazon jungles for "survival practice." They were physically healthy, mentally superior, and personally gregarious—with an aggressiveness that branded some of them as abnormal in a politer society, and with a high adaptability that sometimes expressed itself as complete abandonment of conventionality.

Eric, who had been selected for a different task, knew that he was not one of them.

One of the players—a muscular young man with a smugly handsome face—glanced up briefly from the game to see Eric standing in the entrance. He turned and murmured quietly to a sandy-haired girl beside him. Then he grinned at her mockingly. The girl reddened beneath her freckles and shook her head slightly. She stared fixedly at her cards. Eric recalled having seen them before—strolling about the ship together. Partners, he guessed, thrown together on the recommended mating lists.

The young man chuckled inaudibly

and nudged her again. She responded by kicking him under the table. He turned to whisper to the others. Several pairs of eyes glanced up at Eric, but looked quickly back to the center of amusement: the sandy-haired girl. They began muttering to her and giggling. Her color deepened, and she hissed at them to be silent.

Eric studied her briefly. She was no beauty—slightly gawky and rawbone. She had a nice white grin that flickered on and off amid her embarrassed protests. Once she stole a glance at Eric, who was beginning to stiffen self-consciously.

"All right!" she snapped suddenly. "I'll let you have your fun."

She pushed back her chair and arose. Then he saw with consternation that she was coming toward him with a friendly if nervous smile, and her hand was extended in greeting. From the table, five teasing grins watched her derisively.

"Hello, Lieutenant Joley." Her voice was warm and throaty, and some of the flush was leaving her face. Frank blue eyes gazed at him evenly.

Eric murmured politely, took the hand coolly, and dropped it quickly. "A pleasure, Miss, but—"

"Waters—Angela Waters."

An instant of hushed expectancy hovered over the room, but Eric shook his head slowly. Snickers came from the table. He felt a dark inkling—

"Those jokers are having their fun at my expense, lieutenant. They're not laughing at you."

A chorus of guffaws came from the small audience. Eric frowned angrily over the girl's shoulder. He guessed the situation, then.

"He never heard of you, Ang!" somebody called in mockery.

Then the voice of the young man who had initiated the scene: "Mr. Joley, meet your wife."

The engineer looked helplessly at the girl and saw she was miserable; nor was she doing a good job of concealing it any longer. Her eyes fluttered longingly toward the exit, and she stood nervously hesitating between an urge to flee and the waning desire to "be a sport."

"Excuse me for a moment, Angela," he murmured with a quiet smile, then stepped around her and approached the table stiffly.

He dropped his knuckles lightly among the cards and stared expressionlessly down at the young originator of the incident.

"It wasn't funny."

The man's grin became defiant. "I thought it was." He extended his hand. "I'm Kenneth Thoren."

Eric ignored the hand. "Care to apologize to Miss Waters?"

An expectant hush had fallen over the group. A girl giggled. "Watch out, Ken. Don't make him mad. He's your guardian angel."

"Yee-eah!" Thoren drawled, grinning at her.

"I'm telling you—watch out. You

might wake up too soon."

"Care to apologize, Thoren?" Eric asked again, but his voice was drowned in a sudden chatter of conversation. Even Thoren was joining in it.

Their indifference to his anger stung him to cool rage. He tapped Thoren's shoulder. "Let's step aft, fellow. I know a good joke, too."

Thoren brushed his hand away contemptuously. "Don't bother me, boy scout. Go chase your wife."

Eric caught his collar to tug him upward, but Thoren had evidently expected it. His fist lashed up and skidded against the engineer's cheekbone. Although startled, Eric jerked hard at the collar, throwing him off balance as he came up. He threw a short chopping blow hard into Thoren's face, then sent him sprawling across the table with a left to the temple. Poker chips and cards sprayed across the room, and the spectators lunged for safety.

"Call the skipper," a voice barked.

Eric was on the fallen man before he could crawl away from the table. "If you want more in here, I'll kick your teeth out now. Otherwise you can get up, and we'll go aft."

Thoren rolled over and came to his hands and knees. He spat blood, then looked up with a red snarl. "It'll wait for Sigma Seven, fellow," he panted. "The skipper wouldn't like what I'm going to do to you."

"Any time, Thoren. Any time." Eric recovered his cap, glanced coolly at the others, and stalked out of the hushed room. The girl had gone.

But as he passed the first bend in the corridor he stumbled quickly aside to avoid colliding with her. She was leaning against the metal handrail, staring gloomily at the stars through a narrow viewing port. He muttered a hasty apology, tipped his cap, and started away briskly.

"Wait."

He came back slowly toward a pair of dismayed blue eyes.

"I'm sorry it happened," she said. "You were minding your own business. It was my fault." She found a handkerchief and dabbed at his cheekbone. It came away streaked with red.

"You heard the commotion?"

She nodded. "Is Ken all right?"

"For a while," he muttered ominously.

"You let him alone!"

Eric caught his breath at the sharpness of her tone. He smiled stiffly, nodded, and started away again.

"Wait."

"Yes?" He stopped to look back.

"I didn't mean . . . well . . . I meant, you'd do well to avoid trouble with him. He's got a nasty disposition."

"So have I."

"Well, I'm warning you. I know Ken Thoren too well." She stopped to watch his expression for an instant. Then she laughed nervously. "Oh no!

Not *that* well, lieutenant."

He reapproached her slowly, wearing an easy smile. "I *am* sorry it happened. I don't belong in this part of the ship, really. If I had stayed away—"

"I wouldn't have bothered you."

"Then I'm glad it *did* happen."

She acknowledged the gallantry with a wry smirk. "Well, since we're acquainted, shall we talk business?"

"I don't understand."

"The genetic recommendations—that's business, isn't it?"

He laughed nervously. "I suppose so. I hereby relinquish my claim—reluctantly and sorrowfully of course. Not that the listings give any claims. They're just suggestions. So I release you from the suggestion. I can't imagine what made them decide I was deserving of you anyway."

She smiled peculiarly for a moment. "You talk that way because you're shy, don't you?"

Eric bowed slightly. "Shall we announce the business session as closed?"

She studied him speculatively. "Maybe we'll leave it open a while."

"Ma'am?"

"You're quaint. Say—why did they pick you for that emergency job?"

"I have the exact form of unsanity that fits their needs."

"Which is?"

"I'm antisocial enough to live alone and like it."

"You don't *sound* like a hermit. You *act* reasonably human."

"Thanks. It's just a defense mechanism I have."

"What will you do if you're thawed—in space, I mean?"

Eric considered it. "Oh—dump all the male corpses overboard, I guess and wake all the ladies."

She laughed. "Business is definitely closed. I won't be a member of Joley's flying harem. Leave me in my icebox, please."

"O.K., but I'll come often to peek through the little window."

"Will I be dressed?"

Eric smiled at the ceiling and shook his head slowly. "Naked as a hard-boiled egg—unshelled." He sighed.

"Stop wiggling your Adam's apple!"

He fingered his throat thoughtfully and gazed down at her with wry grin. "Thanks, ma'am," he murmured.

"For what?"

"For not looking at me like I might turn out to be a time bomb instead of a protective device."

Her face went solemn and she looked again through the viewscreen. "I wonder who started that rumor," she breathed.

"What rumor?"

"You don't *know?*"

He shook his head slowly. She looked quickly up and down the corridor before she spoke.

"There's a story around that you three men, if you're called for an emergency, get your pick of the women. That you have the right to—"

Eric's face became a sudden thundercloud. He seized her arm and pulled her to the nearest interphone station.

"What are you doing?" she protested.

Eric buzzed the commander's office quickly. A gruff voice barked, "Roagan speaking."

"Just a minute, skipper. I've uncovered something I think you ought to hear." He turned to the girl. "Tell him about that rumor."

Surprised and sobered, she blurted it out haltingly. When she was half-finished, Roagan began bellowing.

"*Whoa!*" she cried. "I didn't start it."

"Who did then?"

"How should *I* know?"

"Then find out."

"I'm not your lackey!" she snapped.

Roagan sputtered for a moment. "Joley, get to my cabin—or—no, never mind! I'll call a meeting of the colonists. We'll get this straight. No colonist is to be thawed before we hit Sigma Seven."

The station clicked off. The girl looked at Eric and arched her brows. "Pardon *me*—for starting a minor *riot*."

"Good thing you did. That story could start real trouble. Some of the couples have already married. The husbands might get a little nasty if they heard it."

"There *is* some bitter talk," she admitted.

The call system crackled for a moment, then blurted: *Hear this, hear this. All non-crewmen colonists report to assembly room. Colonists to assembly. Hasty hasty. This is all.*

"I'd better go," she muttered.

Eric nodded and stepped aside, but she hesitated, her pale eyes scrutinizing his face.

"Meet me later," she said.

His forehead wrinkled in surprise. "Why? The bio-reck business being closed, maybe we shouldn't—"

"Who *said* it was closed?"

She winked, simpered sourly, and sauntered away, leaving Eric uneasily gnawing the corner of his lip. The girl puzzled him. She seemed nice enough, but the pale eyes were full of strangeness. They quietly judged and measured him, but he caught the queer impression that the code by which they weighed was not the code currently popular among civilized humans.

" 'Also doth Satan bless, or damn,' " he breathed after her.

One thing seemed apparent — she approved him. But Eric somehow failed to feel flattered.

Although he had no duty-assignment while the ship was accelerating to final velocity, he wandered about through the control and reactor rooms, idly inspecting equipment, checking the computer circuits of the automatic course-correcting equipment, and otherwise trying to assure himself that

no emergency would occur during the big sleep of the inertial flight across the galaxy. The circuits were a network of checks and balances, each capable of detecting trouble in another, and of switching out the faulty elements to replace them with new circuit sections which were already set up. The equipment could repair itself—within limits. But the repair devices were without imagination, and if their judgment was wrong, they would continue switching new elements into the same recurrent trouble until the replacement-sections were exhausted. Then they could only call Joley from his big freeze, call him awake to build new ones.

His inspection revealed nothing but good efficient operation. But he failed to be reassured. Before leaving Earth, he had privately gathered data from intra-system space companies, gathered it and organized it into meaningful form. The repair records revealed that he could regard his premature awakening as sixty per cent probable, a conclusion which he discussed with Jessel, the second link in the emergency chain.

"Only one chance in ten of *two* emergencies occurring, Jess," he said as they sat in the observation blister, watching the Doppler effect tinge the stars to the fore with blue, and redden the ones to the aft. "Your odds are better than mine. Almost as good as those of finding an earthlike planet in Sigma Seven."

"You got it wrong, Eric," grunted the chubby Jessel as he sucked at a fat pipe. "Your data won't apply."

Eric glanced at him with a faint smile. Jessel was fond of contradicting, whatever the cause. "Why not, Jess?"

Jessel counted off the reasons on his stubby fingers. "*One:* A five-hundred-year flight has never been tried before. *Two:* This ship is no tried-and-true edition; new mechanical species are always full of bugs. *Three:* It's pushing overload right now, trying to get up to final velocity in a hurry—on account of the medics gotta go home; it's getting a good opportunity to develop electrical ulcers. *Four:* How do we know our course is clear? Meteors the automatics can avoid, but if we get sucked off course by the gravity of some black-dwarf star that they never foresaw . . . well . . . we can only call on you, Mr. Joley."

"Is that all?"

"If it's not enough, there's *five:* The interception factor."

"The *what?*"

Jessel grinned a wide expanse of pink gums and small teeth. "We'll range within a light-year or so of several stars before we get to the Sigma Seven cluster, Eric—stars, and maybe a planet or so. Can you anthropocentrically assume that there aren't any unearthly gentlemen living thereupon? Fellows capable of coming out to investigate us and holler, 'Stop in the name of the law!'?"

Eric scoffed. "I don't assume not,

but it seems unlikely."

"O.K., go on in your naive faith—Man's the center of the universe, and all that. But don't wake me up in case a six-legged policeman comes banging on the air lock to spoil the fun."

"You're taking this pretty lightly, Jess."

"I can afford to. My odds are better than yours—as you say."

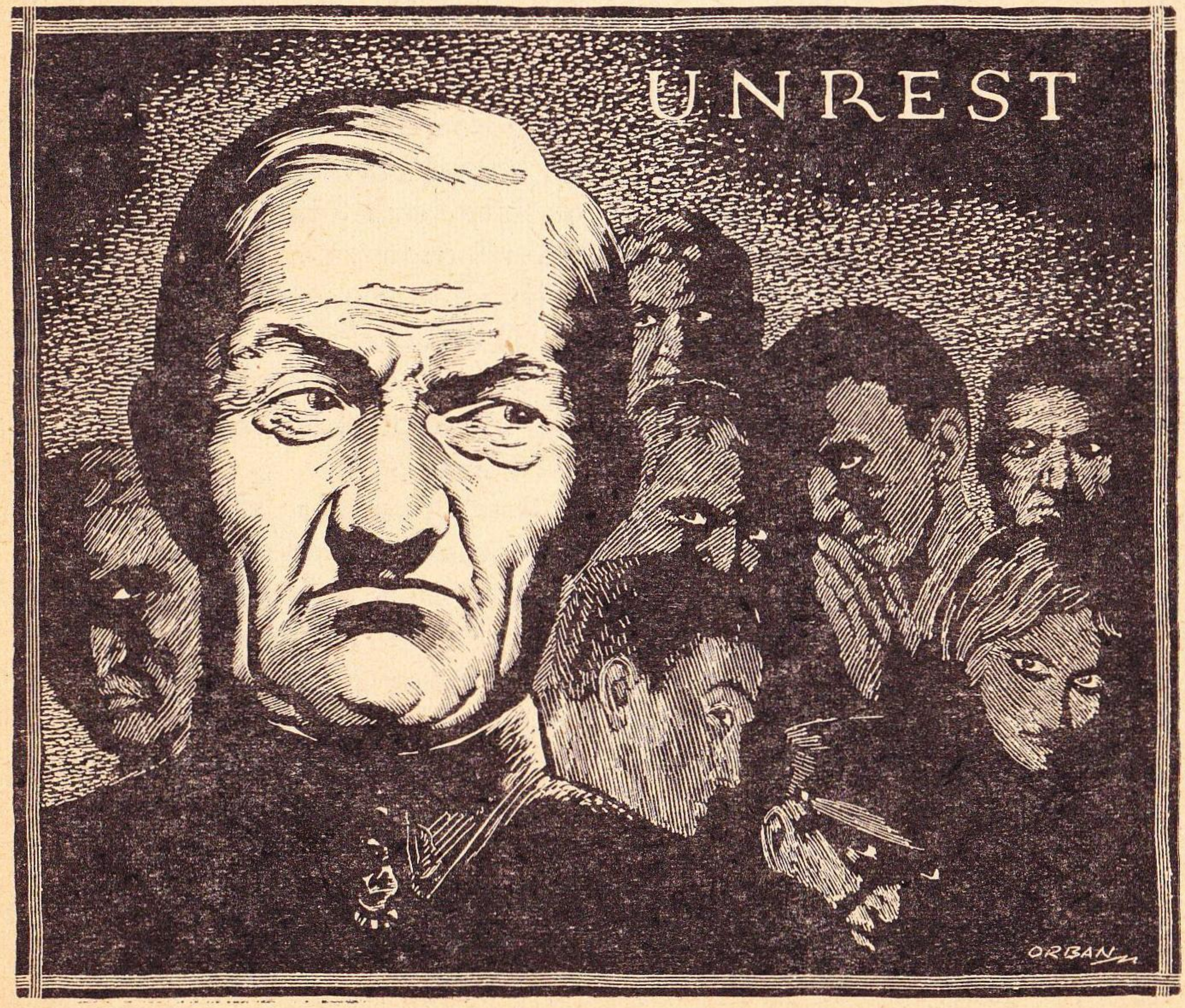
"You got it wrong, Jess," Eric mimicked. "There's the psychological factor."

"Huh?"

"Sure, I might lose my head and turn on your induction heater."

"That sort of practical joke could lead to a killing," said Jessel in a gloomy tone that suggested he meant it.

An aura of uneasiness seemed to be growing about the ship—affecting passengers and crew alike. Even after the meeting of the colonists, at which



Roagan loudly contradicted the whispered rumor, Eric noticed the tenseness in men's glances as he wandered past them. And there was a general feeling of unrest that made itself apparent in surly faces, sharp tongues, and pointless arguments. The ship was restless, living in anxious dread of the big sleep drawing close upon them. By ship's-night, the corridors echoed with the footsteps of wandering insomniacs that drifted from screen to screen to stare across the emptiness, as if seeking an escape.

Suspendfreeze was temporary death. Would there be a resurrection? The time was growing shorter, and men's minds fled down the unseen bypaths of silent desperation, while they waited, forlornly waited.

"What if we *do* wake in Sigma Seven," came the gloomy whispers, "wake—and find no planets as the scientists predicted?"

And of course there was also: *Let us make the most of what we yet may spend, my love, my dove—behold thou art fair.* And doors closed softly along the corridors.

Once Eric was startled by the bedtime whisper of the call system. *Hear this, hear this. Mr. Joley to Commander Roagan's quarters. Hasty hasty. This is all.*"

He stopped in surprise, then turned back. He was scarcely a dozen paces from Roagan's door. A few seconds later, he stood in the lighted entrance, watching the florid old commander finish pouring himself a stout drink. He looked around and held the bottle poised.

"Oh—you!" Roagan grunted. "You didn't need to run."

"I didn't."

With irritable carelessness, the old man sloshed whisky in a second glass. Eric watched him with mild amusement. He was less than drunk, but there was an abnormal casualness about his movements that could only have resulted from a generous dosage of bourbon and water.

"They say it helps in this suspendfreeze business," Roagan grunted gruffly as he handed Eric a glass.

"I thought it was snake bite," the engineer murmured.

The commander gave him a black look and settled heavily behind his desk to glower at the wall. "Doc Fraylin tells me you'll probably do," he growled.

"Glad to hear it, sir."

"But personally, I doubt it."

"What?"

"Nothing personal, y'understand."

"No, sir."

"What I mean is . . . well, blast it, Joley, there's something afoot! He waved a thick paw airily toward the ceiling. I can *feel* it—*here.*" He tapped his chest significantly. "I've been in space for twenty years, and I know unrest when it's around. It *gnaws* at you—here inside—unrest does, even when you can't see it or hear it or smell its sneaking stench."

Whose unrest, Eric wondered—*Roagan's own?* It was easy to see that the oldster was disturbed. Was he disturbed because of the general nervousness, or because of his own approaching sleep in suspendfreeze?

"Listen, Joley—something's up. I'm telling you! That bunch of psychopaths they recruited for colonists! Some of them are brewing up an underhanded batch of notions."

"How do you know? And what—?"

"I *know*, that's all! Watch them whisper around in sneaky little bunches. They look innocent when you pass, but look back—and they're watching you. I smell mutiny, son."

Eric started to scoff, but thought better of it. The old man was in a gloomy mood. He suddenly slapped his palm on the desk, then peered under it as if at an imaginary mosquito.

"Not violent mutiny," he said, "the sneaky kind, son. The kind where you wake up to hear some smilin' jackass tell you politely that plans are changed, and you might as well go back to sleep because your say-so don't amount to much any more. I feel it, Joley, I feel it."

Eric nodded politely. Roagan leaned forward to peer forlornly at the young engineer.

"Listen, Joley—know what I think? I think there's some of 'em would rather wake up in mid-space and spend a life carousing around the ship than they would fight it out to make a home on a new planet."

"That's a little farfetched, don't you think?"

The commander grunted to himself and stared into his glass.

"After all, they volunteered," Eric offered.

"Ever hear of changing your mind? That's why they were picked, Joley—because they're so all-fired adaptable they're positively poisonous. If they take it in their heads they'd rather stay on the ship, they'll try to swing it. 'Course—they wouldn't like it for long. They're like a bunch of miners on a spree. They take a notion, they do it, they get bored. But they won't keep a single notion very long. They get restless. Right now they're restless with the notion of suspendfreeze."

"Frontier spirit working the wrong way, huh?"

"Maybe. Listen, Joley—they won't dare pull anything while the medics are aboard. And before the medics leave, we'll all be human ice cubes. They must be planning to work through you, somehow. Has anybody approached you?"

Eric shook his head.

"Well, watch for it. I trust you Joley, and I trust Jessel, too. Crain is the only one I'd worry about, and he's the third man in the three-shot fuse. Not much chance of him getting thawed, I guess." Roagan's eyes narrowed thoughtfully. "Fraylin claims Crain is schizoid—to the point of feeling persecuted. Can't understand

why they picked him. Walking nightmare."

Eric finished his drink, put his hands on the arms of his chair, and leaned forward—as a hint.

"Now wait, Joley—I'm not finished. I almost forgot! As soon as you wake up—*if* you wake up—you're to bring *me* around, too. That's an order. I'm too old to be any good on a new planet. But I want to see what goes on behind my back aboard ship. If you wake up, thaw me. That's an order."

Eric opened his mouth to protest, but closed it slowly. No use arguing with Roagan. But he had no intention of obeying the order. To wake a man in space was to condemn him to prison for life.

"You think I'm drinking too much."

"No, sir."

"You understood my order?"

"Yes, sir."

"You intend to obey it?"

"Of course."

"Good! That's all, Joley. See you before the big freeze."

Roagan was the victim of some wild imaginings, Eric thought as he left the commander's office. No sane man would want to be disturbed before the ship reached Sigma Seven. The journey would be timeless for the occupants of the freeze-lockers. They would sink into penathol anaesthesia before the present day-period was ended. A moment later, they would awake in a warm casket—with the aches of five centuries in their bones. The septenary star-system would be at hand. They would have no memory of the big-freeze.

"Roagan is nuts," he grunted as he made his way forward to the observation blister.

A shadow sat in one of the seats within the glass dome, and a cigarette glow traveled in a slow arc as he entered. The shadow had been sitting there for a long time apparently, for its eyes were adjusted to darkness and it recognized him.

"Lieutenant! 'Meet me later' to you means *much* later, doesn't it?" Her voice was a chiding purr.

"Oh, Miss Waters—"

"You don't sound happy to find me here."

"Well, I—"

"Come sit down."

Eric stepped inside the blister and found a seat across from her. By the sudden flare of her cigarette, he saw her pale eyes studying his shadow.

"There isn't much time left, is there?" she murmured.

"Until Sigma Seven?"

"Until the big freeze."

"Same thing."

"*Is* it, Mr. Joley?"

"Sure. Subjectively the freeze lasts no time at all."

"Or forever, maybe."

"What do you mean?"

"The freezer mechanisms. Liquid helium has funny habits, they say—like creeping through solid steel. Sup-

pose a failure—"

Eric's face gathered a frown. "Are you an engineer, Miss Waters."

"Oh no, but—"

"Then who put that thought in your head?"

She hesitated. "I don't know . . . there's talk—"

"Talk! Who's starting all this talk?"

"Nobody starts it I guess. Just grows."

"Like mildew," he murmured gloomily.

"Tell me, Eric—why don't they let us stay alive on the ship—raise families, make a little world here. Sure we'd die in space, but twenty generations later, our descendants would get there. And they say the hydroponic tanks can—"

"*They* say! That kind of talk too, huh?"

"Well—why don't they let us?"

"Sociological reasons. The mores of a social group adjust gradually to the environment."

"I don't see—"

"Imagine the society that would develop aboard this ship after twenty generations. There's nothing to keep men busy. Nothing but their own urges and desires."

"Sounds heavenly," she chuckled.

"Utter dereliction, Miss Waters. The twentieth generation—if the group lasted that long—would be a degenerate batch of parasites. Our goal would be forgotten. They couldn't be pried loose from the ship; a Sigma Seven civilization would remain unborn. Probably by that time, Earth would be only a legend, a fiction out of the past. They'd be tied to the ship by a cultural umbilical cord."

"That's pure speculation; I don't believe it."

"You're right; it *is* speculation. Because it won't happen. Tomorrow we'll all be in the big freeze."

She said nothing. But there was a sardonic tone to the silence. It seemed to say: *there are things you don't know about, Eric Joley.* He felt vaguely disturbed. Was there an element of truth in Roagan's intuitive doubts?

"Eric?"

"What?"

"Suppose there's no Earthlike planet in Sigma Seven?"

"It's a ninety-seven per cent probable—according to the cosmologists."

"How do *they* know? They can't *see* planets that far."

"They can see three tiny red-dwarf stars in the vicinity—the cores left by supernovae explosions, over a billion years ago. They've calculated the amount of debris that would be gathered up by the stars in Sigma Seven. Enough explosion-dust to make about seventy-three Earth-size planets. And they applied the Gebrin-Tarnes 'criticalness' equations to get the chances for at least one Earthlike planet."

She made a shivering sound in her throat. "And we're trusting our lives

to Gebrin and Tarnes."

"Men have always left their security in the hands of a few geniuses—despite political oratory about equality. Remember your history? Nearly half the scientists at the first A-bomb test thought it would start a chain reaction in the Earth's crust. They gambled with destruction while polite society went on dancing at the Waldorf, completely unaware, while a large minority of expert opinion believed the world was about to become a small nova."

"Like now, huh? Like us, waiting for the big freeze?"

"Not at all," he growled irritably. "I didn't mean it *that* way."

"Eric?"

"Yeah?"

She slipped out of her seat and crossed to him, laying her hands on his shoulders and leaning down to peer into his face. The loose locks of her hair dangled about his eyes, and he heard the soft sound of her breathing.

"Suppose you're awakened."

"Suppose I am."

"The loneliness would be terrible."

"There have been hermits before."

"You wouldn't need to be one."

"What do you mean?"

"Wake *me*."

He laughed mockingly. "So you could thaw out"—he groped for a name—"Ken Thoren and start your little colony of—"

Her hand lashed across his face like a whip, numbing his mouth. Sharp nails raked a path of pain across his cheek.

"So long, lieutenant!" she hissed.

Then she was gone, and he sat blotting his face with a handkerchief, grumbling curses to himself. The swiftness of her violent reaction left him bewildered. It seemed to suggest—perhaps—that he had hit upon the truth. Had someone sent her to coax him? To dangle herself as bait?

At ship's dawn, Roagan called all deck officers to his cabin and armed them with forty-fives. Dark patches arced under his eyes, and his hands were nervous. Eric guessed that the commander had gone sleepless since their last meeting.

"An attempt was made to sabotage the suspendfreeze apparatus about two hours ago," he announced grimly. "Whoever did it was ignorant of the mechanism. Damage is already repaired. But watch out. Watch for trouble. Keep the weapons in plain sight, and don't turn your backs on any of the colonists."

The officers muttered surprise among themselves, but Roagan silenced them with a gesture.

"I've set guards on the equipment. You gentlemen are to stay alert and watch for suspicious gatherings. Break them up. When the medics are ready to begin, you'll lock the colonists in their own cabins and escort them to the surgical section one roomful at a

time. Expect individual outbreaks of violence—and maybe some hysterical females. But let's try to keep it on a small scale. Don't waste any time arguing with them. There are strait jackets, ether inhalers, and handcuffs in the stock rooms. But don't bruise anybody. Bruises are bad business in suspendfreeze. That's all, gentlemen."

The officers filed out of the cabin, and as Eric sauntered aft along the catwalk, Jessel fell in step beside him.

"You see Crain take off?" the chubby engineer whispered.

"Uh-uh. When?"

"Just now—after the meeting. He stood by the door while Roagan was talking. Acted like he had a shirtful of fleas. When Roagan was through, he took off like his tail was on fire."

"Which way did he go?"

"Toward the colonist's quarters."

"Did Roagan give him a gun?"

"Yeah, I guess he pretty well had to."

"Let's go hang around the dayroom, Jess."

"O.K. What do you think of Crain, Eric?"

"No comment."

"You know how the skipper feels?"

"Yeah—he's talked to you too, eh?"

"Mm-m-m! Seems to think Crain'd like to play Ezekiel to the dry bones."

"That's silly."

"Is it?"

"I hope."

They paused at the entrance to the dayroom. A large gathering of colonists was assembled there in quiet idleness. Too many of their faces were turned toward the doorway, watching the officers' entrance. The crowd had the look of an audience whose show had been rudely interrupted. Conversations were just beginning here and there. The faces looked away again.

"There's Crain," Jessel whispered. "Center of the room."

Eric glimpsed the black shock of hair and the gloomy eyes. He nodded. "Let's sit here by the door. Watch for trouble."

They sat quietly on the wall bench, one on each side of the entrance. The voices in the room spoke in low tones. Occasionally one of the men shouldered his way through the group, speaking the same short sentences to first one sub-gathering and then another. But there was little sense to be made of the low babble.

Once Eric heard a woman say, "Oh yes, that's true. Statistics show that you can expect nineteen per cent mortality in suspendfreeze. Of course, ours will probably be worse than that; it's such a long time. And that nineteen per cent doesn't count the amputees, as I understand it. Faulty thawing causes a lot of that."

"Hey lady!" Jessel grunted.

She looked around with lifted brows.

"Where do you get off—spreading that hogwash?"

The woman's face hardened into a

frigid smile. "Statistics aren't hogwash."

"Those *statistics* are a pack of lies."

She went white with cold fury, but before she could frame an answer, her companion glanced at the two engineers and burst out laughing. "Well look what's here! Our keepers are guarding us already. Guns and all."

Several people turned to stare. Eric and Jessel maintained an expressionless silence. The woman and her companion moved away, muttering to one another. But the room had seen and heard. The room was a step closer to open enmity.

"Notice Crain," Eric breathed. "Nobody seems to mind him."

"Yeah. Who's starting all these rumors?"

"You're thinking Crain?"

"Don't know, Eric. Wish I did."

"Jess, there's no reason at all for this unrest. These people wouldn't be acting this way unless they were being prodded by somebody. They're nervous, naturally—but their nervousness wouldn't take this shape of overt nastiness unless—"

Eric never finished the speech. Within the span of a second came the pop of a rubber band, a hairpin darting toward the light globe, the crash of the bulb, and then a blanket of darkness. Reflexively Eric dived to the floor. Three pistol shots exploded deafeningly above him. He heard someone fall, then the weapon clattered on the floor.

From the back of the room, Crain's nasal voice cried, "My gun! Who stole my gun?"

Eric stood up. He had crawled to the center of the room, and he mingled with the milling, shouting herd in the darkness. They were crowding out the doorway into the dimly lighted corridor. But then they began crowding back inside, and Roagan's voice was bellowing from beyond the door. Eric shouldered his way toward it. Flashlight beams stabbed about in the dayroom and found the shattered bulb.

"All right!" Roagan roared. "Crowd back against the far wall! Back in the bus! Get moving. All crew personnel to the front! Hasty with it!" Doc Fraylin came in panting close behind him.

One of the flashlights by the door was directed downward. As Eric tore himself free of the crowd, he saw what lay crumpled in the beam of light. It was Jessel, and the blood was tracked around his body like muddy footsteps across a porch floor. The gun—Crain's forty-five—lay beside the body. Fraylin arose and shook his head grimly.

Crain was already making his protestations of innocence to Roagan who listened in tight-lipped silence for a time, then turned to a lieutenant. "Lock M. Crain in his quarters," he snapped. "Put a guard on him."

"Am I under arrest?" whined the gloomy engineer.

"What gives you that idea?"

"You said—"

"So I did." Roagan addressed the lieutenant again. "Shoot him down if he tries anything."

"Yes, sir."

Crain pointed a trembling finger at Eric Joley. "Ask *him!* Ask him where I was."

Roagan paused. "Well, Joley? How did it happen."

Eric told him briefly, and added, "The shots came from about right here, skipper. Then Crain yelled that somebody had stolen his gun. His voice seemed to come from the back of the room. I don't think he fired the shot, sir."

"See?" Crain quavered. "You hear that?"

"*But,*" Eric continued, "the one that knocked out the light wasn't the same one that fired the shots either."

Roagan grunted. "Who did you give that gun to, Crain?"

Crain's protest was almost a shriek. "Give? Give! It was stolen, skipper."

"Lock him up."

Crain was dragged away. A crewman replaced the broken lamp, and the light came on. The colonists were crowded together at one end of the room. Eric looked at the wall against which he had been sitting. A slug had torn through the thin aluminum partition at about the level of his chest.

"They tried for you too," Roagan grunted absently. He was staring at the bloody footprints. Suddenly he glanced up at the colonists. "Anybody see who did it?"

No one answered him.

"All right, file out of here one at a time. Let us look at your shoes as you go. Then move straight to your cabins and stay there. Everyone's restricted to quarters."

When they were all gone, Eric stood beside the skipper, staring over his shoulder at the list of twenty-seven names. Angela Waters' name was there, and so was Kenneth Thoren. Roagan had checked ten names, and Angela's was one of them—traces of blood on the shoe soles. Then Eric watched him scratch off the ten.

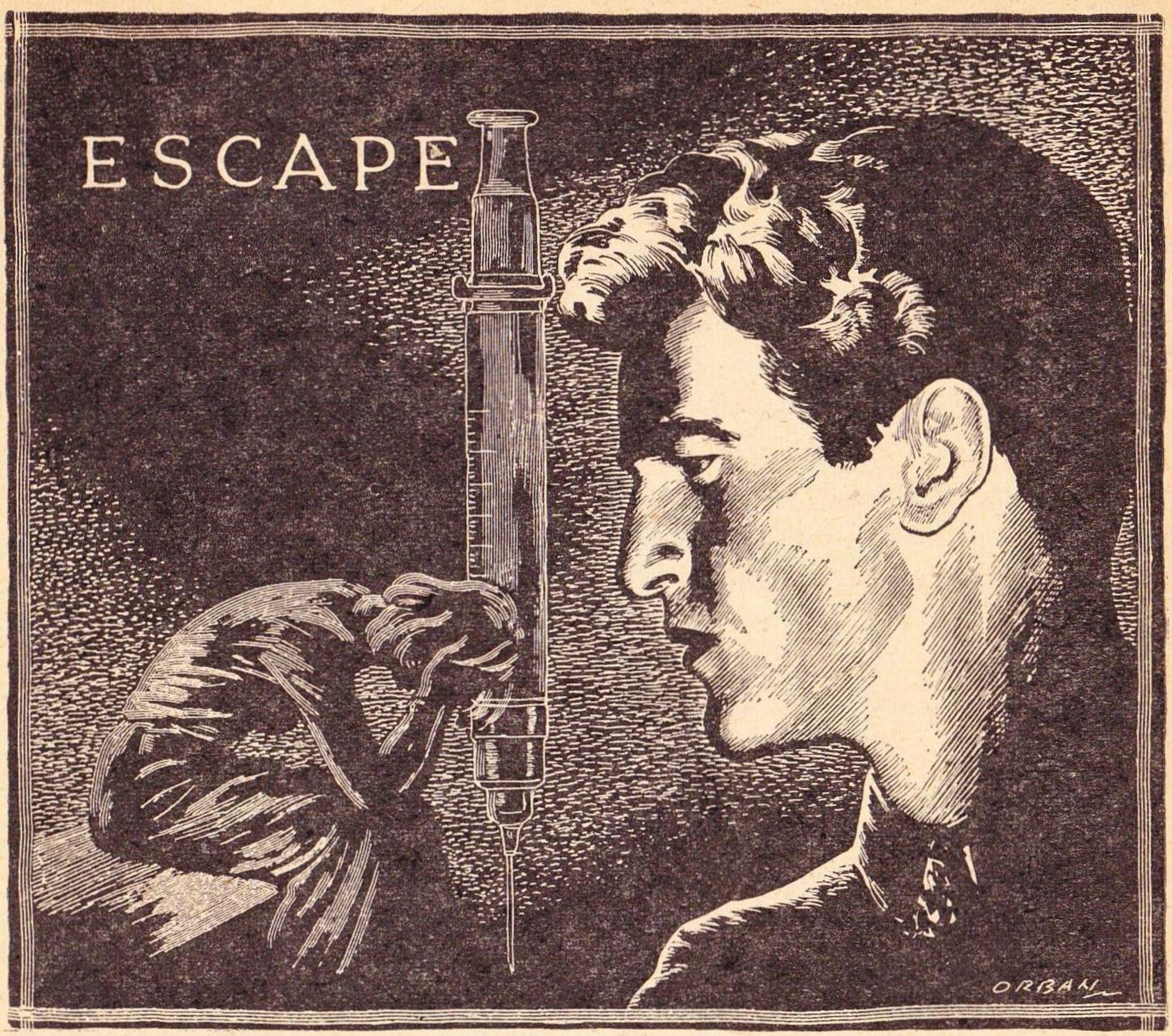
"That eliminates those," Roagan grunted. "The killer wouldn't have waited around for Jessel to bleed all over his shoes. Those ten evidently didn't know what they were skidding around in."

"Nice thinking, sir."

The commander glanced grimly down at the still form on the floor. "Not much chance of our finding the assassin, Joley. There's no time. The medics begin their work in an hour."

Eric looked slowly around the empty room, his face tight with anger. "I have an idea, sir. Can I work on it for that hour? I'll need a couple of guys to help me. And I'll need the dayroom here."

Roagan nodded slowly. "Go ahead, Joley. You're welcome to try. But I doubt—"



"I think I can narrow it down to three or four people, sir. And if I can, will you be willing to ship them back with the medics? At least we can get rid of the killer that way, whether we prove anything or not."

"I'll think about it." Roagan turned to direct two men with a stretcher in moving the body.

Eric left the dayroom and returned shortly with a pad of co-ordinate paper, a piece of chalk, and two enlisted guards. Then he quickly marked the floor into a grid of one-pace squares. He handed the list of names to the guards.

"Start bringing these people in here one at a time—including the scratched-out names. When I'm through with one, bring in the next. But don't let anybody get back to his cabin before I'm through with them all. Herd them in the assembly room or something."

The process began. As each colonist entered, Eric asked the same questions. "Where were you standing when the lights went out? Who was standing next to you? Point out the exact location."

Each colonist required less than a minute to answer and move on. And for each one, Eric marked a separate sheet of co-ordinate paper to correspond with the chalk-line grid on the floor; he labeled each ex with the corresponding name, and turned the sheets face down as the next colonist entered.

Angela came as number eleven, wearing an icy smile. "I was standing right here," she told him, "and Kenneth was here."

"Who else?" he asked, his face expressionless.

"I don't know. I was looking at Kenneth."

"That's all, thank you."

"Yes, lieutenant."

She pranced out arrogantly. Eric stared after her for a long moment before he called the next name on the list.

When he was finished, he ordered the guards to herd them back to their cabins. Then he went to Roagan's cabin with his twenty-seven sheets of graph paper. Roagan glanced at them briefly and called Doc Fraylin. He read off the twenty-seven names and asked the surgeon to hold them until last. Then he grinned at the engineer.

"I get the idea, Joley. Now let's see if it'll work."

Working together, they numbered the grid lines on each sheet, and transferred the results to a master sheet. When they were finished, Roagan clucked his tongue thoughtfully.

"Well, skipper," Eric grunted, "do we have five men by the name of Lovewell, and four by the name of Herrick? If we don't, then those two men can stand in a lot of very innocent positions at once. And look—they list each other too—in a place nobody else saw them."

"The killer and the light-bulb sniper. But not the brains behind it."

"The ones who alibied them might fall in that class."

"Then Crain isn't one of them," Eric announced. "He covered neither of them, and all the ones who listed his position are consistent, so maybe you're wrong about him, skipper."

"We'll see." He punched the intercom and called one of Lovewell's inconsistent friends—a young girl who was obviously frightened.

"Miss Malin," Roagan growled sternly. "I'm sending you back to Earth aboard the tug. You'll be tried as an accessory to murder."

She lost color and whimpered a protest, but the commander interrupted.

"Unless of course, you care to correct your statement about Lovewell."

She opened her mouth, closed it, set her jaw firmly, and shook her head.

"Lock her up," Roagan told the crewman who brought her.

"Wait!"

"All right."

"He . . . he was standing next to me."

Eric glanced at the sheet and noted the position—the center of the room. "When he knocked out the light, eh?"

"I . . . well . . . I lent him a hairpin."

Roagan nodded to the guard. "Take her back to her cabin."

"Herrick's the gunman, then," Eric breathed when she was gone.

Roagan rocked thoughtfully for a moment. "Yeah—yeah. Step outside, Joley. In fact, go to Herrick's cabin, call him outside, and tell him to come back here with you. Don't let anybody else hear you tell him. I want him to think he's not observed when he comes here. Now let me have your gun."

Eric gave it to him with a grunt of surprise. Roagan unloaded it and gave it back. "Stand where he can make a grab for it," the skipper ordered. "I'll have a witness watching from the next room—one of the medics."

A few moments later, the engineer was knocking at the door of a cabin in the colonist's section. Kenneth Thoren opened it, and his face immediately froze in hard lines.

"Where's Herrick, Thoren?"

"Are you the ship's cop, Joley?"

"Where's Herrick?"

Thoren hesitated. "He's gone to the suspendfreeze lockers."

"You're a liar. Roagan told them to take him last."

The colonist's eyes narrowed to slits. "It's too bad the killer missed you, Joley. I'm telling you, Herrick went to the medics."

A more friendly face appeared behind Thoren's shoulder, the cabin's third occupant. "He traded places with me, sir. He used my name—James Willis. I was to use his when he was called. I figured it didn't matter. And he was in a hurry to get it over with."

Eric reported back to the skipper.

"That does it, Joley!" Roagan growled. "We can't thaw him out of that locker before the tug leaves, not without having him die on us in the process. I wouldn't mind, but the medics would put up a howl."

"How about loading the whole locker aboard the tug?"

"You know better than that!"

Eric nodded glumly. The tug had no helium equipment to sustain the deep freeze, nor the right sort of power units to supply the induction thawers. "Guess we're stuck with our killer."

"He'll get his in Sigma Seven." Roagan reached for the intercom and called the service crew. "Peters, get a welding torch and go to the suspendfreeze room. Find out what locker a guy by the name of Willis is stowed in. Weld the lid on tight. Take the leads off his thawer and chuck them out the air lock. Make sure the helium supply

is on, then cut the handle off the valve. Paint a sign on the lid: 'Locker out of order. Thawing will result in occupant's death.' Don't tell anybody what you're doing or why—or who ordered it."

He winked at Eric as he clicked off the phone. "Only an emergency engineer would dare try to get him out."

"Next question—what are you going to do about Crain?"

"Mmmph!" Roagan tugged at his chin. "I'd better work on the others who alibied Herrick and Lovewell, see if I can't get something out of them. Something to tie in Crain."

"Who'll replace him, skipper? And who'll replace Jessel?"

Roagan's face was grave as he paced slowly about the office. "I don't know, Joley—I don't know. I'll talk to Fraylin about it. You can leave now, if you want to."

In returning to his quarters, Eric passed the surgical section and stopped to speak to a guard. "Any trouble so far?" he asked.

The man blew a rueful puff and waggled his head. "Got thirty of 'em in the freeze so far, sir. Six of 'em had to be dragged. Two had to be put out cold. Somebody's filled 'em full of wild ideas about their chances of waking up dead."

Eric nodded and turned to watch a pair of deck officers carry an unconscious girl in through the doorway. He caught the faint odor of ether as they passed, and there were red fingermarks on her bare arm.

"They don't look like the cream of Earth, do they sir?"

"I don't know, sergeant. Where's the dividing line between the frontier spirit and the urge to run away—between individualism and antisocial tendencies—between cowardice and refusal to conform. Two aspects of the same thing, maybe."

The medics, with the help of the deck officers, were bringing in the colonists at five-minute intervals. Eric watched the production line through the doorway. The procedure consisted of several massive intravenous injections of various drugs, then a quick anaesthesia before the patient was wheeled out of his line-of-sight. Three or four minutes later, a rushing hiss told him that a locker was being flooded with liquid helium.

Soon he moved on, puzzling to himself about the motive for Jessel's murder—and for his own close escape. The vague whispered rumors surely wouldn't drive anyone to such desperate measures. It was undoubtedly a part of a plot—a plot to install Crain in emergency-locker number one, perhaps. But why? And who was behind it? Crain himself?

Eric thought about the moody face of the third engineer and shook his head slowly. Crain was somehow abnormal, but his mind was not that of a leader in conspiracy. He was probably a part of any plot that might

exist, but Eric doubted that he had originated the idea of murdering Jessel. Probably, he thought, the trouble-center was some quiet-looking little colonist with paranoic tendencies—some unobtrusive person whom he had never met.

"Hello, lieutenant."

Eric looked up sharply to see Angela Waters watching him from a cabin doorway. She wore an amused smirk, but he could read nothing in the mask of her face. He nodded curtly and started to pass on.

"Oh, lieutenant—"

He whirled irritably, and snapped, "What?"

"I've heard another rumor."

The smirk was twitching a little, threatening to burst into mocking laughter, he thought.

"Don't you want to hear it?"

"Go on."

"The rumor says you're going to die pretty soon."

"Who invented it—you?"

"Oh no. The man who pulled the trigger in the dayroom. *He* invented it, lieutenant."

Eric grinned nastily. "Sorry to disappoint you. That fellow is already taken care of."

"You think so?"

"I know so."

She pursed her lips and lowered her head to peer sideways at him. She clucked her tongue and shook her head. "Alas, poor Yorick—or was it *Herrick?* The unfortunate fellow you welded in his icebox."

He caught his breath and came close to glower at her. "How did you know about that?" he hissed.

"The grapevine swings from tree to tree. *Free* rhymes with *tree*, doesn't it? Di dah dah dah the killer's free. Work it out yourself, lieutenant."

She turned her back on him and stepped into the cabin, but Eric stepped after her, caught her shoulder, and spun her around. "What are you talking about!" he barked.

The pale eyes were laughing at him. "Would you like to close the door, lieutenant?"

He glanced quickly about the cabin. It was empty.

"Where are the others?"

"All cuddly-cozy in their little ice-boxes."

"Are you drunk?"

Her breath seemed to catch in her throat, but she denied it with a *pfft.* He closed the door and leaned against it.

"What's this about Herrick?"

She shook her head impatiently and sat on the narrow bunk. He watched her hand slide under the pillow—casually. It lingered there. He remembered that he had forgotten to reload his automatic before leaving Roagan's office.

"You're a nice guy, lieutenant—even if you are infuriatingly stupid."

"You mentioned a rumor."

"And I told you what it was."

"And that's all you want to say."

She looked at him for a long time with her head cocked aside. "Uh-uh! No—not all, I guess. You see—Herrick didn't fire those shots. He just stole the gun from Crain. That's why they alibied him. You see—he just gave it to somebody else, somebody nobody saw take it, somebody who wasn't supposed to shoot. But he *shot*—didn't he?"

Eric, playing along with her, remained silent.

"Nobody expected a killing. We just wanted the gun, just the gun, lieutenant."

"*We!*" he hissed, seizing upon the word. His hand snaked down, and came up with the forty-five.

Her face blanched slowly, and a muscle knotted in her throat.

"Get your hand out from under that pillow!"

Staring at him, she withdrew it slowly.

"Now let's see what's under it. Turn the pillow over."

"Sure you want to see?"

"*Turn it!*" he snapped.

A forlorn smile crossed her face. She pulled it away slowly, pushed the pillow on the floor. Eric's gun was suddenly dangling heavily at his thigh.

"Ugly little thing, isn't it, lieutenant?"

He swallowed a hard dry lump in his throat and stared at the gleaming little hypodermic needle. Then he slid the gun back in its holster.

"I . . . I—"

"Stop stuttering, lieutenant."

"Morphine?"

She only looked at him. And then he saw what it was about her eyes—not evil, just dereliction, emptiness.

"You get it here—aboard ship?"

She turned her eyes to stare fixedly at the doorway. "Out there in the corridor," she breathed, "somebody's watching, knows you're in here, knows I'm telling you. They'll have to kill me."

Eric moistened his lips nervously. "Who—?"

"*Who?* Who passes it around? Kenneth Thoren knows, maybe. He gets it for me, when I need it."

"Are many of the colonists—"

She laughed bitterly. "Why do you think they're so anxious to avoid the big freeze. The big freeze means we get to Sigma Seven. And Sigma Seven means—" She shuddered.

"No more of the stuff," he finished.

She covered her face with her hands.

"I wonder why you let *me* in on this?"

"I . . . I *didn't* want to see you killed, Joley."

"But you don't know who's behind it—or why?"

"No. Just the rumors. They say—if you and Jessel are dead, things will be all right."

"Things?"

She suffered for a moment. "We . . . we won't have to worry about

Sigma Seven. We'll spend our lives in the ship—awake."

"And somebody's slaves."

"It's sickening, isn't it?"

He shook his head sadly. "Frontier folk are just people that get bored with the *status quo*. Somebody offered you a frontier of sensation. Being tied down aboard ship for six months, you took it."

"What are *you* going to do, Joley?"

He watched her misery for a moment. Why had she told him?

"This," he grunted, crossed the cabin, lifted her chin, and kissed her. Her mouth tasted of cool indifference, but her eyes were pleased.

Then she picked up the hypodermic syringe and stared at it, turning it over slowly in her hands. He saw the terrible ambivalence in her face—craving, and loathing.

"Break it."

"I can't," she whispered.

"So long, kid."

"Where to, lieutenant?"

"To kill a man, maybe."

"Don't look like that."

"Keep your door locked until they come for you." He went out into the corridor and looked around quickly. No one was in sight.

Around the bend, and a dozen paces. A closed door. Silence beyond it. Kenneth Thoren's cabin. He let his hand rest on the knob, then twisted. It was unlocked.

Thoren swung around slowly to blink at the intruder leaning in the entrance. His face twisted into an arrogant snarl, but before he spoke, the emergency engineer stepped inside and bolted the door behind him. Their eyes looked in silent hate.

"Get out!"

Eric grinned and crossed slowly toward him. Thoren swung reflexively into a defensive stance, but his face was bewildered.

"What do you mean—!"

Eric's boot crashed upward. Thoren shrieked as it thudded home, but as he doubled over, the engineer's fist exploded against his head, bowling him against the wall. He sat down hard. Eric kicked him in the stomach, and it robbed him of the wind to shriek.

"Where do you get the dope, Thoren?" he asked casually, and without waiting for an answer he brought a boot heel crunching down on Thoren's kneecap.

"Who gives it to you, Thoren?" This time the boot caught him in the mouth. Thoren spat two teeth, and a piece of his lip dangled loose. The colonist was whimpering weakly.

"I don't particularly care if you tell me or not. I like to do this." He caught a limp foot in both hands and wrenched an ankle out of joint with an expert twist.

"Don't tell me, Thoren. Be brave."

"No! I'll tell—"

Eric drew back suddenly, seeing Thoren was about to faint. "All right,

spill it. But don't bore me, fellow."

"I don't *know* where it comes from . . . *no, it's the truth!* It's delivered through the dayroom. Package left on the bench."

Eric stared at him for a moment. He was too frightened to be lying. "What do you give in return?"

"Nothing—just nothing."

"Anything else in the packages? Notes? Instructions? Orders?"

Thoren paused to wipe blood from his chin. "No. Not orders. Notes sometimes. News about—what's going on."

"The rumors, huh?"

He nodded weakly.

"Where does Crain fit in?"

"I . . . I . . . he's on the stuff, too."

"Where does he *fit?*"

"He's supposed to wake us—if he gets the chance."

Eric caught the colonist's arm, lifted him to his feet, and half-carried him to his bunk. "You don't have to worry, Thoren. You're going back to Earth aboard the tug."

He left the man lying there and started to see Roagan. But he hung back. Could he even be sure of Roagan? The man behind it was someone who had access to the medic's supplies—somebody high up. Yet it couldn't be a medic. The medics were going back. And there was only one possible motive for the insidious plot; some degenerate maniac wanted the ship for his private little paradise. A yacht cruise through eternity, a private kingdom, a madman's concept of heaven. Somehow it sounded like a tired and embittered old man. Roagan?

Roagan had nothing to look forward to on a new planet. The ship had been his kingdom for half a dozen years. He stood only to lose it, lose his authority, become a doddering liability to the group upon a frontier world. Eric paused. He could almost hear the oldster's reasoning: "I don't want much. Just a few years retirement aboard my own boat—and a little pleasure toward the end. It won't hurt anything. I won't bother many of the lockers—just my little group, *heh heh!*"

Roagan? Maybe. But it could be otherwise.

Time was running out. Most of the colonists were in their lockers, and the ship had grown quiet, save for the steady one-gravity thrust of the rockets and the glum clump of crewmen's boots along the corridors. Angela had gone to her temporary tomb. Ken Thoren was transferred to the tug—when the medics saw his bruises and disqualified him. Soon the crew would be shutting down the jets—and the quasi-gravity caused by their acceleration would cease.

Hear this, hear this, croaked the call system. *M. Joley report to Commander Roagan's cabin. Joley to command cabin. Hasty hasty. This is all.*

Fraylin and Roagan were waiting for him when he entered. Their eyes

swept over him coolly while Roagan tapped his pencil with what seemed to be restrained irritation.

"I've got news for you, Joley," the commander grunted.

"Yes, sir?"

"You're being moved to the third position."

"But *why?*" he gasped.

"After the way you worked that Thoren-boy over, I'm not sure you're to be trusted. Neither is Doc Fraylin here."

Fraylin coughed in embarrassment and tried to smile. "Oh, it's not that incident, so much," he murmured. "You see, Joley—I've never agreed with the psych's idea of what personality-type is best for the emergency job. True, you can endure solitude. And in a nonsocial emergency-situation, you hold up well. But you're basically unstable, schizoid type—what they used to call 'moral insanity.' No offense, personally, Joley—but take the Thoren incident. Would a stable man react that brutally to an argument over a girl — Miss Waters, I believe her name is?"

Eric glowered in silence. So *that* had been Thoren's story! And in Roagan's presence, he dared not contradict it.

"Crain is to be number one, I suppose?"

Roagan arched his brows and purred, "Suppose again. Crain is going back to Earth—as an accessory in Jessel's murder."

"Who then?"

"*Me*, Joley."

Naturally, Eric thought. "And who is second?"

Roagan glanced at Fraylin and frowned. "We haven't decided yet. But it shouldn't matter to you, Joley."

"Is that all, sir?"

"Yes, that's all. Report to Fraylin's staff as soon as the rockets are shut off."

Lost in thought, he wandered up to the observation blister and sat smoking in the starry darkness. One thing seemed certain: *the third locker was a death trap.*

But how? The medics would have to see that its occupant was properly installed in the suspendfreeze, but—his mind wavered—the *thawers*, of course! They could be easily sabotaged. When the awakening came, the temperature of the cabinet should be allowed to increase slowly to a critical point, and remain there for a time. Then, through a massive coil of copper tubing that encircled the body, came a quick burst of high-frequency current. This r.f. surge induced eddy-currents within the frozen flesh, quickly thawing and heating it to body temperature. Its frequency was such that the current-surge would not rupture the cell walls, but otherwise the process was similiar to electronic cookery. The timing mechanisms could easily be thrown off enough to be fatal.

Suddenly the sound of labored

breathing was in the compartment with him. A shadow moved in the doorway, and he heard the creak of boots. A chill crept along his nape.

"Who is it?" he asked stiffly.

"I . . . I . . . I, *Crain*," came the nasal reply.

Eric hesitated. "So he's giving you the run of the ship now, eh?"

"The guard—he's gone."

"To the lockers?"

"I guess. Uh!" He sat down heavily. His voice was dazed, laden with dull pain. "Wonder . . . wonder where that colonist is?" He seemed to be musing to himself.

"Who? Thoren? To the lockers. You need what he has, don't you?"

"I . . . I need—" The voice halted, became a note higher in tone. "Oh . . . you . . . *Joley!* Joley, you *told* him I didn't do it, you told him."

"Told him you didn't shoot Jessel? Yeah. But I didn't say you didn't give your gun away."

The half-drugged man emitted a low moan. "I didn't! They stole it. They grabbed it when the light failed."

"I believe you. But you were going to do some thawing after the big freeze, weren't you?"

"I've got to! I've got to!"

Eric paused, then said coldly, "You haven't heard, then. Roagan's sending you back to Earth. Accessory to murder. They'll execute you."

There was a long silence, then a whimper. "You're lying, Joley!"

"No, I'm not. Roagan just told me."

Another silence, then an ear-piercing shriek. "*I'll kill him!*"

"Hush! He'll hear you. Sound carries in this tomb!"

"Tomb . . . tomb . . . it *is a tomb!*" The melancholy Crain was suddenly sobbing in his hands. "Only the dead will dance, Joley. The *already* dead."

"At whose command, Crain?"

There was a hollow chuckle. "The dead don't know their puppet master."

"Roagan."

"No!"

"Yes."

Crain fell into confused silence. His mind seemed close to the breaking point.

"Maybe I can help you, Crain," Eric said thoughtfully. "Maybe I can keep them from taking you back to Earth."

"Earth? How? But I don't want Sigma Seven." His shudder was audible.

"Listen, Crain. They're after me, too. They'll see you hanged, and they'll kill me in my locker. But we can work it out, maybe—if you'll buck up."

"It doesn't matter. All I want is . . . is . . . peace—"

In a syringe, Eric thought, but he said, "If we work it out, you'll be left aboard the ship. With plenty of . . . of whatever you need, all by yourself."

"How?" There was a sudden note of interest in the sharply barked word.

Before Eric could explain, there was a sudden lurch, and a slight faltering of the steady growl of the rockets.

Hear this, hear this. Prepare for degravitation. We have attained final velocity. Buckle down, buckle down. Reactors going off. This is all.

Eric hitched a safety belt across his lap and saw that Crain did likewise. Minutes later, a sharp *thwup* shivered through the hull. Then all was silence, and they floated upward in their seats. The ship would coast unpowered now —lunging on toward Sigma Seven.

Then the turning rockets thrummed to life, and slowly the ship began to spin about its long axis, like a bullet rifling in space. As the centrifugal force slowly increased, Eric listed sideways in his seat. He unfastened his belt and slid down to sit upon what had been the wall. Then he helped the moaning Crain to do likewise.

The turning rockets sputtered off, leaving the ship spinning inertially at a few r.p.m. The outer hull was now the floor.

"Come on," Eric hissed. "If I know Roagan, he won't leave his cabin till it's his freeze-time. He never cares for this centrifigravity. Weak stomach."

Crain made a sick sound in his throat, but he came like a lamb. Where the corridor was wide enough, they walked along the wall, and when it narrowed they crawled. They met no one. The crewmen who were not needed in the reactor rooms were already with the medics.

"Where we going?" Crain panted.

"Here." Eric stopped in the hallway and reached up to open a door in the ceiling.

"But that's Jessel's cabin!" Crain gasped.

"Right. Cup your hands for a foothold. I'm going up."

The engineer obeyed, staggering weakly as he bore Eric's weight for a moment.

"Come on, now I'll help you up, Crain."

"I . . . I . . . is his body in there?"

"Hurry up! Before someone comes."

He closed the door softly again beneath them, then struck a match in the darkness. An aluminum casket was bolted to the wall which had been the floor before the gravity-switch. He looked up at it sorrowfully for a few seconds.

"Joley . . . what—?"

"Hush! Help me get it open."

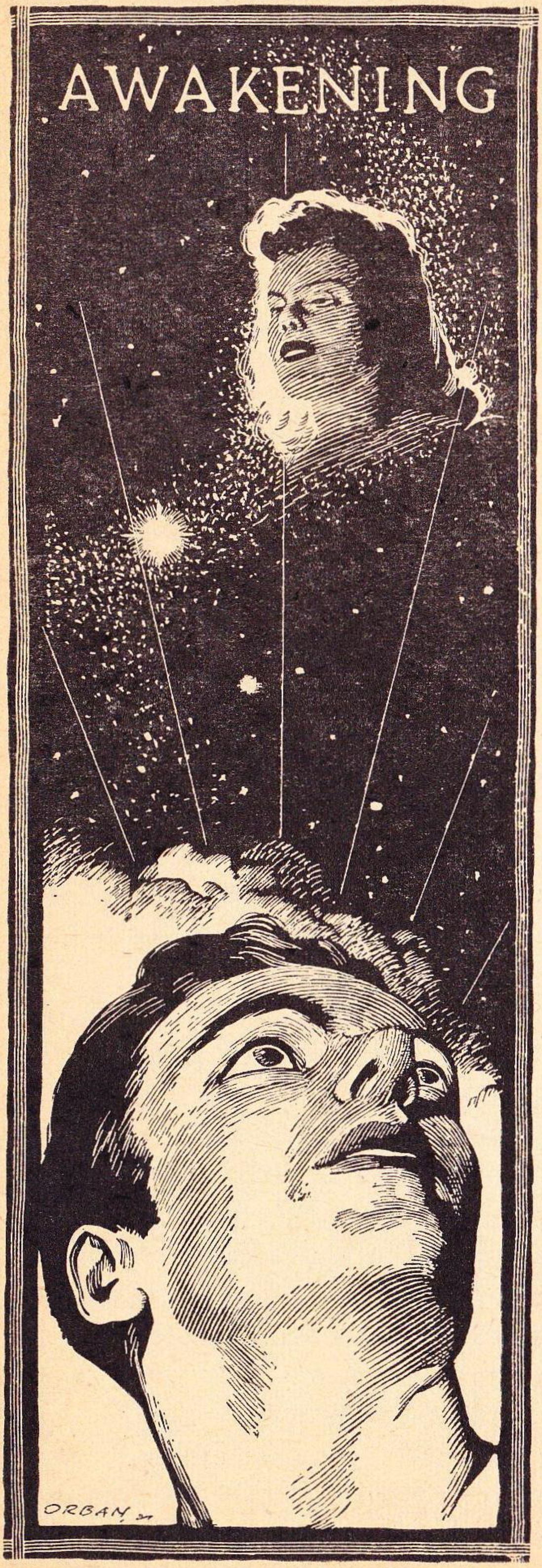
"No!"

"Well, strike matches for me, then."

The gloomy Crain sat on the floor while Eric worked quietly at the fastenings. Minutes later the cool, rigid body of Lieutenant Jessel slipped heavily into his arms. He lowered it gently to the floor.

"Joley, I'm sick!"

"I'll get you something," Eric grunted, almost happily. He fumbled in the darkness until he found Jessel's



dufflebag, then browsed through it until his hand met a small bottle, a bottle he had known would be there. He shook several capsules onto the flat of his palm and gave them to Crain. "Take them."

"What are they?"

"Some stuff Jessel used to settle his nerves," he lied.

Crain made dry swallowing sounds in the darkness. Four sleeping capsules, Eric thought, should keep him down for a while—if coupled with a slight concussion.

Calmly he grasped a handful of Crain's greasy shock of hair and clubbed him hard with a fist to the temple. After a brief moan, he sank quietly to the floor.

Eric found Jessel's paper and scrawled a note by matchlight. He pinned it to Crain's chest, then transferred the wrapping-sheet from the dead man to the unconscious one. Crain's scrawny body was easily hoisted and secured in the unlined sheet-metal box that served for a casket. He hoped the seams around the lid were loose enough to keep the man from suffocating.

Footsteps made him pause, freezing into breathless silence. Were they coming to load the body aboard the tug now? The trampling of half a dozen men passed beneath him. And moved on. The reactor-room crew, on their way to the medics. He breathed again.

The time was right. The after sec-

tion of the ship should be empty now. After stealing a glance down into the corridor, he lowered Jessel's body through the horizontal door, then came down behind it.

Minutes later, he stumbled into the dark reactor room where the plates were still making clucking noises as they cooled. He put the body down and felt about the emergency control panels with his hands, making certain that the rocket tubes had been left choked off tight. Then he cracked the hatch to one of the field-coil chambers to let the tube belch itself full of air from within the room. When it finished hissing, he opened it all the way and loaded the corpse inside.

"So long, fellow," he muttered, feeling like a ghoul.

He closed the hatch again tightly and opened the choked tube. The gruff bark of the released air pressure thudded through the ship. The body had been puffed out of the tube as if by a low-pressure pneumatic cannon. But Eric didn't stop to look. The others would come to investigate the sound. He choked off the tube again and fled.

Footsteps were approaching as he ducked inside his own quarters and closed the door beneath him. A moment later, a heavy fist knocked, and Roagan's voice called, "Joley, you in there?"

He grunted a sleepy affirmative. Roagan moved on. A few minutes later, the call system came to life.

Hear this urgent. Answer roll call by intercom. Man in space, Man in space. Answer roll call. Ackerman . . . Avery . . . Bates—

"Ho . . . here . . . h'yo," came the disinterested answers, save for an occasional, "He's in an icebox."

Crain . . . Crain . . . William Quinby Crain . . . Anybody seen him?

Eric cleared his throat and answered, "This is Joley. I saw him in the obs-blister half an hour ago."

The roll call ceased. Footsteps came again, and Roagan growled, "Open up, Joley."

Eric slid down into the corridor, rather than have himself alone with the commander in the cabin. The oldster was staring at him suspiciously. "You saw him?"

Eric let himself look nervous. He nodded and shuffled his feet.

"Don't *tell* me," Roagan snapped savagely. "Let me guess. You told him he was going back to Earth for trial."

"I . . . I figured he *knew*, skipper. I'm sorry."

"You idiot! I let him think I believed his story—so I wouldn't need to guard him! He burped himself out the jets!"

"Sorry—"

"Well—it saved a court-martial, I guess," Roagan growled. He stalked quickly away.

Eric followed at a distance and saw that he was going to his cabin,

evidently to call the tug in for grappling. Within the hour the job would be finished, and the medics ready to leave the ship for their return to Earth. He made his way to Fraylin's office. The last of the reactor room crew was filing inside.

Fraylin saw him and came to the door. "I was about to call you, Joley. We'll be ready for you soon. You can strip to your shorts, if you like."

"Yeah, well first—I'd like to take a last look at my locker. If you don't mind."

"Why"—Fraylin's thin mouth fluttered with amusement—"not at all."

He went into the cold room, a long narrow corridor whose floor was now the faces of the freeze lockers—like graves with heavily insulated lids. The workings of the multi-stage refrigeration made a rushing sound beneath his feet. Once he stopped to stare down at a small square-panel in the floor. The nameplate said, "Angela Waters 184."

Tomorrow is Sigma Seven, he promised her, then moved hurriedly on.

The emergency lockers were in a small room at the far end of the main section, and the alarm mechanisms—triggered by the ship's trouble circuits—were located on a small panel board in the center of the floor. There was no time for a detailed inspection. He quickly knelt and switched the multi-contact plugs that connected the thawing coils to their timers. He interchanged the leads to lockers one and three, so that the thawing timer meant for unit one controlled his own locker. Then he hurried back across the faces of the temporarily dead.

"That was quick," Fraylin observed as he re-entered the office. "Everything suit you?"

"It's O.K., I guess."

The physicist surgeon peered at him with quiet amusement. "I invented those lockers, Joley. If there were something wrong with them, I'd know it."

He moved away. Eric wondered if he heard echoes of irritation in the scientist's voice. He remembered the man's sense of being wronged, wronged because his work in suspendfreeze hadn't brought him the rewards he felt that he deserved.

"Strip please, Mr. Joley," said a medic. "We're ready for you."

Needles began jabbing his arms, exploring, gouging in search of veins.

"This will make you a little drunk, Mr. Joley."

"Here's the anticrystalis. Protects the cell walls. Keeps ice crystals from—"

"Try to hold still, sir. This one goes in the abdominal wall. Oops!"

"Help him, Mike—that alk-shot hit him."

Eric staggered weakly, and the room began to blur.

"Onto the anaesthetic table now," somebody called.

Another needle began exploring in the hollow of his arm—

"Oops—!"

Cold! Nasty, shivery, chilly cold. Not the kind he had expected at all. In fact, he had not expected to feel it. Sick and weak, he lay half awake, feeling the thick copper coil about him. Darkness and chilly moisture. Had he been thawed?

Impossible! They said it hurt. They said it was like a jolt of hell, that it crippled a man for days. He felt uncrippled. There was only nausea and a headache. His mind cleared slowly.

If the automatics had thawed him, they would have also hauled him out of the locker, laid him on a stretcher, shot him full of adrenalin, and loaded him into the iron lung for a session of enforced respiration. But they weren't doing anything.

He came to a conclusion: *I haven't been frozen at all.* Only anaesthetized. Hours, not years had passed. He wriggled upward, got his head against the door, and shoved. It budged a little, then flopped open. The blackness was only slightly lessened. The lights were off throughout the ship. The gravity was reduced to nearly nothing. He pushed himself out of the locker, then shuffled about with a bare foot until he found the lid of locker #1. He could feel the purr of refrigerant coursing inside. Ruefully he grinned.

"So, Roagan, you planned not to go to sleep at all, eh?" he muttered. "Well now let's see how you planned to wake *me* up."

He felt about on the panel until he found the thawer controls for unit one. He tripped them. The purring stopped. There came a draining sound. It would take a little time, he guessed, for Roagan's trap to kill himself.

So he hurried in search of some clothing, then went to the control section, started a power unit, and sent out a radio call to the tug. It failed to answer. But it could scarcely be more than an hour away. He tried again—with the same results.

They obviously weren't listening. And why should they listen for calls from a ship of the dead? He began praying for the life of a gloomy morphine-addict by the name of Crain. He even went to make certain that Jessel's casket had been loaded aboard the tug. It had.

"Wake up and start kicking the lid off!" he growled at a mental image of the sheet-metal casket.

Suppose they had it locked in a soundproof room? Or back by the reactors where the din would drown his nasal screams? Suppose they took it back and decked it with lilies and buried it in Arlington Cemetery before the "corpse" got a word in edgewise?

And then, on the other hand, he began to regret the little note he had written to accompany the melancholy Crain. "*Gentlemen,*" it said, "*you can have this one. There are nice live ones in the lockers.*"

The note was calculated to bring them back on screaming jets after he

had gained control of the situation, after he had made certain that everyone who possibly might be involved was either bedded down or well in hand. But then, the tug's skipper might not see it that way. He might, in fact, take a dim view of Joley's controlling the situation—and even go so far as to clap him in irons and haul him back to Earth.

Queer noises were coming from the locker room. Roagan's thawers were at work. Eric shuddered and stayed away, not wanting to see the charred husk of a man that the automatics would haul out of the tomb. But electronic cookery never charred; it only over-stewed.

He paced restlessly about the ship, cutting on all the lights, waiting for the tug to come back. Finally the clanking sounds stopped, and he heard the wheezing *blurp* of the iron lung at work.

Grimly he went to take Roagan out of it, lest the lung tear the over-cooked remains to shreds and foul the bellows mechanism. He closed his eyes and cut on the lights.

But the remains were moaning softly, and its eyes were glaring at him balefully. His face was beet-red, but it was a normal thawing job.

"Roagan!"

"Joley!" he whispered. "So it was *you* behind this deal."

"Don't give me that!" Eric barked. "If I hadn't switched leads with you, *I'd* be lying there, and *you'd* be standing over *me*."

"You *what?*" he gasped. "*When?*"

"I switched the control leads on lockers one and three—just before they put me under."

Roagan tried to twist his head a little. He yelped and screwed his face. "Who's in locker two?" he whimpered.

Joley gaped. "*You* tell me! You picked him."

"No," he whispered. "I picked Peters, but Peters got sick. I was still looking for somebody when—"

"When what?"

Roagan managed a pouting frown. "When I passed out cold in my cabin."

"Drinking?"

"Not *that* much."

"Anybody with you to prove it?"

"Fraylin."

"Where'd you wake up?"

"In here."

"And you didn't assign anybody to locker two?"

"No, I didn't want to. I figured the fellow who's behind this mess would try to get it. That's why I switched the control leads to units one and two."

"*What? When?*"

"Last sleeping period."

Eric sat down hard on the floor. There was a long silence. "First—you switch one and two—then I switch one and three—"

"Shells-and-pea game," Roagan

breathed. "The pea's in two."

Eric stared at the insulated hatch. "I gotta hunch I know him."

"So do I."

"He was pretty bitter about not getting the kind of credit he wanted for inventing these units."

"Mmm—"

"Let's see, if we hadn't switched leads, he'd be where I am. And you'd be where he is. And I'd be where you are. Right?"

"I'm not thinking that good yet."

Eric's hand snaked toward the thawing switch. "Let's make sure it's Fraylin," he muttered.

"I wouldn't, Joley! It might not be nice."

"Uh." He pulled the hand back. "Well, the tug'll be here in a little while, surely."

"Tug? You contacted them?"

Eric hastily explained the nature of the contact. "I think," he grumbled darkly, "that I'll crawl back in my locker while you explain my innocence."

Roagan chuckled evilly.

The alarm bell suddenly clamored through the ship, hammering its din on cold brass. Eric darted to his feet, then relaxed slowly. "The tug. I forgot. The scanners are set to turn in an emergency at the approach of any non-uniformly moving body."

Then there came sounds of relays clucking beneath his feet. He looked down sharply. "The emergency system is waking him up!"

"Get me out of here!" Roagan groaned.

"It'll release you when you've had enough."

Eric went to watch for the tug. It was not yet in sight, but its blip was on the screen. He put in a call on the radio, and tried to explain the situation. Their answer was noncommittal, but they ordered him to prepare for grappling.

When he went back to the freezer compartment, Roagan had fainted. The second locker was hissing steam and bubbling up around the lid. Eric held his nose while he shut off the thawers. Fraylin was thoroughly cooked.

He hauled Roagan out of the lung as soon as the diaphragm slid back to release him. The commander was still too weak to walk.

"I'm going back to Earth, Joley," he muttered. "I've had enough. Can't take another trip through that gadget."

Eric helped him back to his cabin, and they sat down to wait.

"I thought it was you, skipper. I'm sorry."

"Mmmph!"

"I should have known—*you* wouldn't have to borrow Crain's gun to kill Jessel. But Fraylin had no reason to be armed. You hadn't issued him a gun."

"I still don't see how he could have killed Jessel. He wasn't there."

"No, he was in the corridor. Herrick stole Crain's gun and passed it outside, not knowing Fraylin meant to use it, right after Lovewell popped out the light. Fraylin immediately stepped inside and blasted at us in the darkness. Then during the confusion, he walked to the end of the corridor, and came back running. As soon as he was able, he got Herrick to switch places with the other colonist, and got him in a freeze-locker out of the way."

"If you thought it was me," Roagan grunted, "I'm surprised you didn't go to Fraylin for help."

"I didn't think Fraylin would believe me. And then, I thought you were probably getting the morphine through one of the medics. I didn't want to warn him, in case Fraylin *wouldn't* believe me."

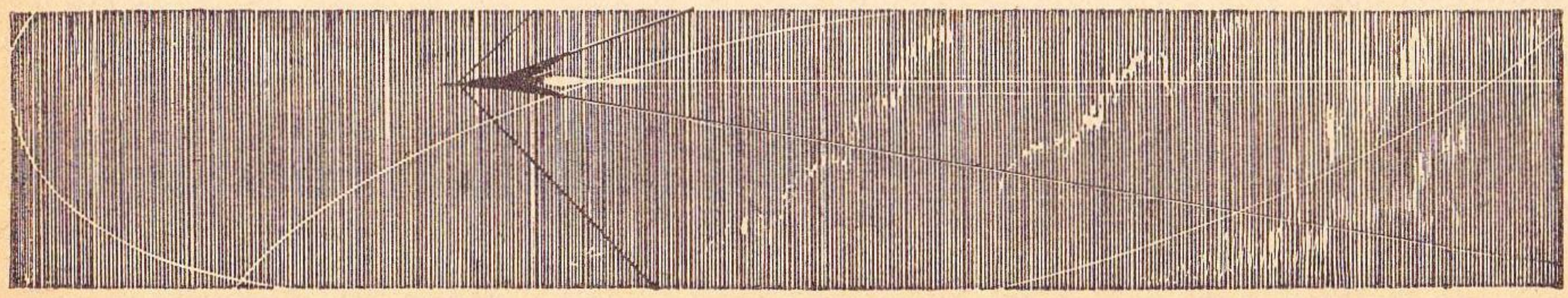
"One other thing—why did you pitch Jessel's body overboard?"

"Because even if the tug's commander wouldn't come back on the strength of the note, he'd have to come back to get the corpse. They couldn't try Crain without a body."

Roagan stared at him with tired eyes. "Joley, I'm going to do one thing before I leave this ship. I'm going to see that you're stashed away in one of the colonist's lockers, and that the door is bolted on tight. I don't want you prowling again for five hundred years. I'll get three of the tug's crew for the lockers. They've been itching to go."

Eric grinned. He wandered back to the cold room and sat down beside Angela's locker. He tore out the timing mechanisms from the thawer and went to lock them in a safe place. That was one unit he meant to handle personally.

THE END

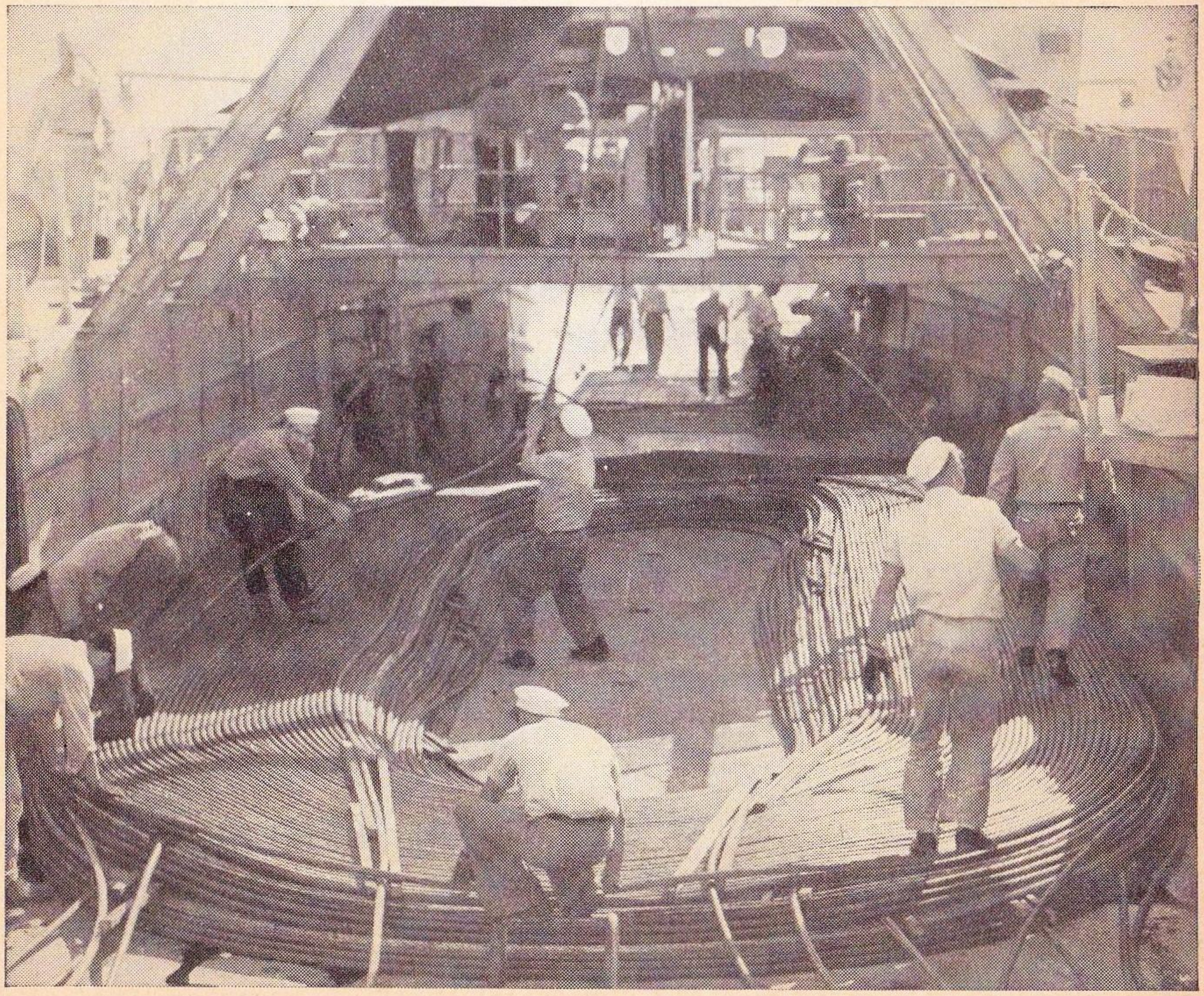


An ASF Factual Article

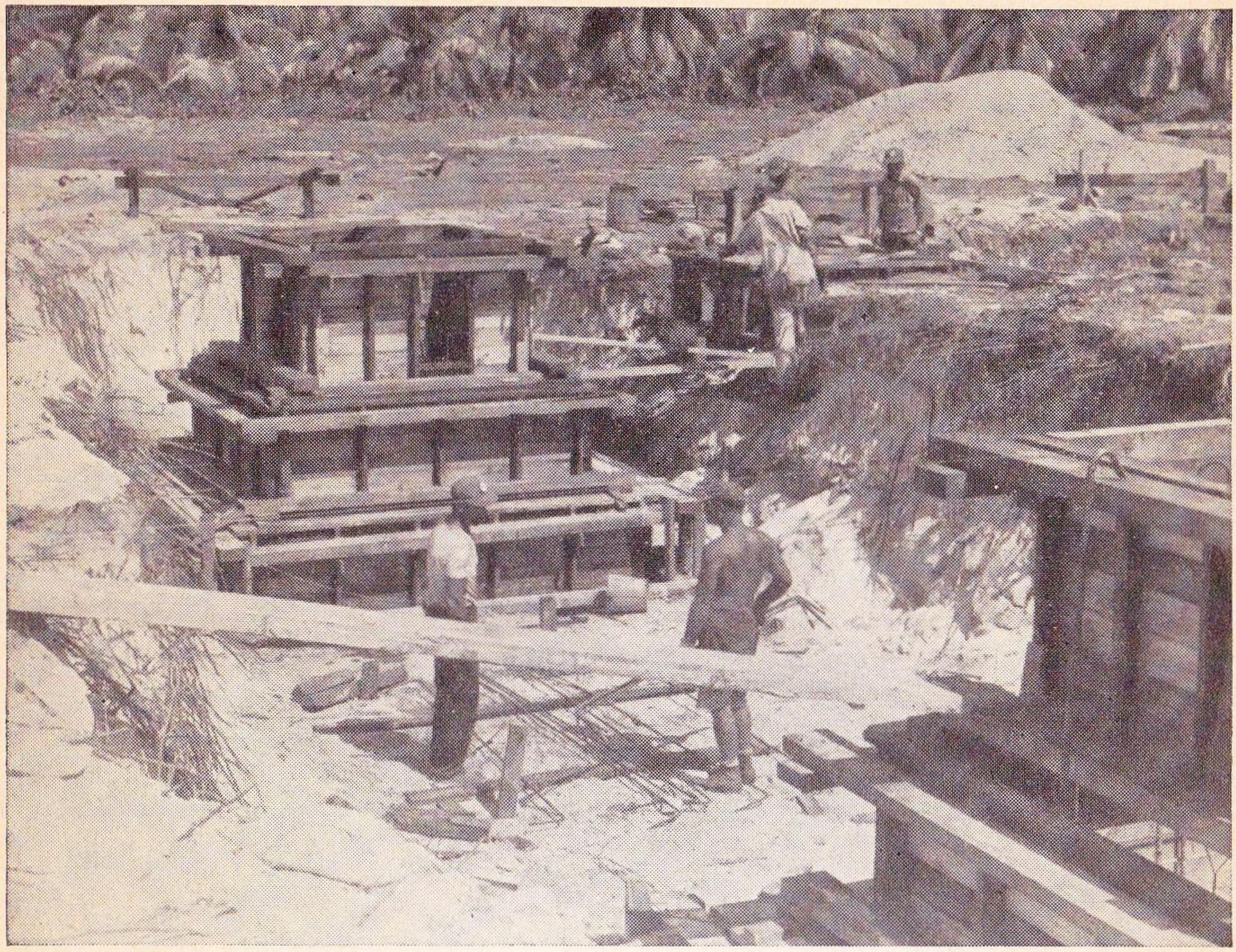
ASSIGNMENT: OBSERVER

On April 22, 1952, the first atomic bomb test open to the press to be held in the United States was reported by newspapers, news magazines, and movies and television. It was thoroughly covered; it was clearly seen through the eyes of movie cameras, television lenses, and through the words of reporters, by millions of people. Obviously, a non-news magazine like Astounding Science-Fiction can't do that sort of job. But we have always been more interested in the background information.

The following material is the background material that was handed to the newsmen who attended that test—the official Atomic Energy Commission material, complete and verbatim. Instead of seeing what the reporter sees, it gives an idea of how the reporter on the job actually lives.



Few photographs of the control hook-up at Yucca Pass, Nevada, have been released. This shot shows some of the miles of electric cables used in installations for tests made at Eniwetok Island.



An instrument bunker under construction at Eniwetok. Not only must the walls be strong to resist the blow of the blast wave; the roots must be deep to resist the thrust of that monstrous wave of sound-beyond-sound.

DEPARTMENT OF DEFENSE—U.S. ATOMIC ENERGY COMMISSION
JOINT INFORMATION OFFICE

1235 South Main Street
Las Vegas, Nevada

Telephone: 6350 April 20, 1952

GUIDE FOR OBSERVERS' TOUR OF THE CONTROL POINT AND FORWARD AREA, NEVADA PROVING GROUND

(NOTE: The tour will include visits to three important test facilities: 1) the Control Point in Yucca Pass, 2) a typical Test Tower, and 3) an Underground Instrumentation Bunker. The following guide is for the convenience of correspondents who are on the April 20 tour. It describes the physical facilities and their uses. The text has been determined to be unclassified after careful security

review and no amplification of the text will be given by speakers or tour guides at the various sites.)

INTRODUCTION

Nuclear detonations are conducted to determine specific facts which cannot be learned from small-scale laboratory experiments or from the work of the theoretical scientists. In many cases a single test may help to answer the questions of several groups of scientists, who have widely divergent interests. These interests range from making measurements of the best use of fissionable materials and a study of nuclear reactions to the effects of radiation and blast upon structures and upon living things.

In view of these varied interests, test facilities at the Nevada Proving Ground, and particularly those facilities which are used again and again, must be flexible. For example, an Underground Instrumentation Bunker may be used to record radiation data during one detonation and to record blast pressures during another test. The strength of Test Towers is varied according to the weight and the size of equipment it will support in the test. These towers are designed to use as little material as possible. This is partly for economy, but is primarily to reduce the quantity of vaporized material which will contribute to the radioactive cloud and fall-out following the test and which may interfere with experiments.

Over the past few years, improvements in the methods of testing weapons have been as marked as the improvements in weapons themselves. This is particularly true of instrumentation and electronics engineering. In developing faster, more precise instruments the test organization has turned to trained technical manpower throughout industry, government and the Universities. Developments originating in this program have, as a by-product, contributed to the general development of instrumentation applicable to many other fields.

THE CONTROL POINT

The control point at Yucca Pass is the brain—the nerve center—of every test operation at Nevada Proving Ground.

From the control point radiate the myriad communication lines and channels required for receiving information and transmitting orders to control a complex operation. There are long distance telephone lines and teletype circuits to receive information from and provide information to Washington, Los Alamos, and Albuquerque. There is a Class A weather central which receives weather information from all over the world through air weather service networks, as well as up-to-the-minute information on local conditions through stations

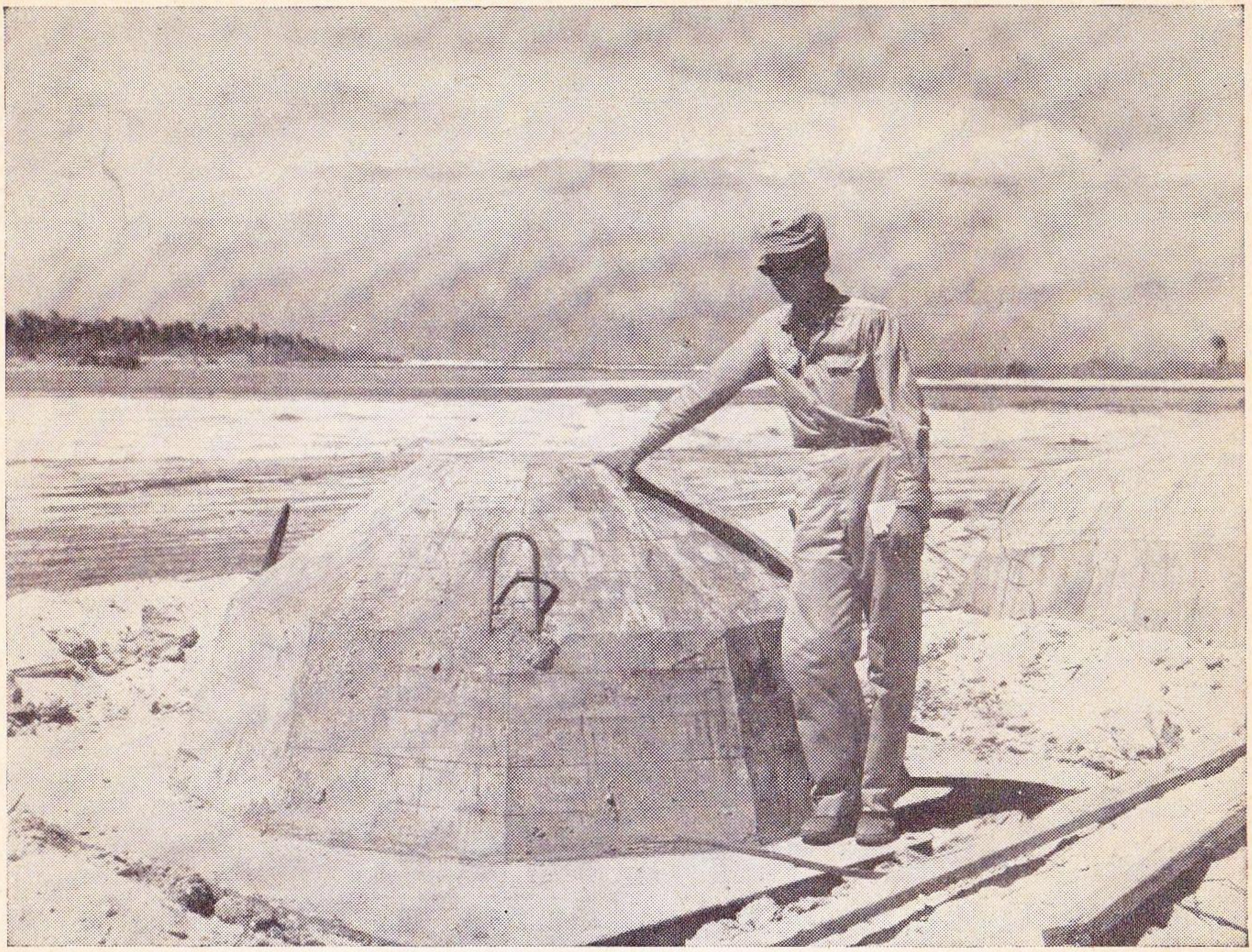
manned specifically for these operations.

Forecasts provided by this weather central make it possible to schedule tests in advance and to postpone if necessary in order to utilize optimum weather conditions. By means of the forecasts the height of the radioactive cloud, its track over the country and fall-out from it is predicted in advance. A large group of radiological-safety monitors and scientists has been organized to enable the test organization to care for the safety of test personnel and people in the surrounding country. By means of these predictions mobile teams can be dispatched appropriately to fulfill this responsibility. There are radio circuits and telephones for this purpose.

In a given test there may be as many as fifty aircraft employed for various purposes. Their functions vary all the way from dropping a "bomb" to providing essential transportation, and from making important experiments to assisting in radiological-safety surveys. They range in type from big B-45 jet bombers to tiny L-20 liaison planes. There are C-54s, jet fighters and helicopters. The control of so many planes with so many jobs over a few square miles of land requires the utmost reliability of communications. Men and equipment for this purpose are available at the Control Point.

Beyond this control of the operation there is also the control of the many experiments themselves. There are filaments to be turned on; power must be applied to many circuits; camera shutters must be opened and closed at exact moments; ultra fast as well as normal movie cameras must be started; blast proof doors must be secured; some lights must be turned on, others turned off; in static tests the nuclear device itself must be armed and fired. These and hundreds of similar details must be taken care of without fail in proper order and at predetermined times in order that the desired information be obtained. This control is provided by a device known as a "sequence timer" located in the control room. The device sends out electric signals which activate relays to perform the above tasks; it starts clocks to measure the times at which these signals are transmitted; it measures the time of the detonation; and it even starts itself—in the case of an air drop—when the bomb leaves the dropping aircraft.

A complex instrument panel reflecting these intricate operations dominates the control room. The first section of the panel is used only for air bursts, receiving the signals from the bomber indicating release and, seconds later, records the detonation. The second and third sections contain the frequency control equipment for the motor-generator set which supplies power to the timing equipment, with voltage recorders connected to various points in the target area—thus assuring accurate timing—and recorders for wind velocity and



The instrument bunker completed shows only a small and rounded knob above ground.

direction. In order to activate test equipment at the exact time, very precise control of the frequency for the timer is required.

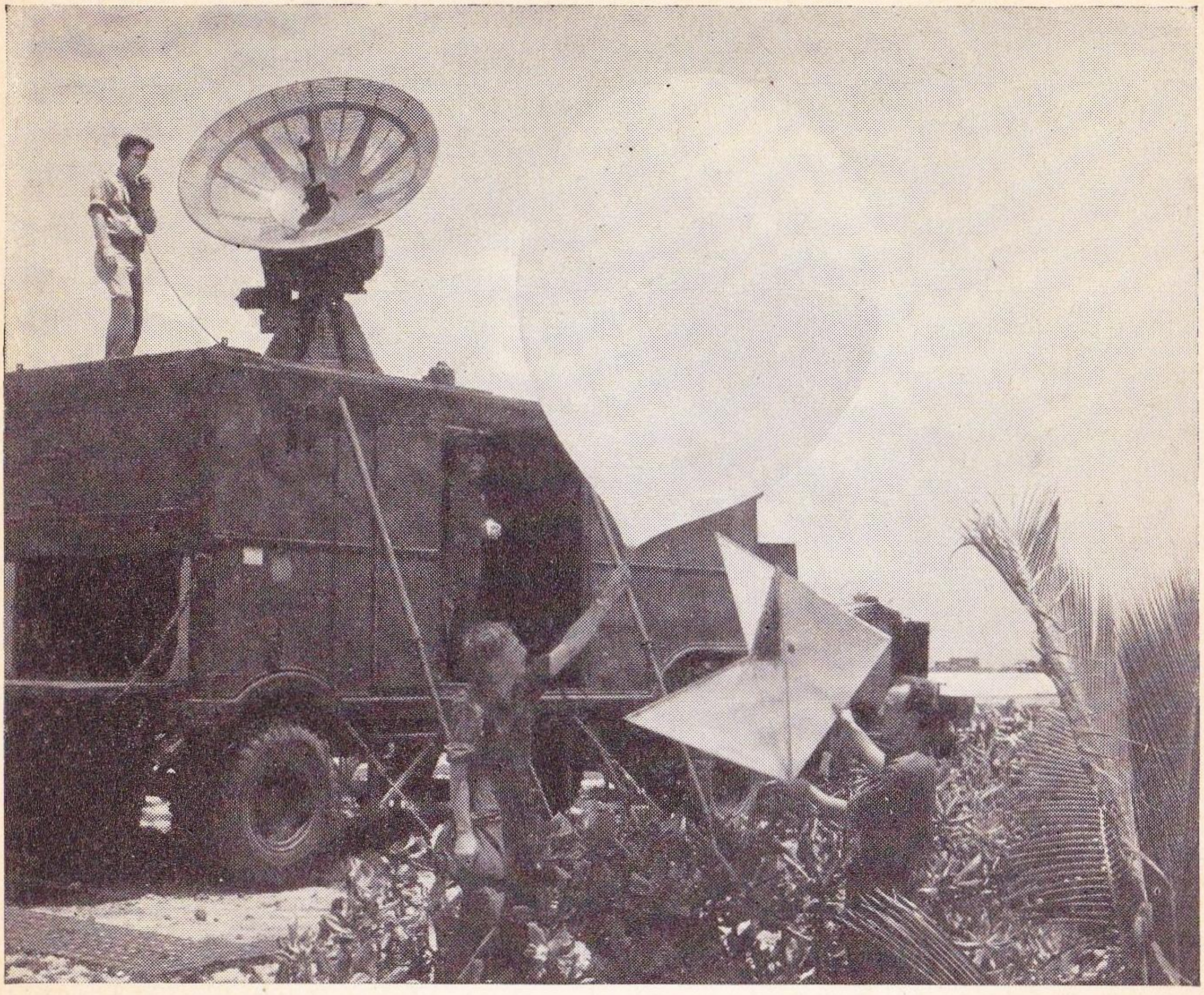
THE TEST TOWER

The tower to be seen during the tour is 300 feet tall. (Towers at the Proving Ground may be of various heights and strengths, depending upon the conditions of the tests in which they will be used.) There is nothing particularly unusual about the design or construction of the tower.

The device to be tested, detection equipment, and other accessories are contained in a room at the top of the tower, this room being called the "tower cab."

Coaxial cables extend from the cab to the Underground Instrumentation Bunker. They run direct from cab to bunker by the shortest practical line, rather than down the tower and across the surface of the ground, in order that signals will reach the bunker before radiation can short-out the cables.

In the ground cables are laid in transite conduit. Individual cables which may become defective with use can easily be pulled out of the conduits and replaced.



At Eniwetok, a weather balloon, equipped with a kitelike aluminum-foil covered radar reflector is released just before the Big Bang. Radar tracking the free balloon follows the movement of the upper winds —and radioactive particles from the bomb.

UNDERGROUND INSTRUMENTATION BUNKER

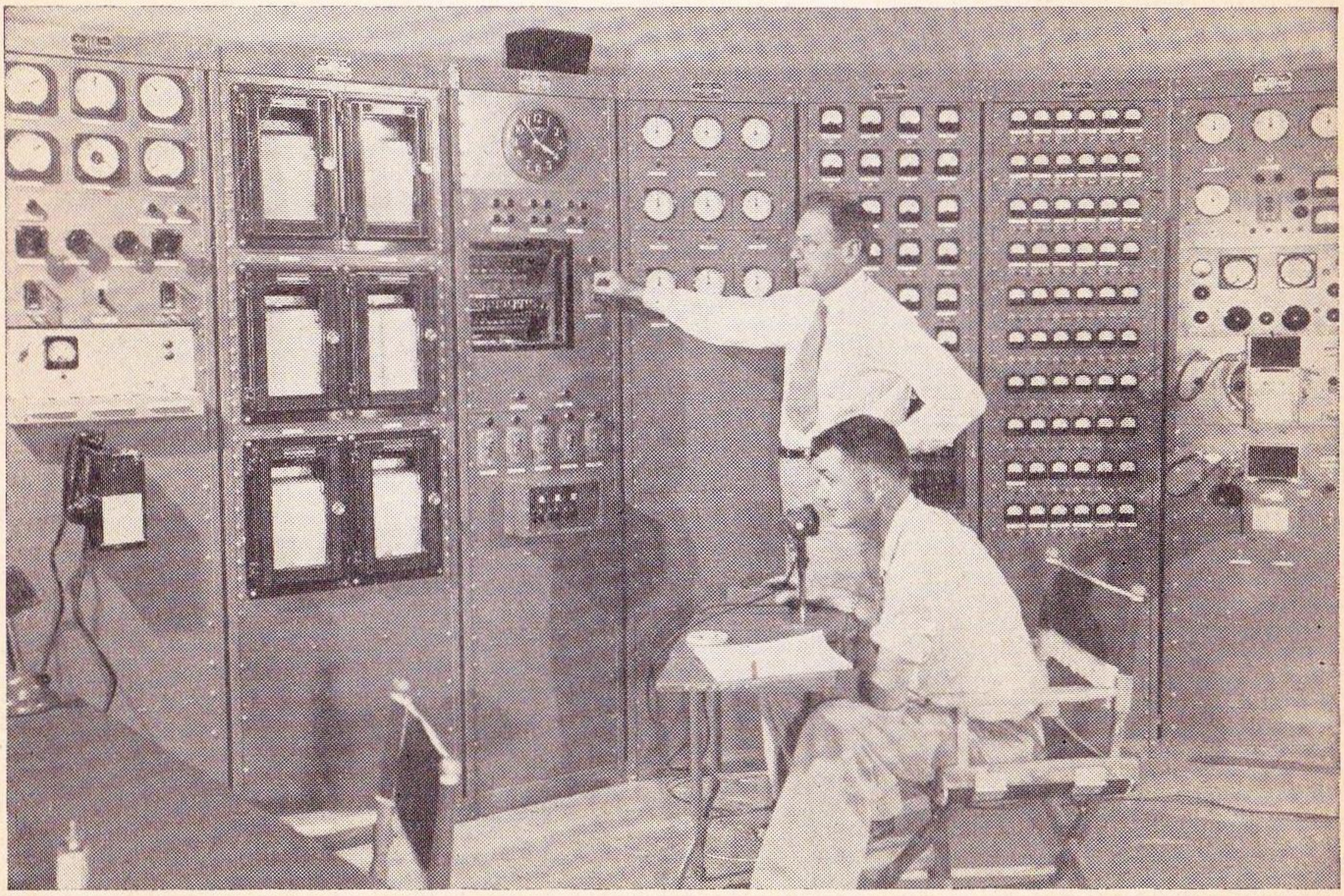
Large underground bunkers or blockhouses for recording instruments have been built close to ground zero in several firing areas. These massive concrete and steel units are topped with a thick mound of earth the surface of which is stabilized by an asphalt coating. Depending on their nature and the type of equipment used, these blockhouses cost from $100,000 to $600,000. They are built to withstand all effects of detonations. Their initial cost is high but they may be used for many test operations. Several structures at the Proving Ground have already been used to record data from five detonations and are still in use.

The underground bunkers not only protect the instruments against blast, but also against radiation. Without shielding the intense radiation fields which accompany the detonation would immediately fog all film, ionize the gases in

the electronic tubes, and cause other severe damage putting the equipment out of order.

Underground bunkers at the Proving Ground are used to record blast, heat, neutron or gamma radiation, or for taking photographs, but they vary considerably in design. The particular bunker included in the tour was selected because the entrance doors and passageways are sufficiently large to accommodate a group of persons. This bunker, one of a complex of underground blockhouses in the vicinity, consists of a principal recording room; a room to house the coaxial cable terminations, temperature control equipment and recorders, and a utility room. Temperature control equipment is required in view of the substantial quantity of heat given off by the electronic gear, which requires about 50 kilowatts of power. In the absence of temperature control equipment, during the several hours the building is buttoned up, production of this amount of heat would damage recording equipment.

While the data from an experiment may be recorded in a few millionths of a second, many months of work go into constructing and equipping a bunker.



The main control panel at Yucca Pass, Nevada. The first section of panel is used in recording the phenomena following air-dropped tests, receiving the signals from the bomber indicating release of the nuclear device, and, seconds later, its detonation. The second and third panels contain frequency and voltage regulating equipment. In order to synchronize instruments with high precision, a central source of high-precision frequency signals is vital.

The scientists responsible for setting up the equipment to take the data from the test which tour personnel will observe have been working the allowable maximum of 54 hours a week for the past two months plus many months of work in home laboratories and fabricating plants. Working with them have been construction and electrical contractor personnel.

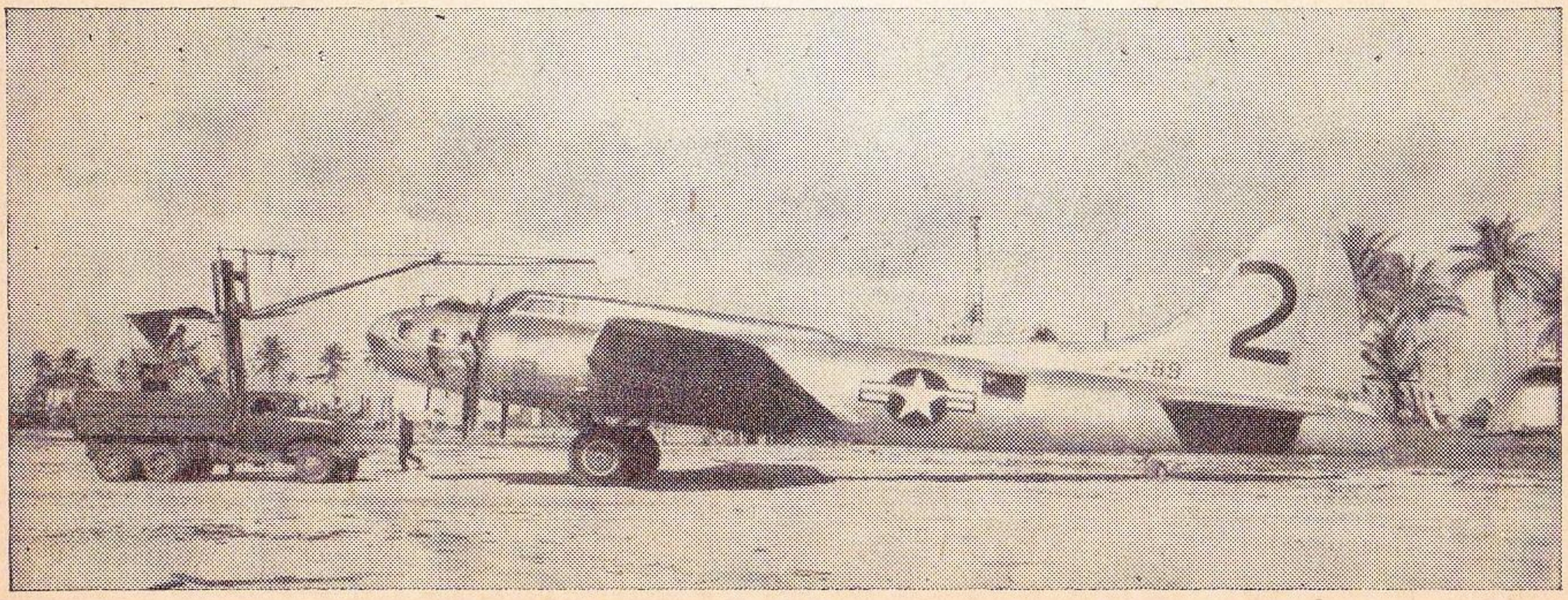
Final calibration of instruments, checking circuits, testing of signal strengths, time signal relays, and electrical power behavior are performed during the week immediately preceding the detonation.

Prior to the shot, hundreds of switches for the recording instruments are pre-set, then the bunkers are evacuated with no person inside at shot time. Heavy lead-lined doors like the bulkhead doors of a large warship are closed and sealed. When the massive outer door swings shut the bunker is ready to receive and record the data from the assortment of instruments above ground —instruments which may be vaporized in the instant of detonation.

On a fixed schedule prior to the shot, the timing mechanism in the control room back in Yucca Pass sets in motion the whole mechanism at the tower, on the ground, and in blockhouses and bunkers in the area.

Frequently the most useful measurements are those of what takes place within the detonation itself. Since the measurements must be made in millionths of seconds—or less—the resolving time of equipment must be incredibly short. To catch the immediate early phenomena of the detonation, the detectors and gauges must be placed on the tower in very close proximity to the unit being tested. This, of course, means that the detectors are almost instantly vaporized, but in the millionth of a second before they are destroyed, they transmit the all-important signal to the recording devices in the bunker.

Instrumentation in the bunker consists mostly of power supplies, amplifiers,



When a robot bomber flies through the bomb cloud, and collects a filter-bag full of the "hot dust," long-arm, rather than strong-arm handling methods are called for!

oscilloscopes, cameras and other recording devices. Large coaxial cables carry the signal to the recording machines from the gauges and indicators outside.

The electronic recording circuits respond extremely rapidly. They can be made to operate in a few hundred-millionths (0.00000001) seconds. A great deal of light is required to write on photographic film in such a limited time. Unless special precautions are taken, this light would badly fog the film during the many minutes the instrument is waiting for its signal to be given. To solve this dilemma the electron beam is reduced in intensity and deflected off the screen prior to zero time. At the last possible instant it is necessary to raise this intensity to its required value. By an ingenious arrangement, the coaxial cable is tapped so that the signal itself can trigger an intensifier. The signal, however, passes through a greater length of cable and hence appears at the scope a microsecond or so later to be recorded after the intensity has been increased.

The record is of very short duration. Fortunately, however, the fluorescent oscilloscope screen retains the image briefly after the electron beam has swept across. The persistence of the image, analogous to a modern television tube where no flicker is discernible to the eye, is sufficient to permit permanent recording on the photo film.

These films are the raw data from which the results of the experiments are interpreted.

After the shot, reentry to the building and recovery of the data is made as soon as radiological safety precautions permit. This is normally within a few hours after the blast.

DEPARTMENT OF DEFENSE—U.S. ATOMIC ENERGY COMMISSION
JOINT INFORMATION OFFICE
1235 South Main Street
Las Vegas, Nevada

MEMO TO OBSERVER PROJECT INVITEES

From: Shelby Thompson, Project Officer

Subject: GENERAL COMMENT, ADVICE AND CAUTIONS TO OBSERVERS

GENERAL

The security agreement signed by all invitees to the Observer Project states that it will be necessary to conform with procedures which make possible this public view inside the Nevada Proving Ground, one of the major outdoor laboratories of the Atomic Energy Commission.

Within the areas of the Proving Ground visited by the Observer Project personnel and during the time of visits, arrangements have been carefully made so that there will be no compromise of secret information. These arrangements have been so constructed and so timed that it is possible to permit the observers to see and to report verbally and pictorially an atomic detonation and certain unclassified characteristics of the complex mechanisms of the Proving Ground. There will be no restrictions on your reportorial activities as long as you observe the simple security procedures devised to make your unrestricted activity possible within certain areas visited during the times you are present there.

SECURITY STAFF PRECAUTIONARY

The Security staff who will be with invitees on the Proving Ground during the project are purely precautionary, to keep the "free" areas properly bounded and to prevent inadvertent extension of invitee activity into areas not privileged for such activity. Cooperation with the Security staff men is requested in the interest of safeguarding information which, under the security regulations of the Commission, cannot be revealed to uncleared persons.

SAFETY CONSIDERATIONS

Both security and safety considerations have dictated that the observer list be kept relatively limited. In planning the project it was necessary to keep in mind the possibility, however remote, that it might become necessary to evacuate the group in event of unforseeable drift of radioactive atmosphere in the direction of the observation point following the detonation. Because of the painstaking attention to the safety factors during tests of atomic devices at the Proving Ground, it is extremely unlikely that any humans, wherever they may be, could be affected by this radioactivity. However, when you are as close to the detonation as you will be this time, caution must be observed. For this reason you are requested and urged, in your own safety interest, to pay strict attention to announcements being made over the loud speaker system at News Nob. If directions to evacuate become necessary, they will reach the Nob in this manner. If such directions are issued, proceed in an orderly manner to the vehicle which brought you to the Nob, do as you are told by escorting personnel. Do not linger to gather up personal items or working equipment. You will be in no danger as long as you follow instructions readily.

KEEP YOUR BADGE VISIBLE

Your badge must be worn in a location where it is visible at all times and should be quickly and readily presented to security personnel for their inspec-

tion upon request. Our schedule on the tour and the shot day both will be quite tight and avoidable delay should be avoided in the interest of all involved in the Observer Project. In some cases, checking of the badge will be cursory, under the special conditions of the tour. At other times it may be necessary for the badge wearer to furnish supplementary identification as a check to be certain that the wearer is the person to whom the badge was originally issued. If your badge becomes lost, however, report the fact at once so that its authority may be cancelled to prevent further use. Loss of your badge may cause delay that could make you miss an interesting part of the tour, or the main events of shot day. Please try to avoid it.

BE CAREFUL IN USE OF BINOCULARS

Binoculars will be permitted Observer Project personnel on shot day but not on tour day. When using binoculars at News Nob on shot day, DO NOT LOOK AT THE FIRST FLASH OF DETONATION THROUGH THEM EVEN THOUGH YOU ARE WEARING THE 4.1 DENSITY GOGGLES. The goggles will be distributed aboard the buses enroute to News Nob on shot day. They should be worn when the loud speaker calls for them and should not be taken off until you have counted three s l o w l y. Do it this way and it will come out about right: "One thousand one, one thousand two, one thousand three", AFTER NOTING THE FLASH THROUGH YOUR GOGGLES. Then if you take them off swiftly you will miss none of the observable phenomena, starting with the ball of fire.

PERSONAL CAMERAS NOT ALLOWED

Due to registration and checking necessary to insure that photographic equipment is not capable of recording Restricted Data, no personal cameras will be allowed on either tour or shot days. Photographic equipment used by media to obtain pictorial coverage of Observer Project events will be allowed, but must be registered and checked in advance. A desk for this purpose is set up at 1235 S. Main Street.

The effect of the initial flash on the eye keeps human vision from constituting a security risk. A fast camera, operating at the instant of detonation, unless geared down, would endanger security of information.

BRING YOUR OWN TYPEWRITERS

There will be tables set up at the Nob where you can use portable typewriters. No typewriters, however, will be furnished and you must bring your own if you intend to use one. Some chairs also will be available, but not one for each

observer. Therefore, after you have occupied a chair for some time, it is urged that you give another observer a chance to sit in it if there are standees who have found the natural terrain, which is mostly rocks, too rugged.

STEP CAREFULLY ON ROCKS

News Nob has an abrupt slope covered with many loose rocks and boulders. Observers moving about on the upper slopes should step carefully to avoid rolling rocks down upon observers at lower levels. No rattlesnakes have been detected on the Nob and it is not thought that any reptile with good snake sense would possibly emerge while the Nob is occupied by the Observer Project. However, if you meet a rattler, go slowly away from where he is. He will likely welcome a chance to do likewise. If you hear a rattler, look before you jump. You might land right on him.

BE CERTAIN OF FOOTING JUST AFTER FLASH

Within a few moments of the initial flash, a shock wave will reach News Nob. After you have removed your goggles, brace yourself for the shove from the front that the shock wave will give you. If you are not well braced you may be tumbled. It is unlikely, however, that the shock wave will push hard enough to roll you badly unless your footing is poor and you are on a high perch.

HEED SIREN ON TOUR

When you hear the siren of the accompanying Security patrol car during the tour that means we are finished at that particular stop and buses must be promptly loaded in order to get to the next one on schedule. When the siren sounds, please go immediately to the bus with the number corresponding with that on your bus tag. You will be checked in and the tour will proceed.

DON'T BE LATE AT TAKEOFF

The takeoffs from the City Hall on both tour and shot days will not be delayed beyond the time indicated in the program of events. If there is any change from the time on the program, you will be notified orally at the briefing sessions April 21. To assist you in getting there on time, the Vegas Transit Company will start four city buses, marked "South Fifth Street," to the City Hall from the Flamingo at 5:45 A.M. on Tour Day. Stops will also be made at Desert Inn, Last Frontier, Thunderbird, El Rancho Vegas, and anywhere on Fifth Street where you may flag one of the buses. Same deal on April 22, but this day the buses will start at Flamingo at 4 A.M.

ROLLS AND COFFEE

Breakfast rolls and coffee will be served to observers at the Nob starting about 7 A.M. on shot day. There will be no charge for this. Sandwiches and coffee will be available about 11 A.M. A standard Proving Ground price will be charged.

FASHION NOTE

At the time of arrival at the Nob on shot day it may be quite chilly and it is recommended you take a windbreaker or a topcoat for protection, especially if a breeze is blowing. When the sun gets up it is apt to be bright and persistent and anyone susceptible to sunburn should go prepared for it. Long sleeves and a hat with a brim are advised for the less tanned among you. A shoe sole thick enough to prevent stonebruises will be a comfort.

TERMINAL NQTE

We hope you enjoy yourself and have a fruitful participation in this project. We'll do the best we can to make it successful for all concerned.

THE END

IN TIMES TO COME

There's a symbolic cover coming next month, another of Alejandro's simple and effective pieces. I'd planned, actually, on using an excellent cover by Charles Schneeman —but the interesting and curious coincidence of a certain story by Eric Frank Russell changed my plan. Schneeman's cover was done purely as an astronomical cover; Russell had no idea that Schneeman's cover had been bought. But Russell sent in an intriguing little yarn about the consequences of ignorance, and its use as a potent weapon. It was evident that the story was designed to match the cover. So we changed the schedule; Schneeman is illustrating a story he never read, and Russell has written a story to match a cover he never saw . . .

And also, In Times To Come, we'll have some new authors coming up. I'd like to take a moment here to describe the average new science-fiction author. He's a man between twenty and thirty-five, a professional technologist or student technologist of one kind or another, and he writes science-fiction to express his ideas, not for a living. He never becomes a professional science-fiction author, but continues it as a hobby; it's not his bread and butter, but the jam that makes the bread-and-butter otherwise earned more tasty.

We run a contest every month; the contest is completely open — because there's no point in getting the work of amateurs who can't compete with the highest professional standards, and we can't use professionals who can't match the top work from any source.

The prizes range from $75 for a 2,500 word extra-short, through $360 for a novelette of 12,000 words, up to $2,700 for a 90,000 word novel.

And if you do a good job on a novel, you'll get something around $2,000 to $3,000 from us, plus a few hundred or another couple of thousand from a book publisher, plus possibilities of pocket-book sales.

The contest is open now; it stays open so long as the magazine is around! The competition is just as tough as you, as a reader, want it to be.

Want to join the tussle?

THE EDITOR.

WHAT IS PSYCHOSOMATIC?

BY J. A. WINTER, M.D.

__The best evidence__ on the power of the mind over matter on hand to date is this; you can kill yourself quite handily by psychosomatics. It's as effective as arsenic, and can be much more painful. Since this article was written, evidence has been brought forth that cancer is psychosomatic also.

Once upon a time there was a man who was interested in solving problems. One day he found a problem in which the number of variables was, at a casual estimate, about 10^{13}. He decided to work on this problem.

Question: What would you call this man—an optimist?

Answer: No—a psychosomaticist.

That is one way of looking at the vast and fascinating problem which we call psychosomatic medicine. We are working with an organism which starts as a single cell; the cell divides into two, then each of these cells divides, and so on until about forty-five cell-divisions have occurred. At this point the organism is known as an adult human being; the organism has been in existence anywhere from twenty to eighty years. During that time it has been constantly bombarded with forces which are capable of producing change, and it has constantly undergone change. It has maintained a dynamic balance with the forces of its environment which has permitted it to survive and to reproduce.

The organism has done all this in a remarkably efficient manner; we call this state of efficiency "health." Then, one day, the organism begins to perform in a less efficient manner; we know from previous observations of similar organisms that this state of lessened efficiency, which we call "illness" often leads to dissolution of the organism.

What do we do about it? What can we do about it? How can we even start to solve a problem in which the data is constantly changing, in which every change affects every part of the problem, both in the past and in the future?

It's not easy—but we can try. And the attempts, the trials, errors and corrections, make up the body of knowledge which is coming to be known as psychosomatic medicine.

What does "psychosomatic" mean —not just the dictionary meaning—

but what is its significance to you, to me, to our society? Is it important? If it is, why is it?

To start with, the word is derived from the Greek "psyche," meaning soul or spirit, and "soma," meaning body. From the derivation, you might think that "psychosomatic" would mean something like "applying to both mind and body." But you'd be wrong—for the greatest task of the psychosomaticist is to heal the age-old split in Man's thinking which divides each human into a separate and separable Mind and Body.

Making such a dichotomy is a very primitive trick. The Australian bushmen have the idea that the body is inhabited by the spirit. The ancient Egyptians talked of a "ka," which left the corruptible body at death and went on to life everlasting. In this atomic age we still talk of illnesses as being "physical" or "mental."

How can we get away from this time-worn, time-hallowed concept? Following the lead of General Semantics, we can talk about "structure" and "function." When we talk about function, we know that there is a structure which is performing the function. In order to have rotation we need a structure which will rotate. Rotation can be produced by a whirlwind, by a squirrel running in his exercise-wheel, by a steam engine, an electric motor—but in each case there is a tangible, see-able, sensation-producing structure in action. Without the structure, we cannot have the function; without the function, the structure is inert and dead.

With this idea firmly fixed in our memories, we can look at this business of body and mind differently—and, I believe, more operationally. By "body" we can refer to the structure of the human; by "mind" we can refer to the functioning of that structure.

Not such an earth-shaking concept, is it? But wait—look at what it implies: it means that every single cell in our bodies—and there are about 10^{13} of them—has a "mind." Every organ which functions has a "mind." Each cell-mind and organ-mind integrates its function with all the others to make up the totality which we call the human mind.

If you are willing to grant this use of the word "mind," it therefore follows that every action is partially "mental." Every disease then, is to some extent a "mental" disease. You might have tuberculosis, which is the result of invasion of the body by the *Mycobacterium tuberculosis*, but there are still "mental" components—which respond to psychotherapy!

Well, where do we go from here? The next step is to clarify the factors which lead to functioning. That's simple: any change in our environment can potentially change our functioning. The temperature of our surrounding goes up—we perspire; the temperature goes down—we shiver; the oxygen

content or the carbon dioxide content of the air changes—our respirations alter. In other words, we interact with our environment. Environment changes, we change—and in such a way as to maintain a continuous dynamic balance with our surroundings.

Environment, of course, includes much more than the obvious climatic factors. It includes the people around us, what they say and do for us and to us. Father applies a switch in a forcible manner to the skin of the gluteal region—and that gives rise to a change in function, too. Or if our food, which is a part of the external environment which we transform into usable energy, should be contaminated by the cells of *Entameba histolytica*, we undergo a change in function which has its own special name—amebic dysentery.

Another point—a truism, by the way—is that we learn by experience. Each interaction with our environment produces a change in us. Each change means that future changes will also be different. If you should see a BEM for the first time you would have one sort of reaction; seeing one every day for a month would produce an entirely different sort of reaction. It is suspected that every interaction with our environment, moreover, produces a *permanent* change. Every time something happens to us, and we react to it, we will never be quite the same again.

Theoretical? Perhaps—but we find that by using this theory we can make a new explanation of Man's conduct, can manipulate people's reactions and can predict what their responses are going to be. Using this viewpoint—which we will call the psychosomatic viewpoint—we find that we can treat diseases in ways which seem to be more effective, in ways which permit the patient to be more independent and self-reliant.

And how does the psychosomatic viewpoint differ from the conventional medical outlook on the ills which beset us humans? Let's make a few comparisons.

Medical texts teach that when a person is exposed to certain bacteria he will develop a certain disease. They go further and say that certain diseases are "caused" by certain bacteria. But what of the people who are exposed to these bacteria, who have the bacteria in them—and yet do not have any of the reactions of disease? Ask that question of the average doctor—or better, ask a medical student; he'll give you a much more positive answer—and you'll get a lecture on "immunity," "resistance to infection" and "susceptibility." It'll sound very impressive; but when the medical terminology has been put into non-technical words, it boils down to this: "Some people get sick and some don't. We don't know why—but we can be awfully learned about our ignorance."

The psychosomaticist would have a slightly different explanation. He would say that every person's reaction to any stimulus, whether it be a bacterium or a smile, a virus or an insult, depends on previous experiences and how he was able to react to these earlier stimuli. If a man's previous experience had taught him that getting his feet wet was a sure way to catch cold, then wet feet will almost inevitably lead to the sniffles, whether there is any cold virus around or not.

Another big difference between conventional and psychosomatic medicine is in the attitude toward disease and diseases. Most doctors, to use a favorite word of General Semantics, have a rather Aristotelian idea about disease; either a man has a disease or he doesn't; he's either sick or healthy. In psychosomatic medicine we feel that there is a great similarity between health and illness; they're both reactions which have been determined by previous experiences and previous stimuli. We have learned, however, that certain types of reactions result in greater longevity than do others. The reactions which seem to shorten our survival time are classed as "disease"—but it's impossible to say at what point a "disease" reaction becomes a "health" reaction.

To express it another way, there is a spectrum of survivally-oriented activities; at one end of the spectrum is perfect health, the other end is marked by sudden death. A person *tries* to be as healthy as he can—but if some of his past experiences have taught him that the way to be healthy is to be sick, then he's sick.

Not all psychiatrists would agree with this theory, incidentally. The Freudian school postulates a "death instinct," a drive toward self-destruction, and suggests that disease occurs when the death instinct overrides the survival drive. It's a cogent theory—but my personal preferences are for the one first stated.

How can we resolve this paradox of a person trying to be healthy by getting sick? It seems to go something like this: Joe Doaks has a need for love, tenderness and affectionate care. When he was a child, he got very little of this sort of attention—except when he was sick in bed with a cold. The way to get love is to have a cold, then—and the love-hungry Mr. Doaks has chronic sinusitis.

Another major difference between the psychosomatic approach and the more conventional one is that the first tends to be holistic, the second compartmentalized. By "holistic" (Greek *holos*—meaning "whole") we mean that the organism works as a whole; given a stimulus the entire body responds, not just the area of the stimulus. In other words, if you get kicked in the derriere, you get mad all over, not just with that region.

If you have ever had the chance of observing an infant, you can see the holistic response at its purest. At a

sudden, loud noise the baby will have a startled reaction, with its eyes opened widely, its arms outspread, fingers slightly curved as if to grasp, increased heart rate and so on. Shortly thereafter it will usually cry—which we consider a means of discharge of the energy which had been triggered by the loud sound.

As the infant grows and learns, however, the response becomes much less generalized; an adult can ignore a loud sound entirely. But it seems that the potentiality for making the total response is still there; he has learned how to inhibit it.

The compartmentalized viewpoint, on the other hand, tends to ignore this idea. As an example, consider the eye-ear-nose-and-throat surgeon: if you go to him with your tonsils swollen and inflamed, you are advised to have your tonsils removed forthwith. There is no attempt to find out *why* the tonsils are enlarged, no effort made to find out what stresses you have been exposed to, no search for any other complaints or disorders which might be related to the tonsilitis. Instead of considering the reaction, he advises the removal of the reacting organ.

We even hear of surgeons who advise routine tonsilectomy, on the grounds that these pieces of lymphoid tissue might cause trouble in the future. If we were to follow out this line of thought, we would also have a routine excision of the eyeballs, to prevent us from seeing something which might cause trouble; excision of the lungs as prophylaxis against pneumonia, and a removal of the stomach to forestall any gastric disorder.

Compartmentalism defeats itself in still another way: by making a "diagnosis." A diagnosis is a means of classifying a group of symptoms, calling a whole symptom-complex by a single name in order to deal with it by some single method. There's a classic wisecrack along these lines which every medical student learns; after studying skin diseases, and all the various types and the meticulous description of each type, he is facetiously told that there are two main types of skin lesions—those which can be treated by using calamine lotion, and those which can't.

Making a diagnosis helps the doctor to establish relationships within the category. For example, if he sees a person who develops a runny nose and who has attacks of sneezing beginning around the fifteenth of August, he says, "Aha! Here is a case of hay fever!" Then he can look for, and usually find, the other corollaries of this "disease"—the positive skin reaction to ragweed, the increase in the eosinophilic leucocytes, the characteristic appearance of the nasal mucous membrane, and so on. After all this, he decides whether to send his patient to a hay fever resort or to give him anti-histamines, or both.

With the holistic viewpoint, the

doctor tries to notice each symptom and see how it fits in to the rest of the body functions. The patient has red eyes and a runny nose, and he looks as if he is ready to cry. Is there something in his life that leads him to feel tearful? Is there some other way to deal with this sorrow? What is he trying to accomplish by having this sort of illness? Are there any advantages to being sick, especially to being sick in this particular way?

With this viewpoint, the patient can be manipulated, and can be taught to manipulate his own bodily functions, in ways which don't necessarily require taking drugs. Sometimes it works —sometimes it doesn't. If it doesn't, then we always have drugs as a last resort.

The person with a psychosomatic orientation learns to regard everything as possibly purposive. A man does something—what is his reason for it? A person gets sick—why?

This, too, can be carried to a ludicrous extreme, as illustrated in the story of the psychiatrist who was walking down the street and met one of his medical confreres.

"Good morning," said the doctor.

"Good morning," said the psychiatrist aloud; then, to himself, "I wonder what he meant by that?"

There are, however, undeniable advantages to regarding every action as having a reason and a purpose; if we do so we are more apt to find out a reason, if one exists, than if we ignore it entirely, or dismiss it with a Snerdian, "Yep—that's the way it goes."

As an example, we can make a correlation between the lines on a person's face and his personality pattern. A person with deep wrinkles between his brows is usually chronically angry; he has had a childhood full of restrictions; he has little tolerance for pressure; he will grant a request but not a demand. We would not make these correlations, however, if we did not first assume that there was a reason for having tension of the muscles of the brows.

As another example, we can consider a chronic cough. The usual M.D. takes it for granted that a cough is caused by an irritation somewhere along the respiratory tract—and the only treatment is to give a medication which will depress the cough reflex or a medication which will liquefy the mucous so that it can be brought up easier.

To express it a different way, we can say that the usual doctor tries to treat the patient's environment, eliminating the stimuli to which the patient is reacting. The psychosomaticist tries to help the patient alter his organization of ideas and experiences so that he can exercise a choice of how to react.

This broader view brings up a hypothesis which has some thought-provoking ramifications. It's a new one, by the way; you will find very little in medical literature on this idea.

It can be expressed simply by stat-

ing that all the various functions of the body seem to work in parallel with each other; there are certain basic functions and each organ carries out this function analogously. For example, there is the function of retention: on the level of abstract thought it might be manifested by a good memory, or by persistence of certain thought patterns. On the level of emotions, one might see that the various forms of emotional expression are bottled up, not permitted to come out. If the skeletal muscles were to perform retention, we would see clenched fists, a furrowed brow; retention by the muscles of the circulatory system might lead to high blood pressure; retention by the intestinal tract might lead to constipation, and so on. In the lungs we would see shallow breathing or the sort of difficult exhalation characteristic of asthma.

A person, as a result of past experiences, has learned that certain stimulus-patterns can best be reacted to by the action of retention. He will try to "retain" with his total organism—but other experiences have taught him that it's best not to retain. He is faced with the dilemma of having to retain and expel simultaneously—and he solves the problem by retaining with as many functions as he can.

To give an example, suppose that a man has a collection of science-fiction stories. He values them highly because they have given him a great deal of pleasure. Someone wants to borrow a part of his collection—and that triggers a complex reaction-pattern. He wants to retain these magazines—and yet he likes the borrower and would like to share with him the pleasure of similar knowledge. He says, "Sure, you can borrow them—but leave your left arm here as security."

He's kidding—but only partially. If you're very observant you will see that the lender will become short in speech thereafter—retaining his words. He may breathe more shallowly, retaining his air. He may develop tension in the muscles around his mouth and eyes; he may even get a headache in the effort to retain blood within his brain.

You will realize, of course, that this example is one which is exaggerated for the purpose of emphasis. It illustrates a way of thinking that helps us to explain how people think and act—and by using this explanation we can help them to think and act differently.

The ability to think and act in diverse ways is, we feel, of the highest survival value. The purpose of psychotherapy is to augment this ability, to help the patient discover why he has certain fixed, rigid reaction-patterns and to increase his ability to choose the most effective reaction to each stimulus as it is presented.

As an example of a fixed reaction-pattern, let's take the man who faints every time he sees blood. He can lead a fairly happy and productive life if he stays out of slaughterhouses, avoids

hobbies which require the use of cutting instruments and uses an electric razor. Suppose, however, that he drives his car down the highway at seventy m.p.h. and a mosquito, filled with blood from a recent victim, gets spattered on the windshield. Fainting at this point might have some serious consequences on the driver's chances for longevity. Fortunately we humans seem to have a series of emergency circuits which can override the so-called neurotic responses; in this case our hemophobic character would probably stop the car on the side of the road and then faint in comparative safety.

Perhaps you might be interested to know how a psychosomaticist would treat such a condition. He would *not* begin by telling the man that he was neurotic, that it was all in his imagination, that all he had to do was to snap out of it and quit acting so foolishly. He would instead assume that the man had had at least one experience in which he saw blood and subsequently had no choice but to faint. He might assist the man to recall these various experiences and re-evaluate them.

Or, following the Gestalt methodology, he might help the man to a recognition of *how* he faints. There would be a study of the S→R, where the S stands for the stimulus of the sight of a red liquid called blood, where the R indicates the response of a rapid and profound decrease in awareness of external environment and a temporary failure to respond to changes in the environment, and the arrow indicates the complex neural pathways and alterations in the endocrine levels in the blood stream. To express it in psychologic terms, the arrow is on the pre-conscious or subconscious level of "mental" activity; by bringing it up to the conscious level it can be better dealt with.

In order to do this, the patient would learn how to faint; he would be helped to an awareness of the way he breathes when he is going to faint, what muscles he tenses when he is going to faint, what he does with his intestinal tract in order to faint, and so on. It is an interesting paradox that when the patient learns how to faint he no longer has to faint. We use the analogy of a light switch; if you are in a room and don't know where the light switch is, you can't choose to turn the light off or on; once you know where the switch is, and how to manipulate it, you can have light or darkness as you prefer.

Psychosomatic treatment, therefore, consists in working back and forth between the "why" and the "how" of various fixed reaction patterns. There are various ways of doing this: some schools of thought stress the "why" more than the "how" and vice versa. Some therapists like to interpret for their patients, some prefer to act as a mirror, calling attention to the patient's responses and letting him judge the advisability of maintaining

or eliminating habitual response-patterns. All of them seem to have the goal of permitting the person to be more choiceful—even though they might not express their goals in quite that manner.

By this time you may have noticed that I have avoided making any flat, positive statements about what psychosomatic medicine "is" or "is not." As a follower of the late Alfred Korzybski, I shall try to continue to refrain from identifying. There are so many concepts, so many activities which are included in the category of "psychosomatic medicine" that it is practically impossible to make a neat bundle, complete with label. For example, some psychosomaticists have their patients lie on a couch with their eyes closed while they explore their past; psychoanalysts do the same, yet psychoanalysis is not psychosomatic medicine. Psychiatrists and psychosomaticists both deal with "mental" disorders—but psychiatrists also prescribe drugs and use the various shock therapies, while most psychosomaticists do not. Some psychosomatic practitioners stress re-training of various bodily functions, such as breathing, chewing and vomiting; so do the Yogi—who also do other things, have other beliefs in addition to these. There are differences; there are similarities; how many similarities do there have to be before there is no difference?

Psychosomatic medicine is also medicine; indeed, it seems to me that it's impossible to practice conventional medicine without interjecting some of the psychosomatic viewpoints. When the doctor hands you some pills, and says, "Take these and you'll feel better," he's using a device known as permissive positive suggestion in an effort to increase the effectiveness of the medication. That's a method derived from hypnotism. When the doctor asks, "Well, what seems to be troubling you?" he is not only getting a history but also helping the patient to achieve what Freud called "catharsis."

We can differentiate between psychosomatic and conventional medicine only by considering the extremes; the two opposing viewpoints blend into each other so subtly and imperceptibly that it's well-nigh impossible to say where one begins and the other leaves off.

With this in mind, with the understanding that exceptions can be made to any statement made herein, we can consider some of the values of the two schemes of ameliorating human suffering.

To start with, there are some disadvantages with psychosomatic medicine from the patient's standpoint—but most of these are more apparent than real. For example, any sort of psychotherapy is supposed to be long and expensive; in my experience, it might take six months to a year to work out the factors in a case of

chronic asthma, and the fees for this service would not be inconsiderable. Yet the expenditure of time and money in psychotherapy, I believe, is far less than the *loss* of time and money which would be incurred if the asthma were treated palliatively. For one thing, when an attack of asthma is treated by psychotherapy, and the patient learns how to alter his reactions, the chances of recurrence decrease; in contrast, when we treat an asthmatic attack with drugs, we relieve *only* that attack, and the chances of recurrence are excellent.

The biggest drawback to psychosomatic therapy, as I see it, is that it is not easily available. Most of us who are interested in the psychosomatic approach have moved to the big cities; it's an economic necessity to do so, as the average small town couldn't support a doctor who wanted to practice psychotherapy only. The small-towner, therefore, is apt to be out of luck in his search for a psychosomatically-oriented physician, unless he is one of those rare individuals who can afford spending several months away from home.

And yet a small-town doctor can, if he will, acquire the knowledge necessary to treat his patients in the psychosomatic manner. It requires a change in the doctor's view of illness, however, and there are two big obstacles to making that change: his patient and himself.

A great many patients, when they go to a doctor, go with the intention of getting what they want. They want to be relieved of pain, or they want to be reassured that they're "normal," or they want to be given some of the same medicine that did Mrs. Krankheit so much good. The doctor who suggests to such a patient that his difficulties are functional, rather than structural, has a good opportunity of observing a resentment-reaction: "Oh, you think I'm imagining this—you think I'm crazy, hey? Well, maybe I am, but I'm not crazy enough to stay here and be insulted. Good-by!"

Exaggerated? Perhaps—but not very much.

But what of the future of psychosomatic medicine? What are the possible effects which it can have on our civilization? We'll be able to answer those questions better twenty years from now—but there's one big probability. Research in psychosomatic medicine is already giving us a better understanding of the mechanisms whereby we convert experiences into disease—and as we know more about the mechanisms and causative factors, we will know better how to prevent these diseases from occurring. The old ratio of sixteen to one between prevention and cure still holds.

As an example of this sort of mental hygiene, we can consider the psychiatric concept that a childhood of restrain, repression and frustration will lead to illness. Let me cite the

case of Bobby, a seven-year-old boy with a chronic cough. His parents—fine, intelligent people—had their business in their home, and their work was such that it would have been most inconvenient to have Bobby making noise.

It seems as if there's a vast amount of noise stored up in a boy of this age—and it's got to come out some way. Bobby couldn't let it out in play—so he found that there was one noise he could make without restraint. He coughed, loudly and raucously—especially whenever he was told to do something he didn't want to do.

Treatment for his chronic cough was based on permitting him to express himself in ways other than coughing. Arrangements were made for him to have a noise-making period every day, a time when he could blow off the steam which accumulated from necessary restrictions. In a very few weeks his cough had almost disappeared.

These effects, you will notice, were obtained without the use of cough medicine, anti-histamines or tonsilectomy. Those measures work, too—but why? Psychotherapy of this sort works—but why?

And so we're back to the problem again. Here's the human organism, which can be manipulated in countless different ways, each way being effective. The force of the stimulus has no apparent relationship to the magnitude of the response, and, just to make the problem even more complex, the organism is also capable of altering itself.

What are we doing about it? We're trying to collect data and make correlations. We're trying to find out if there's any relationship between a slap on the buttocks at birth and a slap in the face at age eighteen, between a tonsilectomy at age five and a "lump in the throat" at age forty, between what your mother said to you and what you say to your grandchildren.

As I see it, we are working toward a general field theory of human behavior, a theory which considers the entire range of living from conception to death, which can integrate such varied phenomena as learning, witchcraft, extrasensory perception, sorrow, the pH of the blood stream, the miracles at Lourdes, psychosis, cybernetics—in short, everything.

It sounds like quite a chore to evolve such a theory, doesn't it? It sounds like a superhuman task—but it's not. It's a *human* task, a job for each one of us—and we're all working on it, whether we realize it or not. It seems to me that every person who lives, adds to the knowledge of living.

The task of integrating all this knowledge is, I believe, the responsibility of those of us whose life work is psychosomatic medicine. Perhaps this belief is presumptuous—nevertheless, that's the job I like to think I'm doing.

THE END

NO PLACE LIKE HOME

BY LESTER DEL REY

There are times when a fraud, a cheat, can be accepted and allowed to get away with what he's practically embezzled!

Illustrated by Cartier

Sid Mallon didn't quite believe it, still. He never would be able to believe all that had happened. But now the ship was there, raising its tip high among the stars, with the full moon washing it with light, and a few spotlights picking out the details of the big power tube and the fins that would guide it through the air.

Seeing it, Sid drew his small figure more nearly erect, and his narrow shoulders squared a little. The hints of gray in his ash-colored hair and the lines of strain around his vague blue eyes might be due to the ship—but she was worth every bit of it. Tonight, the whole human race had a finger pointing at the stars—and one knuckle of the finger was his!

"Feels good, doesn't it, Sid?" The big, brunet bulk of Doug Swanson had come up, silently as always, to join him. His eternally expressionless face lifted, rising along the ship to its nose, and then to the stars in the Arizona sky above it. Doug hadn't changed in the past five years, except that the hint of weariness was gone from him now, and the faint tinge of what might have been a Scandinavian accent had been worn from his voice.

"Yeah, Doug. Plenty good."

Five years. Sid shook his head, trying to remember that it had been no longer than that, though it seemed half his lifetime. He'd been doing all right, in a way, when he'd first met Doug Swanson. He'd been promoting the careers of two of the hottest rising stars in Hollywood. Then he'd picked Doug up; Sid didn't pick up hitchhikers, but somehow he hadn't been able to refuse the tired, awkward giant that time.

It had taken Doug about forty miles to warm up, maybe fifty more to sell Sid on the idea. How, he'd never quite known. But the big guy could talk of rockets and his dreams and his designs until a brass monkey could feel the pumice of the Moon under his feet. Sid was pretty good at talking; but he'd only dug up the angles, while Doug did the selling.

Nobody else could have convinced Rex Westman to sink a fortune in a real ship instead of process shots for his next space picture; only Doug could have sold the same idea to a group of twenty producers, and got them out hustling for more money.

Even when they found they'd been rooked, and that it would take three years to build the Moon ship, they'd gone right on putting up funds. After the first ship, when Doug did reach the Moon and came back, it had been easier. Then Sid had been able to take over the promoting, while Doug turned his energies to building the *Centaurian*, leaving the Moon ship for the Army men to use as a nucleus of their Moon fleet.

"Five years," he said aloud. Five years to do everything Doug had promised, and give them a ship that could reach Mars—even the stars, maybe, if anyone wanted to be a fool by trying.

Doug shook his big head. "Twelve for me, Sid. Seven of them fighting my way up until I could meet and sell someone like you. I'm . . . well, a little older than I look."

Sid glanced at him, wondering. But he'd learned long before not to ask Swanson for details. Others had tried to pump the man on his degrees and how he developed the mass of ideas that poured out of his head, or get something of his personal background. But while Doug could speak endlessly of the ship when required to, he froze up on everything else. Sid knew little more than he'd learned that first day. He no longer cared. What was right for Doug Swanson was right with Sid Mallon.

They stood quietly for minutes more, leaning against the guard fence and looking at the ship. A single guard was on duty in his little hut, with the electric eyes to warn him of any fool curiosity-driven intruder. But the ship was actually its own best guardian. The crowd that had collected during the day had vanished now, though it would increase as the day of take-off grew near. The workmen were paid off and sent on their way. And the *Centaurian* sat there on her tripod fins, stocked with an unbelievable mass of supplies, waiting.

"Doug!" Sid said, finally. The big guy looked down silently, and Sid cleared his throat, trying to remember the rules of promoting that had normally become sheer instinct. They weren't working now. The words wouldn't come right, and he gave them up, blurting out what was in his mind. "Doug, you call her *our* ship. She's your idea, sure—but my heart's in her, too. I didn't kick when you hiked off to the Moon alone. But this is different. I want to go!"

Doug looked down again, slowly shaking his head. "I'd like to take you, Sid. It's going to be lonely out there, and I'm not the glory-hog I may seem. But I'm going alone. I

have to."

There was a bitterness in Sid's mouth as he swallowed that. He knew how inflexible Doug could be; he'd seen the top brass of the Army trying to threaten and cajole Doug into giving advance plans on this big ship, and he'd seen them fail—and accept their failure. Now he shrugged. "If you change your mind, Doug . . . well, it's a week to take-off."

"Take-off's tonight!" Doug's arms had come down off the fence, and his big figure seemed straighter. "Sorry, Sid—I had to keep it from everyone. I'm going off without fanfare. The other date was just a cover-up. So—I guess it's so-long."

"Now?" Sid digested it as the other nodded. His shoulders dropped, and his eyes went back to the ship and the big entrance port down near the base, open and inviting, with the little ladder running up to it.

He should have guessed. It was logical enough, while there were no crowds to catch the backwash of fire from the tube, or get in the way. He shrugged again, and stuck out his hand. "Then, so-long—and good luck!"

Doug's hand met his, the other big paw dropping on his shoulder for a second's pressure. Then the man vaulted over the fence in a smooth flow of muscle-power and was walking

quietly toward the ship. He went up the ladder, and into the blackness of the air lock without looking back. Across the distance, Sid could hear his feet clumping up the tiny stairs to the control room. The tread was steady, measured, as final as Gabriel's trumpet.

The guard would be safe in his hut, but Sid knew he should be running back, before the blast from the tube struck down, washing across the ground in great waves. Instead, he was at the top of the fence. Doug must have reached the control room. There was a sigh from the valves, and the big outer door of the air lock began to inch inward.

Then Sid was off the fence, running harder than he'd forced his legs for years. The door was half shut, then even closer. He could almost feel it catching him in the middle, gradually cutting through him. But he did not draw back; instead, he forced his way up the little ladder, throwing himself through. He barely made it, feeling both shoulders scrape against metal, but he was inside, and ducking through the inner lock before it began closing. Behind him, the outer seal clicked shut.

Blast-off would come almost at once, and he knew something of the frightful pressures of that. He ducked around stanchions and through the engine-hatch room, then up a little stairway to the hydroponic room. Here the plants that would keep the air fresh and provide food enough for several men for years were compactly grouped under intense ultraviolet lamps. At least he wouldn't be imperiling Doug's life, even if they crashed on Mars. Both could live on the supplies, until they were rescued or died as old men.

Below, a preliminary rumble came from the tube, a mere hiss as it was warmed for later blasts. But it sent sweat bursting from Sid's forehead, and made him redouble his speed. He had to be set as best he could, and there were only fractions of minutes left. He couldn't take the blast pressure without some preparation.

Then he was in one of the storerooms off the hydroponic cell, yanking out materials. He was lucky; he'd helped supervise some of the stocking of this section. Then he had the rubber mat that was to be used when lying under the tanks, draining and cleaning them. He had no time to locate the little pump. He forced the valve back with a broken match and began blowing into it. It wasn't too good, but it filled slowly, and it would help. Then he yanked out the match, tossed the mat onto the floor, and threw himself out on it, his body horizontal against blast direction.

He was barely in time. There was a roar from the tube that rose to a screaming fury of insane sound waves, and the weight of the universe seemed to clamp down on him. He could feel his flesh run like hot butter,

the muscles straining back from his legs, his mouth slipping toward his ears, and his eyeballs seeming to drive back into his head. The blood beat wildly. The mat gave under him, until his hips and shoulders were so flattened against the floor they seemed to be glued.

Doug was using full power—more than they'd ever talked of using! Prone, on tests, Sid had felt five gravities hit him, and had taken it. This was worse. The blood began washing back from his mind, forced by sheer pressure-weight toward the back of his head and his bursting hips. Blackness began to rush at him. He tried to cry out, but his lungs wouldn't work. Only the most shallow movement was possible.

Outside, they must have either exceeded the speed of sound or leaped beyond the atmosphere. The sound of the tube went dead, with only a dull mutter coming through the metal of the hull. Doug was crazy. Even in an acceleration harness, no man could stay conscious under that force. And if he passed out, without cutting it, they'd go roaring on until they were dead!

The thought brought no emotional response. It was too dull; his mind was losing control of itself, a gray fog of pain and weight creeping over him. It got darker, then was black. For a second, the pain remained. Then even that was gone, and Sid was completely unconscious.

He came out of it slowly, with a vague feeling that long hours had passed. His mouth was dry and hot, his stomach was sick with fatigue and emptiness. But the pressure was gone from his lungs and heart. He'd always known he was tough—his thin wiriness had stood the test, somehow. Every muscle ached, and all were stiff as he tried to use them. But it was a stiffness that spoke of a long time to recuperate from the pressure of that initial acceleration.

He looked at his watch, but it had stopped. The pressure had been too much for it. He had only his mouth to go by, and that cried for water with more than a day's thirst.

Slowly he worked his way to his feet, stumbling and staggering as his muscles shrieked and his head threatened to burst from the pain. Only blind luck had prevented a burst blood vessel in his brain, probably. His back was one solid bruise, and he could feel the soreness of broken capillaries near the skin of his shoulders. But the mat had made the difference.

He staggered forward, falling from one foot to the other and somehow catching himself before he fell completely. He weighed more than normal still—about a quarter more, which would indicate they were still pressing on at a greater acceleration than one gravity. He tried to figure distance, at an average acceleration of two gravities. He'd done enough of that to

learn the basic physics. D equals ½ gt²—distance figures half the acceleration used times the square of the time, feet and seconds, convert to hours, change to miles—he couldn't do it, but he knew that ten hours would put them nearly eight million miles out, twenty hours four times as far, thirty nine times. And it felt more like thirty.

But that was ridiculous! They couldn't have blasted that long. Then he had it—of course, they were blasting down against Mars. They'd be landing soon.

He found a valve that supplied water to the plants, and quenched his thirst. A little of the stiffness was going, though he felt sore as he moved. But it was worth it. One of the first two men to reach another major planet—a chance to find what the canals were, to walk across plants that had never known Earth, maybe even to find some measure of alien intelligence!

He straightened from the water, biting his lips at the pain in his shoulder. The gun he'd worn around the construction site, in keeping with everyone else against some chance nut, was still there, and had pressed against him during all that killing acceleration. He fingered it, and nodded. It might be handy on Mars. Who knew?

But he had to get up to the control room. He wanted to see this time, and to be able to tell his children, if he ever had any, of this landing! He found the little stairway and began crawling up it, past the various hatches and controls. Walking was bad, and climbing was worse, but nothing mattered.

The three hundred foot climb was still too much for him against the extra weight of the drive. He stopped about midway up, meaning to sink down and catch his breath. Then he remembered that one of the storerooms carried an escape port for emergencies—with a section of thick glass from which he could look. He located it one more flight up, and moved to it. He'd see Mars first, with luck. Then he could finish the climb.

He hadn't really hoped to find the planet, though; if it were dead astern as they braked down, it would be out of sight. But it was worth the chance. He noticed that they were rotating very slowly on their axis, since the hot edge of the sun was just swinging out of view. He watched the stars wheel slowly past.

Mars came into view, far down and at the edge of the glass. He lifted himself on tiptoe, staring out; there was no mistaking the red disk with its tantalizing hints of canals and its dull red and faintly greenish markings. Two million miles, maybe, judging by the views he'd had from telescopes and the pictures he'd studied.

It wouldn't be long now—

Realization hit him suddenly. The location of the sun and of Mars

abruptly registered, together with the course of the ship. He had a good visual imagination, and he couldn't be wrong. They had already passed beyond Mars—well to the side. They must be a million and a half miles out and half a million or more beyond Mars' orbit! They'd missed junction!

And their acceleration was carrying them on, farther and farther away from it.

A thousand fantasies went through his mind, rooted out of all the stories he'd read; he'd never believed a planet could be missed in a ship with enough power to maintain continual push. But they'd done it. Doug! Doug was a bear for punishment, and he'd had the shock cushions to help him, but it only took one little bursting blood vessel to kill a man.

Maybe Doug was still alive. He might have revived just enough to cut the acceleration down a little—or perhaps that had happened when a dead arm hit a control. Sid shook his head, and managed a weak, stumbling run toward the stairway. He had to get there. He wouldn't make much of a pilot—but he could at least stop their drive and somehow reverse, until he could revive Doug if the man still lived. If not—

He preferred not to think of that. He'd have to make a landing, then. He'd probably be killed. But that was a minor matter. Doug was Doug—and the big guy couldn't be dead!

He forced his feet up the steps, hating each one that held him back. He wasn't stopping for rests now. He whipped his mind along, hardly feeling the grinding ache as his bruised hips and shoulders touched against the walls of the tiny stairway. He called once, but his voice echoed back without an answer. Up here, there were doors on the various landings, designed to isolate the sections from each other in case a meteorite hit. His voice couldn't reach Doug, even if the other could hear.

He opened them, one by one, letting them close automatically. Then there was only one ahead of him, and he'd be in the bigger control room. The *Centaurian* was unlike the little preliminary Moon ship; there was room enough to turn around in her main quarters. There had to be, if a man was to live on her while exploring another planet.

He threw the last door open, giving a narrow view of the control panel and the big pilot seat. The tiny galley was off it, together with the little sleeping quarters. But he didn't bother with them. He called again, softly this time. There was no answer. He moved forward, hating what he might find, fearing the worst, but driven forward toward whatever lay in the pilot's seat.

The big padded back cut off his view until he was beside it. Then his eyes went down.

There was no sign of Doug. A thin

series of lines of some kind of doodling were on a pad before the seat, and the ship was set on automatic. All the big lights were green. It looked as if the man had had time to operate them. But he was missing.

Sid swung toward the sleeping quarters, tossing the tiny door aside.

A shoe on the floor caught his eye first, then a leg. Doug's body lay sprawled out under the hammock, on the floor, sagging and unnatural in shape, as if every bone in his body had been broken. He couldn't be alive!

Sid dropped to the floor with a low moan, reaching for the mangled heap. His hand went out. He drew it back, staring, to drag out the stuff that he had thought was Doug. The head was a rubbery mask, and there was a strange assortment of plastic shell and metallic stiffeners under the clothing. And there was a smell to the inside, where a zipper had exposed it.

With sickness heavy in his stomach, Sid came to his feet, his hand going to the automatic and pulling it out. The seven years Doug had spent before Sid found him were meaningful now. Seven years of making this shell, of learning to mix with men.

When you're shipwrecked on a savage island, you paint your skin dark and get the natives to build you a dugout.

"Only a raft, Sid," the voice of Doug said from behind him, and he swung to see a thin, wiry creature coming from the galley. It was vaguely manlike, but jointless, without visible features on the face. The voice was still the same, though. And Sid realized it hadn't been telepathy; he'd been muttering his thoughts to himself, loud enough to be heard.

"Only a raft," the voice repeated. "One that takes eleven hard years to paddle home. And it's a shock to find a native stowed away. But you can't go back, or they'd confiscate even your raft. You've *got* to go home!"

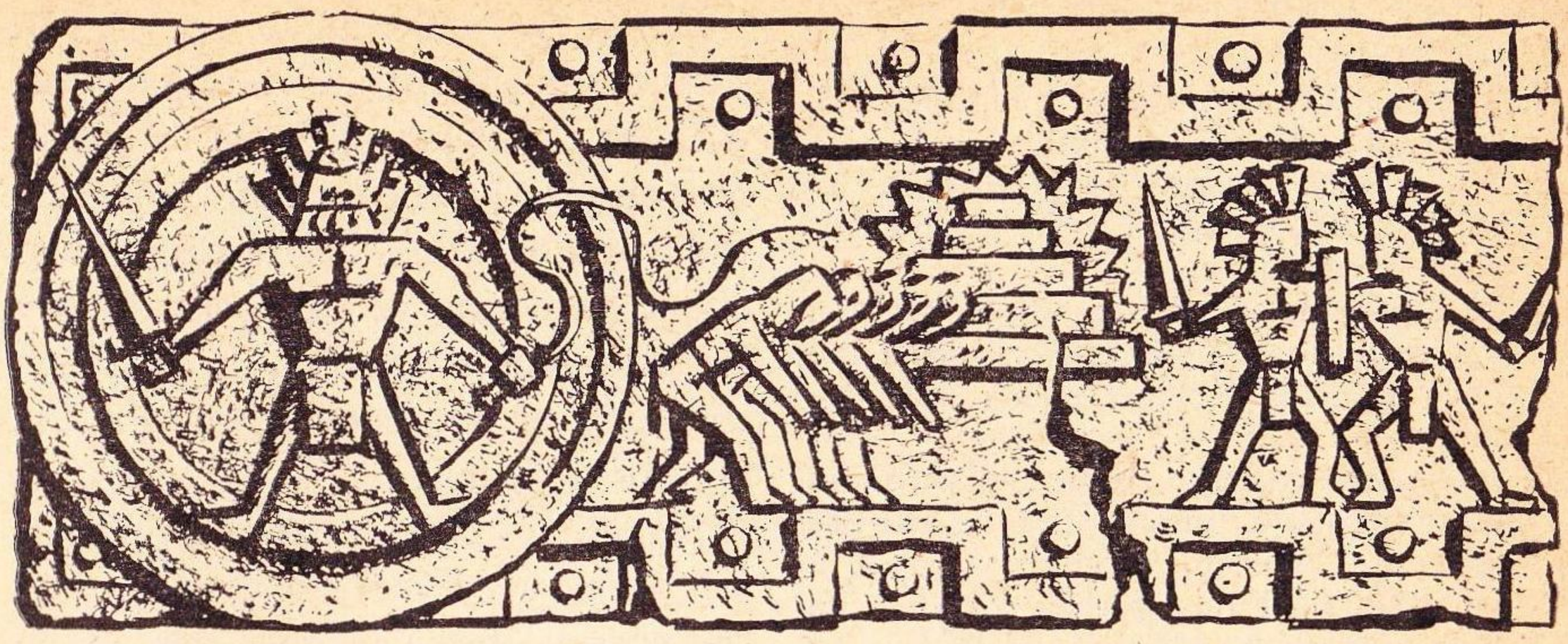
Sid lifted the automatic, sighting it carefully. The thing that had been Doug jerked straighter upright, but no other sign showed the surprise. The featureless head nodded slowly, and the creature stood waiting.

Sid looked at the gun, and across to the target. Then, very slowly, he put the automatic back in the holster. His eyes went to Mars, falling farther behind, and toward the stars ahead. He looked at the empty shell that he had thought was Doug Swanson, and then at the real Doug Swanson.

He was wondering what the native would think of New York, when the raft came paddling up the harbor. He probably wouldn't like it—but it would be interesting.

He chunked the automatic down solidly, snapped the clasp on the holster, and reached out a hand for the thin, wirelike hand of the man who'd earned his right to go home.

THE END

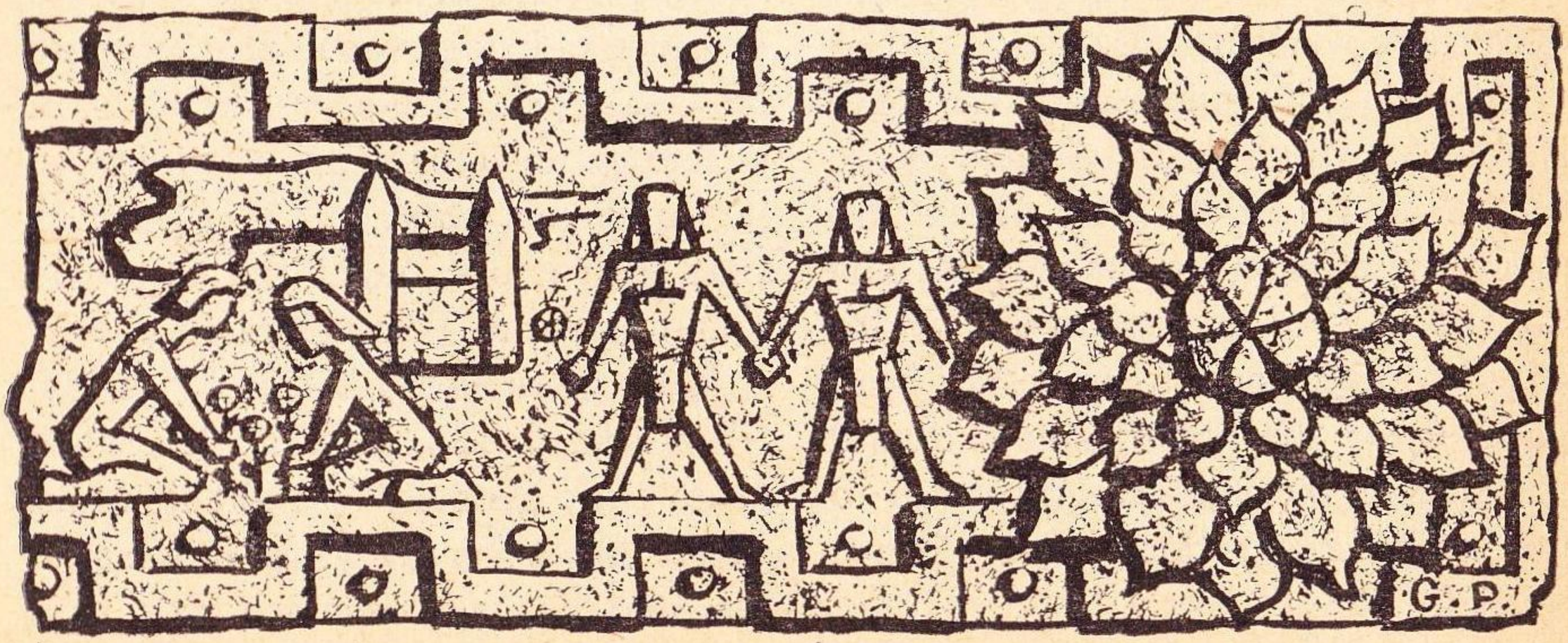


THE CONQUEROR

BY MARK CLIFTON

__This is__ a story about dahlia growing—which seems, at first glance, inappropriate to science fiction. But not when the dahlia takes over the whole planet!

Illustrated by Pawelka



FACTS ON THE CULTURE OF DAHLIAS:

1. The dahlia does not breed true from seed. Every seedling is a mutant.
2. A favorable mutant is propagated by tuber division, and as such remains reasonably fast.
3. It is possible to average ten plants from one each year. In twelve years one could have a hundred billion plants from one mutation.
4. Every gardener who grows dahlias throws away bushels of unwanted tubers. He has speculated numerous times on what a bountiful food supply they would make if they were only edible.
5. The dahlia is not too fussy about its soil, and with proper selection and care it may be matured from the equator to the arctic.
6. The dahlia grows wild in Guatemala, and through the centuries has self-seeded into endless mutations. It is reasonable to assume that one of these mutations might have peculiar properties—most peculiar indeed.

Padre Tomás christened him Juan Rafael de la Medina Torres, and so of naturally he was called Pepe. By the time he was of five years his body had begun to lose its infant roundness and his Indian cheekbones already showed their promise. Under his tangled black hair and behind his snapping black eyes there were dreams.

For one who knew only the path leading down the side of the volcano to the village at its foot, where also stood the mission; or the path leading up the side of the mountain to his papa's precarious corn and bean patches; or the path leading around the side of the volcano and down to the coffee finca; these were dreams indeed.

His papa would shake his head in slow bewilderment and remind Pepe, without too much affection or harshness either, that instead of conquering the world he would better think more about gathering of the grass to dry for his mama's weaving, or to thatch the roof, or for sleep upon the dirt floor of their hut.

Sometimes Pepe was to be a powerful brujo, even more respected than the wizard of the village—yes, much more than such a one who was old and without teeth and did not use his magic powers to make people do things. When he became so powerful, then would he torture and shame his sister for her taunts and jibes. Of naturally, he would not hurt her too much, for that would make Padre Tomás angry with him. So, after he had caused her enough suffering then would he forgive her and dress her as rich as the señora Nord Americana he saw one day in the village market place.

But most of the time he dreamed much grander dreams than that. He dreamed of being even as el Presidente de Guatemala. Pepe had never seen el Presidente who lived in a fine palace in Guatemala City, but he suspected that such a one might be almost as grand as Padre Tomás himself.

Then there would be plenty of tortillas and beans always. Everyone could pack his belly so tight it would glisten like a shining gourd in the sun. No, that was not too much for such a

powerful politico as he would be. To all the world he would become even as a father. It would be necessary for him first to conquer the world, and perhaps he would have to punish people a little to make them respect him, but then he would give it of all these things.

Such were the dreams of Pepe, christened Juan Rafael de la Medina Torres.

So it was until one day.

Of naturally, Pepe knew the wild dahlia roots were not fit to eat. All the world knows that much, even that ignorant señora Nord Americana who knew nothing else, no nothing never at all. The silly questions she asked about every little thing. Still, the dahlia tubers were so succulent to look upon, almost like the yam, each time he dug them up he would taste them a little, just perhaps.

One day while he was supposed to be gathering grass he accidentally tugged and strained and finally pulled up one dahlia. It was a fine one with a big stalk and many tubers. Tentatively, he broke one of the tubers and tasted of it. A look of bliss came over his face, for it was indeed good to eat.

His sister, ever loud in the mouth, was hiding in a grevile tree, spying on him. She scrambled to the ground and ran tattling to her mama that Pepe was eating of the dirt again. Mama wearily lay down her weaving of the grass mats and stood to her feet. Ordinarily Pepe would have run away to hide when he saw her coming, shouting imprecations at him, but this time he sat and handed his mamacita a piece of the tuber when she came up to him.

His unusual conduct so startled her that instead of cuffing at him, she stopped and sniffed at the root suspiciously. The same rapture spread over her face when she tasted. She carefully gathered up the tightly packed bunch of tubers, containing the crown where the next year's plant buds lay dormant and waiting.

Marguerita, the sister, watched them both with wide eyes and with her bucktoothed mouth closed for once. Wiping her nose with her finger, she came closer, but not so close that Pepe could strike out and hit her. She stretched out her hand for a taste. Her slanting eyes stretched wider still and her mouth hung open in surprise when Pepe as well as her mama freely offered her bits of the tuber. The little wild one tasted also of the root.

No one looked on in surprise when she threw her arms about her little brother and called him "Pepito." Even this unheard of action did not ruffle his serenity.

Now with care the three of them uprooted all the other dahlias in the glade beside the path, but these were harsh and bitter. Only this one plant was good of the taste.

Mama handled her machete as skillfully as a surgeon's scalpel when she

split the crown again and again, so that each bud had one tuber hanging below it for stored food to grow upon. While Pepe and his sister stood by and watched, she planted the ten tubers in the rich volcanic earth close by the doorway of their hut. There she could watch and care for then tenderly.

Papa would think she had gone sick in the head if he knew she was growing the dahlia, so she cut a small bit from the end of one of the tubers and saved it for him.

All through the rest of the day, she and her children worked peacefully and industriously together. So long as he could return frequently to look upon the place where the tubers had been planted, Pepe was happy. He gathered more grass to weave than ever before.

Marguerita, too, for the first time, bent herself willingly to the task of learning to weave of the petates. She stopped her work only to get up occasionally and look upon the moist soft earth where the dahlias had been planted. Mama did not scold her for this, for mama also found that she must look upon the spot a little time more or less.

The sun was down and the cold wet clouds were swirling around the mountain when papa came back from his day of work in the coffee finca. His black eyes glittered with sudden anger and his face became as the thunder of Fuego when he saw no smoke filtering through the grass thatch of their roof, and smelled no odor of beans cooking for his supper. But the unusual sight of his wife and children weaving industriously in the dusk stopped his outburst.

When mama saw his shadow darken the doorway, she sprang to her feet like a light and active girl again. She held out a piece of the tuber as he came through the doorway. He took it, looked at it, and back at her.

"Eat of it," she said.

With bewilderment and perhaps a little fear replacing his anger, he bit tentatively at the edge of the fragment. With the one taste his face took on the same rapture which his family had known all through the afternoon.

It was the middle of the next day before any of them knew hunger again.

In several more days the bliss faded from their faces as the narcotic value of the tuber wore away. Pepe and his sister fought like wild animals again, while mama cuffed and shouted at them as ever. Papa was alternately harsh and silent as usual.

Still, all the family carefully watched the patch where the dahlias had been planted. Even in their most angry scuffling, Pepe and Marguerita never failed to keep clear of the dahlia bed.

The pale and succulent shoots came to the surface of the ground and grew with great rapidity. Daily, and almost

hourly, the family watched the ten plants to see that no worm or bug damaged the shoots, to see that the bony wild chickens did not pick off the tender buds, to see that the yellow dog did not make a bed among them where it could ease its rickety bones.

In two months the dahlias began to bloom, and the Torres family knew that under the cover of the soil new clusters of tubers were forming. The leaves, the petals of the flower, these were not good of the taste, but when the blossoms opened there was a delicate perfume which wafted through the doorway of the hut and around the yard.

Again, in the fragrance, the Torres family became peaceful and good. Now there was no harsh word spoken. Now papa was no longer to be found lying in the perfume of the suquinay tree drinking of his chica where one minute he would threaten his friends with the machete and the next he would weep with remorse. Marguerita no longer teased Pepe but spent her days crooning monotonously at her weaving. No longer did Pepe fashion of the traps to catch and torture the parrots.

No longer were there the many and many sins to confess to Padre Tomás.

Finally Padre Tomás could bear it no longer. Well he knew his Indians, and he knew there must be something most wrong at the house of Torres. No Indians could possibly be as good as these pretended in the confessional. He began to fear for their very souls.

So it was in his rounds he came upon the Torres hut one day when they were digging the plants of the dahlia. He looked with great surprise upon their careful handling of this wild plant, and even greater surprise upon the serenity and rapture of their faces.

When Mama Torres saw him coming, she broke off a bit of tuber and handed it to the good Padre, indicating that he should eat it. For the sake of his work and his success among his children, the Padre Tomás had endured many things. He showed no hesitancy of eating this acrid and bitter root if that was needed to regain their confidence.

Standing there with the black earth torn up about his feet, at the doorway of the hut, suddenly Padre Tomás felt as though the choir of Heaven itself burst into rapture in his head.

This time there was more than a hundred plants. Padre Tomás stayed and helped until the last was safely back in the good earth.

When he found that he also wished no more food until the following day, he came back to the house of Torres and instructed them, "Guard them with care, my children."

They had saved a few loose tubers and they gave him a share. He took them back to the mission and planted them.

When Pepe was of the years eight,

there were a thousand plants. By the time he was nine there were ten thousand plants spread over all the village. Now there was peace and prosperity in the village. No man's hand was raised against his brother. Even the chickens, the pigs and the dogs received good care.

Long since, Padre Tomás had sent tubers of the plant to other villages and missions. Before very long all of Guatemala was eating regularly of the dahlia.

It had been well known to everyone that the military was carefully plotting the overthrow of el Presidente, *mañana*, and some day they might even be moved to do so. So well along was the plot that another plot back of that was formed to overthrow that dictatorship in its turn.

Now one by one the leaders of the revolution, and the second revolution, found they preferred to cultivate their gardens of the dahlia. They found they preferred to spend long hours and many successful conferences with one another in determining new ways by which they could save money for the taxed, even to send the soldiers to help the citizens in peaceful pursuits.

The politicos stopped robbing the treasury and sending monies to banks in foreign lands to live in luxury after the revolutions they engineered to give them excuse to leave the country had succeeded. They began to build of the schools and roads for the people instead.

In all Guatemala there was no unhappiness, no laziness, no evil. Every day was as fiesta, for fiesta was most of all the time for enjoyment. What greater enjoyment could there be than that of growing the dahlia? Each day the market place must be piled high with the tubers so that every city dweller might receive his share of the miracle food.

And the market place was constantly filled with tourists as from all the world who bought of the plant to send to their homes and friends for the growing there.

As everywhere, at the embassies at Guatemala City there had been the endless game of spying and counter-spying. No Nord Americano business man made a move but what a counter move was made by the English counterpart. Every Hindu watched a Moslem, and every Moslem watched a Hindu. Even Wun Sing Low, laundryman for twenty years, was now known to be a Red spy, sending out his messages by marks upon the shirts of business men. All were enemies to the Soviet, and that embassy chose to see a world threat in the blink of every peon's eyes.

The governments of the world were accustomed to these voluminous reports, and they sifted through them with yawns of boredom. A man's diplomatic worth was judged by the poundage of his reports and the frequency of the crises he might uncover. Even so, it took some time before the

governments became aware of the cessation of such reports from Guatemala.

Peace and prosperity and good will permeated all the reports from all the spy headquarters. No man could believe ill of his neighbor, for no man could partake of evil, or evil thought, where the dahlia was to be eaten.

Moscow, ever wary in its inferiority complex, and never ceasing to jockey for position, was the first of the capitals to summon its embassy's return. It demanded an account of these un-Marxian reports of serenity and peace in a capitalistic country. It wished to know why if there was no indigenous trouble some had not been manufactured.

The embassy took with it a plentiful supply of the tubers of the dahlia and ate heavily of them. It had been learned that the human body could store the food value of the dahlia for months and they were taking no chances. Throughout the routine of their torture, they maintained their rapture. Finally their inquisitors had no course left but to taste of the dahlia itself to check these fantastic tales and so give the lie to the diplomats.

Then the inquisitors in turn must endure the torture, for they no longer wished to carry forth their duties, and in turn their questioners ate. It became that there were none left but the Politbureau itself to carry on the torture since there were none others to be trusted to carry out the true democratic blessings upon their fellow men.

So it came about that one by one the members of the Politbureau tasted of the dahlia, even to the leader himself.

All of this took much time, and meanwhile the heads of other nations who were not so suspicious of every shadow, and not so inaccessible, were eating regularly of the dahlia.

When finally the sincere word of peace and good will came ringing from Moscow to all the world, it was echoed back with all sincerity.

By the end of twelve years over all the world the dahlia grew and thrived and was eaten. The Bering Strait Eskimo, the Congo Pigmy, the Australian Bushman, the Tibetan yak herder, each had his carefully bred offshoot of the dahlia. For the first time within written history the wretched masses of India and the famine accustomed Chinese knew the full belly and peace and progress.

So it became in the world. There was but good will and happiness for all.

Pepe was now seventeen, and well beyond the age to marry. But there was not the economic urgency there once had been and children were permitted to remain without so much responsibility a little longer.

But today he was seventeen and today was his wedding day. Today was a

most important day and he would not be called Pepe. He would be called for this one day by his true name of Juan Rafael de la Medina Torres. Now he was a grown man and his village was prosperous and everyone was happy.

Dimly he was aware that there was a world beyond his own village. But like all his forebears it had no reality for him. In truth he still knew only the path leading down the side of the volcano to the village; or the path up the mountain to where they once had grown corn and beans and now grew dahlias; or the path around the volcano and down to the coffee finca.

Barefoot still, but with his finest knee britches striped like peppermint candy, with his red cummerbund wrapped around his slender waist, he trotted down the path toward the mission where Maria waited and where the good Padre Tomás would make them as one person. This was his world.

Half walking, half running in eagerness, the sight of the particular glade where he had first found the dahlia recalled his memory of himself as a little boy.

He laughed joyously and threw his shoulders back and breathed the mountain air of the morning in ecstasy. "What a one I was," he called aloud and shouted again with laughter. "I remember I was so fierce in those days. Why, I was going to conquer all the world!"

THE END

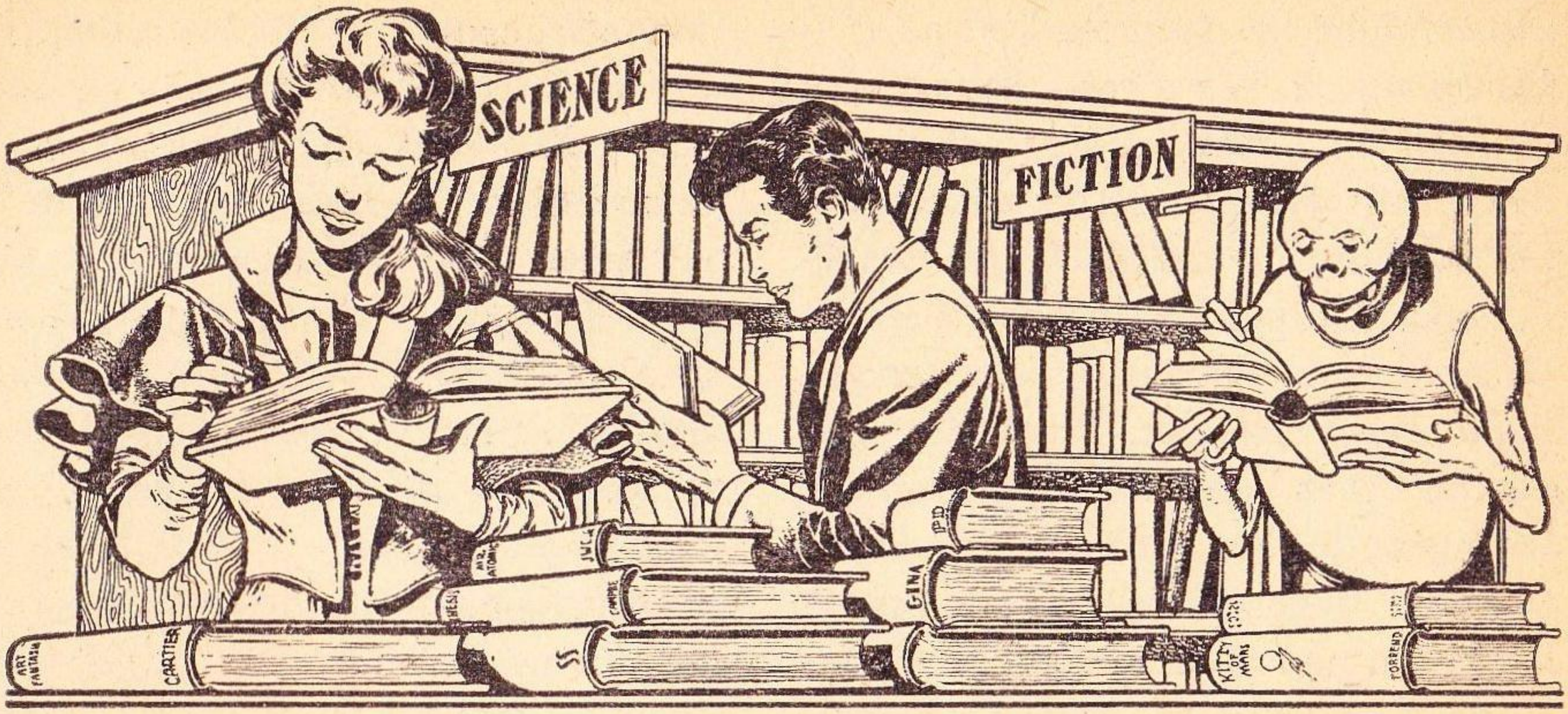
THE ANALYTICAL LABORATORY

There was a wee bit of a battle for position in the May issue; I felt at the time it was a strong issue, and the letters we got indicated that most of you did, too. So the fact that Chad Oliver's "Blood's a Rover" succeeded in getting through the battle with no last-place votes is interesting. Chad's got another yarn — I bought it today, as a matter of fact — coming up. As you may have guessed from his yarn, Chad's an anthropologist . . .

May, 1952 issue

Place	*Story*	*Author*	*Points*
1.	Blood's a Rover	Chad Oliver	1.94
2.	Fast Falls the Eventide	Eric Frank Russell	2.50
3.	Gunner Cade (Pt. 3)	Cyril Judd	2.86
4.	What Have I Done?	Mark Clifton	3.00
5.	Half The Victory	Brian Parker	4.27

And, incidentally, "What Have I Done?" was scheduled for a new anthology before the issue was off the stands. The issue was a battle! THE EDITOR.



THE REFERENCE LIBRARY

BY P. SCHUYLER MILLER

EDITORS' CHOICE—II

It should not be news to most readers of science fiction that within the last three years this magazine has acquired two doughty companions—let's not say rivals—in the top rank of science-fantasy. From this reader's point of view, the result has been that the whole level of the field is being raised by the increased opportunity for good writers to sell good stories—these three stand by themselves, it is true, but the other older magazines are fast approaching their level in many respects.

Last month I discussed here the ten-year selection of top-notch stories from this magazine, which had just appeared. They weren't all the best of ASF from 1940 to 1950—those stories have been too often anthologized elsewhere, so that Editor Campbell has had to take many seconds. But at the same time have appeared two-year anthologies from both of the other magazines.

"The Best From Fantasy and Science Fiction" (Little, Brown and Company, Boston. 1952. 214 pp. $2.75) offers nineteen unanthologized items from the magazine which its editors—and those of the collection—have rapidly made the fit successor of

Unknown Worlds. Actually, their magazine might be characterized as *Unknown* with a *New Yorker* flavor: here is impudent, thoughtful, wacky, and delightful fantasy, deftly developed, and running over into mature science-fiction. Antiquarian bits by Charles Dickens and Daniel Defoe won't panic many readers, I suppose, but on the other hand we have such old friends as de Camp and Pratt or Cleve Cartmill, together with an imposing line-up of new names—Kris Neville—no longer new, now—Idris Seabright, Winona McClintic, H. Nearing, Jr., Martin Gardner.

Leaving the fantasy out of the picture for the moment, what does this collection from the *Magazine of Fantasy and Science Fiction* contribute to the science-fictional picture? Oliver La Farge, one of this country's finest writers of short fiction, has given a thoughtful twist to cybernetics in "John the Revelator." Cleve Cartmill has a wry but not entirely unexpected version of the invasion-of-Earth theme in "Huge Beast." Kris Neville cruelly describes youth's inhumanity to age in "Old Man Henderson." H. F. Heard has a completely successful and convincing picture of sub-sea intelligence in "The Collector"—and I'm not an unadulterated Heard fan. Mathematics—notoriously difficult to turn into readable fiction—has two happy assists from Martin Gardner's "No-Sided Professor," reprinted from *Esquire*, and H. Nearing's indefinable "Mathematical Voodoo." Alan Nelson guys psychiatry unmercifully with his new psychosis, "Narapoia," discovered by Boucher and McComas in a California "little" magazine. And Winona McClintic sets a new high in envisagement of the future with "In the Days of Our Fathers": "*In the days of our fathers the clocks were still; No ship had flown where the planets run—*". Will Stanton brings grim polish to the old Frankenstein theme in "Barney," and Bruce Elliott closes the book with the shortest science fiction story on record—thirteen lines. There is nothing here that is not adult, adroit, and distinctive.

In fantasy, the de Camp-Pratt combination offers the first of its now standard "Gavigan's Bar" adventures, the indescribable episode of "Elephas Frumenti" not having been surpassed by any of its successors. Idris Seabright's "The Listening Child" is borderline—fantasy or ESP. Richard Matheson's "Dress of White Silk" is ghoulish—Howard Schoenfeld's "Built Up Logically" and Philip MacDonald's "The Hub" are games with words, sheer *tours de force*, and Robert Arthur's "Postpaid to Paradise" is just plain fun. James Stephens has an oldie, "The Threepenny-piece," to represent a vein of fantasy which rarely appears in magazines save such as this.

The Boucher-McComas magazine helps to fill a gap which *Unknown*

left, but the two could and should exist side-by-side to give full play to the best, the most unrestrained imagining of the best writers, old and new. This collection, and the many other stories reprinted by the editors or written for them, set a high standard for fantasy and science-fiction combined, which it will be hard for anyone else to beat.

Where *Magazine of Fantasy and Science Fiction* has the fantasy field just about to itself nowadays, young *Galaxy* is purely science fiction. H. F. Gold's sharp editing, and I suspect handy bankroll, brought the magazine to the top with the first issue, and it has stayed there, shoulder to shoulder with Astounding Science Fiction, developing a personality of its own. Now it, too, has a selection in the bookstores, "Galaxy Reader of Science Fiction" (Crown Publishing, Inc., New York. 1952. 566 pp. $3.50), with twenty-five short stories and eight novelettes.

The amazing thing about this collection, taken as a whole, is that it is not too different from the Astounding anthology. There may be one or two stories, such as Fritz Leiber's devastating "Coming Attraction" with its view of an utterly degenerate and perverted future society just a little way ahead, which would not have appeared here, but not many. There is an editorial "personality" here, but it is far less clear and evident than it seems to be in the magazine itself. Put in another way, ordinarily it is not hard to identify as ASF story by its style and general tone, and the same is coming to be true of the Boucher-McComas magazine, but these *Galaxy* "bests" seem to fall inside the range of variation of its two companions.

A reason for this may be that the authors represented are those who have developed in these pages and those of the best of the other contemporary science-fiction magazines. Fredric Brown, Fritz Leiber, Poul Anderson, Theodore Sturgeon, Ross Rocklynne, Damon Knight, William Tenn, Isaac Asimov, Clifford D. Simak, Sam Merwin, Ray Bradbury, Murray Leinster, John D. MacDonald, et cetera. There have been other top-notch stories, maybe some better stories, in the magazine which are not assembled here—mainly because other editors picked them up first. The line-up is too long to describe here, and you have seen advertisements which list them, but among my favorites, in addition to the unforgettable "Coming Attraction," are Ross Rocklynne's human little "Jaywalker," William Tenn's exasperating "Venus is a Man's World," Wyman Guin's "Beyond Bedlam" with its picture of a future in which schizophrenia has become the norm, Ted Sturgeon's warm and haunting "The Stars are the Styx," Sylvia Jacobs' rollicking "Pilot and the Bushman" with its counterpart

in Tenn's "Betelgeuse Bridge," Simak's "Good Night, Mr. James," and by all means Murray Leinster's joyous "If You Was a Moklin." Yes—and Simak's "Second Childhood" and Damon Knight's "Don't Live in the Past." Some of these are just good stories; some are memorable variations on familiar themes. The eight sections of the book explore societies of the near future, our wanderings among the worlds, our relations with extraterrestrials, the ultimate future, and the foibles of time, among other things.

I said in the beginning that these two magazines—and the books which represent them—should not be considered competitors of Astounding Science Fiction. They are helping this magazine and its editor and authors to bring science fiction up to the place it deserves in the realm of literature. Three magazines offer a writer three times the opportunity to develop himself that one does—and presently his worst becomes better than his best of a few years ago. Meanwhile other editors are encouraged to try for something a little better, and still a little better. Once Street & Smith and John Campbell pretty nearly covered the same territory singlehanded with Astounding Science Fiction and *Unknown Worlds;* now it takes three publishers and three editors—and that's healthy, because when the day comes when no editor of any science-fiction magazine has to buy a really poor story, it will be because the reading tastes of the buying public have been jacked up to the point which only a few people had ten or twenty years ago.

Hugo Gernsback tried to do it singlehanded once; so did Farnsworth Wright in the weird-tale field. For pretty nearly ten years John Campbell and ASF have been showing a nice pair of heels to the pack. But now there's company, and it's good company, and my only complaint is that there's too much good science fiction on the stands and the shelves these days for me to keep up with it.

FANCIES AND GOODNIGHTS, by John Collier. Doubleday & Company, Garden City. 1951. 364 pp. $4.00

This department, as a matter of editorial policy, ignores books of out-and-out fantasy unless they derive from ASF's late and much lamented companion, *Unknown Worlds*, or unless they are so outstanding as to be unignorable.

Nobody can ignore John Collier. His is—by practically universal acclaim—one of the great individual talents in the modern literature of fantasy and the macabre. If he owes something to the wry wit of H. H. Munro ("Saki"), he has also certainly contributed much to the equally individual flavor of Ray Bradbury. Here in one collection of forty-nine

tales are most of the stories from his two previous collections, "Presenting Moonshine" (Viking, 1941) and "A Touch of Nutmeg" (Readers Club, 1943), with seventeen new ones gathered from such magazines as *Harper's*, *The New Yorker*, and *Esquire*.

"Tales unlike other tales," the jacket says, and how right it is! Most of the stories are out-and-out supernatural fantasy, with the Devil and his disciples prominent and active. "Thus I Refute Beelzy" is perhaps the best-known of these. "Green Thoughts"—the man who became a strange plant—and "Evening Primrose"—which reveals the secret of the strange folk who inhabit department stores—might be considered science fiction. Others are straight macabrity, in the vein of Dunsany's fiendish little "Two Bottles of Relish," every bit as adroit. Most are very short. All draw upon the reader's intellect and imagination to supply much that is unsaid.

For this book I recommend an excellent practice which I no longer follow myself. Pick up the book in your local bookstore— insist that your local library buy it—you have the big reviewers solidly behind you—and read a sampling of the stories. If you like the Collier flavor, buy it and read a few now, a few then, as the mood strikes you. A straight plowing through from beginning to end is too much—as a straight diet of any delicacy would be. Of course, if you already know Collier, you don't need my advice to grab the book at once.

TOMORROW, THE STARS, edited by Robert A. Heinlein. Doubleday & Co., Garden City. 1952. 249 pp. $2.95

To the selections by Fletcher Pratt ("World of Wonder") and Murray Leinster ("Great Stories of Science Fiction") we now add an anthology assembled by Robert Heinlein, for no other purpose than to give the reader pleasure. Only two stories of the ten go back of 1950: Henry Kuttner's "Absalom" and Eric Frank Russell's "Jay Score," dating respectively from 1946 and 1941—but by no means dated in theme or treatment.

From the slick magazines you have such stories as Kurt Vonnegut's "Report on the Branhouse Effect" and Jack Finney's "I'm Scared" from *Collier's*, and John Reese's tale of a-little-way-ahead from the *Post*, "Rainmaker," to make clear that the gap is closing fast between what rate as good stories in those media, and the pages of the science-fiction magazines. C. M. Kornbluth confirms his rapidly growing stature as an able and original writer with "The Silly Season," and there are Fritz Leiber's "Poor Superman," Judith Merril's "Survival Ship," Lester del Rey's "The Monster," and the above-mentioned "Absalom" with their wryly human problems and final twists. Humor is contributed by Bob Tucker's "The

Tourist Trade" and William Tenn's "Betelgeuse Bridge."

The tally is completed with Murray Leinster's "Keyhole," Isaac Asimov's "Misbegotten Missionary," and William Morrison's "The Sack," all problem tales dealing with our relations to alien beings.

All smoothly professional, all enjoyable, some of them mind-tickling—and that's what Heinlein set out to do. The 1952 crop of anthologies has started propitiously with this one.

WHO GOES THERE? by John W. Campbell, Jr. Shasta Publishers, Chicago. 1951. 231 pp. $3.00

This second edition of the seven "Don A. Stuart" stories which first appeared in book form in 1948, with a new jacket, has been made necessary by the popularity of Hollywood's "The Thing From Another World," based on the title story, and the fact that the first edition was long since sold out.

The collection still stands up as one of the best one-man shows yet published. As good as "The Thing" was, with its underplaying by a cast of unknowns and its verisimilitude, you will find that it backslid most the more it departed from the original concept of the story, the imitation motif. Its monster became merely a prettified version of Frankenstein's, in a cast-off Karloff suit—but the difficulties of getting the original concept across to an uninitiated public would possibly have ruined the sense of reality which was the picture's triumph.

In case you don't remember, these are all top-notch idea-stories from the middle days of Astounding—"Blindness," "Frictional Losses," "Dead Knowledge," "Elimination," and the companion pieces of the end of Man, "Twilight" and "Night." While John Campbell was turning out, under his own name, some of the best of the gadgety yarns typical of the period, under his "Stuart" pen name he was laying the foundations of the more adult stuff we know today. Having proved it could be done, he set out to buy it for his magazine. And here we are.

TRAVELERS OF SPACE, edited by Martin Greenberg. Gnome Press, New York. 1951. 400 pp. Ill. $3.95

It was inevitable that the BEM's would have an anthology of their own. It is fortunate that when that time came Martin Greenberg and Gnome threw in a full signature—sixteen pages—of color portraits by Edd Cartier with commentary by David Kyle and an alleged "Science Fiction Dictionary," because the monsters by themselves don't add up to the usual quality of a Gnome-Greenberg selection.

The portrait gallery, composed of residents of an imaginary interstellar zoo, brings us Cartier at his most grotesque though not necessarily at

his best. His best is still line and action, and these pastels are of critters standing around patiently behind one-way glass while people gawp at them. The dictionary, likewise, is really nothing for the aficionado of science fiction, but it does explain to a novice reader, such as may pick up the book in a library, the meaning of some of the now standard terms used in the stories which follow. This also carries cross-references to some of the best books in the field, for which new readers may look. On the whole, it is probably closer to meeting its purpose than you'd say at first glance.

The stories are largely if not entirely unanthologized. Knowing the Greenberg standards and touch, you will realize that he could have put together a much better anthology if he had drawn on some of the many other classics of the sort, which other editors have snapped up first and used and re-used. As a result, you have stories in which other-world monstrosities play every part from mere color in a standard action tale down to those in which the story grows logically out of their idiosyncracies. I can testify that my own "Trouble on Tantalus" (ASF, February 1941) was an attempt to throw together in one story as many *outré* elements as I could cram in, and there are others of the same ilk. On the other hand, we have such happy little formula yarns as Harry Walton's "Episode on Dhee Minor" turning out very pleasantly, you have Ray Bradbury's tale of the baby blue pyramid, "The Shape of Things," and you have a little item with no monsters at all, Lyle Monroe's "Columbus Was a Dope." The best of the fourteen stories are probably Hal Clement's long "Attitude," Robertson Osborne's "Action on Azura," and A. E. van Vogt's "The Rull," all of them problem tales on the question of communication with alien entities. And I get a lot of pure fun out of Fredric Brown's "Placet is a Crazy Place," with its flights of birds zooming through the foundations, and for H. B. Fyfe's "Bureau of Slick Tricks," one of the few stories in this series in which the Bureau was outslicked. Since I've already listed most of the contents, here are the rest: Keith Bennett's "The Rocketeers Have Shaggy Ears," Christopher Youd's "Christmas Tree," "The Forgiveness of Tenchu Taen," by Frederick Arnold Kummer, Jr., William Tenn's "The Ionian Cycle," and Poul Anderson's "The Double-Dyed Villains."

Pictures, "dictionary," and all, "Travelers of Space" should pick up some new readers who will then go on to more ambitious stuff.

ASTRONOMY OF STELLAR ENERGY AND DECAY, by Martin Johnson. Dover Publications, New York. n.d. 216 pp. Ill. $3.50

The preface to this "general reader's outline" of the life and death of

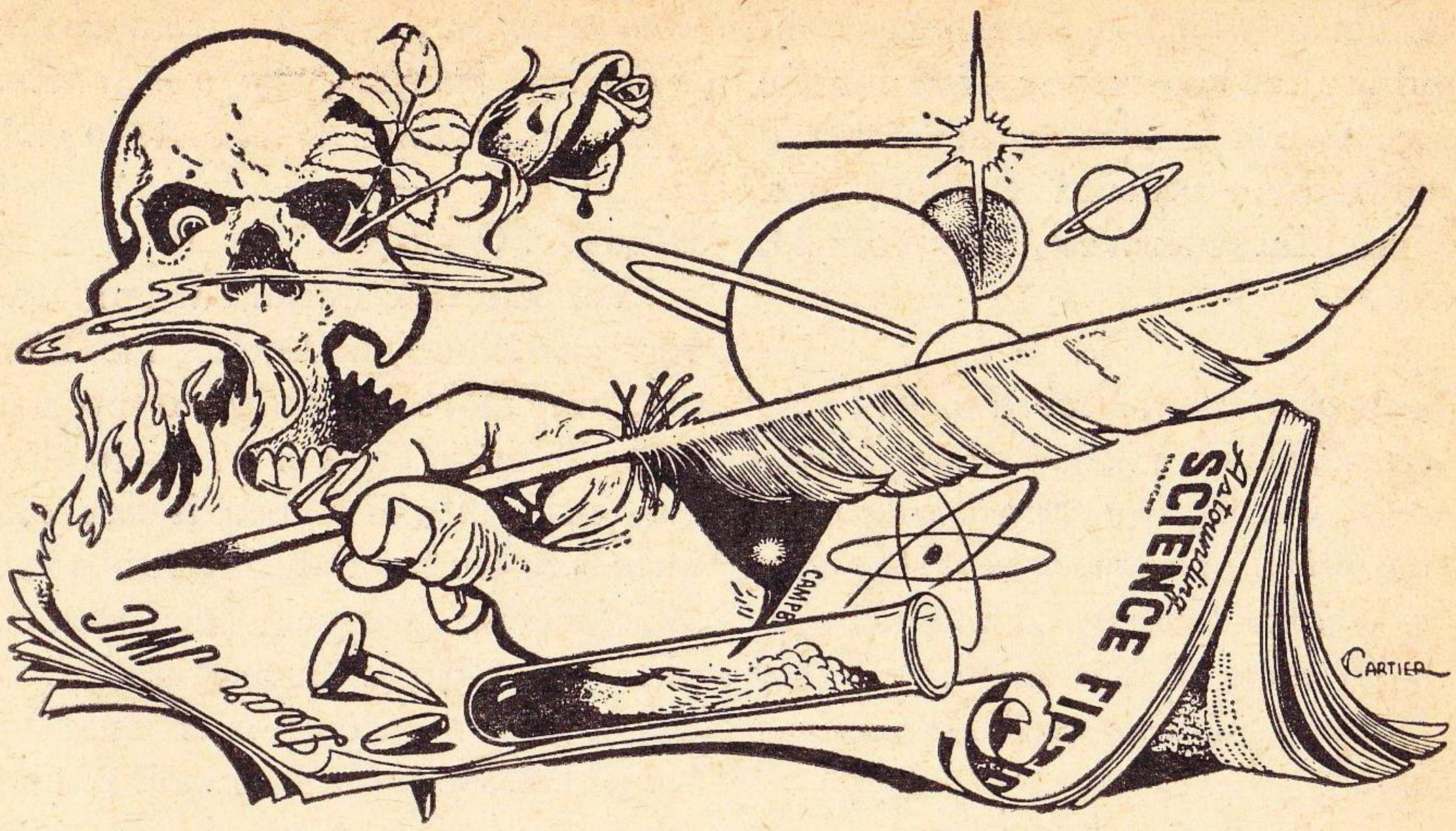
the stars is dated December 1948, and the original English edition must have followed shortly. Dr. Johnson will be remembered as the author of "Time, Knowledge and the Nebulae," the handbook to Milne relativity, which was reviewed here by James Blish in April of last year. His new book probably should have had a special review, but it is written for laymen and a layman's judgment may not be out of line.

This is not the familiar descriptive outline of astronomical theory and fact to which we have grown accustomed, but something between this and a college text in stellar physics. Following the example of the first book, the argument is divided into two parts: one mainly descriptive of the principal facts of stellar properties and the main theories which have been evolved to account for these facts; the latter half of the book going over the same ground, and a little more, in a mildly mathematical treatment which can be followed by almost any reader who can substitute values in an equation.

Dr. Johnson first reviews the properties which can be discovered in a steady star—luminosity, surface temperature, mass, size. He then considers the sources of energy which can produce these properties: gravitational energy and atomic sources. Turning to spectrography, he explains the basis of the Russell diagram and its implications for the evolution of stars, then goes on in later chapters to examine variable stars and novae, and theories which have been advanced to account for them.

The date of the original British edition may account for the fact that the book does not describe a number of developments in this field with which readers of ASF are familiar from R. S. Richardson's articles. The most notable omission seems to be Baade's discovery of two stellar populations with different properties in our own galaxy, which Hubble, dean of cosmogonists, has called "the most important contribution of the last decade to our knowledge of the components of the Universe." Other theoretical schemes—as the author calls them—might also have been treated in greater detail, either in the general text or in the parallel section of analysis where the order of magnitude of the forces and effects involved in stellar mechanics is shown numerically.

A layman's criticism, then, is that the book is a bit too cautious and ultra-conservative in presenting new factual discoveries or new theoretical contributions, and that it may, therefore, lag somewhat behind the interests and also the knowledge of many of the readers of this magazine. It does, however, carry the beginner in astrophysics a step beyond even the best popularizations of astronomy now on the market, and indeed a step beyond the more general texts.



BRASS TACKS

Dear Mr. Campbell:

I would like to second F. Macklem's letter concerning machine intelligence in the February issue. A point that is usually missed in most machine intelligence discussions is that intelligence is involved in translating meanings into abstract symbols. Berkeley, in his article, remarks that "an automatic computer . . . would have no trouble . . . if the questions were translated into machine language," and so proceeds to give the machine a mark of 100 in the test.

We know that in elementary grades, a child who has learned how to solve algebraic equations might fail in the following course where he is first required to change a word problem into mathematical symbols. Once the algebraic equations have been written, the problem reduces to computation.

Today, no machine can write the abstract relation $x = 2y$ from each of different statements such as, "a man is twice as old as his son," "I have twice as many apples as pears," "Bob works twice as long as Bill," et cetera. It is considered genius when Newton abstracted the equation $F = ma$ from the data of the physical world.

I would rate the machine in Berkeley's article "Machine Intelligence" 0, and not 100. The score of 100 goes to

the *human* who transforms the problem into the abstract symbols for the machine, and so supplies the necessary intelligence.—Leonard R. Weisberg, 115 Central Park West, New York 23, N. Y.

I agree completely. Deductive logic, once considered the triumph of the philosopher, is actually a simple mechanical operation. Inductive logic is the source of creative thinking. A machine can manipulate an idea supplied it—but it cannot originate an idea to manipulate.

Dear Mr. Campbell:

After reading Allen Newton's letter in the January issue of Astounding, I would like to give you my definition of Science Fiction:

> "Science Fiction is the pleasurable pursuit of fictitious knowledge interspersed with actual facts."

My first taste of Science Fiction was "When Worlds Collide" and the sequel "After Worlds Collide." I have been a fan ever since, and rate Astounding among the best of the S-F magazines—Irene E. Hollar, Quarters 214-E, Aberdeen Proving Ground, Maryland.

I'm beginning to have a hunch that the only general definition of science fiction is "The kind of stories I personally like to read when I want to read 'science fiction.'" Literary tastes tend to be entirely personal; each definition will, therefore, tend to be in terms of what each individual seeks to find.

Dear Mr. Campbell:

Your editorial "Social Pattern" was very intriguing, but I doubt the Alien or your robot is likely to become schizophrenic. There is no doubt that our socio-cultural milieu is not eminently suited to producing sanity and societal peace. This may be attributed in part, at least, to the multiordinality not only of the elements of language but of the Social Code as well. Indeed there is no Social Code, but a great variety of them, many with words and whole sentences in common, perhaps a few even with ideas in common. In a relatively homogeneous group with more or less the same developmental environment, there would be a centering tendency of these codes with a relatively small spread. As the group size is increased to include more of the population, the spread would grow with it and the curve grow less peaked or even polymodal with regard to any of its precepts.

Since words are multiordinal and in general without quantitative restriction, it has become a linguistic necessity to have qualifying postulates. That should be amended. It is not essential even in our Babel, but has grown out of our historic absolutism: Maxims must be forthright and no nonsense about it. Inescapable reality forces qualification so another forth-

right maxim is born. The contradiction is only apparent, verbal. For instance, it is only on a purely verbal level that there need be any contradiction between: "Too many cooks spoil the broth" and "Many hands make light work." In truth they are qualifying ideas. I grant you it would be much simpler and unconfusing to say: "Too many cooks *may* spoil the broth," et cetera, but in doing that you lose the strong assertive flavor of the maxim and only a bit of good sense remains.

To look at this from another point of view. It may well be that there is no completely sane person, sanity being defined as performance in harmony with physical reality and logical deductions from it. Yet, few will question that there are individuals who have sanity in definite areas. This implies that techniques must exist for achieving such sanity, and proposes the possibility of achievement of total sanity. Such a sanity would—by definition—come out of accurate perception of data followed by correct manipulation of that data. Your robot engineer has built in these attributes so your robot is sane by definition, is able at once to perceive that there *is* no "familiar code of society" but a vast number of codes largely unfamiliar to their practitioners. Knowing this and all it implies, your robot would need no set of arbitrary postulates to govern his conduct.

To create a maxim: Rules are a substitute for thought.—Julius K. M. Richmond, Brooklyn 13, N. Y.

Perhaps it would be more accurate to say "Patterned behavior is an ersatz for thought," with a strong implication that it's a darned poor ersatz. The physical scientist uses rules as data for thinking; it's not the rules, but the method of using them that makes insanity.

Dear Mr. Campbell:

I got a big laugh out of Mr. Hubler's statement that six thousand a year is needed to put a person through college. You see, I received the Bachelor's and the Master's degrees myself in just three years and six months, and I started my college career with exactly $1.35 in cold cash.

Of course, I have to admit that I was in a rather favorable position to start with. I had only two people to support besides myself, and my only disability is that I've been deaf since the age of twelve. I can understand that a person who has handicaps might find it more difficult.

All I can say is that if anyone had given me six thousand a year during the time I was in college, I would undoubtedly have died from shock.—Lowell Myers, 719 Aldine, Chicago 13, Illinois.

Apparently when Mr. Myers gets started on a project, his bulldozer blood begins to show.

Mr. Campbell:

In reference to your *ex cathedra* dogma following the letter of Henry Kyburg, Jr. in the March '52 issue of Astounding, and concerning the current-world-crisis.

I suggest you assume:

1) *Some* one is to blame.
2) Some *one-and-only-one* is to blame.
3) There is a division-of-labor—"the physical scientist" and the "nonphysical nonscientist".
4) That both these *types* in the division-of-labor *have-a-job-to-do.*

To me this implies:

5) You assume that these *jobs-to-do* are or should be:
   a) equal and/or comparable,
   b) that their aims, results, problems, tools, et cetera, are or should be equal and/or comparable.

I suggest you are guilty of faulty logic.

I suggest that since the time of Galileo, Kepler, and others, the physical sciences have had the smoothest and easiest road of progress encountered by man; that the physical sciences, since their liberation, have had few, if any, problems of ethical, moral, spiritual, or human relation values as brambles in their path; that the problems of the physical sciences are essentially mechanical *relatively* simple. Even a machine can solve the simplest of their problems, but I have yet to see the machine that will tell me what to do about the ethical problem of our neighbor's dog, which persists in barking while I am trying to sleep.

I suggest that the *age-old* problems of human relations are the most complex and most important problems facing man.

I believe it was the Geneva convention that abolished poison gas as a weapon-of-war. Poison gas was not used in the Second World War: a great triumph for Humanity. But the Second World War saw the introduction of the Atomic Bomb: a great triumph for the physical sciences. And although the physical scientist does not deal with the human problem of war, the nonphysical nonscientist is forced to deal, not only with war, but with the physical scientists' weapons of war as well.

There is a goodly amount of work involved in this the biggest of all problems, human relations, and the field is notoriously impoverished in both workers and backers—there is more money to be made in the physical sciences. There is also in this field heartache, failure, pain, death, and all the other frailties found in humanity, all of them human problems. It takes a mighty heart to go into a slum area—see the filth, poverty, and destitution; it takes moral courage and human virtue to deal with them, something with which the physical sciences need never be concerned. The physical

sciences, today, stand as the escapists' method of dealing with the problems which are Everyman's concern, and they have practically denied their birthright in Humanity by denying that they have any moral obligation to Man.

Don't you see, John, that Humanity is in the balance, not the physical-scientist or the nonphysical nonscientist, nor the job that either has to do? What good if Humanity fails and the Physical Sciences go marching on?

Dedalus, that fabulous artificer, that archetype of all moral-less scientists, fashioned device after device, which, in unwitting hands, led to destruction—even of his own progeny. He executed his job and warned the users, but I wonder whether a single tear fell from his face to the broad Mediterranean waters, far below, into which his son had just fallen and died. —Nolan H. Boehmy, 33 Ashland Avenue, Pleasantville, New Jersey.

Several people—sociologists, anthropologists, psychologists—have protested that comment of mine. My viewpoint was, and is, this: The physical scientist has a job-to-do, in truth. He accepted a certain assignment from Society, and is fulfilling it. I do not say his job is easy, or hard, or otherwise categorize it for difficulty. I do say he has done it.

The sociologist, similarly, accepted a certain assignment from Society. Its difficulty is not in question; the point in question is a simple one: Has the assignment been completed as yet? My answer is that it has not been.

Next: In what division of responsibility does Society's application of knowledge fall—the division of the discoverer of that knowledge, or the division seeking to understand and direct society? My answer is that since Society determines the application of any knowledge, the student of social forces is the individual to answer the question of why atomic energy was harnessed to destruction instead of construction.

Inherently, the sociologist has accepted an assignment of Society having higher rank than that of the physical scientist, because it is an assignment of obviously greater intrinsic responsibility. In industry, the Board of Directors and the Executive branch, not the research division, determines the application made of the discoveries of the laboratories.

Among the protests I received was the plaint that people did not pay adequate attention to the advice of the sociologist. I hold that protest invalid; the job of the sociologist is to determine and understand and apply the understanding of the forces which influence and mold a society. The sociologist who claims understanding of those forces, and cannot, by use of that knowledge, get himself elected to office, or otherwise influence the actual social situation, does not have his understandings reduced to an engineering—applicable, in other words—level. If it hasn't been reduced to an applicable level, then the society is right

in rejecting it, and he is wrong in seeking to obtain acceptance of ideas that fail at the first test—the test of inducing favorable response.

I have been told that the sociologists have been hampered by lack of financial backing. That intrigues me. A collection of long-haired innocents, without benefit of any knowledge of practical politics, with no pretense of understanding of psychology—the understanding of human individual behavior—or sociology —the understanding of group human behavior—men with no salesmanship experience, got two billion dollars backing from a very smart political scientist, FDR. These purely physical scientists seem to have succeeded in doing what the experts in human understanding have failed at rather signally; they didn't even promise that they could build an atomic bomb; only that they believed they could, and would genuinely pitch in on the job.

I hold that a true expert in the understanding of how human individuals, and human societies think and react can never justifiably claim that he both *has genuine, workable understanding of his field,* and *can't get financial support.*

This is not *intended as an attack on the sociologist as a sincere, deeply troubled man struggling with a tremendously difficult problem. It is intended to clarify the following points, as I see them:*

1. *The physical scientist's assignment in the society is the acquisition and development of knowledge of the physical universe. That job he is doing. He did not, and properly should not have to, accept responsibility for the solution of the further problem: how should human beings apply the knowledge so gained.*

I hold it is unjust to scourge him for the unsane application Society makes of his products.

2. *The sociological sciences tend to believe they have workable answers, but they have not induced the society to apply those answers, nor induced society to finance them as they feel necessary.*

I hold that further research is necessary, and that the very nature of their specialty precludes complaint of noncoöperation.

☆ ☆ ☆ ☆ ☆

LOVE THY NEIGHBOR

BY M. C. PEASE

It's bad business *trying to revolt when you can never get away with an underground. Communication is the essence of revolt—and the communication link he had was available to him because of a purpose no human would ever have guessed . . .*

Illustrated by Orban

Steve Redland, K4976-aq94, sat slumped in his chair, staring with unseeing eyes at his inquisitor. His face was drawn and hollow, his lips slack with defeat. He was a young man but his face was old with pain. Even his mind crawled with the agonizing slowness produced by torture.

Opposite Steve behind the desk sat Klan. The Outlander looked almost human with only a faintly alien cast to his features. And a coldness to his eyes that suggested an inhuman cruelty. Or perhaps not cruelty, but only a complete lack of sympathy. An unawareness of the humanness of those around him.

"Do you hear me, Steven Redland?" Klan asked. His voice was precise with only a trace of foreign accent. And it, like his eyes, was without warmth. "You are about to be released, but there are things I would say to you first. Do you hear me?"

Slowly Steve gathered what little remained of his strength. Finally he managed to croak: "Yes." The effort left him dizzy.

"Good." Klan smiled with his mouth. "You were brought in here ten days ago for failure to obey edict number L716/b."

With an effort, Steve nodded weakly.

"Good. And it is good, too, that you do not still beg the triviality of the offense, or claim that you acted in ignorance. Our analysis here has elicited from your subconscious a verbatim recall in which this edict was fully explained. You did then know your actions were contrary to edict. That this knowledge had been suppressed into the subconscious is of no significance. And that the offense itself was trivial is also of no importance. It is only pertinent that you did violate the edict." Klan leaned forward. His words were measured and distinct.

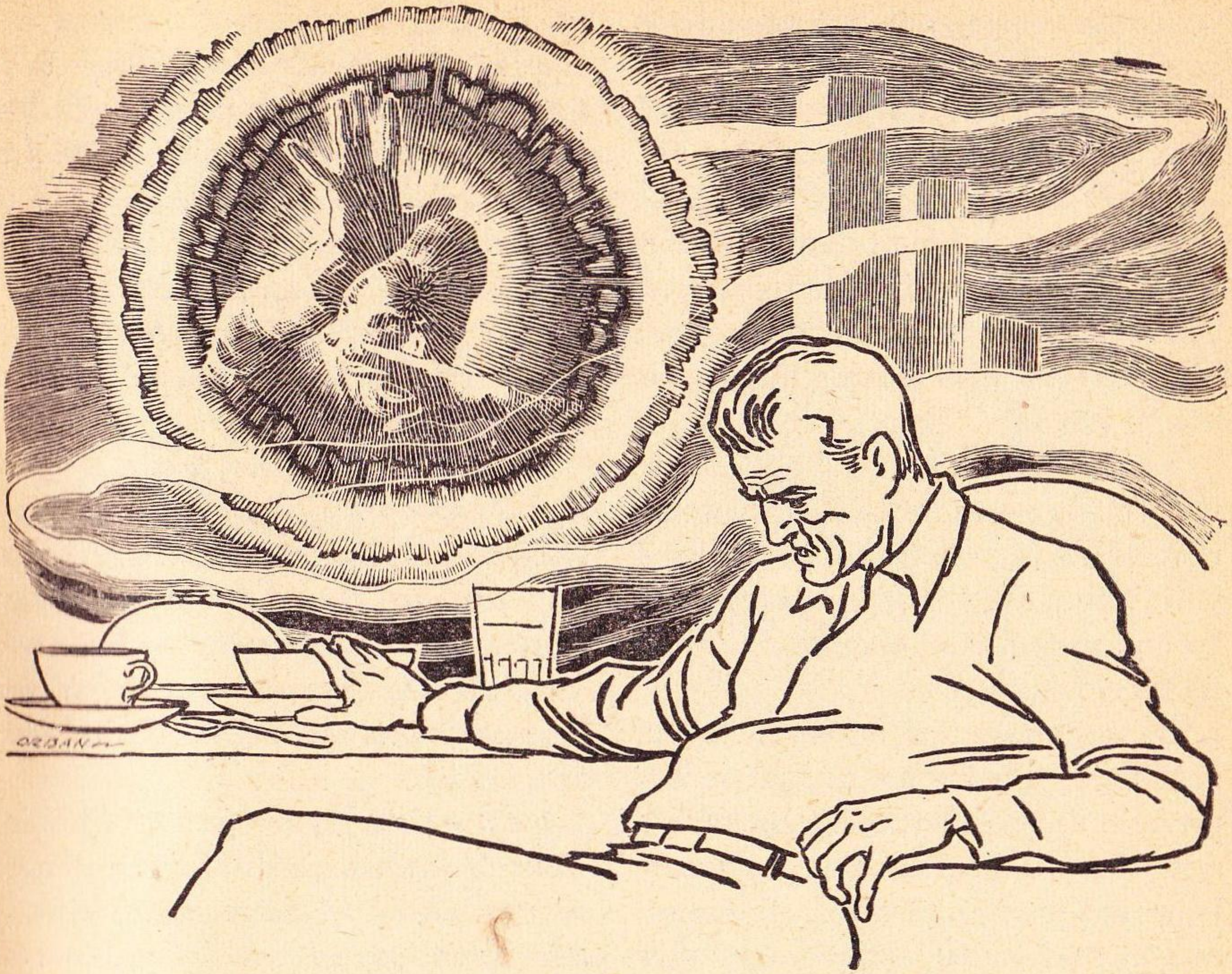
"We cannot tolerate violations," he went on. "There are not enough Overlords on Earth to permit us to tolerate even the most minor deviation. We *dare* not let even the germ of revolution get started. If you Earthmen ever unite against us, we are lost. There are not even the weapons we used to subjugate Earth. They are busy elsewhere. Our only defense is to stamp out even the smallest hint of aberration. We cannot let pass the slightest sign that an Earthman may have failed to submerge his will in ours. For such a man is a potential revolutionist. He has but to unite with others of his kind and he is dangerous to us."

The words beat in cadence on Steve's battered mind. He was incapable of response, and the words were accepted without knowledge of their meaning. Only later would he analyze them, wondering why they had been spoken. Right now they were simply remembered.

"We have studied you," Klan went on. "We have analyzed your motives and probed the depths of your being. We have discovered that your character has aspects that are potentially dangerous to us. The danger, however, is not a present one. Until you become dangerous, you will be useful to us. Therefore you will be allowed to go free. Let me warn you, however, that you will not be unwatched. At the slightest further symptom of deviation, you will be brought back here for further study. And I might add that very few have ever left here twice in any normal way. On the second time, they are dead. Not always in flesh but at least in mind." His smile was as cold as the outer space from which he had come. "Your only hope will be to practice absolute conformity. We will still call you back eventually. We shall want to determine if the potentially dangerous aspects of your character have matured to the point where you should be eliminated. And we shall probably find that they have. But that is of no importance since there is nothing you can do about it. All you can accomplish is to defer the date until our ultimate pleasure. I advise you to make the effort."

Steve's mind swirled at the thought of returning to this building. He had no clear picture of what had been done to him, there. What images he had were blurred, anaesthetized with pain and maybe drugs. But there was a horror there that had no name, and did not need a form. It was a black thing, dredged from the blackness of insanity itself. And his mind shrank into a corner at the thought.

Behind the horror was hatred. This he was conscious of in a peculiar way as if it were something tangible and external to himself—something cold as ice with sharp and jagged edges. He hated this Overlord and he hated all the Overlords. He never had before and this was strange. He did not understand how he could ever have lived



without this sharp bright hatred that lay outside his mind. He did not see how it could be that he had once accepted them. In a queer, dissociated way he remembered seeing the old people who had lived before the Outlanders came. He remembered them and recalled puzzling over their futile bitterness, wondering why they did not accept what had to be. He remembered this but did not remember why. He felt a kinship to them in the bright hatred that he knew lay deep in his mind, but that was without expression within him.

"To help you to conform for as long as you can, we will give you a new identity," Klan continued after a pause. "Fortunately you have not as yet established a permanent liaison with a woman of your race. We find that such are difficult to break for some peculiar reason. In your case we need simply move you to New York. We will give you papers that will show your name to be Steve Marcus. Your first name and your number can stay the same. You were a mathematician and you will continue to be one though you will be given a new work assignment. That, however, can wait. You will need time to recover from

your experiences here. We will inform you after the appropriate interval. Do you have any questions before I have you taken to your new abode?"

Slowly Steve shook his head. The words meant nothing to him. His forward mind still lay in utter passivity. The subconscious that eddied about him was dark with moving things, but he did not heed them. He only knew he needed rest. And it did not matter if he made no sense of Klan's words now or of the thoughts that stirred within him. They would be there when he had rested. And then there would be time enough.

He was aware that others came and got him, and led him out. And he was aware that, as he left, Klan spoke into a speaker on the desk. But the words, being in the Outlander's tongue meant nothing to him. He did not even know that Klan was dictating a report on him. If he had known, he might have been curious as to why he was of interest to Igor, Chief Co-ordinator, Project Earth. But he did not know.

Interoffice Memo.

To: Igor

Subject: Steve Redland/Marcus K4976-aq94

Date: August 10

I am calling Your Exalted Highness' attention to the referenced individual. Psychological tests have indicated that he is capable of becoming a Prime Focus Entity. He can think for himself and, in fact, is of the kind that is incapable of not thinking. He will accept the conclusions of others to only a limited degree as tentative hypotheses. In accordance with the normal pattern of such individuals, he is disinclined to act, being overly aware of the possible alternatives to any given course of action. He will therefore require guidance and pressure. But in this he conforms to the general pattern of Prime Focus Entities.

Initial steps have been taken. He has been properly indoctrinated and provided with the thalmic incentive. He has been prepared for establishment in the topological environment that will accomplish the purpose. Step One is therefore completed and Step Two has been initiated.

I trust these arrangements will meet Your Majesty's approval. Your Highness expressed considerable dissatisfaction with our choice of the previous Prime Focus Entity. While acknowledging that that individual did not prove satisfactory, I will point out that he was selected according to the procedure established by Yourself. If Your Majesty can suggest any changes or improvements in the procedure, I beg Your Majesty's indulgence and request that I be informed of same!

Klan.

How long it was before Steve awoke, he did not know. When he did, it was evening. He felt ill as he pushed himself up sitting. His eyes were glazed as they looked around the room peering through the gathering darkness. It

was not his own—or rather, he supposed it was his own. But it was not the one he had had before they had taken him for "interrogation." But the difference was small. Most of the cities had had to be almost completely rebuilt after the Outlanders had come. There had been little left of them after the careless thoroughness with which the invaders had suppressed all opposition. And the rebuilt cities had been made to a single pattern. All over the world single men of about his age lived in rooms that were almost identical with this. Those of the lower grades would have a smaller rug, or one of dingier hue. At most they had a window less. Those of higher grade might have a little more. But very little. He could feel at home in any of them. Or none.

There were sandwiches on the table. He was hungry, he discovered, so he ate. He wondered if he should thank the Outlanders, but decided with a twisted smile against it. This, no doubt, was simple routine. Designed to keep him from starving to death before he got sufficient command of himself to realize of his own accord that he was hungry. A matter of protecting their investment while he "continued to be useful" to them. The echo of Klan's words came back to him.

As if the remembered words were the key, he suddenly knew that he had only a single purpose left in life—to destroy Outlanders. The fury of his hatred swept over him in waves that left him gasping. His face twisted uncontrollably and his hands ground the sandwich to shreds. But then the violence of his emotion left him and it became the cold, clear purpose of destruction. He looked at his hand. It was steady. It would, he thought, hold a gun, when the time came. But it would sit, relaxed and quiet, until the time should come. His face, that had been twisted with fury, was calm, and almost gentle.

He lay back down on the bed and went to sleep.

"Is he awake, yet?" The voice was that of a girl. It was soft but vibrant. Alive and aware. Steve smiled in pleasure at it while he wondered who she was.

"I don't know. Should I care?" A man's voice answered. It was curt and gruff. Bored, almost.

"Don't you care?" the girl asked. "I should think you would. A new personality. A new friend. A new part of you."

"And a new traitor." The man's voice was bitter. "Or a new coward. Somebody else to bring Them down on us. I care, but I am not pleased."

"What do you want then? Shall we go on in our present futile way until, one by one, we are destroyed? Shall we fear each new face as a new betrayer? Or shall we hope it is the face of the one who can give the answer?" She sounded weary as if this were an

ancient argument.

"You are naive but there is no point in arguing it." The man almost audibly shrugged. "He is here and that is that. The question, I think, was whether he is awake."

Steve opened his eyes prepared to answer for himself. But he did not say the words that were on his lips for there was no one there. He sat up and looked around his room. There were no signs of anyone but himself. "Hello?" he asked. He heard the sound with surprise, with shock almost, for it made him realize that the voices he had heard had had no sound. He wondered if he were crazy but then he shrugged. Anyone, he thought, was entitled to hear voices after being "interrogated."

He got up and walked to the window and stood there looking out. The massively intricate buildings of monotonous style reassured him. Without liking the style, it still was what he knew. It was not his original city, but he remembered Klan had said he would be taken to New York, and it made no difference anyway. The only thing that might have made a difference was the loss of all his friends. He remembered with particular regret a girl named Joan. He had come close to establishing, as Klan had put it, a permanent liaison with her. But the regret was only that for things that are past. He realized with some surprise that if he could go back there, to Joan and to his friends, he still would not. They were as toys of his childhood, put away now, with regret but with finality. They could not be a part of his present. They could not for they were from the days when he had accepted the Outlanders. And now that his purpose was that of hatred, and theirs was not, they could have no part. It was a cold and icily bitter thought.

He returned to the bed and lay down, staring at the ceiling. He wanted to think. This shining anger at the Outlanders that he had just rediscovered still startled him. He was not used to it. It required that he reorient his whole philosophy. It demanded a reevaluation of all else in terms of its own existence. And it had to be explored itself.

He lay there, studying his own mind. Suddenly, he was aware of the voices again. He could not quite hear them, but he knew that they were there. It was as if they were around a corner that he could not quite locate. He strained to hear, but then the voices faded clean away.

He sat up and picked up the pillow, thinking to see some microphone but there was none. He stood up and lifted first the head and then the foot of the bed, expecting to see some wires. There was nothing there. He sat down again, puzzled.

As he sat there, the awareness returned. This time he did not try to locate the voices. He did not even try to hear them. He tried to feel their

quality. As he did so, he realized that they were not of sound. They were in his head, and only in his head. He laughed aloud at the thought of himself seeking wires to explain an hallucination. He laughed and relaxed.

"No, you idiot." It was the girl's voice with a mixture of exasperation and amusement. "I will not be brushed off as an hallucination."

He tensed again, the voice was so very real. It frightened him a bit but then he chuckled. If it were someone else who was hearing voices, the standard advice would be to humor the poor soul. But how, he wondered, do you humor yourself?

"By accepting it," the voice answered. "By not being so sure you know everything. So lie down. Relax. And let me talk." Her voice was belligerent in an exasperated way.

He thought about it a moment. But then he decided that he would have no rest until he did listen—until he did humor himself. So he relaxed and announced loudly in his own mind: "O.K. Talk."

"You are not hearing voices," was the answer. "I mean, not dream voices. I am real. I am a girl named Nancy and if you were here I could show you how real I am. This is telepathy and we can talk through our minds and there is nothing very unusual about it."

"You don't call it unusual?" Steve asked, mentally. It was only then that he realized he was accepting this. But then, he asked himself, what could he do? The voice was there and there was not much point in arguing with himself about it. "It's not unusual?" he asked again.

"No, not particularly," she answered. "There are, I think, quite a number of us. All spread out. Each of us only able to talk to a few. Like I know only four besides you. But it's been going on for some time."

"But why—?" Steve could not decide which question to ask first.

"Why, for instance, do you find this only now?" she filled in. "Apparently it's got to do with the 'interrogation.' Something they do to us maybe tunes us in. Anyway, we have been interrogated. And as to all the other why's, like why can we each only talk with a few others, or why don't the Outlanders know about it—except, of course, they do only they don't know what to do about it—and so forth and so on, I don't know."

"And why do people keep jabbering on at all is one that I don't understand." The voice was the man's that he had heard at first.

"Who was that?" Steve asked.

"Oh, do you hear him? That's Max and he doesn't like the world."

"What is there to like?" Max snarled. "When the Outlanders haul you in again, you won't find it so pleasant. And with all the jabbering you do, they won't have any trouble finding you. And the worst of it is

that then they'll find me." There was fear in his voice, even while it snarled. "And leave me out of your talk-talk. Just forget I spoke."

"What does he mean?" Steve asked. "What is he worried about?"

"The Overlords do their best to keep this broken up," she told him. "They pick us up as fast as they can locate us. And then that's the end. And they take you and question you and learn all about you in their own unsubtle way. And they learn about those you were linked with. Like if they pick you up, they will learn about Max and me. And any others you may contact. You will not be a traitor or a coward. Max is being mean. But they will learn about us because they know very well how to question people. And then they will look for us."

"How long—?" Steve asked in his mind.

"That depends," she said. "You see I am Nancy, but I will not tell you what my last name is. I will not say what city I am in, nor where I work. And maybe not even what kind of work. You will know me well, but you will not be able to tell the Outlanders much that might help them. And if they get to you before they do

to me, then right away it will not be the end for me."

"There are many of us?" he asked.

"I think so," she answered. "Nobody knows. Nobody knows much more than those he talks with. Nobody wants to know much more or then he'd carry too many lives on only his own good luck."

"But what do you do?" Steve asked. "How do you operate?"

"Operate?" Her voice in his mind sounded almost puzzled. "I don't know what you mean. I don't suppose we do 'operate.' What we do depends on ourselves. Mostly we just try and be friends. Let each other know he is not alone. Sometimes they don't even want that. Like Max, there."

"What makes him such a coward?" he asked.

"So I'm a coward," Max's voice roared in. "Don't start your crowing yet. Wait till you've sweated out a few nights waiting for Them to come get you. Just wait and see how brave you are then." His voice changed to a whine. "It would be different if we could do anything. I don't need friends. She admits that's all the good this is. And I'd rather just be left alone—and alive. If anybody could figure out anything to do, I'd do it. But—" His voice stopped. There was a sudden tension in the air that lifted him to his feet into a crouch. Tension and sudden fear. "No!" Max suddenly screamed. "No! No! Oh please no! I haven't done anything. I wouldn't even talk to them. I just minded my own business. I haven't—" There was a sudden wrenching, a twisting, a pain that was not a pain. And there was nothing.

"Max?" Nancy called softly and with pity in her voice. "Max?"

"What happened?" Steve asked, sitting down with sudden exhaustion.

"They got him," she answered. "Poor Max. For all his fear and carefulness, they still came and got him. Poor little Max." He could feel that she was crying, not in grief but in sorrow. In sorrow, perhaps, for the waste and the futility. For Max who had thought that he could trade this priceless gift of telepathic friendship for life, but had only lost both. For Max who had fled but had had no place to hide.

As he sat on the bed, meditating, Steve pitied Max, too. But mostly he felt only anger. Anger and a hatred that throbbed deep within him, building up slowly, focusing with bright purpose on the Outlanders.

Interoffice Memo

To: Igor

Subject: Steve Redland/Marcus K4976-aq94

Date: August 12

Your Highness will remember that the subject individual has been selected for development into a Prime Focus Entity. Step Two is now completed, and the subject appears to have fully evaluated its lesson. He has also fully main-

tained his thalmic incentive on the sub-acute level. The basis is also being laid, however, for creating the necessary urgency at the appropriate time. Development is therefore proceeding satisfactorily. Step Three may be initiated.

In reply to Your Majesty's recent memo, we have complied with your instructions. If Your Highness will permit, I would like to take exception to Your Majesty's further comments, however. I fail to understand their purpose. Does Your Majesty expect that, if I were "spying" for the Council, I would admit it? I do categorically deny it, but I fail to see how Your Majesty can expect me to do otherwise.

Klan

In the days that followed, Steve's horizons expanded. One by one he learned to contact several more people. First there was Phil, a quiet lad of steady purpose. Not one, Steve judged, to panic easily. Not too bright, perhaps. There was something almost too methodical in the way he set about avoiding the Outlanders. A lack of inspiration, maybe. But Steve wished him the best and gave what advice he could.

Then later, Quinn came in. He could talk both with Steve and Phil but neither of them much wished to talk to him. There was something evil in him they could sense. It was not, Steve knew, the weakness that had been in Max. It was strength, but it was wrong, and they did not like him.

Finally there was Bob. Nancy, too, could talk with him, though only with some effort. Bob was young and brash. There was violence in his hatred of the Outlanders. A wildness, perhaps of youth, and a certain recklessness. But he was smart. He had survived quite a while, he told Steve. And he intended to survive some more.

And as Steve's mental world expanded, he found the life his body lived was of less and less interest to him. The Outlanders had given him a few days to rest, and then assigned him to a job. He did his work with competence and skill, but with complete indifference. And he moved among the people of the city without interest. They were strangers and he had no contact with them. Even those he worked with seemed distant to him. He could not feel their minds and know their instant mood. He could not get to know them.

It was as if, he thought, each individual was a jewel, or something else compact and delicate and subtle. And as if he were a blind man trying to learn the subtleties of these separate jewels. A blind man who was constrained to keep on mittens while studying most of them, but who could throw aside the mittens when it came to those called Nancy, Phil, Quinn, and Bob. Only with those four did he have a true sense of knowing what they were. It was a strange feeling, he thought. Millions of people but only four that he could know. And even

though he knew these four, yet he knew nothing about them, except what was important. Where they were, what they looked like, what they did, and all the other unimportant details, he did not know. All he knew was them.

"Even me," Quinn broke in on his reverie. "Even me you know. And you would rather talk to me than to any of a million other people. And me you don't like. Now isn't that curious?" His voice was taunting.

"Yes, it is," Steve answered. He was seated at the table in his room having breakfast. "I don't trust you. I feel that you could do some very bad things. And I don't like the feeling. It makes my skin crawl. But I would rather talk with you than with anybody else except the other three."

Quinn chuckled. "You are a brutal chap. At least you don't try to be hypocritical. I rather like you for it. You're not like Phil. Oh not that he plays the hypocrite, either. But he would not come right out and say a thing like that, either. He would just stay out of the way."

"Phil's a nice guy," Steve answered.

"Sure," Quinn said with sudden bitterness. "Nice guy. No nerve."

"No nerve?" Steve said. "I don't know. He may have more than you have. Sure he's running. Threw away his papers and beat it out. But not because he's afraid. Or any more afraid than you or I or any other of a few million other people. He's just trying to beat them the same as you or I. Maybe his way is a good one and maybe it's poor. But it doesn't show no nerve."

"Thanks, Steve," Phil's voice joined in. "But I can fight my own fights. At least I could if I could figure out how. But of course Quinn is safe as he very well knows. My telepathic powers are not yet good enough to knock his block off."

Quinn laughed, "That's one trouble with this business. No fun in insulting anyone as all they can do is insult you back. So I shall apologize. I shall drink a toast to you both. I shall drink it in the bitter wine of death and wish you Godspeed."

"Now see here—" Phil sputtered.

"No I do not choose to see there, my little cockinjay. I choose to sit here and rot. I curse you. I curse you both. And I curse myself the more." His voice trailed off in a sob.

"What is it?" Steve asked urgently. "Something's wrong. What's happened?"

"What's happened," Quinn laughed. He sounded a little mad. "What's happened is that in thirty seconds I shall be dead. I went to the Outlanders, you see. I went to them and offered them your lives. Your lives for mine. I thought it a reasonable trade. But they took your lives and now they will take mine. I told them all I knew of you. All your mannerisms, all the things that you let drop. I told them all I could. It was not an

awful lot, but I think that you will see them soon because of it. I gave them you, but they would not give me me." He sobbed.

"Where are you now?" Steve asked.

"On the roof," Quinn replied. "They were planning to kill me. I broke away. I got through them to the roof, but they've got me cornered now. They're closing in. They're coming. They're—"

There was nothing more. Nothing more at all except a kind of twisting, a pain that was not of the body, a subtle kind of wrenching.

"He's gone." Phil's voice was shocked. "They killed him."

"Yes," Steve said. "They killed him. Even though he gave in to them, yet they killed him. They took what he offered. They took his soul. And then they killed him."

He pushed his breakfast away. He was not hungry.

Interoffice Memo

To: Igor

Subject: Steve Redland/Marcus K4976-aq94

Date: August 19

Your Highness will be pleased to learn that the reference subject, designated for development into a Prime Focus Entity has received Step Three and, so far as we are able to determine, has reacted according to plan. Furthermore all topological connections to complete the plan have now been made. Unless some unforeseen circumstance arises, it should be possible to complete the preliminary steps in the very near future.

In accordance with Your Majesty's request, I am sending a summary report on this subject. I am aware that Your Highness requested the complete file but wish to point out that for me to comply literally with Your Highness' request would make the continuation of this program impossible. I have therefore taken the liberty of accepting at face value the reason Your Highness gave for your request—that You wished to see if an alternate plan should be considered. For such a decision the summary enclosed will be found to be adequate.

Klan.

Steve sat in his chair that evening and pondered. Outside the lights of New York were going on, twinkling with their myriad pattern. But he sat in the dark, unseeing, thinking.

He was, he realized, one element of a vast network. A network of great potential power. But of almost no actual power. He was beginning to suspect that the central problem was to find some way to translate that potentiality into a present reality.

How many thousand people were there in the net? Or was it millions? He did not know. He only knew of three besides himself. Each of those three knew others—a few apiece. And those others knew still others. There was a connection but it served no useful purpose. Why not, he asked himself. What were the basic elements of

the failure of the net?

A lack of single purpose would explain the failure. If the separate members of the net could not find a single common purpose, then of course they would not find any unity of action. Was this the explanation?

As a cause of failure, this explanation was not wholly unattractive. Max had tried to live by denying the existence of a threat to life. Quinn had tried to buy his life by joining with the enemy. With neither did he feel a common cause. He felt no urge at all to unite his action with theirs. This could be it.

On further thought, however, he decided that this was no explanation. Both Max and Quinn had agreed that the main problem was the Outlanders. Both, he felt sure, would have acknowledged that the only good solution was to destroy and drive out the invaders. He rather thought that both, coward and traitor that they had been under the existing circumstances, still would have been happy to join in any plan to drive Them out. Even at the sacrifice of life itself. Coward and traitor that they were, he still thought they would have made the sacrifice. Only there was no plan. Failing to see any hope for the ideal solution, they had fallen back on mean and weak objectives. They had tried to save themselves. And it was only with these mean alternatives that he

disagreed. No, he did not think there was a lack of common purpose. He did not think that was the answer.

He could assume then, he thought, that all want the same thing. Differences there might be. Some might prefer killing Outlanders while others might be content to see Them go. For himself his hatred was a cold and shining thing. It was a thing that was almost alien to him, a tool that would let him do what was not normal to his temperament. He could kill with it, and he could kill slowly and with relish. And he would have no pity because of it. But neither was it an all-consuming fire. It did not leave him off balance. It did not blind him to the all important thing. Because of it, he would rather kill than not. But if the price of freedom was to let Them leave in peace, then he could pay it cheerfully.

This was what he felt, but others might not feel the same. Others might need to kill. And still others might rather not. Like Nancy. She would not. But this was not important. The difference, here, was too small, too insignificant to count. Theirs was a common purpose in spite of the slight differences.

"Sure, we're all in the same boat." It was Bob's voice that cut into his reverie. "And we'll all be hung with the same rope." His voice was violent. His self-control sounded very unsure.

"What do you think we should do?" Steve asked, mildly.

"I don't know." Bob's words were angry. "At least we ought to die like men. It's a cinch we're not doing anything now. And anything we do is better than this. Here we sit with our hands crossed, waiting for Them to come get us. What good does that do?"

"None," Steve admitted. "What good does it do to die?"

"What good does it do to live if you've got to do it hiding in corners, running from your own shadow? Why not prove yourself a man and strike a blow for freedom. What does it matter if you die, at least you've died a hero."

"Well, I don't know," Steve said. "I would sort of rather know what my dying accomplished, or might accomplish. Otherwise I'm allergic to it."

"Look, my friend," Bob cried, "this is the time of crisis. The longer we wait to act, the stronger they are, and the weaker we are. It's time to stand up and be counted. It's time to act, not talk. There's been enough talk, and the talk has done no good. Now there's got to be deeds. Now the powder's been set, and somebody's got to light the match. Somebody's got to be the hero."

"Would you mind telling me what you're talking about?" Steve said.

"Revolution," Bob answered. His voice rolled around the syllables. "Revolutions are started when the time is right. They are started by somebody building a barricade in the

streets, somebody shouting the battle cry and raising the flag. That somebody dies unless he's awfully lucky. But as he falls, somebody else grabs up the flag. And somebody else echoes the cry. And ten more come to the barricade. Those then may die, but they leave a hundred behind. And the conflagration grows until the tyrant is consumed. That, Steve, that is the way a revolution is born. And that is the only way we can break the tyrant."

"How do you know the time is right?" Steve asked. He felt stunned by the sudden revelation of fanaticism.

"I don't." Bob's voice brushed the thought aside. "And if it isn't I will die and so will the revolution. But even so—Even so my life will not be wasted. It will have been given to keep alive the spark of freedom and of sacrifice. And others will come after me, inspired perhaps by my example. And they will try again. They will try and try and try until the tyrants fall or there be no men left in all the human race. I may die, and my revolution with me, but my dying breath will fan the torch of liberty. And I shall have died a man."

"Well—" Steve hunted for words. "I suppose it's your right to do this, but it doesn't make sense to me. I don't think I am a coward. Or any more so than most, at any rate. But I don't see the point. If you had any reasonable chance of success—Or any reasonable chance of surviving to try again—But to just start things blind! All by yourself. If you could only get an organization together, at least you would have a chance. There might be some point to it. But just to go out by yourself—What are you going to do?"

"I've got a knife. I shall go to Times Square this evening. And when I find an Outlander, he will die." His voice was gloating. "I shall ram the knife into him while I shout 'For Humanity!' And if there is another there, I will kill him, too. And another. And another. I will keep shouting my war cry 'For Humanity'. And I will be glad!"

"Times Square?" Steve asked. "You are in New York?"

"Yes," Bob said. "If you are here, too, come watch. Come watch and maybe you'll understand."

"I will," Steve said. "But look, if you want to kill them, and don't care whether you die yourself or not, I should think you would at least pick a little less sensational way. Go prowl the streets at night. And when you meet an Outlander kill him. But do it quietly, and secretly. Then maybe you'll live to kill another one. This way, you have not got a chance."

"No," Bob said. "There's lots of people have tried the other. They've tried to kill in the night, to bomb and to murder, to do it with stealth and with guile. But they haven't ever succeeded. The Outlanders expect that, and are ready for it. And those who have tried that way have died. They have died without killing an

Overlord, and without doing any good at all.

"The Outlanders expect the knife-in-the-dark approach. But they don't expect the frontal attack. They don't expect the bold try. It's only by boldness, by sheer audacity, that you can accomplish anything. I'll show you what I mean tonight."

"Well . . . all right I'll be there," Steve hesitantly agreed, feeling as if he had just lost a wrestling bout. But he knew, from the intimacy of the mental bond, that there was no use arguing further. Bob was no longer sane. The light of martyrdom had entered into him and he was no longer capable of rational thought.

Night had fallen when Steve stood on the corner of Times Square and did his best to look completely innocent. He watched across the street where a tall, red-headed chap with an intent face lounged against a building. This, he knew, was Bob, for the latter had identified himself by telepathically describing in minute detail his every action until Steve had been able to pick him out of the crowd. He stood there now, leaning against the building looking rather unrelaxed but doing his best.

As Steve looked around, he saw, coming down the street, an Overlord, dressed in their distinctive robes. He watched him approach Bob and knew that this was the one the would-be revolutionist had selected.

As the intended victim came opposite the place where the redhead leaned against the wall, Bob suddenly leaped forward, drawing from under his coat a wicked looking knife. As he leaped he shouted "For Huma-a-a—" but he did not finish. He did not because, as he jumped, there was a blue glow from under the robe of the Outlander and Bob fell at the Invader's feet. The knife skittered across the pavement and toppled into the gutter. And Steve felt a wrenching, a twisting that was a pain but yet no pain. And he knew that Bob was dead.

Dazedly, he saw the Invader keep on, with scarcely a break in his stride. He saw two men dressed in dark suits drag the body unceremoniously through a doorway. And he saw the crowds of people—of human people—stand for a moment, shocked and stunned, but uncomprehending. And he saw them move on talking, wondering, but, in their lack of understanding, untouched. And he knew with exquisite sadness that Bob's attack—his sacrifice of life itself—had done nothing to "fan the torch of liberty". Nothing at all.

Interoffice Memo

To: Igor

Subject: Steve Redland/Marcus K4976-aq94

Date: August 20

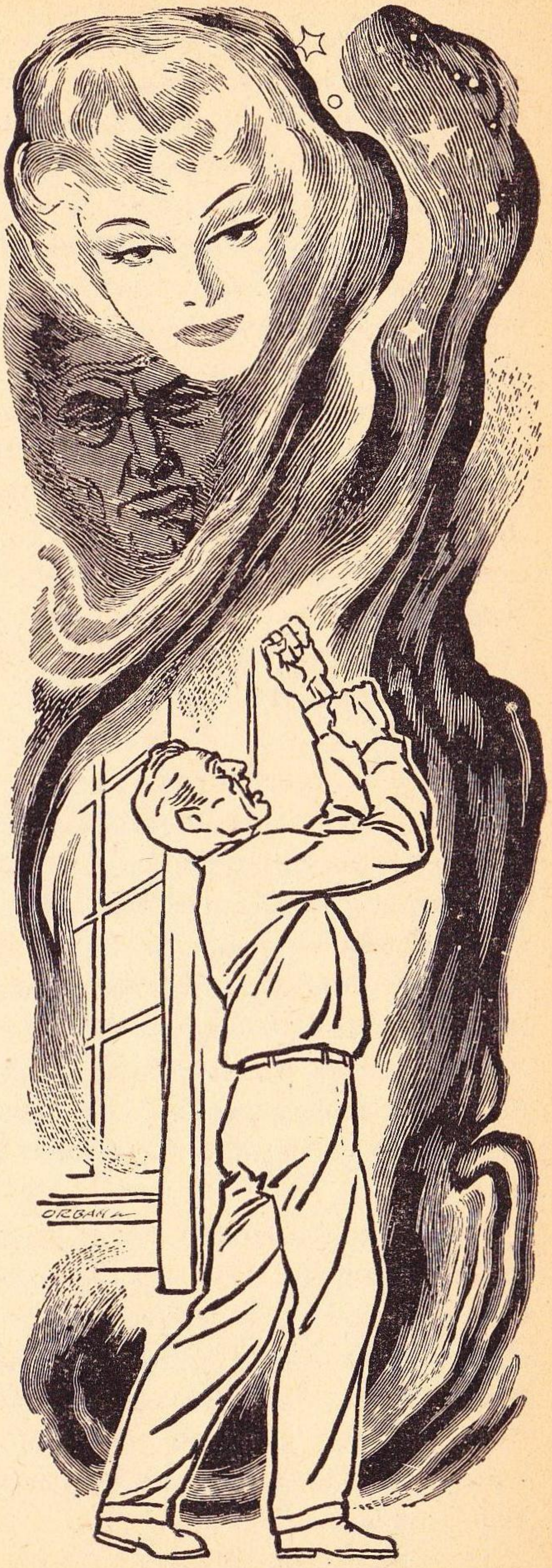
Your Highness will be pleased to learn that the referenced subject being prepared as a Prime Focus Entity, has been

processed successfully through Step Four. Preparations are being made for Step Five.

Your Highness will understand that Step Five itself may be delayed somewhat. Careful preparation is required which will take time. Our investment in this individual is now sufficient to warrant a slow and painstaking approach. We therefore crave Your Highness' indulgence.

According to Your Highness' last memo I am to be honored with the attendance of Your Highness' personal secretary. I shall, of course, welcome her, and afford her all courtesy. I am, however, deeply perplexed by this move. Your Highness has expressed a certain dissatisfaction regarding some of my acts. Specifically Your Highness mentions my failure to turn over the files on the reference individual. I have, however, pointed out that for me to do so would make impossible the further processing of the subject Prime Focus candidate. I do not understand why Your Highness persists in calling this "an act of defiance." And I do not understand what Your Highness expects your secretary to accomplish, other than to distract us from our job. I hereby formally protest this action.

Klan.



Nancy and Phil. Of five, two were left. Only two. The other three were dead. And soon they all would be. There was no time. No time to fight. No time to learn how to fight. No time

to live.

And yet, that was not true. Not entirely. He was not dead yet. No, Steve was very much alive. Only two friends left, but those two were very close indeed. Nancy was more than close. He had discovered he loved her. Loved as he had never dreamed of loving a girl. Loved with a subtle understanding no words could build. And Phil was a close friend. They thought apart, he and Phil. There was a basic difference of approach that bespoke a different temperament. But there was no antagonism. The difference was one that each could accept in the other. They were friends.

In these two he was alive. With these two he was still linked with humanity, still part of life. When they both died, then he, too, would be dead. But in the meantime, while this link held firm and vital, he was still alive.

There was no point, he knew, in giving up. To give up was to die and he was not dead. To fight was to live, and there was within him a bright hatred, a gleaming steel-hard coldness, that would not let him die without a fight.

To kill the Outlanders, or, at least, to drive them out. That was the problem. That was the objective to which all humanity would subscribe. And among those who had endured an "interrogation," at least, that was a goal for which anyone would gladly make any sacrifice at all.

The tools were at hand. Victory could be had. Like a phonograph record, he heard his "interrogator's" words come back: "We *dare* not let even the germ of revolution get started." And again: "Our only defense is to stamp out even the smallest hint of aberration." According to the words of the Overlord himself, they had but to unite in common action and the Invaders would no longer be able to hold their tyranny.

The will was there. The tools were there. All that was lacking was a plan. A detailed plan in which each person would know his part and his time. The plan was missing, and, worse, there was no way apparent by which a plan could be obtained. Communications. Therein lay the fault. The net was there but they dared not use the net. Not at least to carry the information that was needed to form the plan they wanted.

Communications were their lack. And this was odd. They had in their possession an almost perfect means of communication. Telepathy. The ideal channel, it would seem, for conspiracy, and secret planning. And yet they dared not use it. They dared not even tell each other what city they lived in nor any other detailed fact. So no one knew even what the net was like. The net of people joined telepathically, one with another, that could be used as the nucleus of revolution. No one, anywhere, had even an approximate picture of the net, nor even any knowledge of its size.

The reason for this was clear. The Outlanders kept raiding it. They kept working from one member to the next, destroying them as they found them. The result was that the members of the net were afraid of it. They shied away from revealing themselves. They held back, not seeing what would be accomplished by the added risk.

How could a leader arise that would be able to command the allegiance of the net? How could he persuade them each to take the added risk for his sake? How could leadership be asserted? That was the problem.

"Yes, that's the problem," Phil cut in. "And actually it's even worse than that. We have Joe, here, say, trying to be a leader. Maybe he's got the magnetism, the personality, the whatever-it-is, to command Henry and Alice and Jim who are linked directly to him. But how does he command Roger who knows Henry but not Joe himself. Or Mary who knows Roger but none of the others. Or et cetera. Leadership depends on personal contact. It must because it depends on personal trust. Now telepathy is a fine way to make personal contact. But the net, as you call it, has a peculiar feature. You have a wonderful contact with me and maybe a few others. You know me and these others as men have only dreamed of knowing each other. But—and this is a very big but—you have no contact at all with anybody else in the net. And therefore, you cannot

lead them."

"That's a discouraging way to put it," Steve said.

"It is," Phil agreed. "I doubt if a revolution is possible within the net. I think you've got to forget about the net and use the age-old methods of meeting in dark corners and of talking in code. I do not think the net is any use at all."

"I wonder," Steve answered. "That would make it difficult. The net, or my part in it, is too much a part of me. I don't think I could use any other method."

"Yes, I know what you mean," Phil said. "You know, I got a suspicion that maybe they have deliberately set up the net. We have assumed that this telepathy is a by-product of the 'interrogation.' An accidental one. But maybe it's deliberate. Maybe they set it up, knowing the net cannot be used for revolution, and knowing that we cannot form a revolution outside it. This would be a very dirty trick but it might work."

"It might at that," Steve admitted. "What can we do about it?"

"Nothing," Phil answered, and there was a deep discouragement in his voice. "Nothing that I know of except to try and survive. And even survival is relative. What's the odds that I'll still be alive tomorrow? If I had any choice, I wouldn't bet."

"Why the discouragement?" Steve asked. "I thought you were the one that was so sure you could beat them. Threw away your identity and took to the streets so they couldn't find you. 'Reduce the problem of survival to getting the simple necessities, and not of convincing them of your innocence,' you said. You sound like you've changed your mind."

"I don't know," Phil replied. "Maybe I have. Oh, I think it's right in principle. Simplify the problem. Make it into one you can attack by your own efforts. Make survival hinge on yourself, and not on Them. Only I don't think it works."

"Why not?" Steve asked.

"It's nothing much I can put my finger on," Phil answered. "It's just that I feel I've been the mouse to their cat. That they could have picked me up any time. Any time at all. And that they didn't because they didn't want to, and not because I was smarter than they were. I don't like being a mouse."

"But why do you think so," Steve asked. "And how could they?"

"I can't prove it," Phil said. "It's not anything I can put my finger on. Not definite. But I've found food too easily. I've been too lucky. As if they were letting me have my run, and even helping me. It's been too pat.

"As to how, that's another question. I've been thinking that maybe they know a lot more about this telepathy than we give them credit for. I got an idea that during the 'interrogation' they do something to us quite delib-

erately. Maybe the purpose is to fix things so they can locate any one of us at all at any time. Like a mental fingerprint which they can tune in and home on whenever they want. And maybe it's an accidental by-product that some of those 'fingerprints' will tune in on each other. And we can use them for telepathy. This makes more sense to me than assuming it's all accidental."

"Yes." Steve was thinking deeply. "Yes, it does. And, you know, one of my friends made the remark that a lot of people had tried the underground method of attack, but that they had all died without doing any good at all. Is that true? If it is, maybe that's the reason why. Going underground would be completely useless if they could trace you any time."

"I think that may be so," Phil said. "I knew one who tried it. He didn't last long. He was lying in ambush when they burned him down. He was dead before he knew he was being attacked. No, it is said that you can't ambush them, and as far as I know it's true. That's why I never tried. And it does fit with this 'fingerprinting' idea. They could perfectly well make it a warning of hostile intent as well as a locating system."

"They could," Steve said. "At least providing it's physically possible, and I do not see why, if we assume the one, there is any reason not to think the other. In fact, why stop there?

Why not assume that they can, if they want, listen in. There probably aren't enough of them to do much of a monitoring job. Not considering how few there are on Earth and how many other things they got to do. So maybe that's how we escape. But maybe They can if they want to." He was quiet a moment. "And that thought makes the problem of revolution really tough, doesn't it?"

"Quite." Phil's voice was dry. "Frankly, I think it's impossible. As far as I know—" There was a sudden tenseness, a sudden fear. "I think, Steve, we are right." Phil's voice was quick and sharp. "Because they're coming. They are coming as if they knew exactly where I was, and they are coming with drawn guns. I think we are too near the truth. I think they heard us. And I think—"

There was the sharp wrenching, the twisting pain that had no form, that was so horribly familiar to him now. And Steve knew that Phil was dead.

Why had Phil died? Was it indeed because he had been too near the truth, Steve wondered? Was it because he had guessed that the Overlords knew more of telepathy than had been supposed? And were Phil's guesses right?

Interoffice Memo

To: Igor

Subject: Steve Redland/Marcus K4976-aq94

Date: August 22

According to Your Highness' last memo, I am to defer taking any action until Your Highness' personal secretary has had a chance to report. Since she appears to be mostly interested in other things than reports, it is difficult to anticipate the ultimate effects of Your Highness' directive. I shall, of course, comply with the directive to the maximum extent possible consistent with the objectives of Project Earth. I would like to point out, however, that circumstances can easily arise in which failure to take action may predjudice the entire operation. One such event has already happened, in fact. To prevent the complete collapse of the projected development of the subject Prime Focus Entity, it was necessary to remove the Step Five Motivator. This individual will, of course, have to be replaced and the conditions re-established for Step Five. It is believed that no damage resulted, although, of course, delay will ensue. However, since Your Highness' directive will cause serious delay, this is of no importance.

If Your Highness will permit, I would like to point out that Your Highness' apparent distrust of myself is not in accord with the objective of Project Earth. I did, in fact, overhear a comment to the effect that such inconsistencies were responsible for the failure of Project Earth to date. The one who made the remark now wishes that he hadn't, as Your Highness can well imagine. However, I pass the remark along for whatever value Your Highness may find in it.

Klan.

Only Nancy was left, now. Only she was left of the five that he had started with. Whenever he could he talked with her. He talked with her of many things, opening his mind and his soul to her. For he was in love with her.

"How can I love you?" he asked her one evening as he sat watching the sunset from his window. His voice was light and warm with a teasing chuckle in it. "For all I know you are short and dumpy and walk with a waddle. Or maybe you are skin and bones with the face of a crone. How can I love you in the face of such appalling risks?"

She laughed back at him. "Look out your window," she told him. "Or go down to the streets. Look at the girls that pass. Some will have blue eyes and some will not. There will be all sizes and shapes and figures. Pick the one you like the best and take a good look at her—and then come back to me. Because you will love me, not her. Love, my boy, is not born of a pretty face. Or if it is, it soon needs more solid nourishment. Love is built of empathy. It is a mutual understanding, and a willingness to know each other. It is a reaching out, and a fulfillment. And a pretty face and a good figure are not of vital importance to this.

"Besides which, I'll have you know I can compete with most."

"But what do you look like?" Steve pressed.

"No," she answered decisively.

"Use your imagination. Build your dream of me. Make of me what you want. And be content with that."

"It is no good," he said, suddenly serious, "It's not enough. I love you Nancy. In all this world there is just you and I. We two. No more. I cannot be content with dreams."

"I'm sorry but you must," she said. Her voice was gentle. "I love you, too. In the words of lovers always, you are the sun and I the moon. You are the beat of my heart. You are my love. But you are there and I am here and there can be no more than that."

"But why? Why?" Steve cried out with sudden urgency. "Look, there is no hope. We are lost, you and I. When they want us, they will take us. And nothing we can do will change that. You need not act in fear, for there is nothing you can do. Accept it, Nancy. Accept it, and let us live what life we may."

"Oh, Steve," she said, "do you really think it's fear that keeps me here? Fear for myself?"

"What is it, then?" he asked.

"Fear for you, Steve. For you alone," she answered.

"Then there is no problem," he said. "I will tell you about me, so you will know the facts. And then you will be free."

"No!" Her voice cried. "No, Steve. Don't do it. You don't understand. I was not going to tell you but now I must. They were here, Steve. They were here and questioned me. They left but they'll be back. I can't have satisfied Them. I hate them, Steve. I hate them and they know it. They'll be back.

"And don't you see, Steve? I can stand it. I can curse them—I can curse them while I still feel proud of being human. But if I know that there is in me sufficient knowledge so that I will cause your death, too, then I will not feel proud, but ashamed of the weakness that is in me. And then I could not stand it.

"If you shout out your name, Steve—your name and all the other unimportant details that make you who as well as what you are—then there will be but one thing I can do. If you do, I shall kill myself. Only in that way can I help betraying you. Do you see, my dear?"

Steve saw. She was wrong, he knew. They could take him any time they wanted. There was no reason why her knowing him should make them want him now. There was no reason why the two of them should not take what life they could before they acted. But he also knew he could not convince her. He knew the strength of her mind, and the certainty of her will. He knew she loved him too well to take the chance.

And then, like a blow, the rest of what she had said struck him. They had questioned her. They would take her soon. They would take her into headquarters and interrogate her. And they would break her. They would

destroy her mind at least, and maybe kill her, too. Nancy, the girl he loved!

In sudden agony of desperation, he beat his fist against the wall. Time! Time! So little time. And why? Why? All they wanted was the chance to survive, to live a halfway normal life. Survival. It did not seem like much to ask. The chance to live. The chance to live free from the overpowering pressure of this thing that they were caught in. But this they could not have. This the Overlords denied them.

And suddenly, as he stood there pounding on the wall, he stopped. Suddenly he knew the answer. The sweat stood out on his brow as he thought of what he must do. He was afraid, deathly afraid. But the purpose within him was bright and sharp, and he knew that he would do it.

Softly he called to Nancy.

Interoffice Memo

To: Igor
Subject: Project Earth
Date: August 25
Reference: File on Steve Redland/ Marcus K4976-aq94 attached.

Effective immediately, please accept my resignation from Project Earth. In addition, please receive my recommendation that Project Earth be immediately discontinued. I further recommend that steps be taken immediately to destroy Earth. In my opinion this must be done with such thoroughness as to insure that

no single human survives. If this is not done, I feel confident that I have witnessed the end of our civilization. Only the most drastic and immediate action will advert this disaster.

I am forwarding a copy of this memo to the Council.

Your Highness is familiar with the background in this case. The Council, however, to whom I am sending a copy of this report, will not be. They should, of course, have a thorough knowledge of all details of Project Earth. It is the most important work being done in the galaxy. But they are, without a doubt, too busy. What they are too busy at is a question best left unasked. Hence, I shall simply review the entire project as briefly as I can.

Earth was initially discovered by a fool named Sentor. Commander Sentor. This was some seventy-five galactic years ago. The reports he brought back were so completely fantastic—so utterly contrary to basic common sense—that he was, of course, court-martialed. He died, I believe, some ten years later, in jail for piracy. This occurred three years after they had discovered that his reports were accurate.

Actually, this is not correct. His reports were not accurate. They were too conservative.

Consider. Earth, at the time of contact, contained as many people as the seven most populous worlds of the Federation put together! Over vast areas of it, the population density reached a value thirteen times Lomorr's Limit! And its cities! Perfectly fantastic.

The people of Earth had solved the riddle of the galaxy. They had learned to live together!

There is an odd paradox, here. As we later learned, it was a standard question on Earth to ask "When will we grow up? When will we learn to live like adults in peace and mutual comfort?" And, in fact, during Phase One—the observational phase—there were two wars of major extent. To these all humans would point with shame and with guill, as proof of their immaturity. And yet those wars involved huge armies. Nearly half the world population were involved on each side. To get half the world cooperating, even if it is against the other half—! If their wars prove them immature, then what are we? But perhaps I should not ask that question!

It was recognized, then, that Earth contained the answer to the problem that has long been acknowledged as the foremost puzzle of the galaxy. Earth people could live together in densities and masses that no one else could approach. In one of its few intelligent moods, the Council established Project Earth to study their solution and to find out how they did it.

Phase One was observational. We sat up high in our saucers and watched. As they began to use the electromagnetic spectrum, we listened. We actually managed to learn quite a good deal by abducting a very small number of individuals during this phase.

We learned much, but it was not enough. What we learned merely served to deepen the paradox. We learned, for example, that there were many languages. Vast groups could not understand other sections of the population, and yet they managed to trade with each other—sometimes for the very necessities of life.

And we learned that there was a vast disparity of resources between the various sections. Some were wealthy with many tools and able to find the leisure to invent and build more. Others were poor, barely able to scratch a livelihood. And this, of course, is as you would expect. But the startling thing about it is that there seemed to have been a steady drive towards reducing this condition. The rich were actually helping the poor! Not, perhaps, as much, or in the ways that the poor might want, but helping nevertheless. Contrary to all the laws of sociology, the gap between the poor and the rich, the commoner and the aristocrat, the serf and the lord, was closing! Not steadily, not without reversals. But averaged over decades and centuries, the trend was there without a doubt.

This we learned in Phase One, but it was not enough. It told us only that the answer we sought was there. And that it was an even more subtle—more revolutionary—answer than anyone had dreamed. But there was no hint of where to seek the answer.

It was also true that Phase One was becoming dangerous. And this, too, was

strange, and showed the existence of an amazing situation. At the start of Phase One, Earth had just barely begun to use the electromagnetic spectrum. Their main transportation was by animals. In the air they had only balloons. Yet forty galactic years later, they could transmit moving pictures by electromagnetic waves! On the ground they had perfected a vehicle operated by internal combustion of a quality comparable with those we have ourselves! And they possessed air-borne vehicles capable of exceeding the speed of sound! All this in forty years! How long, we had to ask, how long would it be before we could no longer control them? How soon would they have the hyper-drive? Already they were shooting rockets into the stratosphere and measuring the cosmic rays. How long would it be? How short?

As a result of these and other considerations, therefore, we took over Earth. This was Phase Two.

It was, of course, a mistake to take Earth over in quite the way it was. It should have been obvious that there was no need at all for such complete destruction—that it would only complicate the problem of reorganizing the World. It should have been obvious that the death of the millions that were destroyed and the mass destruction of communications would shatter the very civilization we were here to study. I confess that I consider this to have been an asinine mistake.

Your Highness will plead, I imagine, that he was misadvised. And, so far as it goes, this will be true. Certainly it is rare that any group has been as thoroughly wrong as the sociologists in this case. One by one Earth has mocked all their laws and theorems. And they have only escaped their shame by spreading confusion and symbolic lies like chaff before the wind. It will be up to the Council, however, to determine to what extent an autocrat is responsible for the advice he accepts.

There was little left of Earth after Phase Two. It required a major effort even to keep the people alive. Large quantities of food had to be imported. Cities had to be rebuilt with our own tools and powered by our own devices. Millions were dead from the war, and millions starved afterwards. But finally we managed to get things rolling. Finally, we could sit back and study our handiwork.

It was then we discovered a most strange fact. The cities were built to our design. They ran from our own Prime Generators. The tractors that tilled their farms used betaconverters instead of internal combustion engines. And the fertilizer plants burned the rocks themselves. This was a world built in our own image from our own materials. And we could not understand it.

Why did a farmer lend his neighbor his tractor? We did not order it. Why did he offer to show his neighbor how best to spread the new fertilizer? Why did he send his food to market, accepting for it only a worthless piece of paper that vaguely promised future value? And why was that promise good? And why

was it made good, not by the man who took the farmer's goods, but by somebody else quite apart?

We had made this world, but the genius of Earth had touched it, and we no longer understood it.

Phase Three was a period of intensive study. We analyzed the structure of the world, both as it had been before our arrival, and afterwards. We studied their literature and their texts. We studied their psychology. And nowheres could we find an answer.

We learned how their science had advanced so rapidly. How, in forty years, they had matched what other worlds had done in four thousand. The answer, we found, was simple. They worked together. If a man found out a fact, he could not move too fast or eagerly to spread the news over all the world. With this attitude prevailing, of course their science moved at an incredible rate. But why did this attitude prevail? Why did they not keep this knowledge to themselves and make what use of it they could? Gain whatever advantage could be found? So the answer to the question was no answer at all. It did but pose the same old problem.

After much wasted effort, therefore, Phase Three was superseded. There are still some workers here who persist in clinging to it. These antiquated fossils insist the facts are all available. That we have but to put them together in the right order, and all will magically make sense. Perhaps. I do not suppose I can

disprove it. And besides, it is perhaps the part of simple expediency to let them dwell in their delusion. At least they cannot do us harm.

Your Highness initiated Phase Four. I cannot guess who could have thought of it. I would not have guessed that any of Your Highness' party would have had the inspiration for it. However, I must concede that I was wrong. Your Highness takes the credit for it. I congratulate you.

For the sake of the Council who undoubtedly have filed unopened all our progress reports, I shall explain. Phase Four is based on the proposition that we needed a controlled experiment. We needed an environment in which we could observe in close detail the growth of this spirit of co-operation that moved so strangely across this world. We needed a situation in which it was initially completely absent so that we could trace its total development.

The proper environment was found by using the Mants-Revile procedure. As any school-child knows, but the Council probably does not, this is a procedure for developing limited telephatic abilities. It is strictly outlawed in the galaxy since it is ideal for developing tight criminal bands. But it was useful here, because, with it, we could create an entirely new environment for a man. Also, we could monitor the communications of the net created with it and watch the development of social structure. It was the ideal environment for the experiment.

Having established the proper environment for the experiment—an environment in which we could observe the growth of co-operation—we then had to create the actual experiment. We had to provide the Mants-Revile network with a problem that could be solved only by co-operative effort. And it had to be a problem that they wanted to solve.

The problem that we selected was survival. This, of course, would have the highest emotional drive. There would be the greatest urgency. And it could be applied easily. This was done by continually picking up or killing members of the network. No member lasted more than a few months. But we added members fast enough to keep the network stable in its totality. Thus we provided the problem.

The problem still needed to be focused. It needed to be given direction. This we could do by suggestion and indocrination immediately after a subject had been given the Mants-Revile procedure. At this time their critical abilities were at a very low ebb. They would not question why we should tell them that we, the Overlords, could not stand against a united humanity. We could tell them that, if they could only unite against us, we would be lost. And so we could direct them towards the class of solutions we wanted. We gave them a direct incentive to develop co-operation in the network.

Finally, we discovered that this was still not enough. Too often they developed unsatisfactory responses. They would

attempt to solve the problem by some individual action—some method which was not co-operative—and which was therefore useless to us. And so we developed the method of the Prime Focus Entity.

This one known as Steve was such a one. He appeared to possess an inventive mind. He also appeared to have unusual stability, a quality that we considered desirable. He was selected as a candidate. We then proceeded to set up conditions so that we could demonstrate to him the unsatisfactoriness of all the unsatisfactory solutions. We showed him that the five basic types of reactions—e.g. attack, flee, avoid, neglect, and succumb—were all useless on the individual level.

Max fled. He tried to be alone, to withdraw from the network. We killed him.

Quinn succumbed. He came to us as a traitor. He tried to buy his life with those of his friends. We let him escape and leave the headquarters building so that Steve could hear him. And then we killed him.

Bob attacked. This was somewhat tricky. These humans have a peculiar characteristic of not considering the loss of their own lives as necessarily a complete disaster. Particularly when death occurs during an attack attempt. Why, no one knows. But we have found empirically, that it is considered futile when there is no subsequent reaction to the individual's death. We hypnosuggested to Bob that he attack and arranged that he die while so doing in a very futile way. Only so could we show Steve that attack by the individual was not a useful solution.

Phil avoided. We had him run, attempting to lose his identity. I told Your Highness that this step had failed. Actually, this was not so. However, Your Highness had ordered me to defer all action and there seemed no point to that. I therefore said that Phil had been on the verge of upsetting all plans, and had

had to be removed. Actually he was operating strictly according to plan. We had had him hypothesize the impossibility of losing his identity. We then killed him to prove it.

Finally, Nancy typified the neglect response. 'Let us ignore it all, and enjoy what life we can.' She also served another purpose. It is another wholly inexplicable phase of human behavior that they are driven to action by threats to other humans more violently and surely than even by threats to themselves. Not any others, but only some. Mostly these others will be humans of the opposite sex. And mostly there will be a single such one. We have found empirically that these relations can be set up by pairing individuals of appropriately matched characteristics. This is purely a rule-of-thumb operation. We have no explanation. We can only say that it works. And Nancy was, unquestionably, the right individual for Steve.

We did not kill Nancy. We merely told her—and through her Steve—that she was about to be picked up. Had she been killed, that stimulus would have been removed and Steve would probably have sunk to apathy. But with only a threat to her, Steve was goaded to desperation. And, at the same time, he was led to abandon the neglect response.

The problem had been given Steve. He had been shown that no individual response could be a satisfactory solution. And he had been placed in a position where he had to find a response. And he found it.

Yes, he found a response. And in so doing, he was the first of all the Prime Focus Entities to find an effective one. But the one he found was useless to us. It was not a satisfactory solution to us. For the solution he found was to guess what the purpose of the problem was! He guessed that he was an element in a controlled experiment. And he guessed the purpose of that experiment. And he told us so, and told us to "go to hell."

This, you will note, was not particularly bad in itself. What made his answer so effective was that he told it to Nancy. And he told it to her sentence by sentence, phrase by phrase. And between each sentence, he had her repeat it to those others in the network that she knew. And he had her have those others repeat it to those they knew.

It is now a little more than one hour after Steve first called to Nancy. It is estimated that fifty-four thousand people know now what Steve knew then. Soon everybody will know.

It is the obvious essence of experiment that the subject not know what you are trying to prove. When the experimental animals know why you do what you do, what hope is there for an intelligible result?

Project Earth is through. Steve has destroyed it. He has destroyed any chance of finding out on Earth what is the essence of co-operation. It is through, and I recommend that the Council acknowledge this fact, and terminate it immediately.

Project Earth is through. And it

leaves behind it a deadly heritage. For Earth has shown that the spirit of co-operation is the most effective tool the galaxy has ever seen. Imagine the fantastic power of millions of people united in a common purpose and willing to make any sacrifice to achieve it. Who can stand against it?

I have seen this world destroyed. And I have seen it rebuilt. And then I have seen it touched by the magic of what these people call "faith." And I know that that magic can do anything. Anything at all.

What is the danger? It is simple. The danger is that others will see this, too. And that they'll take these humans and give them worlds of the galaxy, members of the Federation. In their egoisms they will think to use humans as the tools of their own lust for power. And they will succeed. But in the end these humans will take over the galaxy. For I am convinced that nothing can stand in their way.

It is for this reason that I have recommended to the Council that immediate steps be taken, not only to terminate Project Earth, but also to destroy Earth, and all the people on it. They are deadly to our way of life. Only by their destruction can we save our civilization.

If the Council is pleased to take this advice and recommendation, it will have demonstraied a most unusual but welcome ability to recognize the realities of the situation. I confess that I do not expect this, however. I am too long familiar with the Council's habit of procrastination and prevarication. Too aware of how difficult it is for Councilmen to agree on anything but graft. I am therefore acting on the assumption that they will not. It is for this reason that I—and Your Highness' secretary, who has proven herself to be interested in quite other things than reports—have gathered up Steve and Nancy and a few selected others. By the time you shall have read this, we shall be far away. With their help I—and Your Highness' ex-secretary—expect to die some day as rulers of at least one world, and maybe more. Perhaps the galaxy!

Respectfully submitted

Klan.

THE END

(*Continued from page 5*)

stacking the cards against Nature, and playing the Universe for a sucker. The Oak Ridge plant is the fanciest probability-inverter we've come up with yet, but the common household refrigerator succeeds nicely in achieving the extreme improbability of making heat flow from a cold body to a warmer one!

So we do it with a tool; that means simply that we make the normal laws of probability twist around, and run the other way. The living cell doesn't use an Oak Ridge plant, or a heat pump; it uses a tool called an "enzyme" that makes an improbable chemical reaction become the only logical result under the circumstances.

Man has, also, shown a remarkable ability to use that exceedingly ingenious Nonsense Filter he has mounted between his ears. He can take in incredible amounts of hog-wash, illogic, perversion, lies, and assorted varieties of ill-digested and half-baked ideas, and extract some good, solid truth from them. He listens to that omniscient moron, Noise, and gradually he separates out the answers to all questions—

Just what the mechanism is, we certainly haven't figured out as yet. We've got a lot of ingenious electronic gadgetry that can compute the correct answer to an arithmetic problem. I've seen a cigar-box gadget with upholstery-tack-and-bits-of-tin-can contacts that would compute the logical answer to a pair of propositions. Our machines already can be perfectly logical, and compute accurately. The trouble with the darned things is that if you ask them the logical consequences of the propositions "There is a shortage of cheese in Wisconsin. The Moon is made of green Cheese. What should be done?" the machines will solemnly aver the necessity for a lunar cheese mine.

They don't have a Nonsense Filter. They have no sense of humor. They are unable to reason on an abduction ad absurdum basis because they are unable to distinguish the ridiculous from the sublime. They can only be logical—and neither the ridiculous nor the sublime is so by reason of logic. The juju the African native considers sublime, we consider ridiculous—which proves that one or the other of us has the wrong answer, but no amount of logic per se can distinguish!

The Nonsense Filter is no simple thing; it doesn't always work perfectly, and it doesn't work with unlimited speed. Noise has, somewhere in it, all the answers—but it takes time to bring them. But somewhere, somehow, Man has picked up a trick he can't pass on to his machines just yet; being life, he controls probability.

Because he does control probability, and does have a Nonsense Filter that genuinely works—Man is potentially both omnipotent and omniscient!

THE EDITOR.

URGENT!

Will a Certain Blood Donor Please Get in Touch With Sgt. #12 754 680

They don't tell us whose blood it is—and you don't know who got it. So you don't know me and I don't know you.

But I've had lots of time to think here at the hospital (it's almost a year since I got mine in Korea) and I keep wondering who you are and where you live and what you do and all that. Sometimes I have you figured for a wheat farmer in South Dakota, like my Uncle Herman. Or sometimes you're a big-league outfielder — the position I dreamed of playing. But mostly, I guess, you're just someone I'd like to meet and chew the fat with.

Once I kicked this thing around with a guy in the ward here and he said, yeah but suppose this certain person turns out to be a beautiful blonde, then what?

But all kidding aside, it's a funny feeling to owe your life to someone you don't know. In some ways though it makes it easier to say thanks, because it's not just me thanking you. It's every wounded guy thanking every American who gave blood.

The toughest part of being out in Korea isn't the fighting. It's the feeling you're a million miles from nowhere. So a thing like giving blood means a lot, because it gives the guys a feeling you're in there pitching with them.

I know one thing. When *I* get out of here *I'm* going to give some blood myself.

What happened to that pint of Blood You were going to Give?

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